1952-53

today's fabrics

By Julia McIver, *Extension Clothing Specialist*

Up until about thirty years ago, textiles for clothing needs were met by four natural fibers: *cotton, silk, wool* and *linen*. It was possible to make beautiful fabrics, but nature controlled their quality and supply. There were limitations as to their performance.

By the turn of the century, man had learned that he need not be limited by nature. With many other things there came the automobile and the airplane and the first man made fiber. Commercial production has grown steadily until today these fibers are counted among the major ones and are second only to cotton in importance.

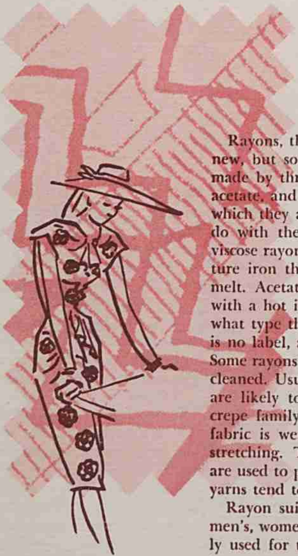
With the growth and development of the chemistry industry and modern science, many improvements have been made in the natural fibers.

Modern cotton fabrics are keeping step with the times, with new textures, new finishes, and new uses. Cotton is used in "highstyle" fashions. There are filmy cotton sheers decorated with sequins for evening, new nappy weaves for winter wear, cotton with woven tucks and satin-striped chambrays for dainty afternoon dresses. New finishes for cotton include a permanent starchless finish that lasts for the life of the garment. Other new finishes produce cotton fabrics that repel water, resist soiling, shrinking and stretching.

One of the newer—and most welcome—special finishes is shrinkage control for woolens. As with cottons and rayons, it is important to know within what percentage the shrinkage is controlled, two per cent, three per cent, or more or less. In addition to controlling shrinkage, those finishes also control the "felting" or matting of the fibers that usually happen when woolens are washed. Various types of finishes enable you to wash woolens by hand, or even in the washing machine, without shrinkage beyond a limited per cent. It is important to check the best way of washing as different wool finishes vary in this respect.

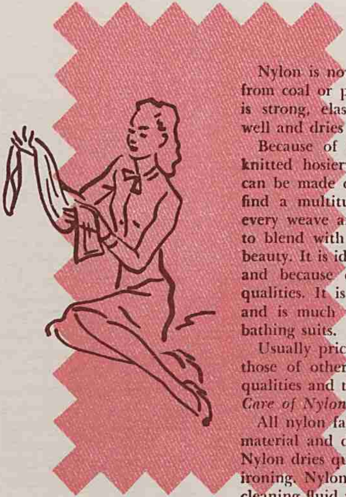
As in the case of the other age-old fibers modern science has lent a hand in adapting linen to greater usefulness. While it has always been a desirable clothing fabric because of its cool crispness, strength and washability, linen did have a tendency to wrinkle. This difficulty has now been overcome by the use of a special process which makes the fabric resist wrinkling.

RAYONS



Rayons, the first of the man-made fibers, are not new, but some of the finishes are new. They are made by three different processes—the viscose, the acetate, and the cupra-ammonium. The process by which they are made and the finish have much to do with the way they should be cared for. The viscose rayon can be ironed with a higher temperature iron than acetate rayon. It does not fuse or melt. Acetate rayon will fuse or melt in contact with a hot iron. Look for the label. It should tell what type the rayon is and how to clean. If there is no label, ask the merchant for the information. Some rayons wash beautifully; others should be dry cleaned. Usually the smooth, flat fabrics of rayon are likely to wash well, while the fabrics in the crepe family may give trouble. When any crepey fabric is wet there is danger of its shrinking or stretching. This is because tightly twisted yarns are used to produce the crepey texture and twisted yarns tend to kink when wet.

Rayon suitings are gaining great popularity in men's, women's and girl's suits. They are also widely used for tailored dresses and girl's skirts. They have the appearance of worsted suiting and have a wrinkle-resistant finish.



NYLON

Nylon is now an old friend. This fiber is made from coal or petroleum, air and water. The yarn is strong, elastic, withstands hard wear, washes well and dries quickly.

Because of these qualities, strong fabrics like knitted hosiery, lingerie, marquisette or organza can be made of very fine yarn. In fact, today we find a multitude of marvelous nylon fabrics of every weave and construction. Nylon is excellent to blend with other fibers; it gives strength and beauty. It is ideal for travel because it packs easily and because of its fast-drying and non-ironing qualities. It is an excellent material for curtains and is much used for rain wear, umbrellas and bathing suits.

Usually prices of nylon articles are higher than those of other fibers; however, the long-wearing qualities and the ease of care offset the extra cost.

Care of Nylon

All nylon fabrics may be washed if the finished material and dyes will also withstand laundering. Nylon dries quickly and requires very little if any ironing. Nylon may be cleaned with any standard cleaning fluid which is satisfactory for other fibers. If clean and kept in a dark, cool place, nylon articles may be stored indefinitely without deteriorating.

Sewing with Nylon

Use nylon thread or nylon and mercerized thread. Be sure the sewing machine needle is the right size. Use needle size 10 or 11—about the size you would use for 70 or 80 cotton thread. To thread the needle, flatten the thread end between the thumb and fore finger. Do not twist as it will form a brush-like end, making it difficult to thread through the needle. Adjust the length of stitch to suit the weight of fabric. Loosen upper tension slightly. Nylon is more elastic than other types of thread and will cause a puckered seam if tension is not eased. Wind thread on bobbin evenly. Piling up at one end or uneven winding will interfere with the normal operation of the lower tension. Test the stitching on a double thickness of the fabric and make necessary adjustments.

Press seams with a warm iron, comparable to that used with rayon. Pressing over a damp cloth may give a smoother seam.

ORLON

Fabrics made from *orlon* are excellent for outdoor use. They have a remarkable ability to withstand exposure to bright sunlight and industrial smoke or fumes, and to resist mildew, moles and other forms of biological attack. Fabrics made of orlon launder easily and dry quickly. Its principal uses at present are in rainwear, curtains, shirts, suits, dress fabrics and lingerie.

DACRON

Dacron is one of the very newest man-made fibers. Limited quantities of window curtains, blouses, shirts, sweaters, sewing thread and suitings made from dacron are currently being tested in the textile trade, and are now being found in retail stores. Dacron is not chemically related to nylon or orlon.

It has high tensile strength and high resistance to stretching—both wet and dry. It has good resistance to degradation by chemical bleaches and to abrasion. Most of the fiber's properties are equally good under wet or dry conditions. Fabrics made of "Dacron" have excellent resilience and resistance to wrinkling, launder easily, dry quickly and can be heat set. In spite of the fact that dacron is wrinkle resistant, permanent creases can be pressed into it at an ordinary ironing temperature, 275°F.

DYNEL

Dynel is used for blankets, sweaters, dress fabrics and other items where wool is commonly used. The fiber is strong and tough. It is moth proof and mildew proof, warm, quick-drying and will not shrink except at very high temperatures. It will resist burning, stains, molds and many chemicals. Follow directions on label, press with cool iron.

VICARA

The protein fibers of field corn provide the base of vicara. Its greatest use is in the form of blends since it blends well with any of the other fibers either natural or man-made. It is very soft and warm and has a cashmere-like appearance. It is used widely today in infants' wear, men's suiting, sweaters and sports clothes.

Summary

From our new fibers we have fabrics that wash well, dry quickly, require little or no ironing, take permanent pleats or creases, that are mildew and moth resistant. However, no one of these will impart all of the desirable qualities. Each synthetic is made to impart certain specific characteristics to a fabric. Each has its advantages and limitations.

FABRIC FINISHES

A number of special finishes have been developed to make fabrics more satisfactory in use or to help them perform certain functions. These finishes, applied in addition to the usual processes for producing a type of fabric, give the fabric an additional quality such as resistance to water, shrinkage, insects, etc.

Below are some of the most popular ones with their trade names.

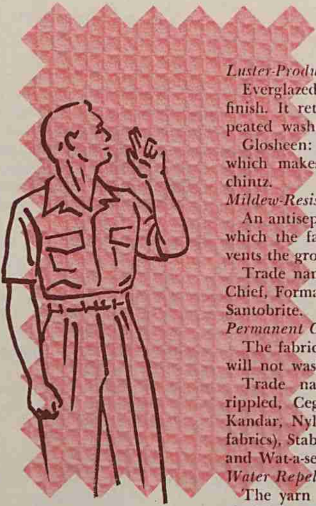
Wrinkle Resistance

Wrinkle resistance may be obtained by construction—the fabric is given a wiry, springy nature by the kind of yarn and weave used. There are also chemical treatments which involve impregnation of the fabric with a synthetic resin.

Trade names: Aerotex, Bradura, Resloom, Stazenu, Staze Rite, Superset, Tebelized Unidure, Vitalized, Wrinkle-shed, and Zeset

Shrinkage Control

Trade names: Aerotex, Bradura, Decatized, Definized, Fiberset, Formaset, Frelon, Koloc, Lacet, Lanaset, London-shrunk, Pacifixed, Protonized, Resloom, Rigmel, Sanforized, Sanforlan, Sanforset, Saylaset, Sayla-shrunk, Schollerized, Sheerset, Shrink-master, Shrink-set, Stazenu, Stazerite, Tebelized, Unifast, Vat-fast, Wat-a-set, Wat-a-set Elite, and Zeset.



Luster-Producing Finishes

Everglazed chintz: Chintz treated with a resin finish. It retains its crispness and luster after repeated washings.

Glosheen: a permanent finish used on sateen which makes it appear somewhat like a glazed chintz.

Mildew-Resistant Finish

An antiseptic is added to the starch dressing with which the fabric is finished. This retards or prevents the growth of mildew.

Trade names: Acetylated cottons, Aerotex, Fire Chief, Formaset F., Nuodex 100, Permaseptic, and Santobrite.

Permanent Crisp Finishes

The fabric is treated with permanent sizing that will not wash out.

Trade names: Apponized, Bellmanized, Belrippled, Ceglin (cotton and rayon), Heberlein, Kandar, Nylosette, Saylerized (curtains and dress fabrics), Stabalized, Stazenu, Trubenized, Vitalized, and Wat-a-set.

Water Repellent

The yarn is coated before it is woven, making the fabric resistant to moisture.

Trade names: Aridex (non permanent), Cravanette (there are two types: one is durable, the other non-permanent), Durasec, Impregnole, Norane, Permel, Unisec, and Zelan (permanent).

Water Proof

The fabric is coated to prevent the passage of moisture or air through it.

Trade names: Beutanol, Clearseal, Fire Chief, and Koroseal.

Flameproof: Fire Repellent

Asbestos is the only flameproof material; others may be repellent, resistant or retardent toward fire, according to the treatment.

Ban flame is a durable flameproofing process. It does not stiffen or alter the appearance of fabrics. They may be dry cleaned.

Saran is a trade name for a flameproofing process involving the use of a resin binder.

Trade names: Erifon, Fire Chief, Flame Check, Linda, Pyrolin, and Rezgard.

Gas Fading

Trade name: Airfast.

Anti-Septic

Trade names: Perm-Aseptic, Sani-Age, Sanitized, So-Dri, and Steritized.

Look for Tags and Labels

Today the more progressive fabric and garment manufacturers provide informative tags on their products. More manufacturers would furnish this information if demanded by consumers.

What Tags Should Tell

Fiber content—what it is made of.

Manufacturer's name or Trade Mark.

Color Fastness—to light, dry cleaning, laundering.

Fume fading; resistance to perspiration; manufacturer's guarantee; shrinkage; special finishes; and care instructions.

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REMOVING STAINS FROM FABRICS

home methods

U.S. DEPARTMENT OF AGRICULTURE

Contents

This is a Consumer Service of USDA

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This bulletin supersedes Farmers' Bulletin No. 1474, "Stain Removal From Fabrics: Home Methods," which was first published in 1917 and was last completely revised in 1942 by Margaret S. Furry.

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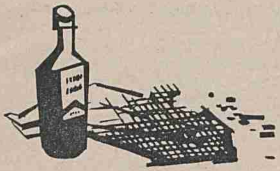


REMOVING STAINS FROM FABRICS

home methods

Learn the simple methods for removing stains at home. Then act promptly when a fabric is stained. Many stains that can be removed easily when they are fresh are difficult or impossible to remove later, particularly after they are set by heat.

Selecting the method of removal

Successful stain removal starts with the selection of a method of stain removal that is suited to both stain and fabric.

Kind of stain.—Identify the stain, if possible. The treatment for one kind of stain may set another. If you can't determine what caused the stain it will help if you can tell whether it is a greasy stain, a nongreasy stain, or a combination of the two.

Directions for removing these three main types of stains and for removing individual stains are given on pages 16 to 28.

Kind of fabric.—Before using any stain remover be sure it will not harm the fabric.

In general, the stain removers recommended in this publication will not damage the fibers in fabrics or most special fabric finishes. There are exceptions, however, which should be noted. Exceptions are listed in the description of the various kinds of stain removers and, where necessary, in the directions for removing individual stains.

Some stain removers that do not damage fibers may change the appearance of the treated area so that it looks as bad as or worse than the original stain. They may, for example, cause fading or bleeding of dyes, loss of luster, shrinkage or stretching of the fabric. They may remove nonpermanent finishes or designs. It is often difficult to use any stain remover on such fabrics as satins, crepes, taffetas, silk and rayon moires, gabardines, and velvets without causing some change in appearance.

To determine whether a stain remover will change the appearance of the fabric to be treated, test it first. Test on a sample of the material, if possible, or on a hidden part of the article—a seam allowance, hem, inside of pocket, or tail of a blouse or shirt.

If the substance needed to remove the stain will damage the fiber or change the appearance of the fabric, send the stained article to a professional drycleaner. He has the skill, the special equipment, and the reagents that enable him to handle many of the more difficult stains and fabrics.

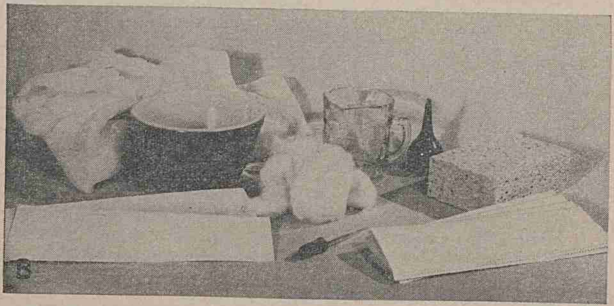
Treating the stain

Find the specific directions for removing a stain in the section of this publication that begins on page 18. If you need more detailed information about the remover recommended, including complete directions for applying it, find this in the section beginning on page 3.

Follow directions accurately. Use solutions only in the strengths recommended and for the length of time given.

Work carefully and patiently. Often results depend as much on the way the job is done as on the remover used.

Observe all precautions given for the use of removers that are flammable, that give off poisonous vapors, or that are poisonous if swallowed.



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Stain-removal supplies. A, assorted stain removers. B, miscellaneous supplies used in removing stains.

Stain Removers and How To Use Them

To be prepared to remove all the different kinds of stains, you will need to keep four types of removers on hand—absorbent materials, detergents, solvents, and chemical stain removers, such as bleaches.

Although some stains can be removed with only one type of remover, more often removers of two or more types are needed.

You will also need miscellaneous supplies, such as bowls, medicine droppers, and a small syringe.

Keep stain-removal supplies in a place that is convenient but out of the reach of children. Label clearly poisonous and flammable removers.

Absorbent materials

Useful absorbent materials are absorbent powders, absorbent cotton, sponges, and white or fast-color paper towels, facial tissues, and soft cloths.

How to use absorbent powders

Cornstarch, cornmeal, talc, or powdered chalk will remove some fresh stains, such as grease spatters. They are also used with solvents (p. 8).

Spread absorbent powder over the stain before it dries. Remove powder as it absorbs the stain by shaking or brushing it off; or use the upholstery attachment of a vacuum cleaner.

After surface stain has been removed, work fresh powder into the stain, then remove as before. Repeat with fresh powder until as much stain as possible has been absorbed.

It may be difficult to use this method successfully on some dark-colored articles that cannot be washed. If the white powder cannot be completely removed it may be more conspicuous on dark materials than the original stain.

How to use other absorbent materials

Absorbent cloths, absorbent cotton, absorbent paper, blotters, and sponges can be used to soak up staining liquids before they soak into a fabric. If much of the liquid can be absorbed quickly, the stain will be smaller and easier to remove than it would be otherwise. This technique will work only on fabrics that absorb the staining liquid slowly. It is often useful on such articles as rugs, upholstered furniture, and heavy coats.

To use these absorbents, hold the material so that the liquid is absorbed rather than forced into the fabric. If the stain is not greasy you may be able to remove some of the liquid that has soaked into the fabric by adding a little water to the stain and absorbing this immediately with the absorbent material. Repeat as long as any stain is absorbed.

These materials are also used to absorb stains as they are loosened from fabrics by liquid stain removers.

Detergents

Detergents—soaps and synthetic detergents (syndets)—will remove many nongreasy stains and some greasy stains. They act as lubricants, coating insoluble particles of staining material (such as carbon and colored pigments) with a smooth, slippery film. The particles can then be rinsed out of the fabric.

Liquid detergents are especially useful. They are in the concentrated form needed to remove stains, and can be easily worked into the fabric and rinsed out of it.

How to use detergents on washable articles

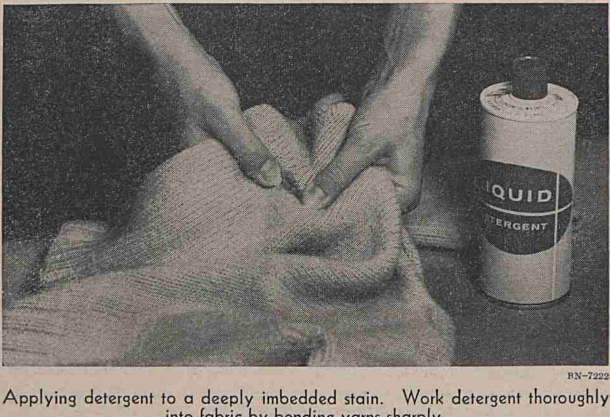
For surface stains, rub a detergent lightly into the dampened spot or rub in liquid detergent. Rinse the stained area or wash the article as usual.

If a stain is deeply imbedded, work the detergent thoroughly into the fabric. One way to do this is to rub detergent lightly into the stained area, then, holding the fabric with both hands, work the stained area back and forth between your thumbs. Bend the yarns sharply so that the individual fibers in the yarn rub against one another. It is this bending of yarns, rather than rubbing the surface of the fabric, that is effective in removing the stain. Go over the entire stained area in this way. Then rinse thoroughly.

On articles such as rugs, on heavy fabrics that cannot be bent easily, or on woolen fabrics that might be felted by too much bending of the yarn, work the detergent into the fabric with the edge of the bowl of a spoon.

How to use detergents on nonwashable articles

Work detergent into the stained area in the same way as for wash-



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Applying detergent to a deeply imbedded stain. Work detergent thoroughly into fabric by bending yarns sharply.

able articles. Dilute liquid detergents with an equal volume of water. Use as little detergent as possible because it is difficult to remove excess detergent without wetting a large area of the fabric. Rinse thoroughly by sponging spot with cool water or by forcing water through the stain with a syringe. If alcohol is safe for the fabric, use it to rinse out the detergent. It is easier to rinse out the detergent with alcohol, and the fabric will dry more quickly.

Solvents

Many common stains can be removed with the right solvent. Different kinds of solvents are needed for nongreasy and for greasy stains. Water is the most useful solvent for many common nongreasy stains, and it is the only solvent that is neither flammable nor poisonous. When using other solvents, follow carefully the safety precautions listed on page 9.

With the exceptions of acetone and trichloroethylene, the solvents recommended in this bulletin will not dissolve or seriously damage the fibers in fabrics. They may, however, change the appearance of the fabric so much that the article is no longer usable. Solvents may dissolve dyes and finishes or cause other changes, such as dulling of the luster and shrinking or stretching of the treated area. Test to be sure the solvent will not change the appearance of the treated area.

To test, use a solvent on a swatch of similar material or on a hidden part of the article exactly as you would to remove a stain.

Solvents for nongreasy stains

Water or water with a detergent will remove many nongreasy stains.

Acetone or amyl acetate, alcohol, and turpentine are needed for other nongreasy stains. All are available at drug and hardware stores.

Acetone is used for removing such stains as fingernail polish and ballpoint ink. It should not be used on acetate, Arnel, Dynel, or Verel.[1] Flammable. Poison.

Alcohol (rubbing) is used for a number of stains if it is safe for the dye in the fabric. It should be diluted with two parts of water for use on acetate. Flammable. Poison.

Amyl acetate (chemically pure) is used for the same stains as acetone; it can be used on fabrics that are damaged by acetone. However, impure (technical grade) amyl acetate may damage the same fabrics as acetone. Flammable. Poison.

Turpentine is used on paint stains. Flammable. Poison.

Grease solvents

Special solvents, such as those used by drycleaners, are needed for greasy stains. These are available at drug, grocery, and auto-supply stores.

No solvents are available that will effectively remove greasy spots without hazard to the user. Some are flammable. All of those commonly used are poisonous. Serious illness or death can result from swallowing the liquids or from breathing too large an amount of the vapors. Information concerning the degree of toxicity of the

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[1] Fiber trademarks are used in this publication solely for the purpose of providing specific information. Mention of a trademark does not constitute a guaranty or warranty of the product named and does not signify that this product is approved to the exclusion of comparable products.

Generic names for the trademarks used in this publication are: Triacetate (Arnel), modacrylic fiber (Dynel and Verel), polyester fiber (Kodel).

different types of grease solvents is given in the discussion below.

Because of the hazards of toxicity and flammability the use of large amounts of these solvents in the home is not recommended. *Use only in small amounts and take the precautions listed on page 9.*

Nonflammable.—Carbon tetrachloride, methyl chloroform, perchloroethylene, and trichloroethylene are nonflammable grease solvents. They may be sold under these names or under various trade names. Trichloroethylene should not be used on Arnel or Kodel.

Carbon tetrachloride is the most hazardous to use because it takes less vapor from this solvent than from the others to poison the user and because the poisoning from it is cumulative. However, exposure to a high concentration of vapors from any of the nonflammable solvents is dangerous; vapors of all of them are more toxic to persons whose blood contains even a small amount of alcohol.

Because carbon tetrachloride is the most hazardous, use one of the other nonflammable solvents whenever possible. They are not, however, as readily available in small quantities as carbon tetrachloride.

Flammable.—Petroleum naphthas are the most used of the flammable grease solvents. They are sold under this name or under various trade names. Use only a naphtha with a high flashpoint (the higher the flashpoint, the less easily the naphtha can be ignited).

Do not use naphthas near an open flame or where there is a chance that sparks from electrical equipment or from static electricity may ignite the solvent or vapors. Never use naphthas in a washing machine or put articles that have been cleaned with naphtha in a dryer.

Although the vapors from these solvents are not as poisonous as those of the nonflammable solvents, breathing large amounts of them is dangerous.

Mixtures.—Many of the stain removers sold at grocery and drug stores under various brand names are mixtures of two or more grease solvents. They may contain both flammable and nonflammable kinds. The solvents used in these products can be changed without a change in the brand name.

Read the label carefully and observe all precautions listed by the manufacturer. If the label does not tell what solvents are in the product it is safer to assume that it may contain carbon tetrachloride and to observe all precautions for the use of that solvent.

How to use solvents

Place the stained area on a pad of soft cloth or other absorbent material. Place stained side down, if possible, so that the stain can be washed out of the fabric, not through it.

Dampen a pad of cotton or soft cloth with the solvent. Sponge the back of the stain with the pad. Repeated applications of only a small amount of solvent are better than a few applications of larger amounts.

Work from the center of the stain toward its outside edge, using light brushing or tamping motions. Professional drycleaners have found that a fabric is less likely to ring if worked in this direction rather than from the outside edge toward the center. Avoid hard rubbing that might roughen the surface of the fabric. Sponge the stain irregularly around the edges so that there will be no definite line when the fabric dries.

Change the absorbent pad under the fabric and the pad used for sponging as soon as they are soiled to avoid transferring the stain back to the fabric.

For hardened stains (such as old paint or tar stains) place an absorbent pad or blotter dampened with the solvent on the stain. Allow time for the solvent to soften the stain; replace the pad as needed. Finish by sponging the stain.

For stains on delicate fabrics that cannot be sponged without chafing the surface or displacing the yarns, place an absorbent pad or blotter dampened with the solvent on the stain. Replace pad as needed. Do not sponge.

Dry fabrics as rapidly as possible.

On fabrics that tend to form rings.—If a fabric tends to form rings when sponged with a solvent use either of the following methods.

(1) Use method previously described with these variations. Barely dampen the sponging pad with solvent. Apply only enough solvent to dampen fabric—not so much that solvent spreads out beyond point of application. Take extra care in sponging stain around edges, to make sure there will be no definite line when the fabric dries. Dry fabric as rapidly as possible. On some fabrics the formation of rings can be prevented by placing the treated area on a dry absorbent pad and rubbing it lightly with the palm of the hand; be sure the fabric is flat and free from wrinkles before you rub it. Or place it on the palm of one hand and rub it with the other. Rub

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Applying a grease solvent. Place fabric stained side down on a pad of absorbent material. Sponge back of stain with pad dampened with grease solvent. Apply only a little solvent at a time. Work from center of the stain toward the outside edge, using light brushing or tamping motions.

with crosswise or lengthwise thread of the material.

(2) Or use a solvent-absorbent powder mixture. Add just enough solvent to cornstarch, talc, or other absorbent powder to make a thick crumbly mixture. To make sure the mixture is dry enough, test it first on a scrap of similar material. The solvent should not spread out on the cloth beyond the edge of the mixture.

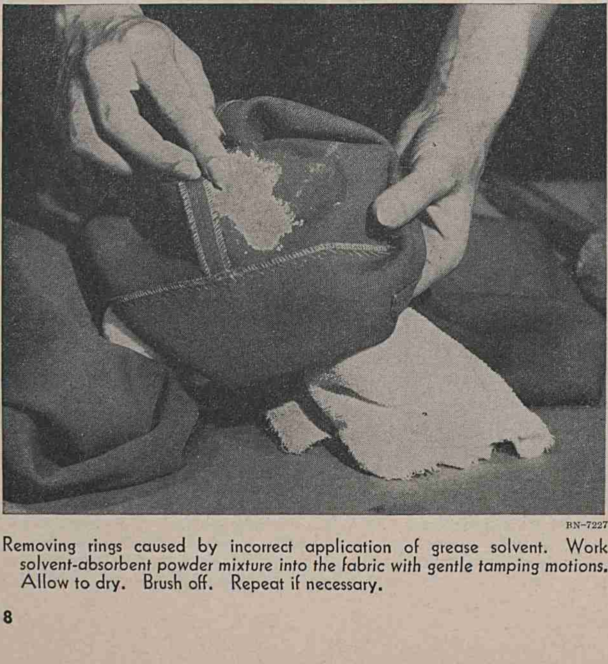
Apply mixture over the stained area and work it into the fabric with gentle tamping or rubbing motions. Allow mixture to dry on the stain. Brush off and repeat if necessary.

It may be difficult to use this mixture successfully on some dark-colored articles that cannot be washed. If the white powder cannot be completely removed it may be more conspicuous on dark materials than the original stain.

To remove rings.—Once rings have formed on a fabric they may be difficult to remove.

If the article is washable, work a detergent thoroughly into the dampened ring as described on page 4. Then rinse thoroughly.

If the article is not washable you may be able to remove the ring by rubbing the fabric between your thumbs, or scratching it lightly with a fingernail. A solvent-absorbent powder mixture, used as described above, may also remove rings.



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Removing rings caused by incorrect application of grease solvent. Work *solvent-absorbent powder mixture into the fabric with gentle tamping motions.* Allow to dry. Brush off. Repeat if necessary.

PRECAUTIONS

When using any solvent except water—

- Work out of doors or in a well-ventilated room (open several doors and windows).

- Do not breathe solvent vapors. Arrange work so that fumes are blown away from you, by a fan or breeze from an open door or window. Do not lean close to your work.

  Solvent vapors are heavier than air and tend to settle unless there is forced ventilation. Do not allow small children to play on the floor in a room where solvents are being used.

- Use only a small quantity of solvent at a time; keep bottle stoppered when not in use. Unless you are working outdoors, do not pour solvents into an open bowl.

- If you spill solvent on your skin wash it off immediately.

- Observe any additional warnings given on labels of solvent containers.

In addition, when using flammable solvents—

- Do not use near open flames, including pilot lights on gas equipment.

- Do not use where there is a chance that sparks from electrical equipment or from static electricity may ignite the solvent or vapors. Never use flammable solvents in a washing machine. Never put articles that have been dampened with a flammable solvent in a dryer.

Store solvents in a safe place

When solvents are not in use, keep them tightly stoppered in a place out of the reach of children. In addition to giving off poisonous fumes, solvents are also poisonous if swallowed.

Store flammable solvents where they cannot be ignited by flames or electric sparks.

Bleaches and other chemical stain removers

Chemical stain removers will take out many stains that cannot be removed by absorbents, detergents, or solvents. The chemical removers react with such stains to form new compounds that are colorless or soluble, or both.

Because some may react with the fiber as well as with the stain, chemical removers are more likely to damage fabrics than the other types of removers. Test before using and follow carefully all directions for their use.

Kinds of chemical stain removers

Chemical stain removers include bleaches, acetic acid, ammonia, iodine, oxalic acid, and sodium thiosulfate.

Bleaches.—Bleaches are the most widely used of the chemical stain removers and the ones most likely to damage fibers and fade dyes if directions are not carefully followed. Bleaches should not be used in metal containers because metals may hasten the action of the bleach and thus increase the chance of fabric damage.

Four kinds of bleaches are recommended for home use—chlorine bleaches, sodium perborate, hydrogen peroxide, and color removers.

The first three kinds of bleaches generally remove the same types of stains and, if safe for the fabric, can be used interchangeably. If one bleach is more effective than the others for a particular stain it is recommended in the directions (pp. 18 to 28) for removing that stain.

Color removers are generally used for types of stains for which the first three are not effective.

Chlorine bleaches are sold at grocery stores under various brand names. They may be in liquid or in granular form. The liquid bleaches act on stains more quickly but are more likely to damage fabrics if improperly used.

Sodium perborate is available as pure sodium perborate powder at drug stores. Also, bleaches that contain 30 to 50 percent of sodium perborate are sold under various brand names at grocery stores; these are in powder form.

The 3-percent ***hydrogen peroxide*** used for bleaching is sold in drug stores.

Color removers are sold under various brand names in drug and grocery stores.

Other chemical stain removers.—***Acetic acid*** or ***vinegar*** is used for neutralizing alkalies and for restoring colors changed by the action of alkalies. Use 10-percent acetic acid available from drug stores. Or substitute white vinegar, which contains 5 percent of acetic acid.

Ammonia is used for neutralizing acids and restoring colors changed by action of acids. Use 10-percent ammonia solution, or substitute household ammonia. Avoid breathing ammonia fumes. Poison if swallowed.

Iodine is used only for silver nitrate stains. Use tincture of iodine available at drug stores. Poison if swallowed.

Oxalic acid is used for rust and other metallic stains. Sold in crystalline form at drug stores. Poison if swallowed.

Sodium thiosulfate is used for removing iodine and chlorine stains. Sold in crystalline form at drug stores and, as "hypo" at photographers' supply stores.

How to use chemical stain removers

Try a mild treatment first. Dampen stain with cool water and stretch stained area over a bowl or place on an absorbent pad. Apply liquid removers with a medicine dropper. Or sprinkle dry removers over the dampened spot. Or, if the article is washable, the stained area or the whole article can be soaked in a solution of the remover.

Do not let the remover dry on the fabric. If it is necessary to keep the remover on the stain for more than a few minutes, keep the area wet by placing a pad of cotton wet with the remover—or with water if a dry remover is used—on the stain. Keep cotton damp until the stain is removed.

Rinse remover from washable articles by sponging area repeatedly with a cloth dampened with water or by rinsing area or whole garment in clear water.

To rinse remover from nonwashable articles, sponge repeatedly with a cloth dampened with water. Or place treated area while still damp on a clean sponge or stretch it over a bowl, then force water through the spot. The sponge is preferable because it absorbs water and so helps to keep it from spreading to surrounding dry areas. Use a syringe to force water through the spot.

If stains cannot be removed by a mild treatment, a stronger treatment may be successful. The treatment may be strengthened by lengthening the time of treatment, using a more concentrated solution of the remover, or raising the temperature of the reaction. All of these ways of strengthening the treatment increase the danger of damage to the fabric.

Additional directions for using each of the chemical stain removers are given on pages 12 to 15.

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Treating a stain on a nonwashable article with sodium perborate bleach. A, apply a solution of sodium perborate. B, rinse well, using a small syringe to force water through the spot and a sponge to absorb the water.

DIRECTIONS FOR BLEACHES

Chlorine Bleaches

Do not use chlorine bleaches on fabrics that contain silk or wool or on a fabric with a special finish (such as those used to improve such properties as wrinkle resistance, shrinkage resistance, crispness, or sheen, or to produce durable embossed and sculptured designs) ***unless the manufacturer states on the label that chlorine bleach is safe.*** The resin in some of these finishes absorbs and retains chlorine, which weakens, and sometimes yellows, the fabric. Some fabrics are not weakened or yellowed until they are ironed; then damage may be severe. See page 20 for directions for removing retained chlorine from such fabrics. Test all dyed fabrics for colorfastness. Do not use in metal containers.

Washable articles

Mild treatment	Strong treatment
Mix 2 tablespoons liquid bleach or 1/4 cup granular bleach with 1 quart cool water. Apply to small stains with a medicine dropper; soak large stains in the solution. Leave on stain for 5 to 15 minutes. Rinse well with water. Repeat if necessary.	Mix equal parts liquid bleach and water. Apply solution with medicine dropper to small stains. If stain is large, dip stained area in solution. Rinse immediately with water. Repeat if necessary. Be sure all bleach is rinsed out of fabric.

Nonwashable articles

Mild treatment	Strong treatment
Mix 1 teaspoon liquid bleach or 1 tablespoon granular bleach with 1 cup cool water. Apply to stain with medicine dropper. Leave on stain for 5 to 15 minutes. Rinse well with water. Repeat if necessary.	Not recommended. However, if stain cannot be removed in any other way, strong treatment given above for washable articles may be used.

Sodium Perborate Bleaches

Do not use strong treatments on fabrics that contain wool, silk, or Dynel because these treatments call for hot water. Hot water shrinks Dynel; hot sodium perborate solutions are not safe for silk and wool. Test all dyed fabrics for colorfastness. Do not use in metal containers.

Washable articles

Mild treatment	Strong treatment
Mix 1 to 2 tablespoons sodium perborate with 1 pint lukewarm water (for wool, silk, and Dynel) or 1 pint hot water (for other fabrics). Mix just before using; the solution loses strength on standing. Cover stained area with solution or soak entire article. Soak until stain is removed. This may take several hours, or overnight. Rinse well. If wool or silk is yellowed by sodium perborate, sponge with 10-percent acetic acid or vinegar to remove yellowing, then rinse with water.	Sprinkle sodium perborate on stain. Dip stain into very hot or boiling water. Stains should be removed in a few minutes. Rinse well. Repeat if necessary.

Nonwashable articles

Mild treatment	Strong treatment
Sprinkle sodium perborate on stain. Cover with a pad of cotton dampened with water. Use lukewarm water for wool, silk, and Dynel—hot water for other fabrics. Keep damp until stain is removed. This may take several hours or more. Rinse well. Or mix 1 to 2 tablespoons sodium perborate with 1 pint lukewarm water (for wool, silk, and Dynel) or 1 pint hot water (for other fabrics). Mix just before using; the solution loses strength on standing. Apply to stain with medicine dropper. Keep damp until stain is removed. Rinse well. If wool or silk is yellowed by sodium perborate, sponge with 10-percent acetic acid or vinegar to remove yellowing, then rinse with water.	Dampen stain with cool water. Sprinkle sodium perborate on stain. With spoon or medicine dropper, pour a small amount of boiling water on stain. Use a sponge or absorbent pad under the stain to absorb the water. Rinse well. Repeat if necessary.

Hydrogen Peroxide

A 3-percent solution of hydrogen peroxide is safe for all fibers; it acts slowly on stains. This solution loses strength on storage. Test all dyed fabrics for colorfastness. Do not use in metal containers.

Washable and nonwashable articles	
Mild treatment	**Strong treatment**
Moisten stain with a few drops of a 3-percent solution of hydrogen peroxide. Expose stain to direct sunlight. Add hydrogen peroxide as needed to keep stained area moist until stain is removed. If above treatment does not remove stain, add a few drops of household ammonia to about 1 tablespoon of hydrogen peroxide. Moisten stain immediately with this mixture, and cover with a pad of cotton dampened with the same mixture. Keep damp until stain is removed; it may take several hours or more. Rinse well.	Cover stain with a cloth dampened with a 3-percent solution of hydrogen peroxide. Cover with a dry cloth and press with an iron as hot as is safe for the fiber. Rinse well.

Color Removers

Color removers are safe for all fibers, but fade or remove many dyes. If test of color remover on fabric shows that the remover causes a distinct color change rather than fading, you may be able to restore the original color by rinsing immediately, then drying article in air. If color remover fades the color, original color cannot be restored. Do not use in metal containers.

Washable and nonwashable articles	
Mild treatment	**Strong treatment**
Dissolve 1/4 teaspoon of color remover in 1/2 cup of cool water. Wet stain with a few drops of the solution. Cover stain for 1 to 15 minutes with a pad of cotton dampened with the solution. Rinse well. Repeat if necessary.	For large stains on white or colorfast fabrics, follow directions on the package. For all other stains, dissolve 1/4 teaspoon of color remover in 1/2 cup of boiling water. Drop hot solution on stain with a medicine dropper. Rinse immediately. Repeat if necessary.

DIRECTIONS FOR OTHER CHEMICAL STAIN REMOVERS

Treatments are the same for washable and nonwashable articles. Unless otherwise indicated, treatment is strengthened by increasing the time the remover is left on fabric.

Acetic Acid, Vinegar

Moisten stain with 10-percent acetic acid or vinegar. Keep fabric wet until stain is removed. Rinse with water. Safe for all fibers, but may change color of some dyes. If dye changes color, rinse stain with water. Then try to restore color by moistening stain with ammonia (see below).

Ammonia

All fabrics except those that contain wool or silk.—Moisten stain with 10-percent ammonia or household ammonia. Keep stain wet until it is removed. Rinse with water. If the color of a dye is changed by ammonia, try to restore color after rinsing by moistening with acetic acid or vinegar. Rinse with water.

Wool or silk.—Dilute ammonia with an equal volume of water. Moisten stain with this solution and keep it moist until stain is removed. Rinse with water. Add a small amount of vinegar to the last rinse. If the color of a dye is changed by ammonia, try to restore color after rinsing by moistening with acetic acid or vinegar. Rinse with water.

Iodine

Directions given under silver nitrate (p. 27), the only kind of stain for which it is used.

Oxalic Acid

Safe for all fibers, but may change color of some dyes. If dye changes color after treatment, rinse stain with water. Then try to restore color by moistening stain with ammonia (see above).

Mild treatment.—Dissolve 1 tablespoon of oxalic acid crystals in 1 cup of warm water. Keep stain wet with this solution until it is removed. Rinse thoroughly with water.

Strong treatment.—Dissolve 1 tablespoon of oxalic acid in 1 cup of water as hot as is safe for fabric. Use as for mild treatment.

Or, for all fabrics except nylon, sprinkle crystals on dampened stain and dip in pan of very hot water.

Sodium Thiosulfate

Directions are given under chlorine (p. 20) and iodine (p. 23), the only stains for which it is used.

Directions for Removing Stains

Many common stains can be removed by following one of the three general methods given below and on the next page. These methods are for removing greasy and nongreasy stains and stains that are a combination of the two.

Also given in this section are individual directions for removing all common stains. These are listed alphabetically. The individual directions tell whether to treat a stain as a greasy, nongreasy, or combination stain or give additional directions for stains that cannot be removed by one of the three general methods.

Whenever necessary, separate directions are given for washable and nonwashable articles. Directions for nonwashables are for articles made of fabrics that are not damaged by the application of small amounts of water. If water cannot be used on a fabric, only those stains that can be removed by absorbents or by solvents that do not contain water (acetone, amyl acetate, or grease solvents) can be removed satisfactorily by home methods.

General stain-removal directions

GREASY STAINS

Washable Articles

Regular washing, either by hand or by machine, removes some greasy stains.

Some can be removed by rubbing detergent into the stain, then rinsing with hot water.

Often, however, you will need to use a grease solvent; this is effective even after an article has been washed.

Sponge stain thoroughly with grease solvent. Dry. Repeat if necessary. It often takes extra time and patience to remove greasy stains from a fabric with a special finish.

A yellow stain may remain after solvent treatment if stain has been set by age or heat. To remove yellow stain use a chlorine or sodium perborate bleach or hydrogen peroxide. If safe for the fabric, the *strong sodium perborate treatment* is usually the most effective for these stains.

Nonwashable Articles

Sponge stain well with grease solvent. Dry. Repeat if necessary. It often takes extra time and patience to remove greasy stains from fabrics with a special finish.

A yellow stain may remain after solvent treatment if stain has been set by age or heat. To remove yellow stain use a chlorine or sodium perborate bleach or hydrogen peroxide. If safe for the fabric, the strong sodium perborate treatment is usually the most effective for these stains.

NONGREASY STAINS

Many fresh stains can be removed by simple treatments. Stains set by heat or age may be difficult or impossible to remove.

Washable Articles

Some nongreasy stains are removed by regular laundry methods; others are set by them.

Sponge stain with cool water. Or soak stain in cool water for 30 minutes or longer; some stains require an overnight soak.

If stain remains after sponging or soaking, work a detergent into it, then rinse.

If a stain remains after detergent treatment use a chlorine or sodium perborate bleach or hydrogen peroxide.

Nonwashable Articles

Sponge stain with cool water. Or force cool water through stain with a small syringe, using a sponge under the stain to absorb the water.

If stain remains, rub detergent on stain and work it into fabric. Rinse.

A final sponging with alcohol helps to remove the detergent and to dry the fabric more quickly. Test alcohol on fabric first to be sure it does not affect the dye. Dilute alcohol with 2 parts of water before using it on acetate.

If stain remains after detergent is rinsed out, use a chlorine or sodium perborate bleach or hydrogen peroxide.

COMBINATION STAINS

Combination stains are caused by materials that contain both greasy and nongreasy substances.

Washable Articles

Sponge stain with cool water. Or soak in cool water for 30 minutes or longer.

If stain remains, work detergent into the stain, then rinse thoroughly. Allow article to dry.

If a greasy stain remains, sponge with grease solvent. Allow to dry. Repeat if necessary.

If colored stain remains after fabric dries, use a chlorine or sodium perborate bleach or hydrogen peroxide.

Nonwashable Articles

Sponge stain with cool water. Or force cool water through the stain with a small syringe, using a sponge under stain to absorb the water.

If a stain remains, rub detergent on the stain and work it into the fabric. Rinse spot well with water. Allow article to dry.

If a greasy stain remains, sponge with grease solvent. Allow article to dry. Repeat if necessary.

If a colored stain remains after the fabric dries, use a chlorine or sodium perborate bleach or hydrogen peroxide.

Grease solvents.—For information on kinds of grease solvents, technique for using them, and precautions to observe when using them see pages 5 to 9. Fumes from all grease solvents are poisonous. Use these solvents only with adequate ventilation. Keep flammable solvents away from flames and sparks.

Bleaches.—For information on using bleaches see pages 9 to 14.

Directions for removing individual stains

Acids

If an acid is spilled on a fabric, rinse the area with water immediately. Then apply ammonia to the stain (pp. 10, 15). Rinse again with water.

Strong acids, such as sulfuric (used in batteries) and hydrochloric (used for cleaning brick), may damage or destroy some fibers before the acid can be rinsed out. The amount of damage depends on the kind of fiber and acid and on the concentration and temperature of the acid solution. Often, however, thorough rinsing before the acid dries on the fabric will prevent serious damage. Dilute solutions of weak acids such as acetic (vinegar) will not damage fibers.

Both weak and strong acids may change the color of some dyes. The use of ammonia after rinsing with water neutralizes any acid left in the fabric and sometimes restores colors that have changed.

Adhesive tape

Scrape gummy matter from stain carefully with a dull table knife; avoid damaging fabric. Sponge with grease solvent (pp. 6 to 9).

Alcoholic beverages

Follow directions for nongreasy stains (p. 17).

An alternate method if alcohol does not affect the color of the fabric is to sponge the stain with alcohol (pp. 5, 6). Dilute alcohol with 2 parts of water before using on acetate. If a stain remains, use a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14).

The alcohol in these beverages will cause bleeding of some dyes, which results in loss of color or formation of a dye ring around the edge of the stain. When either change occurs, the original appearance of the fabric cannot be restored.

Alkalies

If an alkali is spilled on a fabric, rinse the area with water immediately. Then apply vinegar to the stain. Rinse again with water.

Strong alkalies, such as lye, may damage or destroy some fibers before then can be rinsed out. The amount of damage depends on the kind of fiber and alkali and on the concentration and temperature of the alkali solution. In many cases, however, prompt rinsing will prevent serious damage. Silk and wool are the fibers most easily damaged by alkalies. Dilute solutions of such weak alkalies as ammonia will not damage fibers. Both strong and weak alkalies may change the color of some dyes. The use of vinegar after rinsing with water neutralizes any acid left in the fabric and sometimes restores colors that have changed.

Antiperspirants, deodorants

Wash or sponge stain thoroughly with detergent and warm water. Rinse. If stain is not removed, use a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14).

Antiperspirants that contain such substances as aluminum chloride are acidic and may cause fabric damage and change the color of some dyes. You may be able to restore the color of the fabric by sponging it with ammonia. Dilute ammonia with an equal volume of water for use on wool or silk. Rinse.

Argyrol

Wash stain with detergent and water; this will remove most fresh stains.

If stain is not removed, follow directions for silver nitrate (p. 27).

Blood

Follow directions for nongreasy stains (p. 17), with one variation. If stain is not removed by detergent put a few drops of ammonia on the stain and repeat treatment with detergent. Rinse. Follow with bleach treatment if necessary.

Blood stains that have been set by heat will be difficult to remove.

Bluing

Follow directions for nongreasy stains (p. 17).

Butter, margarine

Follow directions for greasy stains (p. 16).

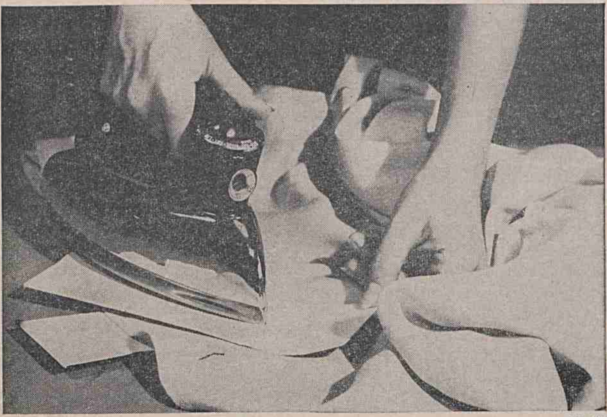
Candle wax, paraffin

To remove as much wax as possible, place the stain between clean white blotters or several layers of facial tissues and press with warm iron. To remove remaining stain, sponge with a grease solvent (pp. 6 to 9).

Or, if safe for fabric, pour boiling water through the spot. Remove any remaining stain with grease solvent.

Candy, sirup

For chocolate candy and sirup follow directions for combination stains (p. 17). For other candy and sirup follow directions for nongreasy stains (p. 17).



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First step in removing candle wax stain. Place stain between clean white blotters, then press with warm iron.

Carbon paper

Regular.—Work detergent into stain; rinse well. If stain is not removed put a few drops of ammonia on the stain and repeat treatment with detergent; rinse well. Repeat if necessary.

Duplicating.—Sponge stain with alcohol (pp. 5, 6). Dilute alcohol with 2 parts of water for use on acetate. If stain remains rub detergent into stain; wash and rinse well. Repeat if necessary.

If needed, follow treatment above with a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14).

Catsup, chili sauce

Follow directions for nongreasy stains (p. 17).

Chewing gum

Scrape gum off without damaging fabric. The gum can be scraped off more easily if it is first hardened by rubbing it with ice.

If a stain remains, sponge thoroughly with a grease solvent (pp. 6 to 9).

Chlorine

Use one of the treatments given below to remove yellow stains caused by the use of chlorine bleaches on fabrics with some types of resin finishes (p. 12), or to prevent such stains from appearing. Use the treatment before the fabric is ironed.

On some fabrics the yellow stains form before ironing; on others, after ironing. In either case, ironing before the chlorine is removed weakens the fibers.

Yellow stains caused by the use of chlorine bleach on wool and silk cannot be removed.

White or faded spots caused by use of chlorine bleach on colored fabrics cannot be restored to the original color.

Treatment for any fabric.—Rinse fabric thoroughly with water. Then soak for one-half hour or longer in a solution containing 1 teaspoon of sodium thiosulfate to each quart of warm water. Rinse thoroughly.

To strengthen treatment make sodium thiosulfate solution with water as hot as is safe for fabric.

Treatment for white or fast-color fabrics.—A more effective treatment for fabrics that color removers will not fade is to rinse the fabric thoroughly with water, then use a color remover. Follow directions given on the package for removing stains from these fabrics.

Chocolate

Follow directions for combination stains (p. 17).

Cocoa

Follow directions for nongreasy stains (p. 17).

Coffee, tea

With cream.—Follow directions for combination stains (p. 17).

Without cream.—Follow directions for nongreasy stains (p. 17).

Or, if safe for fabric, pour boiling water through the spot from a height of 1 to 3 feet.

Correction fluid (mimeograph)

Sponge stain with acetone or amyl acetate (pp. 5, 6). Use amyl acetate on acetate, Arnel, Dynel, and Verel—acetone on other fabrics.

Cosmetics—eye shadow, lipstick, liquid makeup, mascara, pancake makeup, powder, rouge

Washable articles.—Apply undiluted liquid detergent to stain. Or dampen stain and rub in soap or synthetic detergent until a thick suds is formed. Work in until outline of stain is gone, then rinse well. Repeat if necessary. It may help to dry fabric between treatments.

Nonwashable articles. — Sponge with a grease solvent (pp. 6 to 9) as long as any color is removed. If stain is not removed, use method given for washable articles.

Crayon

Follow directions for cosmetics.

Cream

Follow directions for combination stains (p. 17).

Dyes

Follow directions for nongreasy stains (p. 17); if bleach is needed use chlorine bleach or color remover. A long soak in sudsy water is often effective on fresh dye stains.

Egg

Follow directions for nongreasy stains (p. 17).

Fingernail polish

Follow directions for correction fluid.

Nail polish removers can also be used to remove stains. Some types are more effective than others. Do not use on acetate, Arnel, Dynel, or Verel without first testing on a scrap of material to be sure it will not damage the fabric.

Fish slime, mucus, vomit

Follow directions for nongreasy stains (p. 17).

Or treat stain with a lukewarm solution of salt and water—¼ cup salt to each quart of water. Sponge stain with solution or soak stain in it. Rinse well.

Food coloring

Follow directions for nongreasy stains (p. 17).

Fruit

Follow directions for nongreasy stains (p. 17).

Or, if safe for fabric, pour boiling water through spot from a height of 1 to 3 feet.

When any fruit juice is spilled on a fabric it's a good idea to sponge the spot immediately with cool water. Some fruit juices, citrus among them, are invisible on the fabric after they dry, but turn yellow on aging or heating. This yellow stain may be difficult to remove.

Furniture polish

Follow directions for greasy stains (p. 16).

Or, if polish contains wood stain, follow directions given for paint (p. 25).

Glue, mucilage, adhesives

Airplane glue, household cement.—Follow directions for correction fluid (p. 21).

Casein glue.—Follow directions for nongreasy stains (p. 17).

Plastic glue.—Wash stain with detergent and water before glue hardens; some types cannot be removed after they have hardened.

The following treatment will remove some dried plastic glue stains. Immerse stain in hot 10-percent acetic acid or hot vinegar. Keep acid or vinegar at or near the boiling point until stain is removed. This may take 15 minutes or longer. Rinse with water.

Rubber cement.—Scrape gummy matter from stain carefully; avoid damaging fabric. Sponge thoroughly with grease solvent (pp. 6 to 9).

Other types of glue and mucilage.—Follow directions for nongreasy stains (p. 17), except soak stain in hot water instead of cool.

Grass, flower, foliage

Washable articles.—Work detergent into stain, then rinse. Or, if safe for dye, sponge stain with alcohol (pp. 5, 6). Dilute alcohol with 2 parts of water for use on acetate.

If stain remains use a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14).

Nonwashable articles.—Use same methods as for washable articles, but try alcohol first if it is safe for dye.

Gravy, meat juice

Follow directions for combination stains (p. 17).

Grease—car grease, lard

Follow directions for greasy stains (p. 16).

Ice cream

Follow directions for combination stains (p. 17).

Ink, ballpoint

Sponge stain repeatedly with acetone or amyl acetate (pp. 5, 6). Use amyl acetate on acetate, Arnel, Dynel, and Verel—acetone on other fabrics. This will remove fresh stains. Old stains may also require bleaching (pp. 10 to 14).

Washing removes some types of ballpoint ink stains but sets other types. To see if the stain will wash out, mark a scrap of similar material with the ink and wash it.

Ink, drawing

Black (India ink).—Treat stain as soon as possible. These stains are very hard to remove if allowed to dry.

Washable articles.—Force water through stain until all loose pigment is removed. Unless loose pigment is removed the stain will spread when you try to remove it.

Wash with detergent, several times if necessary. Then soak stain in warm suds containing 1 to 4 tablespoons of ammonia to a quart of water. Dried stains may need to be soaked overnight.

An alternate method that will remove some stains: Force water through stain until all loose pigment is removed, wet the spot with ammonia, then work detergent into the stain. Rinse. Repeat if necessary.

Nonwashable articles.—Force water through stain until all loose pigment is removed. Unless loose pigment is removed the stain will spread when you try to remove it.

Next, sponge stain with a solution of water and ammonia (1 tablespoon of ammonia per cup water). Rinse with water. If stain remains, moisten it with ammonia, then work detergent into it. Rinse. Repeat if necessary.

If ammonia changes the color of the fabric, sponge first with water, then moisten with vinegar. Rinse well.

Colors other than black.—Follow directions for nongreasy stains (p. 17). If bleach is needed, use a color remover if safe for dye. If color remover is not safe for dye, try other bleaches.

Ink, mimeograph and printing

Fresh stains.—Follow directions for greasy stains (p. 16) or sponge with turpentine (pp. 5, 6).

Stubborn stains.—Follow directions for paint stains (p. 25).

Ink, writing

Washable articles.—Follow directions for nongreasy stains (p. 17). Because writing inks vary greatly in composition it may be necessary to try more than one kind of bleach.

Try a chlorine bleach on all fabrics for which it is safe. For other fabrics, try sodium perborate or hydrogen peroxide. A few types of ink require treatment with color removers.

The strong treatment of any of these bleaches may be needed. It will not be possible to remove stains that require strong bleaches from some colored fabrics without leaving a faded spot.

If a yellow stain remains after bleaching, treat as a rust stain (p. 26).

Nonwashable articles.—If possible, use a blotter (for small stains) or absorbent powder to remove excess ink before it soaks into the fabric (p. 3). Then follow directions for washable articles.

Iodine

Washable articles.—Three methods for removing iodine stains are given below. If the method you try first does not remove the stain, try another.

Water.—Soak in cool water until stain is removed; some stains require soaking overnight.

If stain remains, rub it with detergent and wash in warm suds. If stain is not removed, soak fabric in a solution containing 1 tablespoon of sodium thiosulfate to each pint of warm water, or sprinkle the crystals on the dampened stain. Rinse well as soon as stain is removed.

Steam.—Moisten stain with water then hold it in the steam from a boiling teakettle.

Alcohol.—If alcohol is safe for dye, cover stain with a pad of cotton soaked in alcohol (pp. 5, 6). If necessary keep pad wet for several hours. Dilute with 2 parts of water for use on acetate.

Nonwashable articles.—Try the steam or alcohol methods given above first.

If these methods are not safe for fiber or dye or if the stain remains after using them, cover stain with a pad of cotton dampened in a solution of sodium thiosulfate (1 tablespoon sodium thiosulfate to each pint of water) for about 15 minutes. Rinse well. Repeat treatment if necessary.

Lacquer

Follow directions for correction fluid (p. 21).

Mayonnaise, salad dressing

Follow directions for combination stains (p. 17).

Medicines. (See also Argyrol, Iodine, Mercurochrome, Silver nitrate.)

Because so many different substances are used in medicines it is not possible to give methods for removing all such stains.

Medicines with an oily base, gummy and tarry medicines.—Follow directions for greasy stains (p. 16).

Medicines in sugar sirup or in water.—Wash stain out with water.

Medicines dissolved in alcohol (tinctures).—Sponge stain with alcohol (pp. 5, 6). Dilute with 2 parts of water for use on acetate.

Medicines that contain iron.—Follow directions for rust (p. 26).

Medicines that contain dyes.—Follow directions for dyes (p. 21).

Mercurochrome, merthiolate, metaphen

Washable articles.—Soak overnight in a warm detergent solution that contains 4 tablespoons of ammonia to each quart of water.

Nonwashable articles.—If alcohol is safe for the dye, sponge with alcohol (pp. 5, 6) as long as any of the stain is removed. Dilute alcohol with 2 parts of water for use on acetate.

If a stain remains, place a pad of cotton saturated with alcohol on the stain. Keep pad wet until stain is removed; this may take an hour or more.

If alcohol is not safe for the dye, wet stain with liquid detergent. Add a drop of ammonia with a medicine dropper. Rinse with water. Repeat if necessary.

Metal

To remove stains caused by tarnished brass, copper, tin, and other metals use vinegar, lemon juice, acetic acid, or oxalic acid. (See pp. 10, 15 for directions for using these removers; use lemon juice according to the directions given for vinegar.) The two acids, because they are stronger, will remove stains that cannot be removed by vinegar or lemon juice.

As soon as the stain is removed, rinse well with water.

Do not use chlorine or sodium perborate bleaches or hydrogen peroxide. These bleaches may cause damage because the metal in the stain hastens their action.

Mildew

Washable articles.—Treat mildew spots while they are fresh, before the mold growth has a chance to weaken the fabric.

Wash mildewed article thoroughly. Dry in the sun. If stain remains treat with a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14).

Nonwashable articles.—Send article to drycleaner while stain is fresh.

Milk

Follow directions for nongreasy stains (p. 17).

Mud

Let stain dry, then brush well. If stain remains, follow directions for nongreasy stains (p. 17).

Mustard

Washable articles.—Rub detergent into the dampened stain; rinse.

If stain is not removed, soak article in hot detergent solution for several hours, or overnight if necessary.

If stain remains, use a bleach (pp. 10 to 14). Strong sodium perborate treatment, if safe for the fabric, is often the most effective bleach.

Nonwashable articles.—If safe for dye, sponge stain with alcohol. Dilute alcohol with 2 parts of water for use on acetate.

If alcohol cannot be used, or if it does not remove stain completely, follow treatment for washable articles, omitting the soaking.

Oil—fish-liver oil, linseed oil, machine oil, mineral oil, vegetable oil

Follow directions for greasy stains (p. 16).

Paint, varnish

Treat stains promptly. They are much harder, sometimes impossible, to remove after they have dried on the fabric. Because there are so many different kinds of paints and varnishes it is impossible to give one method that will remove all stains. Read the label on the container; if a certain solvent is recommended as a thinner it may be more effective in removing stains than the solvents recommended at right.

Washable articles.—To remove fresh stains rub detergent into stain and wash.

If stain has dried or is only partially removed by washing, sponge with turpentine (pp. 5, 6) until no more paint or varnish is removed; for aluminum paint stains, trichloroethylene (pp. 6 to 9) may be more effective than turpentine; do not use this solvent on Arnel or Kodel.

While the stain is still wet with the solvent, work detergent into it, put the article in hot water, and soak it overnight. Thorough washing will then remove most types of paint stains.

If stain remains, repeat the treatment.

Nonwashable articles. — Sponge fresh stains with turpentine (pp. 5, 6) until no more paint is removed; for aluminum paint stains, trichloroethylene (pp. 6 to 9) may be more effective than turpentine. Do not use trichloroethylene on Arnel or Kodel.

If necessary, loosen more of the paint by covering the stain for 30 minutes or longer with a pad of cotton dampened with the solvent. Repeat sponging.

If stain remains, put a drop of liquid detergent on the stain and work it into the fabric with the edge of the bowl of a spoon.

Alternate sponging with turpentine and treatment with detergent as many times as necessary.

If alcohol is safe for dye, sponge stain with alcohol to remove turpentine and detergent. Dilute alcohol with two parts of water for use on acetate. If alcohol is not safe for dye, sponge stain first with warm detergent solution, then with water.

Pencil marks

Lead pencil, colored pencil.—A soft eraser will remove these marks from some fabrics. If mark cannot be erased follow directions for regular carbon paper (p. 20).

Indelible pencil.—Follow directions for duplicating carbon paper (p. 20).

Perfume

Follow directions for alcoholic beverages (p. 18).

Perspiration

Wash or sponge stain thoroughly with detergent and warm water. Work carefully because some fabrics are weakened by perspiration; silk is the fiber most easily damaged.

If perspiration has changed the color of fabric, try to restore it by treating with ammonia or vinegar. Apply ammonia to fresh stains; rinse with water. Apply vinegar to old stains; rinse with water.

If an oily stain remains, follow directions for greasy stains (p. 16).

Remove any yellow discoloration with a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14). If safe for fabric, the strong sodium perborate treatment is often the most effective for these stains.

Plastic

To remove stains caused by plastic hangers or buttons that have softened and adhered to the fabric, use amyl acetate or trichloroethylene (pp. 5, 6). Test colored fabrics to be sure dye does not bleed. Do not use trichloroethylene on Arnel or Kodel.

Sponge stain with a pad of absorbent cloth or cotton moistened with the solvent. In using these solvents, observe precautions listed on page 9.

If the plastic has been absorbed in the fabric it may be necessary to place a pad wet with the solvent on the spot and let it remain until the plastic has softened. Sponge with a fresh pad moistened with the solvent. Repeat until all plastic has been removed.

Rust

Oxalic-acid method. — Moisten stain with oxalic acid solution (1 tablespoon of oxalic acid crystals in 1 cup warm water). If stain is not removed, heat the solution and repeat.

If stain is stubborn, place oxalic acid crystals directly on the stain. Moisten with water as hot as is safe for fabric and allow to stand a few minutes, or dip in hot water. Repeat if necessary. Do not use this method on nylon.

Rinse article thoroughly. If allowed to dry in fabric, oxalic acid will cause damage.

Precaution: Oxalic acid is poison if swallowed.

Cream-of-tartar method.—If safe for fabric, boil stained article in a solution containing 4 teaspoons of cream of tartar to each pint of water. Boil until stain is removed. Rinse thoroughly.

Lemon-juice method.—Spread the stained portion over a pan of boiling water and squeeze lemon juice on it.

Or sprinkle salt on the stain, squeeze lemon juice on it, and spread in the sun to dry. Rinse thoroughly. Repeat if necessary.

Sauces, soups

Follow directions for combination stains (p. 17).

Scorch

If article is washable follow directions for nongreasy stains (p. 17).

To remove light scorch on nonwashable articles use hydrogen peroxide (p. 14). The strong treatment may be needed. Repeat if necessary.

For surface scorch on heavy fabrics you may be able to remove damaged part of the fibers with very fine sandpaper.

Severe scorch cannot be removed; it damages the fabric.

Shellac

Sponge stain with alcohol, or soak the stain in alcohol (pp. 5, 6). Dilute alcohol with 2 parts water for use on acetate. If alcohol bleeds the dye, try turpentine (see paint, p. 25).

Shoe polish

Because there are many different kinds of shoe polish no one method will remove all stains. It may be necessary to try more than one of the methods given below.

1. Follow directions for cosmetics (p. 21).

2. Sponge stain with alcohol if safe for dye in the fabric. Dilute alcohol with 2 parts of water for use on acetate.

3. Sponge stain with grease solvent or turpentine (pp. 5 to 9). If turpentine is used, remove turpentine by sponging with a warm detergent solution or with alcohol.

If stain is not removed by any of these methods use a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 10 to 14). The strong sodium perborate treatment, if safe for the fabric, is often the most effective bleach.

Silver nitrate

Dampen stain with water. Then put a few drops of tincture of iodine on the stain. Let stand for a few minutes. Then treat as an iodine stain.

Unless stain on silk or wool is treated when fresh a yellow or brown discoloration will remain.

Soft drinks

Follow directions for nongreasy stains (p. 17).

When any soft drink is spilled on a fabric it's a good idea to sponge the spot immediately with cool water. Some soft drinks are invisible after they dry, but turn yellow on aging or heating. The yellow stain may be difficult to remove.

Soot, smoke

Follow directions for cosmetics (p. 21).

Tar

Follow directions for greasy stains (p. 16).

If stain is not removed by this method, sponge with turpentine (pp. 5, 6).

Tea. (See Coffee.)

Tobacco

Follow directions for grass (p. 22).

Transfer patterns

Follow directions for greasy stains (p. 16).

Typewriter ribbon

Follow directions for regular carbon paper (p. 20).

Unknown stains

If stain appears greasy, treat it as a greasy stain (p. 16). Otherwise, treat it as a nongreasy stain (p. 17).

See also yellowing (p. 28).

Urine

To remove stains caused by normal urine follow directions for nongreasy stains (p. 17).

If color of fabric has been changed, sponge stain with ammonia (p. 15). If this treatment does not restore the color, sponging with acetic acid or vinegar may help (p. 15).

If stain is not removed by method given above, see directions for medicines (p. 24) and yellowing.

Vegetable

Follow directions for nongreasy stains (p. 17).

Walnut, black

These stains are very difficult to remove.

Washable articles.—If safe for fabric, boil washable articles in soapy water. This will remove fresh stains.

If stain is not removed, use a strong chlorine or sodium perborate bleach treatment (pp. 12, 13).

If stain remains, treat as a rust stain (p. 26).

Nonwashable articles. — These stains cannot be removed by home methods. Send the article to a drycleaner.

Wax—floor, furniture, car

Follow directions for greasy stains (p. 16).

Yellowing, brown stains

To remove yellow or brown stains that appear in some fabrics during storage or unknown yellow or yellow-brown stains, use as many of the following treatments that are safe for the fabric as necessary, in the order given.

1. Wash.
2. Use a mild treatment of a chlorine or sodium perborate bleach or hydrogen peroxide (pp. 12 to 14).
3. Use the oxalic-acid method for treating rust stains (p. 26).
4. Use a strong treatment of a chlorine or sodium perborate bleach (pp. 12, 13).

For removal or prevention of yellow stains caused by use of chlorine bleach on resin-treated fabrics, see page 20.

Index to Stains

U.S. GOVERNMENT PRINTING OFFICE: 1961

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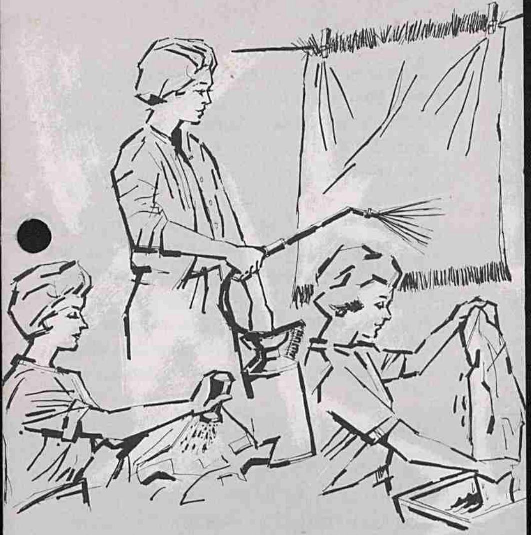


Making Household Fabrics

FLAME RESISTANT

LEAFLET NO. 454
U.S. DEPARTMENT OF AGRICULTURE

Many home fires that cause crippling burns and loss of life and property start when clothing and other fabrics are accidentally ignited. This hazard is reduced when fabrics are treated to make them flame resistant.

No amount of flame-resistance treatment can prevent fires caused by improper use of matches or flammable liquids. However, flame-resistance treatment lessens the danger that occurs, for example, when children get too close to an open fireplace, or when a curtain comes in contact with a flame.

DIPPING

You can make curtains, draperies, and similar articles flame resistant by dipping them into the solution, then wringing. Dry by any convenient means.

N-31088

Fabrics that commonly catch fire in the home include—

Aprons

Bathrobes

Batting

Children's clothing, especially night clothes

Cloth toys

Curtains and draperies

Decorative streamers

Ironing-board covers

Potholders

Rugs

Upholstery padding

Any fabric placed near a stove or fireplace

You can make these and other fabrics flame resistant by applying the solutions described.

SPRAYING

Spray solutions on carpets, loose cotton, and upholstery padding. Use a garden sprayer, paint sprayer, or vacuum-cleaner spraying attachment.

N–31080

FACTS ABOUT FLAME RETARDANTS

Consider these facts before treating your materials:

• Flame-resistance treatment is not *fire-proofing*. Even if treated, all fabrics except those made of asbestos or glass will char and be destroyed when exposed to fire.

• Treated materials will char and possibly glow. However, they will not burst into flame and spread the fire to surrounding objects.

• Glow occurs when charred area remains red hot after igniting flame is gone. Glow is dangerous. Some flame retardants shorten its duration and keep it from spreading.

SPRINKLING

Sprinkle solutions on clothing and other items that require ironing. Thoroughly dampen the fabric with the solution.

N-31083

• Flame-retardant solutions described here are suitable only for materials kept under cover. The protective chemicals wash out when materials are exposed to weather.

• Laundering removes the chemicals. Articles should be treated again after each laundering.

• Solutions are not effective on synthetic fibers such as nylon, orlon, and acetate. Rayon, however, can be made flame resistant.

• Solutions will shrink or discolor materials that would be so affected by water. Test a small area of the material before treating it if material is not known to be washable.

APPLYING SOLUTIONS

You can apply flame-retardant solutions in three ways—by dipping, spraying, or sprinkling.

Resin-treated fabrics, and some unused fabrics, resist wetting. To overcome this, add about 1 teaspoonful of a wetting agent (any synthetic detergent) to each gallon of solution.

Materials must be dry before being treated. Completely wet them with the solution.

Do not apply solutions to materials that water will injure.

• Flame-retardant solutions usually cause a slight stiffening of the treated fabric, which becomes somewhat heavier. However, these solutions cause no appreciable change in the feel or color of the material. Treated garments will not injure or irritate the skin.

• Treatment may lessen the fiber strength of materials when they are stored for long periods. SOLUTION A, described in the following section, has least effect on fiber strength.

PREPARING SOLUTIONS

Four solutions are described. Select the one best suited to the material you wish to treat.

Chemicals can be purchased at most drug or grocery stores. Commercial grades give as good results as more expensive pharmaceutical grades.

Solution A

Borax	**7 ounces**
Boric acid	**3 ounces**
Water (hot)	**2 quarts**

Dissolve boric acid by making a paste with a small quantity of water. Add this and the borax to water. Stir until the solution is clear.

Warm the solution if it becomes cloudy or jellylike from standing.

Fabrics treated with SOLUTION A do not flame when exposed to fire. Glow lasts about 30 seconds.

This solution does not appreciably weaken fabric, even after treated fabric has been stored 6 or 8 months.

Materials treated with it may lose their flame resistance in time. Re-treat them within a year.

Use SOLUTION A for garments and other household fabrics, except those made of rayon or resin-treated cotton—sometimes called crushproof, wrinkleproof, or wash-and-wear. For rayon or resin-treated fabrics, use SOLUTION C.

Solution B

Borax	**6 ounces**
Diammonium phosphate	**6 ounces**
Water	**2 quarts**

Add chemicals to water. Stir until solution is clear.

SOLUTION B is less flame retardant than solution A, but is more glow retardant. It slightly reduces the strength of treated fabrics if not washed out within 3 or 4 months.

Solution C

Diammonium phosphate	**12 ounces**
Water	**2 quarts**

Add chemical to water. Stir until solution is clear.

Use SOLUTION C for resin-treated cotton or rayon fabrics.

SOLUTION C is less flame retardant than SOLUTION A, but has good glow-retardant properties.

It has more tendency than SOLUTION A or B to weaken a treated fabric if the fabric is stored for long periods.

Solution D

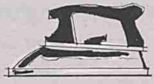
Ammonium sulfate .	**13 ounces**
Water	**2 quarts**
Household ammonia . .	**Small amount**

Add ammonium sulfate to water. Stir until solution is clear. Then add enough household ammonia to give a faint odor.

If fertilizer-grade ammonium sulfate is used, the solution may not be clear. Strain through a cloth before using.

This solution has good glow-retardant properties. It is less flame retardant than SOLUTION A.

It slightly reduces the strength of treated fabrics.



IRONING

You can iron treated fabrics and articles of clothing, whether they were dipped, sprayed, or sprinkled.

After applying the solution, allow the fabrics to nearly dry before ironing. Do not redampen with water.

Use a moderately hot iron. If the fabric is wet, or the iron is too hot, the solution will stick to the iron. If solution sticks, wipe the iron with a damp cloth.

By J. David Reid, Wilson A. Reeves, and John G. Frick, Jr., Southern Utilization Research and Development Division, Agricultural Research Service.

This leaflet supersedes Farmers' Bulletin 1786, "Fireproofing Fabrics."

Washington, D.C. Issued December 1959

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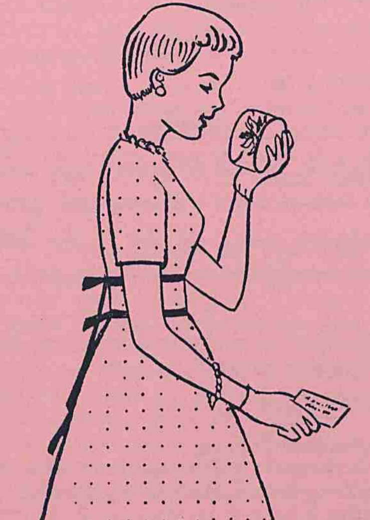
Fabric Facts

about best dresses



A N.C. STATE COLLEGE PUBLICATION

September, 1957 Misc. Pamphlet No. 174

Fabric keys the personality and mood of your dress. Get the right one for you and your purpose. You'll like your best dress longer if, before you buy, you

Think: What you want
What you need

$$\frac{\text{Wants} + \text{Needs} + \text{Care}}{\text{Price}} = \text{Value}$$

This is an example of decisions one girl made before buying a dress.

Wants

Want a best Dress.

Needs

Need for special occasions now, wear for school later. Sheer and fancy materials won't do, but cotton satin and broadcloth are good possibilities.

Care

Dry-clean at first.
Wash Later.

Fashions in Fabrics

In the spring and summer you'll see color, interesting texture, and lightweight softness in fabrics.

Color

Lavender and violet tones predominate—but pinks, greens, blues, and beige and yellow tones also are good.

Fabrics are found in coordinated colors—beautiful blendings of prints, stripes, and plaids with plains. A wonderful way to express your personality in color.

Texture

Color variations and weave variations make interesting texture effects. New and popular are satin stripes and leno weave stripes on woven cottons—open weaves that are airy in color and weight—many sheers.

Lightweight softness

Ladylike fabrics for ladylike look—soft, silky cottons—cotton and silk blends. All-silk dresses, some machine washable, some hand washable, some dry cleanable only—follow the label. Rayons and acetates with finer silkier look. Chiffon weight corduroys.

If you sew, learn how to handle softer fabrics and softer-styled patterns.

Fabric Facts

• Polished cottons have been given a special finish for a durable, polished, lustrous look. The weave gives luster to cotton satin. This luster may be increased by special chemical finish. The satin holds the luster well and drapes into soft folds.

• Vat dyes are the best dyes. They are used on cottons and rayons. Rayons can be solution dyed for fast color. Coloray is an example. Acetates can be solution dyed for fast color. Some examples are Chromspun, Celaperm, Color Sealed Acetate. Unless solution dyed, acetates may change shades from the action of the gases in the atmosphere. Gas stoves, gas heat, and ozone from electric storms can cause gas or fume fading of acetate.

• Dacron resists mussing when worn but does not absorb moisture. It is more comfortable when combined with cotton. Nylon, Orlon, and acetate also add crease resistance to a blend but may feel uncomfortably warm when used alone in a fabric.

• Mercerized and combed cotton on the label mean more luster and added strength.

Save the Label

For pressing

• Use low setting for pressing fabric made of or containing any nylon, Dacron, or acetate.

These fibers melt and stiffen under a medium or hot iron. Use low setting for pressing Orlon or Acrilan to prevent yellowing.

• Use medium heat for ironing or pressing rayon and Arnel dresses.

For washing

• Follow any specific directions given on the tag.

• Remove, before washing, any oil or greasy stains if the fabric has a crush-resistant finish or if the fabric is made of nylon, Dacron, Orlon, or acetate.

• Never use a chlorine bleach on a cotton with a crease-resistant or polished finish unless the fabric label says it's safe to use it. Perborate powder bleaches are safe for these fabrics and may be used when needed.

• Never wash white or pastel nylon with any other clothes. Nylon picks up soil and color from other clothes.

For dry cleaning

• Take the label to the dry cleaner along with your dress.

Practice Comparing Fabrics

There is a variety of sheer fabrics. Look at them, feel them, read the labels. Think about their differences, how each would work out for different purposes.

For example:

A combed-cotton mercerized batiste will wash and iron like a handkerchief.

A cotton with a wrinkle-resistant finish will resist mussing and require little ironing, but can't be put in wash with chlorine bleach unless label says it can.

A Dacron and cotton batiste will resist mussing but must be watched for careful pressing at low temperature.

A nylon sheer will retain crisp look, but careful washing and ironing will be required.

N. C. AGRICULTURAL EXTENSION SERVICE

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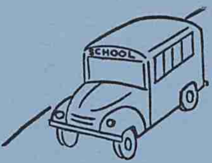

Fabric Facts

about School Dresses

A N.C. STATE COLLEGE PUBLICATION

September, 1957 Misc. Pamphlet No. 173

To get her money's worth, a girl figures out what she's looking for before she shops.

Think: What you want

What you need

Because

$$\frac{\text{Wants}+\text{Needs}+\text{Care}}{\text{Price}}=\text{Value}$$

This is an example of decisions one girl made before buying a dress.

Wants

Want a school dress.

Needs

Need a color to go with red coat, and a fabric that won't get mussed riding on the school bus.

Care

Put in family wash.
Can go in drier.

Style Trends

Fabrics for girls' clothes are sweet and pretty for spring and summer. They fit in with the softer, ladylike look you notice in women's fashions.

• More whites and pastels mean you'll need to keep up on washing techniques and spot removal, too.

• Colors in fabrics are planned to go together—prints, or plaids, or stripes to go with a plain color. A blouse and skirt may look like a one-piece dress. A dress can be taken for a blouse and skirt. Mix-match outfits blend better. Colors are beautiful. Learn all you can about color.

• Fabrics are lighter weight, even corduroys. Learn which names on labels mean a fabric will hold up in washing. Don't take a chance that the dress you buy will lose its stiffening and go limp when you wash it.

• More than ever school and casual dresses —and piece goods—are labeled "wash and wear," "drip dry," "needs little ironing," and "wrinkle resistant."

Read the Labels

• Vat dyes are the best dyes. They are used on cottons and rayons.

• A dress labeled "Sanforized," "Rigmel," or "will not shrink more than 2 per cent" should not shrink out of fit.

• A dress fabric that has been given a special finish and labeled "crease resistant," "wash and wear," "drip dry," or "minimum care" will not shrink out of fit, either. Some names of these finishes you'll find on labels are Regulated, Disciplined, Perma-Pressed, Minicare, and Wrinkl-Shed for cottons; and Avcoset for rayons.

• Mercerized means that the cotton has more luster and is stronger.

• Combed cotton means more luster. It keeps its smooth feel through washing and wearing.

• Some corduroys are machine washable, and others are only hand washable because their colors won't stand up under the hot water in the machine. If you expect to machine wash, look for "machine washable" on the label. Never take it for granted. Wrinkle-resistant finishes are new for corduroy. They work.

Save the Label

It's a guide for care. One spick-and-span girl pins labels on a sheet of paper. She jots down by the label which dress it came with.

So far she hasn't ruined a dress. They all look new and pretty.

1. It may give you detailed directions for care.
2. Any cotton or rayon labeled
   "crease resistant"
   "minimum care"
   "drip dry"
   "little or no ironing"
   • should not be put in a wash with a chlorine bleach unless the label says it can be used. The bleach can cause the fabric to turn yellow and split when you press it. Perborate powder bleaches are safe to use when needed.
   • should never be put through a wringer but can be dried in a drier.
   • should not be starched.
   • should not be washed until oily or greasy stains have been removed. The wash may set these stains. Use a liquid detergent or a commercial spot remover to take out the stains.

Spot Removal

• Remove perspiration stains immediately. Wash or sponge with warm water and soap or liquid detergent. Models wear dress shields to avoid these stains.

• To remove coke stains use very dilute hydrogen peroxide. Mix 1 part hydrogen peroxide with 10 parts of water.

• To remove grass stains use hot water and soap, rubbing stain well.

• To remove lipstick, use a commercial spot remover. Then launder as usual.

• When stains persist, 1 teaspoon sodium perborate added to 1 pint hydrogen peroxide makes a good bleach. It must be made fresh, as it soon loses its strength. Always test for change of color on a sample before using.

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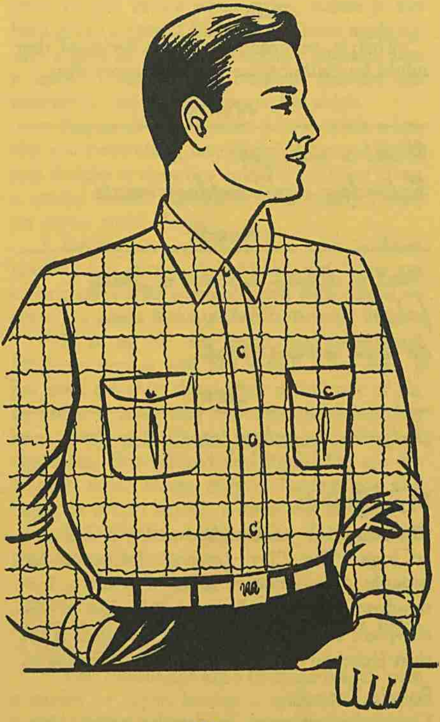
When You Buy a Sport Shirt



A N.C. STATE COLLEGE PUBLICATION

September, 1957 Misc. Pamphlet No. [redacted] 172

People say they want value for price. Different people look for different values or satisfactions.

Think: What you want

What you need

$$\frac{\text{Wants}+\text{Needs}+\text{Care}}{\text{Price}}=\text{Value}$$

This is an example of the decisions that might be made before buying a sport shirt.

Wants

Want a shirt for.
Saturday night outdoor meals.

Needs

Need a dressy but not a fancy fabric, but a color which will go with brown slacks.

Care

Put it in regular family wash.

Style Trends

The swing is toward higher quality and a neater look. The "Ivy League" influence has brought a conservative look. Top-stitch, button-down and the shorter adaptation of the one-piece Italian collar lead. A new item is the shirt jacket to coordinate with shorts or slacks.

Fabric Trends

Cotton predominates. In dressier types, cotton used alone or combined with silk or rayon has a silky or lustrous look. Fabrics are lighter weight. Colors have a cleaner, lighter, whiter look. Prints are neat, and stripes and plaids are subdued in tone.

For travel, minimum-care cottons, easy-care rayons, and Dacron or nylon blends are found. Knits in a variety of styles are comfortable for active sports and vacation wear. Among these are Orlon and Acrilan jerseys.

Fabric Facts

• Cotton is comfortable and absorbs moisture. It gets mussy when worn, unless it has been given a special finish or has been made up into a type of fabric that doesn't wrinkle, like a mesh or knit. Crease-resistant finishes are commonly found on cotton sport shirts.

• Rayon is comfortable but is weak when wet and frays along raw edges. It musses easily and shrinks or stretches unless it has been given a special finish. Finishes are commonly found on rayon sport shirts.

• Dacron and nylon hold a press without mussing but do not absorb moisture. They are more comfortable when blended with cotton or rayon, or made into a porous weave or knit.

• If a tag has the Sanforized or Rigmel label, or says it will not shrink more than 2 per cent, the shirt should not shrink out of fit. In knits, a label may tell that the fabric has been given a finish to prevent shrinking or stretching. Redmanized and Permathal are examples. Some stores suggest buying one size larger in cotton knits if a drier will be used.

• Vat dyes are high quality dyes used on cottons and rayons.

Save the Label

Information about finishes and fibers helps in laundering shirts because—

• You should not use a chlorine bleach with a cotton or rayon having a special finish for wash-and-wear, minimum care, little ironing, or wrinkle resistance. It may cause fabric to turn yellow. Yellowing or fabric splitting shows up on ironing these fabrics after a chlorine bleach has been used. Unless the tag says that a chlorine bleach is safe, don't take that risk.

Perborate powder bleaches are safe to use when needed.

• Dacron, nylon, and acetate all have a low melting point. Use a low setting on the iron when you press shirts containing these fibers. Use a low setting when pressing Acrilan and Orlon to prevent yellowing.

• Cottons and rayons with special finishes, and blends containing Dacron, nylon, or acetate, hold oily stains. These stains may become permanently set when washed. Pretreat oily stains and soiled collars with a liquid detergent or commercial spot remover before washing.

Under the leadership of the National Association of Shirt, Pajama, and Sportswear Manufacturers, the following approved terms have been set up.

COMPLETELY WASHABLE. This garment can be washed in a commercial laundry, or in a home washing machine, in hot water not to exceed 160° F. with soap or detergent and bleaching agent.

FULL WASHABLE—DO NOT BLEACH. This garment can be washed in a commercial laundry, or in a home washing machine, in hot water not to exceed 160° F. with soap or detergent. Do not bleach.

WASH IN WARM WATER—DO NOT BLEACH. This garment can be washed in a commercial laundry, or in a home washing machine, in warm water not to exceed 120° F. with soap or detergent; do not use bleaching agents.

WASH BY HAND IN LUKEWARM WATER —DO NOT BLEACH. This garment must be washed by hand. Use lukewarm water, not to exceed 105° F. with soap or detergent, but do not use bleaching agents; press with hand iron.

DRY CLEAN. For garments which must be dry cleaned.

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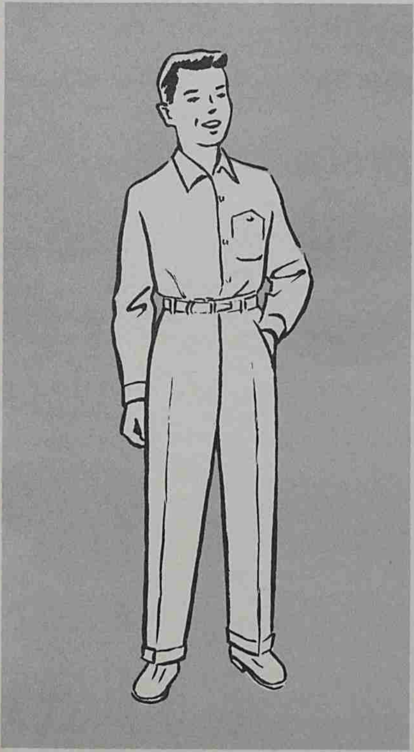
Slacks

FOR BOYS AND YOUNG MEN



What are the style trends in slacks?

The Ivy style is the biggest trend. The Ivy style is a plain front with no pleats, usually a buckle in back. The legs taper a little narrower and trimmer. The legs touch the top of the shoe with no break.

What are the fabric trends?

- More colors; more choice in solid colors.
- Stripes are popular in practically all fabrics from flannels to corduroys.
- Wool gabardines, sheens, and flannels for dressiest wear.
- Cottons for casual slacks (washable).
- Wash-and-wear blends (need little pressing).

What kind of machine washable fabrics are being shown?

Corduroys, cotton twills, cotton sateens, polished cottons, gabardines of rayon, Dacron and nylon, rayon and acetate flannels, wool and Orlon flannels, wool and Dacron gabardines.

Are these always machine washable?

No. Do not count on them being machine washable unless the label says so. For example, some corduroys are labeled wash separately because the color bleeds. *Be sure to read the fine print on the label.* Washable from one company may mean machine wash in hot water and any soap; from another company it may mean machine wash in lukewarm water with mild soap.

Are there any special directions for wash-and-wear slacks?

Do not put through a wringer. Drip dry or machine dry. If machine dried, remove immediately after drying to keep wrinkles from forming as the clothes cool in a heap. It's best to follow the directions issued by the washing machine and dryer manufacturers. Low temperature settings for washing and drying prevent wrinkles and creases from forming in slacks containing nylon, acetate, Dacron, and Orlon. Wash-and-wear cottons are less apt to be creased by high temperatures in washing and drying.

Why don't spots come out in the wash?

Tight weaves hold spots. Crease-resistant finishes hold spots. Water repellent finishes hold oily spots. Orlon, Dacron, and nylon hold spots. Most of the stubborn stains are oily stains and should be thoroughly rubbed with a paste of soap and water or a liquid detergent before washing.

How should wash slacks be pressed?

Pressing is made easier by drying the slacks on a pants stretcher. Always use a press cloth when pressing. Use a low iron setting if the slacks contain acetate, nylon, Dacron or Orlon. Gabardines develop shine readily so be especially careful not to overpress them. The best way to press gabardines is to press them on the wrong side to avoid seam marks and marks from pockets. Then crease on right side.

Exactly what do Dacron, Orlon, and nylon do for a blend?

Dacron and Orlon help fabric hold its crease longer. Manufacturers of Dacron and Orlon say it takes 55 per cent Dacron with rayon to make a fabric wash and wear. At least 70 to 75 per cent Orlon must be used with wool or rayon to give satisfactory wash and wear. Dacron and Orlon in the blends also prevent shrinkage.

Nylon makes fabric wear longer. It takes 15 per cent nylon in both lengthwise and filling threads to add extra wear.

Why is wool still used alone in the dressier slacks?

Because it tailors the best, it is the most comfortable fiber in changing temperatures, and still looks new after many trips to the dry cleaner.

Any special tips for cotton slacks?

Watch for "Sanforized" or "will not shrink more than 2 per cent" on the label. Vat dyes have the best colorfastness and the label should tell. Look on the back of matching belts for a washable label. It is usually printed right on the back of the belt.

One simple check on the carefulness of the manufacturer is to look at the pockets. If they are made of firm twill and are full cut, that's a good sign of good quality.

For further information about fabrics, ask your home demonstration agent for special bulletins on fabrics.

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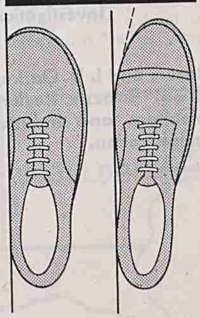
November, 1957 Misc. Pamphlet No. 175

Leather Shoes

SELECTION AND CARE



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U. S. DEPARTMENT OF AGRICULTURE

Contents

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Leather Shoes . . .

Selection and Care

Shoe Leathers

Leather used in making shoes is of two kinds—bottom, or sole, leather and upper leather. The bottom parts of a shoe, including the outsole, insole, welt, rand, and counter, are cut from bottom leather. The vamp, quarters, toe cap, and tongue—the principal upper parts—are cut from upper leather.

As a rule, the uppers of a pair of shoes last much longer than the bottoms. The outsole and heel always wear out first, chiefly because they bear the brunt of the shoes' burden. Indeed, a pair of shoes made with welts, counters, and insoles of good-quality leather can usually be soled and heeled two or three times before the uppers give out. From the standpoint of wear and upkeep, the bottoms of a pair of shoes are more vital than the uppers.

Sole Leather

Sole leather is made from heavy cattle hides. The leather soles that wear best are cut from the bend portion of the hide. The bend is cut from a side of leather (fig. 1). It is almost rectangular and represents about one-half of the side. It extends from the root of the animal's tail to just back of its shoulder and from the backbone to a nearly parallel line running through the top of the soft spots, or "breaks," at the fore and hind flanks. A bend is about 50 inches long and 25 inches wide, the exact size depending on the size of the hide. Leather from the bend is close-fibered and firm. Soles cut from the belly, the leather from which is soft and flabby, are the poorest from the standpoint of wear. Soles from the bend wear about twice as long as those from the belly and one and one-half times as long as those from the shoulder.

Most sole leather is vegetable-tanned. A mixture of extracts made from wood, bark, and nuts is used for this tannage. The natural color of vegetable-tanned leather varies from

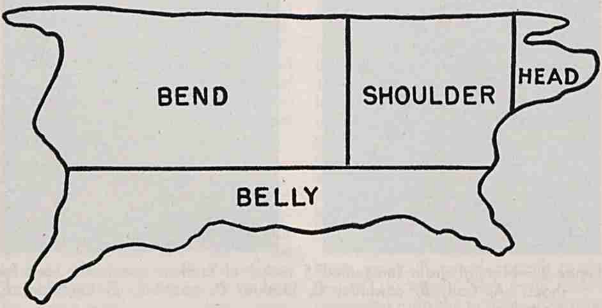

Figure 1.—Sections of a side of leather.

tan to reddish brown. This leather is usually sold by the pound and is of a specified thickness, measured in irons. (An iron is a trade unit equivalent to one forty-eighth of an inch.) Outsole leather for women's shoes is usually 6 to 8 irons thick, and for men's shoes 8 to 10½ irons thick.

Some sole leather is made by tanning hides and skins with compounds of chromium. Contrary to a common impression, chrome leather is not a

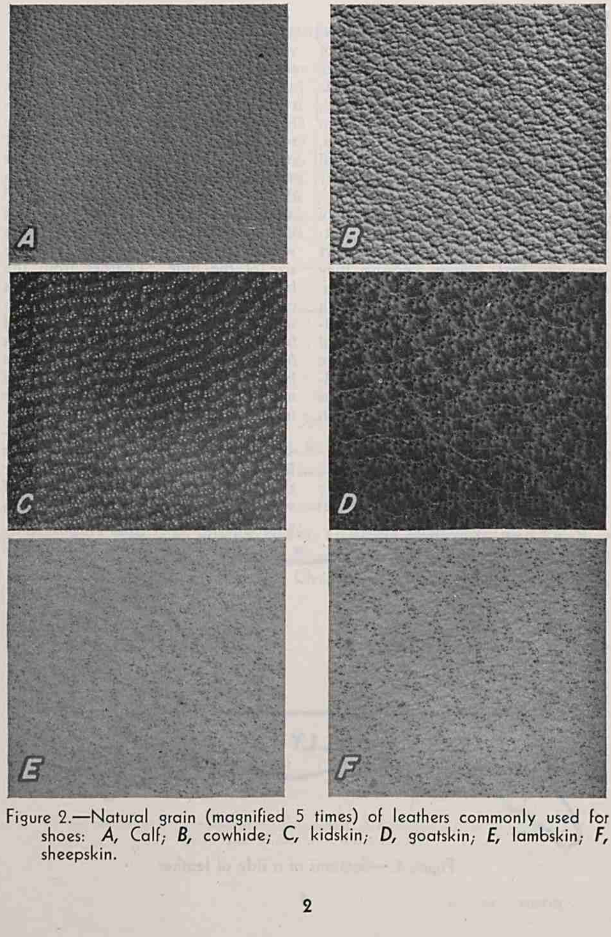

Figure 2.—Natural grain (magnified 5 times) of leathers commonly used for shoes: *A*, Calf; *B*, cowhide; *C*, kidskin; *D*, goatskin; *E*, lambskin; *F*, sheepskin.

leather substitute. In its natural state, chrome sole leather is a light bluish green. Waxed chrome leather, made by filling the leather with waxes and greases, is much darker. Chrome sole leather wears longer than vegetable-tanned sole leather, the natural, or unwaxed, being the longest wearing sole leather made. Unwaxed chrome sole leather, however, is not suited for outdoor wear in wet weather because water passes through it rapidly and it is very slippery when wet. Waxed chrome soles may be stiff at first, but the stiffness usually disappears after the shoes have been worn for a short time. Well-made waxed chrome soles are more than ordinarily durable, which makes them specially desirable for shoes for hard wear. They are too stiff for dress shoes.

In recent years substitute soling materials have been replacing leather soles on shoes. A rubber outsole is used with an all-leather middle sole in many military shoes. The better synthetic materials, in general, have shown greater resistance to wear and to water penetration. They conduct heat and cold better than leather, however, and so are hotter in summer and colder in winter. They do not carry off perspiration as well as leather.

By 1950 nearly half of the soles on shoes of all types were made from synthetic materials. In 1951 the proportion increased somewhat, until at the end of the year leather soles had dropped to 44.9 percent of the total, as compared with 52.0 percent in 1950. It is probable that both leather and synthetic soles will continue to be used in varying quantities, according to their suitability for different uses and to wearers' preferences.

Upper Leather

Trade names for upper leathers are bewildering. They refer more particularly to the grain, nature, and color of the finish, however, than to the kind of skin from which the leather was made. Most hides and skins used for upper leather come from cattle, calves, goats, sheep, and horses. Skins from kangaroos, pigs, and sharks are sometimes used.

Although very little chrome sole leather is now worn, about nine-tenths of all upper leather is chrome-tanned.

Usually the finish is put on the grain or outer surface—also known as the hair side—of the hide or skin, although some upper leathers, like suede and waxed calf, are finished on the flesh side. Thick skins and hides are often split into two or more layers. The layer carrying the grain, or hair side, is a grain split and is made into grain leather. Grain leather, therefore, may or may not be a split. Even when it is a split it is seldom, if ever, referred to as such in the trade, the word "split" being reserved for the underlying layers. Grain leather makes better shoe uppers than do flesh splits.

Grain leather can often be recognized by its feel and general appearance, including the pattern, or grain, formed by fine lines or wrinkles and hair holes, scales, or other markings, depending on the kind of skin from which the leather was made (fig. 2). Sometimes, however, the grain pattern of a certain skin is so cleverly embossed upon a skin of another kind that detection is very difficult.

The back of the human hand, particularly when examined under a slight magnification as with a reading glass, affords an excellent example of a skin pattern, or grain.

Calfskin leather, or calf leather, is made from calfskins, these being defined as skins weighing not more than 15 pounds when green salted. Calf leather is pliable, of fine, smooth texture, and, as it is rarely split, very strong. All things considered, it probably makes the most satisfactory and serviceable upper leather for year-around wear. Much so-called calf leather of today is made from the heavier skins of older animals.

Side leather is made from cattle hides, generally cowhides, split to the desired thickness. The term "side" originated from the practice of cutting large hides into halves or sides before tanning. Although side leather does not have the natural elasticity, softness, and fine texture of calfskin leather, it makes a very durable upper and is extensively used, particularly for men's and boys' shoes.

Among the smooth-grain finishes for calf leather are dull gun-metal black and a shiny glaze. Leather with a distinct, raised grain obtained by boarding, an operation that slightly puckers the surface, is known as boarded or box calf when finished black and as willow calf when finished in colors. Calf leather with a dull, wax finish on the flesh side is known as wax or dull calf; that with a dull but not waxy finish on the grain side, as mat calf.

Calf leather and side leather finished on the flesh side with a soft, velvety nap are called suede and ooze leather. Buffed leather is finished on the grain side with an emery wheel, which takes off part of the grain surface, leaving a softer finish. It has, however, a much less pronounced nap than suede.

Kid leather is rated among the excellent upper leathers. It is made from the skins of full-grown goats; not, as the name implies, from kidskins. Goatskins are seldom split, except possibly the butts of thick ones. Kid leather has a very fine, clear grain and is closely knit. It is softer and more pliable than calf leather and usually not so thick, for which reason it is not so warm and water resistant. Widely used for high-grade shoes, it is especially good for women's footwear. People with sensitive, tender feet generally find kid uppers more comfortable than calf, particularly in warm weather. Glazed kid is one of the most popular upper leathers. Kid leather is also finished dull, as mat kid. Because of its many desirable features kid leather is often imitated in sheepskin. Hence it is important to examine kid shoes carefully before buying them.

Sheepskin leather is not satisfactory for shoe uppers, because, although very soft, it is loose and stretchy and not durable. Uppers of sheepskin leather soon get out of shape and scuff or peel, particularly at the toes. Sheepskin leather is used extensively for lining shoes.

Cordovan leather, made from the rump of the horsehide, is extremely close in texture, stiff-fibered, and smooth. The finishing process gives it a reddish-brown color. It is probably the most durable of all upper leathers, and, because it is expensive, is frequently imitated. Sometimes leather is sold as cordovan when its only resemblance is the characteristic color. As this leather is fairly heavy, stiff, harsh, and nonporous, it cannot be worn by everybody. Its harshness sometimes causes ripping or cutting of the stitches.

Coltskins and horsehides, finished either dull or glazed, make very durable uppers. They are particularly good for men's shoes.

Kangaroo skins make a soft and fine, but rather expensive, leather, somewhat like that of kidskin of the best quality. This leather is usually considered more resistant to scuffing than kid leather.

Pigskin leather and fancy leathers made from sealskins and skins of reptiles—snake, lizard, and alligator—are used to some extent for upper leather.

Patent leather is made by coating leather with special varnishes or enamels. Most patent leather is made from cattle hides, or side leather. Patent colt, from horsehides and coltskins, is superior in quality. The varnished surface of patent leather gives a finish that for brightness, smoothness, and permanency of gloss cannot be equalled by any other finish. Few manufacturers guarantee that the varnish film will not crack or peel, but patent leather is much better in this respect than it formerly was because of improvements in the processes of making and applying the finish. The film, however, deteriorates with age, losing its flexibility and developing fine checks. The leather is thoroughly stretched before varnishing, so that it has practically no give, and the finish is nearly airtight and watertight. Consequently patent leather sometimes proves uncomfortable.

Lacquered leathers have been made recently by some tanners, but they have not taken the place of enameled leathers to any great extent, because in luster and depth their finish seldom equals that of patent leather.

Shoe Construction

Most shoes consist of an upper, an insole, and an outsole. In manufacture, the finished upper is drawn tightly over a form, or last, which gives the shoe its final shape, its size, and its style. The means by which the upper is fastened to the insole and the means by which the outsole is fastened to the upper and insole determine the commercial classification of the shoe.

If the upper is fastened to a flat insole with tacks and the outsole is fastened by means of a chain stitch, the shoe is called a McKay shoe.

In making a welt shoe, the upper is first fastened to an insole rib with staples, after which a strip of leather, called welting, is sewed to the insole rib. This fastens welt, upper, and insole together. The outsole is fastened to the welting by a seam which is usually visible near the outside edge of the welting or the bottom of the outsole. If, however, the outsole is fastened with cement instead of a thread seam, the shoe is known as a silhouwelt.

If the upper is permanently fastened to a flat insole with staples or cement and the outsole is fastened with a lock stitch, the shoe is referred to as a Littleway lockstitch shoe.

In the stitchdown process, the welt, upper, lining, midsole if any, and outsole are fastened together with stitching on the outside of the shoe. The finished shoe, upon casual inspection, resembles a welt shoe.

Of all the leather and fabric footwear made in the United States, 25 percent is of welt construction. More than 70 percent of men's boots and shoes are of welt construction, more than 85 percent of women's boots and shoes are of McKay, Littleway, and cement construction. An estimated 75 percent of infants' shoes are made by the stitchdown process.

As a rule, welt shoes give longer service than other types and are easily repaired. Because neither tacks nor stitches go through the insole, welt construction provides a smooth finish inside the shoe.

The McKay shoe is usually lighter in weight and cheaper than the welt shoe. It requires a sock lining to protect the foot from the clinched tacks and stitches in the insole, which otherwise would be in direct contact with the foot. Like the welt shoe, the McKay shoe is easily repaired.

In serviceability, the Littleway shoe is intermediate between the welt and the McKay shoe. Staples, if used to fasten the upper to the insole, do not come through the insole to touch the foot. The lock stitch that fastens the outsole wears longer than the McKay chain stitch. This shoe is repairable.

Many high-quality shoes are made by the cement method. More women's shoes have the outsole fastened by this method than by any other. They are repairable.

Most heels are made from leather, rubber, or wood. Leather heels are built up in layers called "lifts." The top lift is the layer that comes in contact with the ground. It is generally good, firm leather, but the other lifts are often poor leather, compressed leather scraps, or leather substitutes. The height of heels is expressed in eighths of an inch, an 8/8 heel being 1 inch high and an 18/8 heel being 2¼ inches high. The breast is the side of the heel facing toward the toe. The pitch of the heel is the angle at which it is attached to the shoe.

Rubber heels lessen the jar of walking, which makes them particularly popular in cities. As a rule, they wear longer than leather heels, but slip more readily on smooth wet surfaces, such as pavements, slate and metal roofs, trap doors, and car rails.

Wood heels are covered with leather, plastic, or fabric and are provided with a leather or rubber top lift. As a rule, wood heels are used on women's dress shoes. Wood heels, made in various styles and heights, are known by such names as French heel, Louis heel, and spike heel. The French heel has an hourglass curve; the spike heel has a straight, tapered body.

The breast line of the Cuban heel extends straight up to the outsole; the French, Louis, or spike heel extends into the shank for about ⅝ inch in front of the breast line.

The military heel is similar to the Cuban but is never more than 1¼ inches in height. Spring heels are very low; they are made by placing a wedge of leather between the heel seat of the shoe and the outsole. This type of heel usually appears in children's and infants' shoes.

Shoe Selection

The lasts over which shoes are made are built according to a schedule of standard measurements for the ball, waist, instep, and heel, the schedule being based on the average proportions for normal feet (fig. 3). Sometimes, however, shoes are made on combination lasts, in which the fore part of the shoe may be made to standards that are one-half size larger than those for the heel end of the shoe. These lasts sometimes provide better and more comfortable fitting of the feet than is provided by the usual standard-last schedules.

The size of a shoe is its length, expressed in numbers, and its width, based on girth measurements at ball, waist, and instep, which is expressed in letters. Widths range from AAAAA, the narrowest, to EEEE, the widest. Whole sizes vary by thirds of an inch in length. The American size system runs from 0 to 13½ in a first, or children's, series and continues from 1 on in a second, or adults', series. In the first series, size 0 was originally 4 inches long and size 13½ was 8½ inches long. In the second series, size 1 was originally 8⅔ inches long and size 12 was 12⅓ inches long. Not all shoe

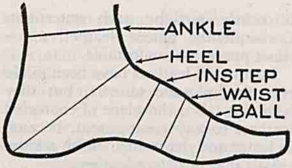

Figure 3.—Where to measure the foot for a shoe.

manufacturers adhere strictly to these lengths. Some have adopted code numbering systems. Shape and fit are better guides to the right shoe than the size stamped on the lining. A certain size of one make or style of shoe may be a correct fit, whereas the same size of another make or style may not.

The service to be required of a pair of shoes is an important factor in selecting them. For example, light-

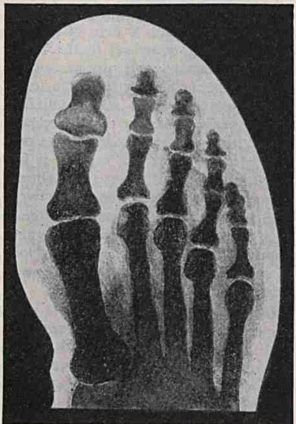

Figure 4.—Effect of a correctly shaped, well-fitting shoe on the bones of the foot. (Photograph from Army Medical Museum.)

weight street pumps have their own place, but that is not in a farm field or garden.

Unfortunately, the buyer can seldom correctly judge the quality and workmanship of shoes and the kind of leather from which they are made. Cheap shoes are not always an economy, nor are high-priced ones necessarily the wisest investment. Frequently a good share of the high cost goes simply for fancy workmanship and for novelty. About all the buyer can do is to rely on the reputation of the maker or dealer. Any reputable maker will stand back of the goods stamped with his name. Continued satisfaction with shoes can often be had by sticking to the make that has been found correct in design, comfortable in fit, and serviceable, and refusing to buy another pair made by a manufacturer whose wares have been tried and found unsatisfactory.

Although the fitting of shoes requires experience, judgment, and attention to details, many of today's foot ills are the result of lack of thought on the buyer's part. We cannot get around the fact that five toes need a certain space of a certain general shape if they are to spread out naturally and comfortably (fig. 4). When jammed into shoes with needlelike toes, the feet are sure to be cramped, twisted, and finally deformed. Toes are buckled and piled one on another and bones are bent (fig. 5).

A baby does not need shoes until walking time. Shoes put on before

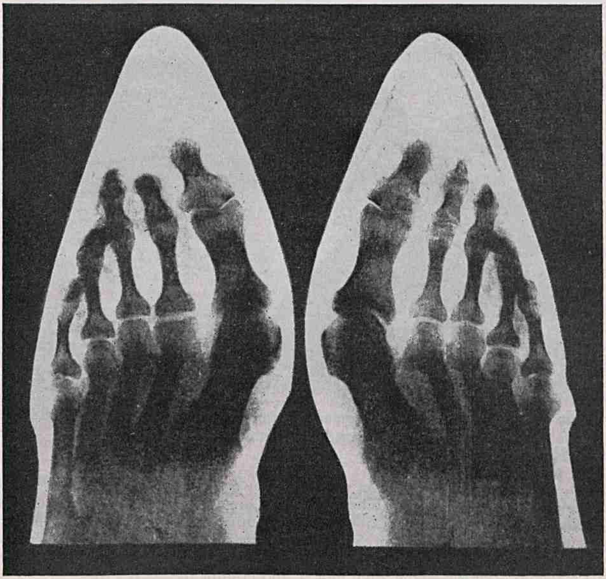

Figure 5.—Effect of an incorrectly shaped, ill-fitting shoe on the bones of the foot. (Photograph from Army Medical Museum.)

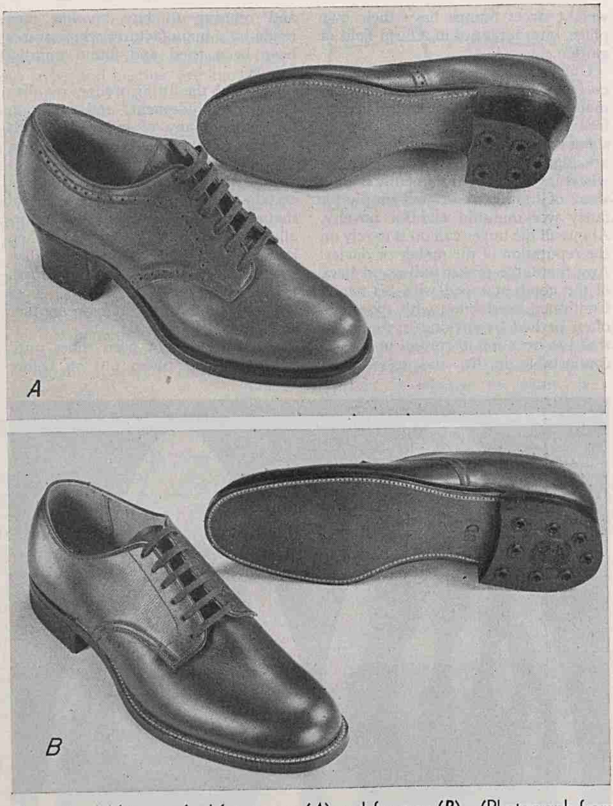

Figure 6.—Military oxford for women (*A*) and for men (*B*). (Photograph from Quartermaster's Depot, U. S. Army, Philadelphia, Pa.)

then, generally for appearance, often do more harm than good. The first walking shoes should have flexible but firm soles, unpolished, preferably slightly buffed, and broad enough to be a steady platform under each foot. Very soft soles curl and make more difficult the baby's task of learning balance. Stiff or boardlike soles also are to be avoided. The toes of the uppers should be full or puffy, not so flat that the leather pulls straight back from the end of the sole and cramps the baby's toes.

Responsibility for the fitting of children's shoes falls on parents,

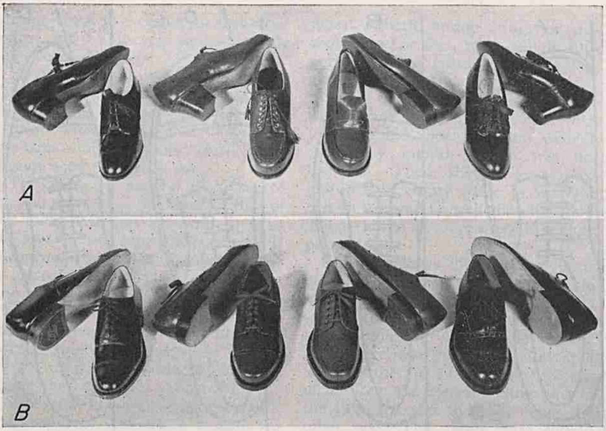

Figure 7.—Shoes of good shape for women (*A*) and for men (*B*). They combine comparatively straight inner lines, rounded toes, medium-high heels, and moderately thick soles, all of which make for serviceability, comfort, and safety.

shoe dealers, and manufacturers. Very young children, of course, cannot judge correctly the design and fit of their shoes. Older children are often willing to sacrifice comfort and money for what they consider a fashionable appearance. The young foot and its bones are easily twisted and bent out of shape by shoes that do not fit. Fortunately, many manufacturers now make children's shoes of correct design.

To be comfortable, safe, durable, and attractive, shoes for everyday wear must conform to the natural shape of the feet and protect them. They must also provide a firm foundation for the body. The military shoe meets these requirements. Proceeding on the theory that an army is only as good as its feet, the Department of the Army has developed several types of shoes built over lasts designed to give correct fit (fig. 6). Many shoes for civilians are being made along the same lines, some, however, from lighter weight materials (fig. 7). They are well adapted for wear in town and country alike.

Shoes of correct shape are broad and round at the toe and straight along the inner edge (fig. 8, *A*, *B*). A pair of normal feet placed together touch at the heels and also from just in back of the big joints of the big toes up to the ends of these toes. The inner edges of the soles of a pair of properly made shoes do likewise. The more the edges diverge or curve toward the outside of the shoe (fig. 8, *C*, *D*), the more unnatural the shoe's shape and the greater the wearer's discomfort. Persistent wearing of such shoes is almost sure to cause enlarged joints and bunions.

Everyday shoes need soles that are at least moderately thick. Often the soles, particularly those of women's shoes, are so thin that walking with

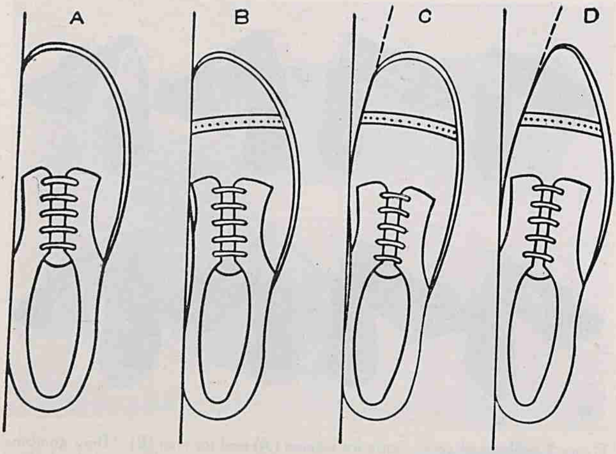

Figure 8.—Shoes made on correct lines (*A*, *B*), with the straight inner line and rounded toe characteristic of the normal foot; and shoes made on incorrect lines (*C*, *D*), with the curve outward from the naturally straight inner line of the foot and also the too pointed toe (*D*). (Photograph from Army Medical Museum).

them on any but the smoothest of surfaces is painful. The feet soon become bruised and calloused. Thicker soles afford more protection to the feet not only against injury from sharp and uneven surfaces, but against water and slush as well. Furthermore, thicker soles last longer.

Heels that are nearly as broad throughout as at the heel seat of the shoe—in other words, taper but little—are best for everyday shoes. Although the height may vary a little with the individual, high heels are frowned upon by most medical authorities. The heel of the Army nurse's shoe is 1⅛ inches high. A sudden change from a high heel to a low one may cause discomfort at first. Such a change should be made gradually to give the feet and body time for adjustment. Failure to realize this has caused many a woman who has constantly worn high heels to think that she cannot possibly wear low ones. The pitch of the heel is also important. Heels that slant too far forward cannot steadily support the body or hold it in its proper posture.

Heels that are too narrow, too high, or incorrectly pitched frequently cause weakened ankles, a wobbly walk, strained muscles, and slipping, twisting, and falling, with serious sprains and injuries at times. The weight is thrown on the toes, and the feet are jammed into the fore part of the shoe, causing bruises, corns, weakened and crushed arches, and bent toes. The evils of high and narrow heels for women and girls, particularly those who are on their feet most of the day, cannot be overemphasized. Such heels also soon run down on one side and frequently gap or pull loose from the shoe. Shoes with high, narrow heels are more readily twisted out of shape than those with low, broad heels, and are subjected to excessive strain on the seams and to uneven wear on both the soles and uppers.

Shoes should always be fitted with the entire weight of the body on the feet, as the feet are then at their largest. New shoes, if a correct fit, are comfortable from the start. They do not need "breaking in."

The swing, or general direction, of the shoe should be the same as that of the foot; it should not tend to twist the foot out of its normal position. If the swing is not right, the shoe cannot fit correctly. It will be too loose in one place and too tight in another. The one-sided appearance of a worn shoe is usually due to an incorrect swing, which has caused the ball of the foot to rest at one side of the shoe, rather than straight in the middle.

Shoes that fit correctly permit standing, walking, and quick turning in comfort and safety. A normal erect position of the body can be kept in such shoes without undue strain or discomfort. The feet, while snugly supported, are not cramped or crowded, and a firm, full tread is possible.

Shoes that are too small for the wearer are especially harmful when they are too short. During wear a shoe may spread, but it will not lengthen. There should be a good half-inch of empty space beyond the toes in a broad or well-rounded shoe. There should be more space in a more pointed shoe.

Figure 9 shows the principal parts of a shoe. The broadest part should be at the end of the little toe. The big joint of the big toe should come just at the rounding-in of the sole on the inside edge near the instep. This spot is one of the three important bearings of the foot, the corresponding part of the little toe and the heel being the other two. The vamp seam should not press upon the top of the foot back of the toes. Here there should

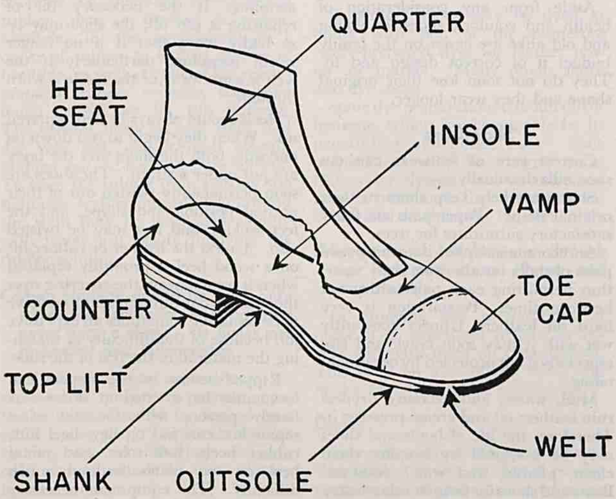

Figure 9.—Principal parts of a shoe.

always be a little, although not much, free space. The counter, which holds the back part of the shoe upper in shape, should center the heel of the foot in the heel seat of the shoe. It should fit the foot snugly and yet be wide enough to be comfortable when the whole weight of the body is borne by the feet for some time. Quarters should not be so full that the edges meet when the shoe is laced. There should be some space between those edges, so that the quarters can hold the foot in place against the back of the shoe. However, the edges of the quarters should not gap so much that the pressure of the laces on the top of the instep will cause soreness.

Shoes that are too large are a misfit. With too much play in the shoe the foot is not supported snugly. Blisters are often formed, especially on the heel, by the rubbing of the foot against the inside of a shoe that is too large. Incidentally, neglect of foot blisters may result in serious infection.

Aside from any consideration of health and comfort, shoes for young and old alike are easier on the family budget if of correct design and fit. They do not soon lose their original shape and they wear longer.

Shoe Care

Correct care of footwear can cut shoe bills drastically.

Shoe trees help keep shoes in their original shape. Paper pads are fairly satisfactory substitutes for trees.

An economical plan is to have two pairs of shoes for alternate daily wear, thus permitting each pair to dry out between times. Perspiration is very hard on leather. Uppers constantly wet with it may soon crack and rip, especially if not protected by occasional oiling.

Mud, water, and excessive dryness ruin leather; oil and grease preserve it. Therefore, the life of boots and shoes may be extended by keeping them clean, pliable, and water resistant. Boots and shoes for farm or other heavy outdoor use need greasing. Those for street wear need polishing only, although the soles may be oiled or greased. Frequent polishing, especially with flexible wax polishes, keeps the leather soft and pliable and gives it a finish that helps to turn water and prevent the collection of dust and dirt. A light, even oiling with a little castor oil on a cheesecloth pad once or twice a month helps to keep patent leather uppers from cracking.

Repairing

It is not necessary to discard shoes as soon as they begin to show signs of wear. After a seam has ripped or the outsole has worn through, shoes often can be repaired and worn for a long time. Good care of shoes includes prompt repair. Down-at-the-heel, dilapidated shoes neither protect the feet nor properly support the body. The minute a seam begins to rip, the upper cracks through, a heel twists out of shape or runs down, or a hole wears through the outsole, the shoe needs mending. If the necessary bit of repairing is put off, the shoe may be so badly worn that it is no longer worth mending, particularly if the welt is worn away or the insole is worn through.

Heels should always be kept squared up. When they begin to run down on one side, both the shoes and the body are put under a strain. The shoes are soon permanently twisted out of their normal position and shape, and the feet, ankles, and legs may be twisted also. Unless the leather or rubber lift on a wood heel is promptly replaced when it wears away, the covering over the wood is cut through and may have to be replaced, sometimes an expensive job because of the difficulty of matching the material in the rest of the shoe.

Ripped seams in the uppers can frequently be stitched at home. A handy person, with the aid of a repair kit, can put on new heel lifts, rubber heels, half soles, and metal heel or toe plates without much difficulty. The equipment necessary for repairing shoes includes a last holder, three or four iron lasts of different sizes, a shoemaker's hammer, a pair of pincers, one or two leather knives, a leather rasp or file, awls, nails for soles and heels, flax shoe thread, bristles, and wax. These articles, as well as repair kits, are sold by dealers in hardware or shoe findings and by some mail-order houses.

Cleaning, Renovating

Butter, lard, petrolatum, linseed oil, salad oil, and lubricating oil produce ugly stains on light-colored leather. Attempts to remove such stains with gasoline or other ordinary grease solvents may result only in spreading them. These spots can often be successfully removed by coating them with a thick solution of rubber in a solvent that evaporates quickly and then peeling off the rubber coating when it is almost dry, repeating the operation several times if necessary. A solution of finely chopped or shredded unvulcanized rubber (para or Ceylon) in carbon bisulfide, in the proportion of 1 ounce of rubber to 8 fluid ounces of bisulfide, as well as some of the ready-prepared rubber cements, has been found satisfactory for this purpose. The cement must be very thick and dry very fast, and it must contain nothing but rubber and pure solvent. To keep the rubber from sticking too tight, the leather immediately around the stain may be moistened slightly with water just before applying the rubber solution.

Carbon bisulfide should be used only where the ventilation is good, and never near a flame. Its fumes are poisonous and inflammable

All oil or grease spots should be removed as quickly as possible, particularly those made by linseed and other paint oils. These oils oxidize as they dry, so that they are soon only slightly soluble in the ordinary liquid solvents.

Milk spots leather and often leaves a white stain—sometimes a brown stain. Soap and water will remove the white stain, but no way of taking out the brown stain is known. The only feasible thing to do is to dye the leather a shade darker than the stain.

Now and then spots can be removed mechanically by the very delicate manipulation of a sharp edge, such as a safety-razor blade, or with fine emery or crocus cloth. As a rule, this produces at least a slightly noticeable blemish. It may not be as unsightly as the stain, however.

Shoe polish sometimes accumulates on uppers. The appearance of such shoes can often be decidedly improved by cleaning with benzene or gasoline and repolishing.

Uppers with a suedelike finish may become smooth and slick in spots. Often, the nap can be satisfactorily raised with a small wire brush made for the purpose.

Dyeing

Sometimes shoes may be dyed at home with one of the numerous ready-prepared dyes for leather now on the market. Many repair shops also dye shoes.

Some dye preparations contain nitrobenzene, which is recognizable by its penetrating almondlike odor. Such preparations may be entirely satisfactory for dyeing, but, as nitrobenzene is poisonous, they never should be applied to shoes on the feet.

Absorption of nitrobenzene through the feet may cause illness and even death

In applying dye preparations at home it is sometimes helpful to experiment with them on castoff shoes. This gives an idea of the effect and of the best method of application.

Drying

Shoes are easily damaged when wet. Wet leather is soft, so that it readily stretches out of shape and stitches cut through it easily. It wears away rapidly.

Wet shoes must be dried very carefully, for wet leather "burns" much more readily than dry leather. If the leather becomes hotter than the hand can bear, it is almost sure to be ruined. Placing shoes while wet against hot radiators in street cars, against hot steam pipes or stoves, or even in hot ovens spoils them. When dried too fast and without care, shoes shrink and become hard, tight, and out of shape. The sole often cracks and sometimes even falls out in pieces.

The right way to dry shoes is as follows:

First wash off all mud and grit with tepid water. Oil or grease work or rough shoes with one of the preparations described on page 15 or with something similar. Oil street shoes with castor oil. (If the castor oil on a piece of cheesecloth is applied lightly and evenly and well rubbed in, the shoes will take a good shine when dry. If too much oil is used, polishing will be difficult.) Then straighten the counter, heel, vamp, and toe, and stuff the shoes with crumpled paper to keep the shape and hasten drying. Finally set the shoes aside in a place that is not too warm and let them dry slowly.

Never put wet shoes close to a hot stove or radiator, and do not wear them until they are thoroughly dry. It is a good plan to polish street shoes once or twice as soon as they are dry.

Oiling, Greasing

Rational use of suitable oils or greases makes shoes wear much longer than they otherwise would. Shoes worn on farms, in forests, and in mines are helped by oil or grease whenever the leather begins to harden or dry or fails to turn water well. This treatment not only makes them last longer but, when the shoes are well made of good materials, makes them more resistant to water.

Among the best materials for greasing shoes are neat's-foot, cod, and castor oils, tallow, and wool grease, or mixtures of them. Any one may be applied in the following way:

First brush the soles and uppers thoroughly to remove all dust and dirt and then warm the shoes carefully, bearing in mind the danger of burning them if they are wet. Apply the warm oil or grease, which should never be hotter than the hand can bear, with a swab of wool or flannel, and rub it well into the leather, preferably with the palm of the hand. Take special care to work the grease in thoroughly where the sole is fastened to the upper, as water soaks through there most often. Let the greased shoes dry in a warm, but not hot, place.

Water Resistance

Treatment to make footwear resistant to water cannot be expected to keep the feet perfectly dry if the treated shoes are worn for a long time in wet weather; nor will shoes so treated take the place of rubber overshoes or boots for walking in water, slushy snow, or very soft mud. Nevertheless, correctly made shoes given a water-resistant treatment generally protect the feet satisfactorily during rain storms and snow storms, as well as on wet pavements and wet ground where there are no deep puddles. They keep perspiration in, but not to the extent that rubber footwear does.

Grease used to make shoes water resistant in summer should be harder than that used for the purpose in winter. Because heavily greased shoes have a tendency to make feet perspire and swell in hot weather and because there is less need for water-resistant footwear then, it is rarely advisable to put on as much grease in summer and spring as in winter. In summer, the quantity of grease used should not exceed the quantity that the leather will take up without leaving a greasy surface. In winter, a mixture of grease and oil that is not too hard when cold is required. More of it than the leather will take up may be used if greater water resistance is desired.

Treating formulas.—Research on fats, oils, waxes, resins, and other materials for use in increasing the water resistance of leather, conducted by the Department of the Army, has perfected no procedure for using them, although definite progress is reported. To make shoes water resistant, nothing better than the following simple formulas can be recommended by the Department at this time:

Formula 1

Neutral wool grease	ounces	8
Dark petrolatum	do	4
Paraffin wax	do	4

Formula 2

Petrolatum	pound	1
Beeswax	ounces	2

Formula 3

Petrolatum	ounces	8
Paraffin wax	do	4
Wool grease	do	4
Crude turpentine gum (gum thus)	ounces	2

Formula 4

Tallow	ounces	12
Cod oil	do	4

Melt the ingredients together by warming them carefully and stirring thoroughly. Apply the grease when it is warm, but never hotter than the hand can bear.

Grease thoroughly the edge of the sole and the welt, as this is where shoes leak most, and completely saturate the sole with the grease. This can be done most conveniently by letting the shoes stand for about 15 minutes in a shallow pan containing enough of the melted material to cover the entire sole (fig. 10). Rubber heels, however, should not be put in the grease, because it softens them. To treat the soles of shoes with rubber heels, use a pie pan to hold the melted grease and set the shoes astride the rim of the pan, with the heels outside.

Polishing

Most shoe polishes are mixtures of waxes, colored with dyes and softened to a pasty consistency, usually with turpentine. Others that contain no turpentine are made by boiling mixtures of waxes with a solution of borax or soda, colored with a dye or finely pulverized bone charcoal, and adding either a solution of ordinary soap to form a paste or a solution of castile soap to form a liquid. Some liquid polishes consist of shellac, waxes, and dye in an alcoholic solution.

The notion that shoe polishes containing turpentine are injurious to

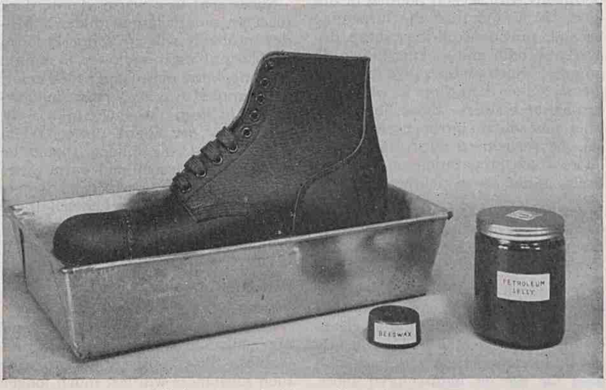

Figure 10.—All that is needed for making shoes resistant to water.

Figure 11.—Wiping mildewed shoes with the thick suds of a mild neutral soap, after which they will be wiped with a damp cloth and set out to dry in an airy place.

leather has not been borne out by experiments with several polishes of this kind. Now and then the turpentine becomes rancid, acquiring a sharp, disagreeable odor and making the polish gummy. Such polishes give less satisfactory shines than those in which the turpentine is sweet. Some liquid polishes may contain nitrobenzene, which can be recognized by its almondlike odor. Such preparations may be entirely satisfactory as polishes.

As nitrobenzene is poisonous, however, they never should be applied to shoes on the feet.

Polishes containing free acid or alkali may harm leather. They sometimes cause cracking of the vamp where the shoe is bent most often. Liquid cleaners that contain oxalic acid, frequently put up in combination with paste polishes for use on light-colored shoes, usually injure the leather.

Protection Against Mildew

Shoes kept in a warm, damp, dark place are almost sure to mildew. Mildew probably will not seriously harm the shoes unless it is allowed to remain too long, but it may change their color. The simplest way to prevent mildewing is to keep the shoes in a well-ventilated, dry, light place. When first detected, the mildew should be washed off with soap and warm water (fig. 11), or simply wiped off with a moist cloth, and the leather well dried. The application in the home of preparations designed to prevent mildew is not recommended.

Protection Against Alkaline Substances

Lime, portland cement, lye, and other alkaline substances quickly ruin leather. Shoes worn by workers with such substances will last much longer if kept well greased.

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HOW TO PREVENT AND REMOVE MILDEW

home methods

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CONTENTS

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HOW TO PREVENT AND REMOVE MILDEW

home methods

By Margaret S. Furry, Textile Chemist

Molds that cause mildew grow on anything from which they can get enough food. In homes they develop most often on cotton, linen, rayon, silk, wool, leather, wood, and paper. Many manmade fibers are resistant to mildew.

Molds are simple plants belonging to the group known as fungi. Though always present in the air, molds that cause mildew need moisture and certain temperatures in order to grow. They commonly develop in muggy summer weather, especially in houses that are closed.

Molds that cause mildew flourish wherever it is damp, warm, poorly aired, poorly lighted—in cellars, in crawl spaces of houses without basements, in clothing closets, on draperies and rugs in basement recreation rooms, on shower curtains, on damp clothes rolled up for ironing. These molds are also likely to grow in a newly built house because of moisture in the building materials.

As the molds grow they cause considerable damage. They often leave a musty odor. They discolor fabrics and sometimes eat into them so severely that the fabrics rot and fall to pieces. They decay wood and discolor leather and paper. The most common mildew organisms do not cause disease.

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TO PREVENT MILDEW

Keep Things Clean

Keep closets, dresser drawers, basements, any place where mildew is likely to grow, as clean as possible. Soil on articles can supply sufficient food for mildew to start growing when moisture and temperature are right. Greasy films, such as those that form on kitchen walls, also contain many nutrients for mildew organisms.

Clean clothing is less likely to mildew than soiled clothing. Because most manmade fibers, such as acetate, Acrilan, Dacron, Dynel, nylon, and Orlon, are resistant to mildew, clean fabrics of these fibers will not support mold growth. But soil even on these fabrics may supply food to start mildew. Thorough cleaning of all soiled fabrics, regardless of the kind of fiber in them, may help prevent them from mildewing.

Get Rid of Dampness

By removing the cause

Try to control the cause of dampness. Otherwise, with high moisture, mold spores—always present in the air—settle on articles and have ideal conditions for growth.

Cooking, laundering, and bathing without adequate ventilation may add 2 or more gallons of water to the air in a house within 1 day. If possible, have your automatic clothes dryer vented to the outdoors. Dampness in a basement often is caused by condensation of moisture; warm, moist air coming in condenses on cooler surfaces.

Damaging moisture may indicate that repairs are needed. Replace cracked or defective mortar. Make certain that outside drainage is adequate. Some basements are continually wet from water leaking through crevices in the wall.

For waterproofing concrete and other masonry walls above ground, apply two coats of cement water paint, tinted with mineral coloring, if desired. Waterproofing treatments to seal absorbent brick and other outside surfaces may be needed.

In crawl spaces under houses, spread a layer of moisture-barrier material over the soil under the building. Heavy roofing paper or polyethylene plastic film can be used. This barrier plus good ventilation will keep the crawl space dry and prevent mustiness.

By providing adequate ventilation

Ventilate the house when outside air is drier than that inside. As the air comes in, it takes moisture from the damp interior walls and furnishings. Then the moisture vapor is carried outdoors. Since cool air holds less moisture than warm air, take advantage of cool nights to freshen the air in the entire house.

Run an electric fan in places that cannot be exposed to outdoor breezes. Special-purpose fans, such as adjustable window fans, can be used to help remove moisture and keep the house well ventilated.

Poorly ventilated closets get damp and musty during continued wet weather, and articles stored in them are likely to mildew. Hang clothing loosely so that air can circulate around it. Keep suitcases, shoes, and other articles that are highly vulnerable to mildew on shelves, preferably perforated ones, at the top of the closet. Dry all clothing wet by rain or perspiration thoroughly before putting it in the closet.

Leave closet doors and dresser drawers open occasionally to keep moisture from gathering and to stir up the enclosed air. Take special care to ventilate linen closets in bathrooms and to circulate air behind and under beds.

By drying the air

Heat.—If necessary, get rid of the dampness by heating the house for a short time with a stove, furnace, or an electric heater. Then open doors and windows to let out the warmed air that has taken up the extra moisture; use an electric fan to force it out quickly.

To dry the air in closets and other small areas, burn a small electric light in them continuously. The heat from the lamp is enough to prevent mildew if the space is not too large. Or place an electric heater on the closet floor. Heat at the bottom of the closet increases air movement and gives better drying efficiency. Keep the closet door shut to conserve the heated air.

In using electric lamps and heaters, be sure to observe precautions against fire.

Mechanical dehumidifiers.—Mechanical dehumidifiers, sometimes called "basement dryers," are useful wherever condensation of moisture causes damage. This piece of equipment removes moisture from the air by drawing in the damp air, then condensing the moisture on refrigerated coils. The water can then be drained off.

A humidistat can be attached to the dryer to control the humidity in a room. When using a dehumidifier, keep windows and doors closed.

Chemicals that absorb moisture.—Silica gel, activated alumina, or calcium chloride may be used to absorb moisture from the air. They are sold in department stores and drugstores and by building-supply dealers, sometimes under various trade names.

Silica gel and activated alumina are not harmful to fabrics. The porous granules remain dry feeling even when saturated—they hold half their weight of water. To use, hang cloth bags of the chemical in clothing closets. Or place an open container of it in the closet—on a shelf preferably, or on the floor. Keep closet doors closed so that moisture from outside air will not get in. You may scatter the dry granules through layers of clothing and other articles that are to be stored in tightly closed chests or trunks.

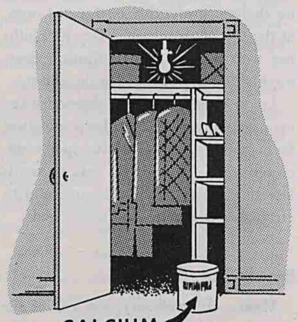
Both silica gel and alumina can be used over and over, if dried between times. To dry, simply place moist granules in a vented oven at 300° F. for several hours. Then put in an airtight box and cool before re-using. Silica gel specially treated with a color indicator is pink when full of moisture, blue when dry.

Calcium chloride also absorbs moisture from the air. It is available both in small white granules of the chemical, and in specially prepared products that employ calcium chloride soaked on a porous claylike material.

Calcium chloride-on-clay products do not drip when saturated; they can be regenerated by driving off the absorbed moisture in an oven. To use one of these products, hang cloth bags that contain it in closets, basements, pantries, or wherever dampness occurs.

Granular calcium chloride holds twice its weight of water. But, as it absorbs moisture it liquefies. Do not let this chemical come in contact with clothing or household textiles; it can make holes in them.

To use granular calcium chloride, put it on a nonrusting screen supported in an enameledware container. Then place the open container in the closet and keep the door shut. When granular calcium chloride becomes liquid replace it with fresh chemical.



Get Rid of Musty Odors

Musty odors, which indicate mold growth, are sometimes noticeable in such places as basements and shower stalls. Take special precautions to get rid of musty odors as soon as possible; thus, you will prevent further, really objectionable and damaging mold growth. Usually musty odors disappear if the area is well heated and dried. If the odors remain, additional treatments (described in the following paragraphs) may be necessary.

In cellars with dirt floors, use chlorinated lime (commonly called chloride of lime or bleaching powder) to remove musty odors. Sprinkle this chemical over the floor, let it stay until all mustiness disappears, then sweep it up.

On cement floors and on tiled walls and floors in bathrooms, get rid of mustiness by scrubbing with a dilute solution of sodium hypochlorite or other chlorine bleach available in grocery stores. Use ½ to 1 cup of liquid household bleach to a gallon of water. Rinse with clear water and wipe as dry as possible. Keep windows open until walls and floors are thoroughly dry. *Precaution:* Work quickly and carefully on plastic and asphalt tile to avoid spotting the surface.

Low-pressure sprays (in aerosol containers) are helpful in removing mustiness in closed rooms and small areas, provided they contain a fungitoxic (mildew-inhibiting) chemical to prevent the growth of the odorous molds causing the trouble. Read the label on the can for ingredients. Most sprays without a mildew inhibitor are less effective for removing the unpleasant musty odor because they rely entirely on the masking power of a perfume or on the deodorizing action of special chemicals.

When using low-pressure sprays keep doors and windows closed. *Precaution:* Do not inhale the mist and do not spray near a flame. Follow all directions and precautions given on the can.

Give Some Articles and Surfaces Special Care

Clothing and household fabrics

Keep fabrics dry.—Never let clothing or other fabric articles lie around damp or wet. Dry soiled clothes before putting them into the hamper. Wash out dishcloths and hang them to dry. Spread out washcloths and damp towels. Stretch out wet shower curtains. It is the wet curtain left bunched together or sticking to the wall or tub that is most likely to mildew.

Wash soiled garments and household fabrics in plenty of hot sudsy water; rinse well and dry thoroughly and quickly. Fabrics dried slowly may get sour and musty smelling—a sign of mold growth. When washing musty white cotton materials, add dilute chlorine bleach as directed on the container. (Never use chlorine bleach on silk or wool. Some colored fabrics and some fabrics treated with special finishes may also be affected by chlorine.)

Sprinkle for ironing only as many articles as can be ironed in a day; shake out and dry those not ironed.

To help keep moisture out of clothing and household fabrics and thus make them less susceptible to mold growth, treat them with wax-emulsion or silicone water-repellent sprays. Use on draperies, slipcovers, mattresses, golf bags, overshoes, and jackets and other outer garments. More satisfactory in protecting such articles against mold growth are the mildew-resistant finishes described in the following paragraphs.

Protect with mildew-resistant finish.—Make sure that such cotton articles as shower curtains, awnings, tents, and sails have been treated with fungicides (chemicals to make them resistant to mildew) before using them. Many such articles are treated before they are placed on the market. If not, you can apply a mildew-resistant finish to these articles yourself with one of the fungicide products described below. These products are available at drugstores, hardware stores, and boat-supply houses.

Two copper treatments—copper naphthenate and copper-8-quinolinolate—are especially recommended to give durable protection to canvas beach chairs, awnings, sails, and other heavy fabrics that are used outdoors. Apply them by dip, spray, or brush methods as directed on the package. They have a distinctive odor and they tint the fabric green and may stiffen it.

Another copper treatment—copper cupferron—gives good protection with only slight odor and an off-white color.

Other fungicides, such as zinc naphthenate, quaternary ammonium naphthenate, dichlorophenol, and salicylanilide, may be less durable to weathering, but they are odorless and colorless and, therefore, more satisfactory for shower curtains, draperies, blankets, and seat covers.

Fungicide products that can be sprayed on fabrics to give them mildew protection are available in low-pressure aerosol containers (p. 5). Some of these fungicide sprays contain a wax or a silicone resin that imparts water repellency to the sprayed fabric, in addition to mildew resistance. Some contain an insecticide that makes the sprayed fabric resistant to moths.

In order to have sufficient chemical on the fabric for mildew protection, wet the surface of the fabric thoroughly with the spray. Unless the sprayed fabrics are kept in a closed container, they should be examined frequently and resprayed. *Precaution:* Use these fungicide products on clothing only if such use is recommended on the label; some of them irritate the wearer's skin. Avoid inhaling vapors. Do not spray on plastic or asphalt tile. Follow all directions and precautions given on the can.

Here is a mildew-resistant treatment simple to apply and less expensive than those described above. It uses soap and copper sulfate and, although it colors the fabric light blue green, is suitable for many cotton articles.

First dip the article in hot soapsuds made of soft or softened water and good neutral soap (not a synthetic detergent). Soak the article a few minutes to be sure it is wet through. Then remove it, and, without rinsing,

put at once into a hot solution of copper sulfate (1½ ounces copper sulfate to a gallon of water). Stir and turn the fabric for about 15 minutes in this bath. Then wring and hang to dry. Be sure to have plenty of soap in the cloth because it is the combination of the soap and the copper sulfate that makes the treatment successful.

Precaution: Copper sulfate is poisonous; if regular kitchen pans and utensils are used to hold the copper sulfate solution, wash them thoroughly afterwards.

Clean before storing.—If clothing or household textiles are not treated with a mildew-resistant finish, be sure to wash or dryclean them before storing, as soiled articles are more likely to mildew than clean ones. And, unless you know that your laundry starch contains an inhibitor, do not leave starch in fabrics to be stored; molds feed on starch finishes.

From time to time on warm, dry days, sun and air articles stored in closets. It pays to inspect occasionally cotton, rayon, leather, and woolen clothing put away in garment bags. Unless such materials are stored with a mildew inhibitor (see below) they may mildew; a closed bag, dampness, and hot summer weather make ideal growing conditions for molds.

Store with mildew inhibitor.—Certain volatile chemicals, the vapors of which inhibit mold growth, may be used to protect fabrics during storage.

One such chemical, paradichlorobenzene, effectively controls mildew on clothing and other apparel when used in packages, trunks, or garment bags kept as nearly airtight as possible. This chemical, which is widely recommended for moth control, is available in grocery and drug stores under various trade names.

Scatter paradichlorobenzene crystals through the folds of garments to be packed in boxes, or hang bags of crystals at the top of garment bags so the heavy vapors settle on the materials being protected. Use about 1 pound of the crystals for 100 cubic feet of air space, proportionately less for smaller spaces. As the vapors leak out, mildew protection disappears and the chemical must be replenished.

Precaution: Paradichlorobenzene damages some plastics. Therefore, remove plastic buttons and ornaments from garments and use wooden or metal instead of plastic clothes hangers.

Paraformaldehyde is another volatile chemical that has mildew-inhibiting properties. It is sold in powder form at drugstores. Sometimes various sized bags of the chemical are available. Use paraformaldehyde to protect clothing and bedding (2 ounces of the chemical for 100 cubic feet of space). Place bags of the chemical where the vapors can circulate and reach all surfaces of the stored articles.

Precaution: Paraformaldehyde is poisonous. Avoid inhaling the fumes. Keep it away from children.

Low-pressure sprays containing mildew-inhibiting chemicals also will help control molds and mildew growth in a closed area. To be effective, the spray must wet the interior surfaces of the closet or storage container. Thoroughly spray into cracks and crevices. Respray as frequently as necessary.

Precaution: Do not inhale the mist from the spray and do not use spray near flame. For additional precautions and directions for spraying fabrics, see page 7.

Leather goods

To protect leather against mildew, sponge with a 1-percent solution of dichlorophene in denatured or rubbing alcohol. Or use other chemicals—hexachlorophene, salicylanilide, thymol, and paranitrophenol—in the same way (1-percent solution in alcohol). Your druggist can get these chemicals and make the solutions for you. Shoe and luggage stores may have the solutions packaged especially for leather goods.

Before sponging the article, test the solution on a small area where it will not show to see if it will change the color of the leather. Do not use paranitrophenol on white or light-colored leather. Treat both the inside and the

outside of shoes; repeat as often as needed.

Another way to protect leather goods is to apply a good wax dressing. In selecting the one to use, read the labels on the packages. Some shoe dressings on the market contain both a fungicide (hexachlorophene or paranitrophenol) to prevent mold growth and wax or a silicone resin to protect against perspiration and wet weather. A thin coat of floor wax applied to shoes—to both

the uppers and the soles—keeps moisture out and so helps to prevent mildew.

During warm, humid weather, protect stored shoes, jackets, luggage, and other leather articles with paradichlorobenzene or paraformaldehyde (p. 8); wrap the articles in packages and seal them. If luggage has plastic fittings and hangers, do not use paradichlorobenzene.

Or use a low-pressure spray containing a fungicide to prevent mildew damage during storage (pp. 5, 7). Spray shoes and other leather articles thoroughly to wet the surface. Then as soon as they are dry, wrap them or place them in airtight containers.

Precaution: Do not inhale the mist from the spray and do not use spray near flame. Follow all precautions given on the can.

Wood

Unpainted.—In damp, warm, poorly ventilated areas, surface mold often develops on wooden parts of buildings; sometimes timbers are severely rotted. New, unseasoned lumber is especially susceptible to mildew because it is full of moisture.

Lumber and millwork should be treated with a wood preservative to provide protection against mildew. If this has not been done at the manufacturing plant, you may apply such a preservative yourself. Use copper or zinc naphthenate, pentachlorophenol, certain phenyl mercury compounds, or coal tar creosote.

These wood preservatives are available from hardware and paint stores, lumberyards, and millwork suppliers.

In selecting the preservative for the job, consider what the wood will be used for and the properties of the preservative—its color, odor, and whether it will bleed through paint or leach out on exposure to weathering.

Painted.—Indoor wood surfaces covered with enamel or oil-resin paint rarely mildew unless conditions are very favorable to mold growth. Softer paints on outdoor surfaces mildew more readily. Molds feed on the oil and minerals in the paint and cause a dirty-looking discoloration. They may penetrate the paint film deeply, even to the underlying wood.

Mildew-resistant paints in all colors for outdoor wood surfaces are available at paint and hardware stores. The manufacturer has suitably formulated his products with fungicides, such as chlorinated phenols, phenyl mercurials, zinc compounds, or copper compounds, to help combat mildew attack. Because the chemical used may be poisonous, carefully observe all precautions indicated on the can. Some paint stores sell fungicide additives, which can be mixed with paint.

Adding zinc oxide or spar varnish to oil paint makes it less susceptible to mildew, because it makes the paint dry to a hard film. These materials tend to make the paint brittle, however; on aging it may peel.

Paper and books

In damp summer weather keep papers and books as dry as possible to

help control mold growth. Burn a small electric light continuously in the bookcase, with doors closed as tightly as possible. Or use a chemical dehumidifier, such as silica gel or calcium chloride (see p. 4), in a closed space.

Also effective in preventing mildew are the volatile mildew inhibitors, paradichlorobenzene and paraformaldehyde (p. 8). Hang a bag containing one of these in the closed bookcase. Or dust books and papers with paraformaldehyde, then wrap them in tight packages. Use this chemical sparingly; it is poisonous and may be very irritating to some persons.

Or you may use low-pressure sprays containing a fungicide (pp. 5, 7) to protect paper products against mildew. Unless they are kept in a closed container respray them frequently.

To prevent mildew on book covers, apply a clear shellac or thin varnish to which 2 to 3 percent of salicylanilide or dichlorophene has been added. First try the shellac on a small section of the cover, to see if it will change the color.

TO REMOVE MILDEW

Clothing and Household Fabrics

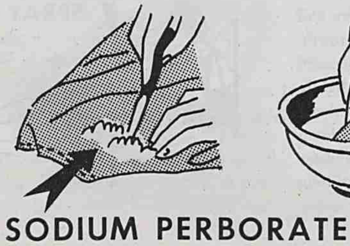
Remove mildew spots as soon as they are discovered. Don't give the mold growth a chance to weaken or rot the material. Brush off any surface growth outdoors to prevent scattering the mildew spores in the house. Sun and air fabrics thoroughly. If any mildew spots remain, treat washable articles as described below. Dryclean nonwashable articles.

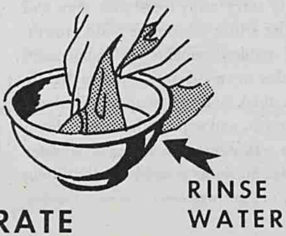
Wash mildew-stained articles at once with soap and water. Rinse well and dry in the sun. If any stain remains, bleach with lemon juice and salt, sodium perborate bleach (available at grocery stores), or a dilute solution of sodium hypochlorite or other household chlorine bleach.

Lemon juice and salt.—Moisten stain with a mixture of lemon juice and salt. Spread in the sun to bleach. Rinse thoroughly and dry. Use this treatment with care on colored fabrics.

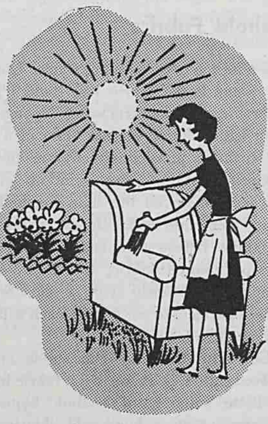
Perborate bleach.—Mix sodium perborate bleach and water—1 tablespoon bleach to each pint of water. Use hot water if the fabric will stand it; otherwise, use lukewarm water. Sponge stain with solution or soak stain in it. Or sprinkle powder directly on the dampened stain. Let solution or powder remain on the stain one-half hour; then rinse well. Repeat if stain remains. Before using sodium perborate on colored fabric, test it on a sample of the fabric or on a seam or hem of garment to see if the bleach will change the color.

Chlorine bleach.—Dip stains on undyed cotton, linen, or rayon fabric in a dilute solution of sodium hypochlorite, or other household chlorine bleach, as directed on the container. If the stained fabric is colored, first test the bleach on a sample of the cloth to be sure it will not change the color. Never use a chlorine bleach on silk or wool. Some fabrics treated with a glazed, embossed, wrinkle-resistant, or other special finish are also damaged by chlorine.





Upholstered Articles, Mattresses, Rugs



First remove loose mold from outer coverings of upholstered articles, mattresses, rugs, and carpets by brushing with a broom. Do this outdoors if possible to prevent scattering mildew spores in the house. Run a vacuum cleaner attachment over the surface to draw out more of the mold. Do everything conveniently possible to dry the article—use an electric heater and a fan to carry away moist air. Sun and air the article to stop the mold growth.

If mildew remains on upholstered articles or mattresses, sponge lightly with thick suds of soap or synthetic detergent, and wipe with a clean, damp cloth. In doing this, get as little water on the fabric as possible so the filling does not get wet.

Another way to remove mildew on upholstered furniture is to wipe it with a cloth wrung out of dilute alcohol (1 cup denatured or rubbing alcohol to 1 cup water). Dry the article thoroughly.

Sponge mildewed rugs and carpets with thick suds or a rug shampoo. Then remove the suds by wiping with a cloth dampened in clear water. Dry in the sun if possible.

Use a low-pressure spray containing a fungicide (pp. 5, 7) to get rid of musty odors and mildew; respray frequently, especially in localities where mildew is a major problem.

Vapors of paradichlorobenzene or paraformaldehyde used in closed areas as directed on page 8 will stop mold growth.

If molds have grown into the inner part of an article, send it to a reliable drycleaning or storage company for thorough drying and fumigation. Fumigation will kill molds present at the time but will not protect the article against future attacks.

Leather Goods

To remove mildew from leather goods, wipe with a cloth wrung out of dilute alcohol (1 cup denatured or rubbing alcohol to 1 cup water). Dry in a current of air. If mildew remains, wash with thick suds of a mild soap, saddle soap, or a soap containing a germicide or fungicide. Then wipe with a damp cloth and dry in an airy place. Polish leather shoes and luggage with a good wax dressing (p. 8).

Shoes contaminated with fungus growth on the inside often develop unpleasant odors, and variously colored growths show on the inner sole and linings and up into the toe. You can remove this kind of mildew with formaldehyde solution, obtainable from your druggist. Moisten a cotton-tipped applicator stick with the solution and swab the inside of each shoe thoroughly. Then wrap shoes tightly in a paper or plastic bag and allow the formaldehyde vapors to permeate the shoe materials for at least an hour.

Before wearing the shoes, air them thoroughly out-of-doors. *Precaution:* Vapors of formaldehyde are very irritating; do not inhale them. Do not get the solution on your skin.

Low-pressure sprays especially intended for freshening shoes are available at shoe and department stores.

They contain hexachlorophene, dichlorophene, or other fungicides. Use them as directed and repeat as needed.

Another way to stop mold growth in leather goods is to scatter crystals of paradichlorobenzene or to dust paraformaldehyde powder in shoes or luggage, then place in tight containers (see p. 8). The vapors from these chemicals are effective in killing molds that have grown into leather, but they give no lasting protection against future contamination. As the vapors leak out, the chemicals must be replaced. Before using the shoes or luggage, air them thoroughly.

Wood

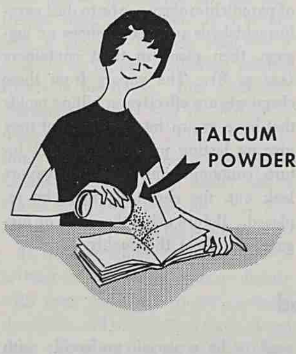
Use heat and improved ventilation to get mildewed wood as dry as possible. Wood that is badly infected may need to be replaced, preferably with wood that has been treated or that is naturally decay resistant.

Thoroughly clean mildewed floors, woodwork, and other wooden parts of structures by scrubbing them with a mild alkali, such as washing soda or trisodium phosphate (4 to 6 tablespoons to a gallon of water). Paint and grocery stores sell these products under various trade names. Rinse well with clear water and allow the wood to dry thoroughly. Then apply a mildew-resistant paint (see p. 10).

If the mold has grown into the wood under paint or varnish, it may be necessary to scrub the wood first with an abrasive cleaner. Then wash with a solution containing 4 to 6 tablespoons of trisodium phosphate and 1 cup of household chlorine bleach to a gallon of water. Finally, rinse the wood well with clear water. Dry thoroughly and apply a wood preservative (see p. 9) before repainting.

Paper and Books

Remove any dry, loose mold from paper with a clean, soft cloth. If mildewed paper is damp, dry it first—in an airy place if possible. To dry wallpaper, heat the room for several hours or days to dry the plaster as well as the paper. Plaster should be dried slowly to prevent it from cracking.



If mildewed paper is washable, wipe it with a cloth wrung out of thick soapsuds, then with clear water. Take care not to wet the paper more than necessary. Do not rub it. Finally pat with a soft, dry cloth. If stains remain, bleach with a commercial ink eradicator. Be careful if the paper is colored; the eradicator will bleach print and dyes as well as stains.

Spread pages of books out fanwise to air. If the books are very damp, sprinkle cornstarch or talcum powder between the leaves to take up the moisture. Leave starch or powder on for several hours, then brush off. See suggestions on page 10 for keeping books and papers dry. Use a mildew inhibitor—paradichlorobenzene or paraformaldehyde—to stop mold growth (p. 8).

U.S. GOVERNMENT PRINTING OFFICE: 1960

Clothes Moths and Carpet Beetles

How to combat them

Home and Garden Bulletin No. 24

UNITED STATES DEPARTMENT OF AGRICULTURE

THIS BULLETIN was prepared by the Stored-Product Insects Branch, Market Quality Research Division, Agricultural Marketing Service.

Washington, D.C. Revised June 1961

SCIENTIFIC NAMES OF INSECTS DISCUSSED

Webbing clothes moth
Tineola bisselliella

Casemaking clothes moth
Tinea pellionella

Carpet beetle
Anthrenus scrophulariae

Furniture carpet beetle
Anthrenus flavipes

Varied carpet beetle
Anthrenus verbasci

Black carpet beetle
Attagenus piceus

EQ-53 was available commercially for a time but is not available at present (1961). However, instructions in its use are included in this bulletin in the event that it again becomes available.

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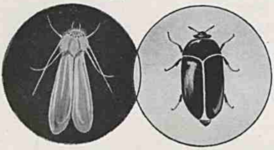
Clothes Moths and Carpet Beetles



How to combat them

Clothes moths are well recognized as fabric pests. Housewives throughout the country are on guard against them. The fact that they cause widespread damage is due more to weaknesses in control measures than to lack of awareness of the need for control.

Not so well known as clothes moths, but just as destructive to fabrics, are carpet beetles, or "buffalo moths." Carpet beetles are more abundant than clothes moths in some localities, and damage that they do is often blamed on clothes moths.

The larvae of clothes moths and carpet beetles damage fabrics by feeding on them. They feed on anything that contains wool or other animal fibers.

The adult moths and beetles do no damage.

Estimates of the damage caused each year by clothes moths and carpet beetles in the United States range from $200 million to $500 million.

Description of the Insects

Two species of clothes moths and four species of carpet beetles commonly infest homes.

The webbing clothes moth and the casemaking clothes moth look much alike. The full-grown larvae are about ½ inch long, and are practically hairless; they are white, except for the dark heads. The adult moths are yellowish or buff, and have a wingspread of about ½ inch.

The larvae of the carpet beetle, the furniture carpet beetle, and the varied carpet beetle are elongate-oval in shape, are never more than ¼ inch long, and have brownish or black bristles that give them a fuzzy appearance. The full-grown larvae change into small beetles mottled with white, yellow, brown, or black.

The black carpet beetle is easily distinguished from the other three species. The larvae are yellowish, golden, or dark brown, they may get to be ½ inch long; the slender bodies are tapered from the head to the end of the body, where there is a tuft of long brown hairs. The adult beetles have solid black bodies and brownish legs.

The illustrations on page 5, which are in natural color, will help you identify clothes moths and carpet beetles in your home.

Stages of Development

Clothes moths and carpet beetles pass through four stages of development—egg, larva, pupa, and adult.

The female moths and beetles lay soft, white eggs in clothing, in the pile of upholstering, in cracks, and in other concealed places. A moth lays from 100 to 300 eggs, which hatch in 4 to 8 days in summer. A beetle lays about 100 eggs, which hatch in 8 to 15 days in summer. Hatching takes longer in cool weather.

Under conditions normally existing in homes, the black carpet beetle has one generation a year; the other carpet beetles and the clothes moths have two, three, or four generations a year.

As the carpet beetle larvae grow, they shed their skins, or molt, several times.

Food and Habits

As soon as they are hatched, the larvae begin eating. They feed on wool, mohair, hair, bristles, fur, feathers, and down. Thus they attack clothing and a wide range of household furnishings, including blankets, comforters, rugs, carpets, drapes, pillows, hair mattresses, brushes, upholstery, and hair padding in upholstered furniture.

They also feed on organic matter—hair that falls from pets, lint, and dead insects—that collects in places infrequently cleaned.

Besides feeding on all these materials, black carpet beetle larvae feed on grain products.

Clothes moth larvae usually stay on their food material. A webbing clothes moth larva spins a silken webbing to form a feeding tube, which is attached to the food material. A casemaking clothes moth larva spins a protective case, which it drags about.

Carpet beetle larvae, which do not spin webbing, are more active, crawling from place to place. You may find them on cotton goods or other things on which they do not feed. They often live behind baseboards and moldings, in cracks in the floor, in corners, behind radiators, in the air ducts of heating systems, on closet shelves, or in dresser drawers.

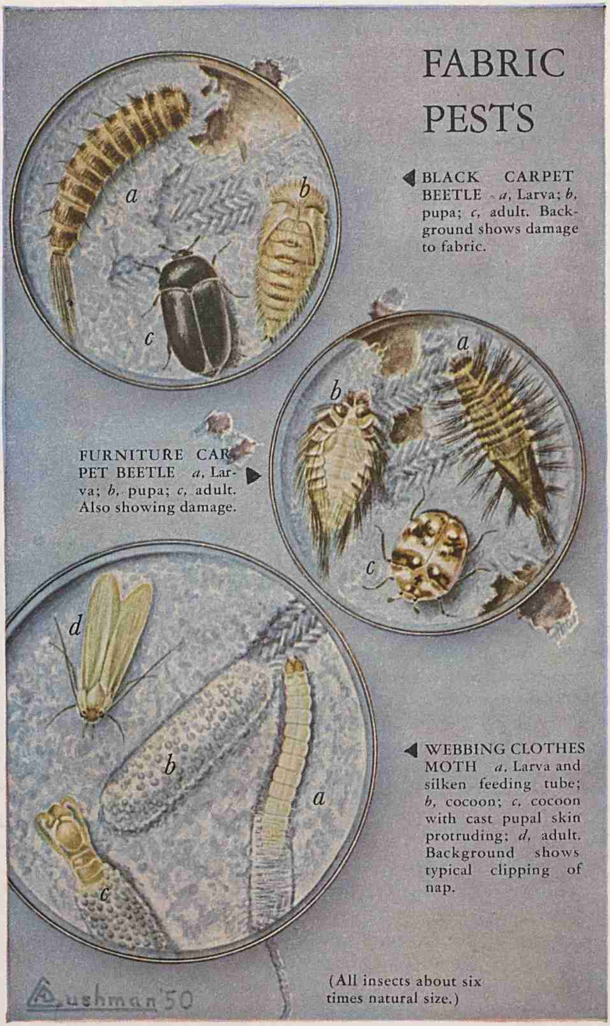
Adult clothes moths prefer darkness, and do not flit about lights; but they may be seen flying lazily in darkened corners, or at the edge of a circle of illumination. When clothing or other objects on which they are resting are suddenly moved, the moths run or fly to conceal themselves.

Adult carpet beetles fly readily, are attracted to daylight, and are sometimes found on window sills. They like sunlight, and in the spring large numbers are outdoors feeding on the pollen of flowers.

How Infestations Begin

In urban areas some infestations are started by adult carpet beetles or clothes moths that fly from house to house. An infestation is more likely to be started in this way by beetles than by moths.

The insects are sometimes carried into homes on articles containing wool or other animal fibers. Most commonly these articles are secondhand clothing, upholstered furniture, and house furnishings.



FABRIC PESTS

BLACK CARPET BEETLE *a*, Larva; *b*, pupa; *c*, adult. Background shows damage to fabric.

FURNITURE CARPET BEETLE *a*, Larva; *b*, pupa; *c*, adult. Also showing damage.

WEBBING CLOTHES MOTH *a*, Larva and silken feeding tube; *b*, cocoon; *c*, cocoon with cast pupal skin protruding; *d*, adult. Background shows typical clipping of nap.

(All insects about six times natural size.)

Carpet beetles breed and feed not only in homes but also outdoors, in such places as bird and rodent nests, and the adults sometimes enter homes from these places.

Carpet beetle larvae may crawl from one room to another. If a hall carpet in an apartment house becomes infested, it is almost certain that some of the larvae will crawl from the hall into rooms that open onto it.

The practice of exchanging woolen scraps for use in making rugs accounts for some infestations. When such scraps have lain unprotected for long periods, they may become infested.

Prevention and Control

To prevent clothes moths and carpet beetles from damaging fabrics—

(1) Practice good housekeeping constantly.

(2) Apply protective treatments to susceptible items.

(3) Spray premises with insecticides which effectively kill fabric insects.

If your home is now free of infestation, you can keep it that way by closely following the first two of these lines of effort; but to eliminate an infestation, you must follow all three.

If you must cope with a heavy or widespread infestation, you will do well to obtain the services of a reputable pest-control firm. Such a firm has the equipment, materials, and experience necessary to handle a difficult control job.

Good Housekeeping

Certain elements of good housekeeping have a specific bearing on control of fabric pests in the home.

In cleaning, do a thorough job of removing organic matter on which larvae feed. Besides depriving larvae of some of their food supply, you may, at the same time, remove insects and their eggs.

Clean often enough to prevent lint and hair from accumulating. Give close attention to—

- Rugs and carpets;
- Drapes and upholstered furniture;
- Closets, especially those in which woolens and furs are kept;
- Radiators, and the surfaces behind them;
- Corners, cracks, baseboards, moldings, and other hard-to-reach places.

Vacuum-cleaning is the best way to remove lint and hair from hard-to-reach places. Use the radiator-cleaning attachment of the cleaner.

To clean rugs, carpets, drapes, and upholstered furniture, use the vacuum cleaner or a brush.

Clean rugs and carpets thoroughly and frequently, and rotate them occasionally. Rotation is important because insects usually feed under heavy pieces of furniture, where cleaning is inconvenient, rather than in the open, where regular cleaning, light, and movement of people keep down infestation.

After vacuum-cleaning, dispose of the sweepings promptly. They may contain larvae, eggs, or adult insects. If you leave sweepings in the cleaner, you may transfer an infestation from one place in the home to another.

Woolen scraps or garments that lie for long periods on shelves, or in corners, boxes, or drawers, are often a source of infestation. Store these things properly or, if you do not want them, get rid of them.

Protective Treatments

There are a number of things you can do to protect fabrics and furs against insect-feeding damage. Some measures, such as dry-cleaning and the use of crystals and flakes, kill the insects. Others do not; they keep the insects away or cause fabrics to be resistant to insect feeding.

Clothing and Blankets

Insecticide Oil Solutions

Spray woolens with DDT, dieldrin, methoxychlor, chlordane, lindane, Strobane, or Perthane to protect them from feeding damage by clothes moths and carpet beetles. These insecticides are sold as liquid oil solutions to be applied with a sprayer, or in pressurized spray containers ready to use. Follow the directions and observe the cautions given on the container label.

A simple way to prepare woolens for spraying is to hang them on a clothesline. Spray lightly and uniformly until the surface is moist. Do not soak or saturate the woolens. Excessive spray may cause a white deposit after the fabric dries. A slight excess deposit can be removed by light brushing. A heavier deposit may require dry-cleaning; the protection is lost when the insecticide is thus removed.

Allow treated woolens to dry before storing them.

Fluoride Solutions

Spraying woolens with a commercial fabric-treatment solution containing fluoride is another way to protect them against the feeding of the larvae of clothes moths.

Before spraying, be sure the woolen articles are clean and free from stains. Apply the spray freely until the surface is uniformly moist. When the articles are dry they are ready for use or for storage.

Fluoride solutions are for treating woolens, not for spraying on walls or floors. Their purpose is to protect the woolens against feeding damage, not to kill insects.

Treated woolens in storage will be protected a year or more; those in use a year, unless washed. The fluorides are removed from the fabric by washing but will withstand several dry-cleanings before they are reduced to an ineffective level.

EQ-53 For Washable Woolens [1]

Washable woolens are protected from insect damage when washed or rinsed in water containing a few spoonfuls of EQ-53, a product developed at the Savannah, Ga., laboratory of the U.S. Department of Agriculture.

EQ-53, which is sold under different trade names, is an emulsifiable concentrate in which the active ingredient is the insecticide DDT. There are two other ingredients—a solvent and an emulsifying agent. Wool immersed in water containing EQ-53 picks up DDT, which remains after the wool dries and gives protection against insect feeding.

[1] See note on page 2.

With this product the housewife can pestproof washable woolens, such as blankets, sweaters, scarves, or socks, at the same time that she washes them. The procedure is especially convenient in the spring, when woolens are being prepared for summer storage, but it can be used any time.

Stored washable woolens treated the EQ-53 way are protected against the feeding of the larvae of clothes moths and carpet beetles for a year or more. Where woolens are put in use after a treatment, rather than stored, they are protected for a season unless they are washed or dry-cleaned. Washing may reduce the insecticide below an effective level, and dry-cleaning removes it.

The unique advantage of EQ-53 is that it permits pestproofing to be combined with washing, but it can also be used to pestproof clean woolens, if they are washable. To apply it to soiled woolens, follow these directions:

If you wash woolens by hand—

(1) Weigh dry woolens or estimate weight.

(2) Wash woolens in the usual way.

(3) Pour EQ-53 into the first rinse water at the rate of 1 tablespoonful for each pound of dry woolens.

(4) Soak woolens a few minutes, then stir 3 to 5 minutes with a paddle.

(5) Follow with the normal rinsing and drying.

If you use a washing machine—

(1) Weigh dry woolens or estimate weight.

(2) Put woolens, water, and soap in the tub, as if preparing for washing in the usual way.

(3) Pour in EQ-53 at the rate of 1 tablespoonful for each pound of dry woolens.

(4) Wash, rinse, and dry in the usual way.

To apply EQ-53 to clean woolens, follow the same directions but, instead of washing the woolens, merely rinse them; do not use soap.

Your woolens will be free of any odor of EQ-53 after they are dried.

Woolens shrink and become matted if improperly washed. When treating woolens with EQ-53, follow proper washing procedures. Use lukewarm water and a mild soap or detergent. EQ-53 itself does not affect shrinking or matting.

Paradichlorobenzene and Naphthalene

You can protect stored woolens by putting paradichlorobenzene crystals, or naphthalene flakes or balls, in the container or closet in which they are stored.

As these chemicals evaporate, they produce a vapor. To be effective, the vapor must be in a concentration sufficient to kill insects. The proper concentration kills both clothes moths and carpet beetles. The mere odor of paradichlorobenzene or naphthalene does not repel insects and is no indication that there is enough vapor to kill them.

Much depends on whether the container or closet will hold the vapor. The container, which may be a trunk, chest, box, or garment bag, should be airtight. If you store the woolens in a closet without first placing them in individual containers, see that the closet is tightly closed. If there are cracks around the door, seal them with tape or fit the door with gaskets; if there are cracks in the interior walls, floor, or ceiling, close them with putty or plastic wood. Protection is lost if the closet door is opened frequently. Even in a tight closet that is kept closed, it takes several days for the vapor to build up to an effective level. Effectiveness is greatly increased if a closet is used for storage only.

In a trunk-size container use 1 pound of crystals, flakes, or balls. Scatter them between layers of garments or blankets.

In a closet use 1 pound to each 100 cubic feet of space. The vapors are heavier than air. The crystals, flakes, or balls should therefore be placed in a shallow container on a shelf, or suspended from a clothes rod or hook in a thin cloth bag or perforated container.

Clothes moths or carpet beetles in a closet can be quickly killed by vaporizing paradichlorobenzene crystals with a vacuum cleaner. A special attachment is provided for this purpose.

Cedar Chests

Cedar chests make good pestproof containers primarily because of their tight construction. They should be made of red cedar (*Juniperus virginiana*). At least 70 percent of the chest proper should be made with ¾-inch heartwood. They may be veneered on the outside with hardwoods, such as walnut or mahogany, without affecting the pestproofing value. The cedar-oil vapor kills small larvae but is not effective against larger ones. Therefore make sure that woolens are free of larvae when stored.

Treat cedar chests that are several years old as you would any other container in which you store articles susceptible to insect damage. Scatter crystals, flakes, or balls between layers of the stored articles.

Other Practices

Woolens can be protected from feeding damage by wrapping them in paper or sealing them in a cardboard box. Before wrapping or sealing, be sure the woolens are not infested. In making a paper bundle, carefully fold back and seal the edges of the paper.

Dry-cleaning kills all stages of clothes moths and carpet beetles but gives no protection against reinfestation. Protective treatments are applied by many cleaning establishments and pest-control firms.

You can rid woolen articles of insects, and their eggs and larvae, by brushing and sunning them. Brush thoroughly, especially in seams, folds, and pockets. If they cannot find protection from the light, larvae missed in the brushing will fall to the ground from clothing left hanging in the sun.

Rugs and Carpets

Spray a 5-percent DDT oil solution on rugs and carpets every 12 to 18 months. Use 1½ to 2 quarts of spray on a 9-by-12 rug of average weight, if you spray the entire rug.

Fluoride solutions are also satisfactory for protecting rugs and carpets. Follow the manufacturer's directions for applying.

Give special attention to parts of the rug that will be under a piano, sofa, bookcase, or other heavy furniture, and to parts that will be under radiators or around heat registers. If there is a rug pad containing animal hair or wool, and it has not been treated by the manufacturer, spray it on both sides.

In spraying wall-to-wall carpeting, give special attention to the edges, all the way around.

If you have expensive broadlooms or oriental rugs, and fear that lack of experience in spraying may cause you to mar their appearance or otherwise injure them, it is advisable to call on a pest-control or carpet-cleaning firm that is experienced in treating rugs and carpets.

Commercial rug cleaning destroys larvae, eggs, and adult insects in rugs and carpets but prevents reinfestation only if a special treatment is given for this purpose.

Rugs and carpets are protected against insect feeding when placed in commercial storage. In home storage they may be protected by spraying with DDT oil solutions or fluoride solutions or by using paradichlorobenzene crystals or naphthalene flakes.

Household Furnishings

To protect furniture upholstering and drapes containing wool or mohair, spray them with any of the solutions discussed on page 7, except do not use dieldrin, lindane, or chlordane on furniture.

These sprays applied to the outside of furniture, mattresses, or pillows help prevent infestation of the down or hair inside, but do not control an existing infestation.

Felts and hammers in pianos often become infested and so badly damaged by clothes moths and carpet beetles that the tone and action of the instrument are seriously affected. The solutions discussed on page 7 will protect the felts and hammers, but the treatment may damage other parts of the piano if applied incorrectly. To avoid this, you may wish to call a piano technician to do the job.

Furs

If you store furs at home through the summer, protect them with crystals, flakes, or balls in a tight container.

We do not recommend applying protective sprays on furs.

Furs in commercial storage receive professional care and can be insured against damage.

Control Measures

Surface Sprays

Surface spraying is the chief means by which insects living in the structure of the home are eliminated. It also has protective value.

The insecticide is applied to surfaces where larvae and adult insects are likely to crawl. When the spray dries, a thin deposit of insecticide remains. For several weeks or months the deposit kills insects that crawl over it. Thus it may kill insects before they have a chance to damage fabrics, and may prevent them from becoming established in your home. For continuous control and prevention, spray surfaces once or twice a year.

Contact spraying, the purpose of which is to kill insects by direct application, does not always give full control. Moths and beetles hit by the spray are killed, but they may be only a small part of the total infestation. Many may be in protected places where you cannot reach them with a spray.

Selecting an Insecticide

Select an insecticide that is effective in killing fabric insects.

A 3- to 6-percent DDT oil solution kills both clothes moths and carpet beetles when it hits them directly, but the dry deposit is effective against moths only.

A spray containing 2 percent of chlordane, 3 to 5 percent of premium grade malathion or ronnel, or ½ percent of lindane, heptachlor, dieldrin, or Diazinon is effective against both clothes moths and carpet beetles, whether it hits the insects directly or whether they come in contact with the treated surface.

These should be applied only in accordance with the precautions listed on page 12.

Hence, use DDT only if you are sure your problem is the control of clothes moths alone. If you have an infestation of carpet beetles, or are not sure which insect it is that requires control, use chlordane, malathion, lindane, dieldrin, heptachlor, ronnel, or Diazinon.

Applying the Spray

Apply the insecticide with a household sprayer that produces a continuous coarse mist.

Satisfactory surface treatments can be applied with pressure sprayers that look like aerosol dispensers but produce a coarse spray. These liquefied-gas surface sprayers are distinguished from aerosol dispensers by their labels, which show that they are for use in spraying surfaces.

Places to spray: Along the edge of wall-to-wall carpets; closets; behind radiators; and corners, cracks, baseboards, moldings, and other hard-to-clean places. These are places where insects may be living. If you cannot reach some of them, apply the insecticide as close to them as possible, so that carpet beetles (larvae or adults) will crawl over it as they emerge from hiding.

Take clothing out of closets and apply the insecticide to corners, to cracks in the floor and walls, along baseboards, around shelves, and at ends of clothes rods.

Aerosols

An aerosol is a spray in the form of a fine mist that floats in the air for a time. It is applied by releasing it from the metal dispenser in which it is purchased.

An aerosol in a clothes closet kills flying clothes moths; it also kills clothes moth larvae that happen to be exposed to the mist. It does not moisten surfaces as coarse mist sprays do; hence it does not give lasting protection.

Few aerosols are strong enough to be effective against carpet beetles.

Aerosol dispensers should not be confused with the liquefied-gas sprayers mentioned in the discussion of surface spraying.

Insecticidal Dusts

You may find carpet beetle larvae in floor cracks, especially under rugs. The blocks of parquet floors tend to separate slightly, leaving a checkerboard of cracks. Black carpet beetle larvae can thrive in the lint, dust, and bits of hair that accumulate in these cracks.

Getting spray into numerous floor cracks is a tedious task. You may prefer to use a 10-percent DDT dust. If there is a rug, take it up; then sprinkle the dust on the floor, brush or sweep it into the cracks, and put the rug back in place.

You may use a dust gun to blow DDT dust into cracks behind moldings or baseboards and into other places that are difficult or impossible to reach with a surface spray.

You may use a 5-percent chlordane or 1-percent lindane or dieldrin dust, but apply it only to cracks around the edge of a room, behind baseboards, or under rugs. There are indications that chlordane, dieldrin, and lindane are more effective against carpet beetle larvae than is DDT, but they should not be applied throughout a room (see Precautions, p. 12).

Applying a dust is an easy way to treat attics or basements where there are numerous cracks in which carpet beetle larvae can live.

Fumigation

Before present control methods were developed, fumigation of an entire house was a common method of controlling carpet beetles. Clothing and furnishings were left in the house during the fumigation. This method, which is expensive and requires vacating the house, is seldom used today to meet ordinary control problems. Moreover fumigation is dangerous. In some localities it is subject to legal restrictions. Only professional pest-control operators should fumigate.

Fumigation gives quick and satisfactory control, but there is no assurance that it will kill all the beetles in a house, and it does not prevent reinfestation.

Although fumigation of an entire house is seldom necessary, the best action to take against clothes moths or carpet beetles living in the down in pillows, or in the hair padding of furniture or mattresses, is to have the infested article treated with hydrocyanic acid gas in a fumigation vault. This fumigation service is provided by many pest-control and storage firms. The treatment kills the insects, but it does not prevent reinfestation.

Precautions

IN GENERAL.—Most insecticides are poisonous to people and to animals. . . . Keep insecticides where children and pets cannot reach them. . . . When applying them, do not contaminate food, dishes, or kitchen utensils. Do not store them with food. . . . Do not breathe too much of the spray mist or the dust. . . . If insecticide is spilled on the skin, wash it off promptly. . . . Change your clothes if you spill insecticide on them. . . . Keep children and pets off sprayed surfaces that have not dried. . . . When you have finished applying an insecticide, empty unused material into the original container, clean the sprayer or duster, and wash all exposed surfaces of the body with soap and water.

INFANTS' APPAREL.—Apply insecticides to infants' sweaters, blankets, or other woolen articles only if they are to be stored. Launder or dry-clean them before returning to use.

DIAZINON, DIELDRIN, CHLORDANE, HEPTACHLOR, LINDANE, MALATHION, AND RONNEL.—Do not use on furniture; on rugs and carpets, use only for spot treatments. Dry-clean clothing and bedding treated with dieldrin, lindane, or chlordane before using them. Do not use any of these insecticides in the concentrations recommended in this bulletin for overall spraying or dusting of the interior of rooms.

OIL-BASE INSECTICIDES.—Do not spray oil-base insecticides near open flames, sparks, or electrical circuits. . . . Do not spray them on silk, rayon, or other fabrics that stain easily. . . . Do not spray them on asphalt-tile floors, because they will dissolve the asphalt. . . . They will also soften and discolor some linoleums and certain plastic materials; if in doubt about spraying such a surface, test the spray on a small inconspicuous place. . . . If you apply one of these insecticides to the cracks in a parquet floor, apply it lightly; an excessive amount will dissolve the underlying black cement, and the dissolved cement will stain the floor.

WEIGHT ON DAMP FURNISHINGS.—Do not put any weight or pressure on sprayed rugs, carpets, or upholstered furniture (as by walking, sitting, or pressing with the hand) until the spray has dried. Doing so gives the damp pile a mashed-down appearance, which persists for several days.

16—76553-1 GPO

Buying your home SEWING MACHINE

Home and Garden Bulletin 38
UNITED STATES DEPARTMENT OF AGRICULTURE

Buying your home SEWING MACHINE

This publication will help homemakers and their husbands select the sewing machine best suited to their needs. Extension workers will also find it useful in answering questions.

The purchase of a sewing machine for home use is a lifetime investment. Machines of reputable manufacture are built to last for many years, with only minor replacement of inexpensive parts. The cleaning, oiling, and adjusting of machines are within the ability of any homemaker and are the major maintenance necessary for continued good service.

Today's choice of machines gives a wide range to fit the purchaser's needs and purse. It is often a bit confusing to make a decision. Your present needs may change as the family grows or the children leave to establish their own homes. No one machine is likely to have all the features you consider desirable, so a compromise is in order in selecting the machine that you consider best suited to your present and possible future needs.

Plan Ahead

Part of your decision should be made at home before looking at different makes of machines.

The first point to settle is the kind of sewing for which you are buying the machine. Many homemakers use their machines only for occasional plain sewing, for patching, mending, or darning, or for the making of simple garments. For this work a straight-sewing machine is satisfactory. This type may be preferred by the woman whose chief interest is fine dressmaking and tailoring and who has little use for machine-made decorative effects.

The more versatile swing-needle or zigzag-type machines are designed to handle a wider range in stitch styles and such specialty sewing as decorative stitching and embroidery; the

NOTE: This is a revision of a publication prepared by a comittee of extension specialists: Ruth Knoch and Waldo Bell, West Virginia; Helen Shelby and A. V. Krewatch, Maryland; W. C. Krueger, New Jersey; and Alice Linn, Federal Extension Service, USDA. Ann Litchfield, New Jersey, greatly helped in the preparation of this revision.

making of place mats and napkins, decorative blouses and children's clothes; and seam finishing and button-holes. These machines, in part, do the jobs intended for the attachments that can be bought for the straight-sewing machines—and which are so seldom used. Your decision here is whether the specialty job will be done often enough to warrant the added cost.

Choice of Machines

Another choice is between cabinet and portable machines. A cabinet with well-supported leaves and sturdy legs gives good sewing support and is ready for instant use. There are many cabinets to choose from for any one machine head. Since its main purpose is to house the machine, choose the cabinet for comfort, sturdiness, and convenience. A machine in a permanent cabinet or table is more convenient and time saving for anyone who does much sewing. The extra cost of a fancy cabinet may better be invested in useful furniture. However, choices in cabinets allow a selection that will fit in with any type of home furnishing.

The portable is the usual choice where space is limited, as in small homes and apartments, or where a machine must often be moved from place to place. Some portables are fitted with an extension table for greater work surface; all can be set into a sturdy worktable flush with the top to give the same stability and work area as cabinet machines. Some portables are merely the regular, heavy sewing head sometimes inadequately wired and set into a cheap, heavy, and unwieldy carrying case; but portables can be purchased with lightweight construction and with base and carrying case designed for the machine—sturdy and well finished. The choice between lightweight and regular-head portables depends partly on how much bulky sewing or mending of heavy fabrics will be done. Does the space between the bed and the arm of the machine allow space to handle bulky articles? If you need to move a portable machine often, can you lift it comfortably from the floor to the table?

Personally Inspect

A personal inspection of a variety of machines will help you decide on the one best suited to your purpose. Visit your friends and neighbors, and the dealers, and check the features of one machine against another. You want to choose a machine that is easy to handle and operate, is readily adjusted to your varying sewing needs, and is easy to care for and keep in perfect running order.

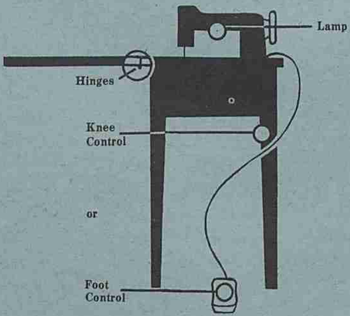
You may have a choice between the long-shuttle machines and the round-bobbin types. The long-shuttle mechanism is simple and direct, usually easier and quicker to clean and oil, but noisier and not designed for as high-speed operation as the round-bobbin class. Unless especially balanced, these machines are not well adapted to electric motors. The round-bobbin machines are either oscillating or rotary. They are usually smoother in operation and better balanced for higher speed.

The following points are offered as a guide in making your comparison.

Look for EASY TO USE features

	Yes	No
1. Is the upper tension setting shown by markings that are easy to see?	______	______
2. Is the upper thread tension released when the presser foot is raised?	______	______
3. Does the lamp throw light where you need it?	______	______
4. Is the lamp placed so that it will not burn you during normal use of the machine, for instance, when raising the presser foot?	______	______
5. Is the stitch-length control scale easy to read?	______	______
6. Are there adjustable lock positions for the forward and reverse stitching control?	______	______
7. Will the machine stitch backwards?	______	______
8. Is there a quick release mechanism for darning and embroidery?	______	______
9. Is there a footrest on the electric foot control?	______	______

Blank circles have been used to show the appropriate location of some of the important parts, because the design of the machines and the parts vary so greatly.



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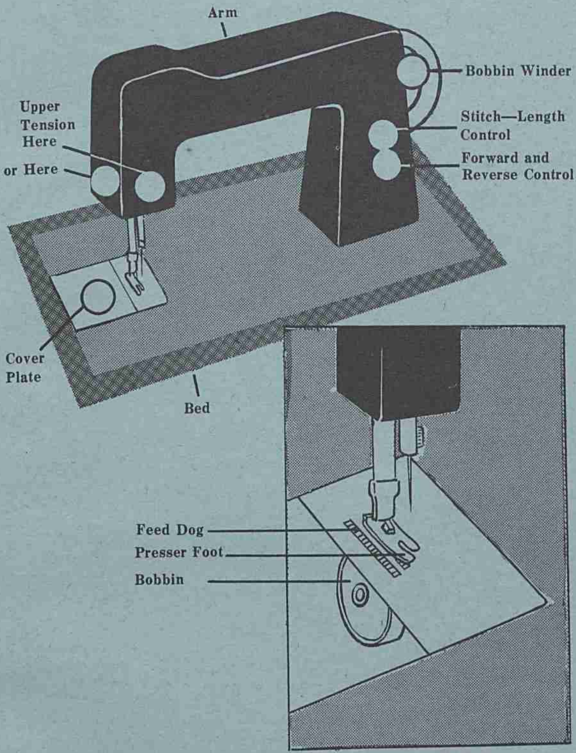


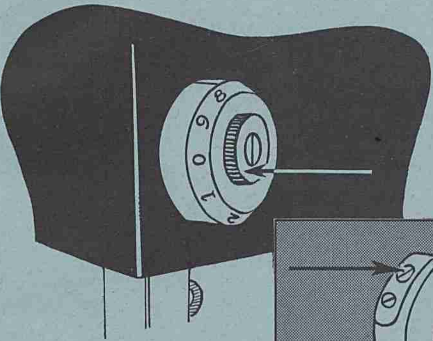
Try out the machines for **GOOD OPERATION**

	Yes	No
1. Is the machine quiet and free from objectionable noise and vibration?	______	______
2. Does the machine run smoothly at all speeds?	______	______
3. Is the knee or foot control comfortable for you to use?	______	______
4. Does the motor start smoothly, providing easy starting as well as slow running?	______	______
5. Is the machine easy for you to thread?	______	______
6. Is the bobbin easy to take out and put back?	______	______
7. Is the bobbin easy for you to thread?	______	______
8. Try the machine on some of your own materials, both straight and curved seams. Is it easy to guide when stitching curved seams?	______	______
9. Notice whether the material has a tendency to drift to right or left, whether one layer of material tends to creep over the other during sewing. Does the machine satisfy you in these respects?	______	______
10. Is the bobbin winder easy to use and does it fill the bobbin evenly?	______	______

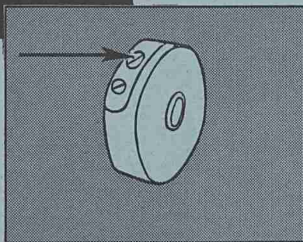
Check on **ADJUSTMENTS**

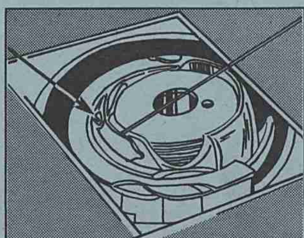
1. Is the bottom tension conveniently located and easy to adjust?	______	______
2. Are the tension adjustments clearly explained in the instruction book?	______	______
3. Is the stitch-length control easy to set?	______	______
4. Can the feed dog be dropped?	______	______
5. Is the control easy to get to?	______	______
6. If the feed dog cannot be dropped, does the machine have a special cover plate for darning and embroidery?	______	______

All machines provide adjustment for upper and lower tensions.

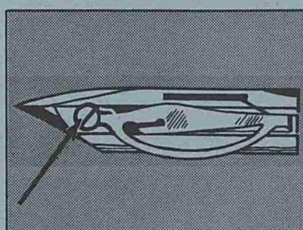


Upper tensions are fitted with a thumb knob or lever and have markings that show the setting.



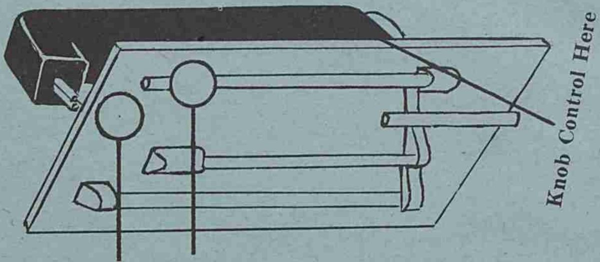


The lower tension is adjusted with a small screwdriver or a lever. The tension adjustments should be clearly explained in the instruction book that will be furnished with your machine.



Blank circles have been used to show the appropriate location of some of the important parts, because the design of the machines and the parts vary so greatly

Feed Dog Drop



Consider EASY TO CARE FOR factors

	Yes	No
1. Are the cover plates easily removable and all parts readily accessible for cleaning, oiling, and greasing?	______	______
2. Is the light bulb easy to replace?	______	______
3. Is the machine easy to dust and wipe clean?	______	______

Inspect for LONG LIFE design

1. Is the wiring located where it will not be pinched, and is it protected against wear?	______	______
2. Are adjustments provided for wear between moving parts?	______	______
3. Is the wiring protected against oil drip?	______	______
4. Is the cabinet well constructed; are hinges sturdy, legs well braced, and is the leaf well supported and level when opened?	______	______
5. Are the service parts carried in stock?	______	______

Keep in Mind

Light

Sewing machine lights help when threading and using a machine. They do not provide enough illumination for regular sewing and should be supplemented by a good local light such as a floor lamp. Often the kind of sewing machine lamp, its position, and the type of paint finish on the machine, combine to reflect sufficient light to produce an objectionable glare. Frosted lamp bulbs, diffusing covers for the lamp, or a choice of paint finish, can help reduce this glare.

Paint Finish

Machines finished with a smooth, glossy surface are easiest to keep clean, but light reflections may prove annoying. Some manufacturers recognize the effect of color on eyestrain and finish their machines in green, brown, or tan. Others use a crackle surface to prevent glare, but this may reflect many points of light as disturbing as the glare from a gloss finish.

Secondhand Machines

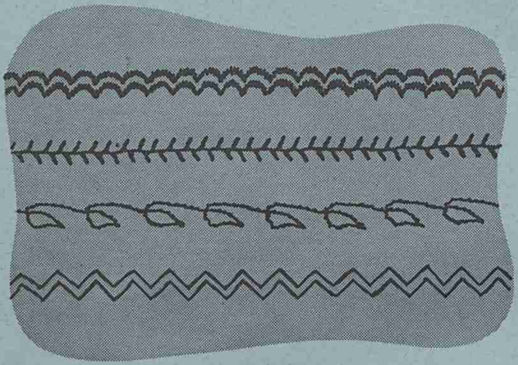
Considerations given to buying a new machine also apply to secondhand or rebuilt machines. Knowing the dealer is reputable is even more important, however, because the machine is not new. Many of the secondhand machines of the foot-treadle type can be motorized at a small cost. It is best not to motorize a machine if it vibrates when foot-treadled at high speeds.

Zigzag Sewing

Most straight-sewing machines can be fitted with attachments such as the

To have plenty of light when sewing use a floor lamp or other good light to supplement the direct light from the sewing machine lamp.

Study the designs that a machine can produce before buying it. Designs that can be made on several different machines are shown here.



one for buttonholes that shifts the cloth from side to side, creating a zigzag stitch. The zigzag sewing machine swings the needle bar from side to side, producing a stitch that can be used for a wide variety of effects. Most of these machines swing the needle to both sides of the center sewing line, while a few move only to the right or to the left. A greater variety of decorative stitches is possible when the needle swings to both right and left. Skill in operation is required to develop a uniform pattern or design with the controls operated by hand. Many machines are built to use templates which automatically produce distinctive patterns. Although these machines are considered automatic, it requires a complete knowledge of the machine to utilize its varied operations. When purchasing a zigzag machine, test it for a good straight stitch and the ease for switching from straight to zigzag stitching.

Swing needle machines vary greatly in their versatility. Be sure that the machine you select can produce the designs you want.

Types of Motor Controls

There are two types of motor controls used with sewing machines—the step control and the carbon control. The step control changes the speed in a series of steps or jumps, usually 5 to 8 from slow speed to fast speed. With some machines the first step of this type of control does not provide the slow speed required at times in sewing operations. The carbon control increases the speed from slow to fast smoothly and uniformly, resulting in easier control of speed, especially when starting and at very slow speeds.

Service Agreements and Certificates of Guarantee

Know your dealer. Has he a reputation for giving good service? Most dealers who sell sewing machines offer some form of guarantee and free service agreement. The guarantee protects the buyer against the possibility of inferior or defective parts, or concealed damage, for varying periods of time after purchase. The free service period also places the responsibility on the seller to correct any defect in adjustment or parts other than normal wear at no charge to the buyer.

These agreements *should be in writing and signed by an agent who has satisfactory credentials.* Verbal agreements are unsatisfactory because they may be impossible to prove or because the exact sense of such agreements depends upon memory.

Other Publications on Sewing Machines and Sewing

These publications are available from the United States Department of Agriculture, Washington 25, D.C.

Pattern Alteration. Farmers' Bul. 1968.
Fitting Dresses. Farmers' Bul. 1964.
Sewing Machines: Cleaning and Adjusting. Farmers' Bul. 1944.
ABC's of Mending. Farmers' Bul. 1925.
Mending Men's Suits, Home and Garden Bul. 39.
Coat Making at Home. Farmers' Bul. 1894.
How To Tailor a Woman's Suit. Home and Garden Bul. 20.
Fitting Coats and Suits. Home and Garden Bul. 11.
Simplified Clothing Construction. Home and Garden Bul. 59.

Film Strips

Information about the purchase of these film strips can be obtained by writing to the Office of Information, United States Department of Agriculture, Washington 25, D.C. These are not available for loan.

Making a Girl's Dress. 65 frames. No. 694.
Fitting Dresses. Color, 31 frames. No. C–13.

Motion Picture

Information about the availability of this motion picture can be obtained either from your State college or from the Motion Picture Service, Office of Information, United States Department of Agriculture, Washington 25, D.C.

Truly Yours—the Dress That Fits. 16mm, color, sound, 18 minutes.

Reminders

1. Don't be afraid to ask questions about the things you want to know.

2. Take time to select the make and model of machine to fit your needs before choosing the cabinet.

3. Select a cabinet for comfortable sewing and utility and not for decorative features alone.

4. Sew long enough to satisfy yourself as to what the machine will do. You are likely to have it a long time.

5. Operate the machine in order to determine that the knee control is not too far to the right and the needle position is not too far to the left for you to sit comfortably.

6. Upon delivery, be sure your machine sews as well as the one demonstrated. Service adjustments are usually made only before the free service or guarantee period runs out.

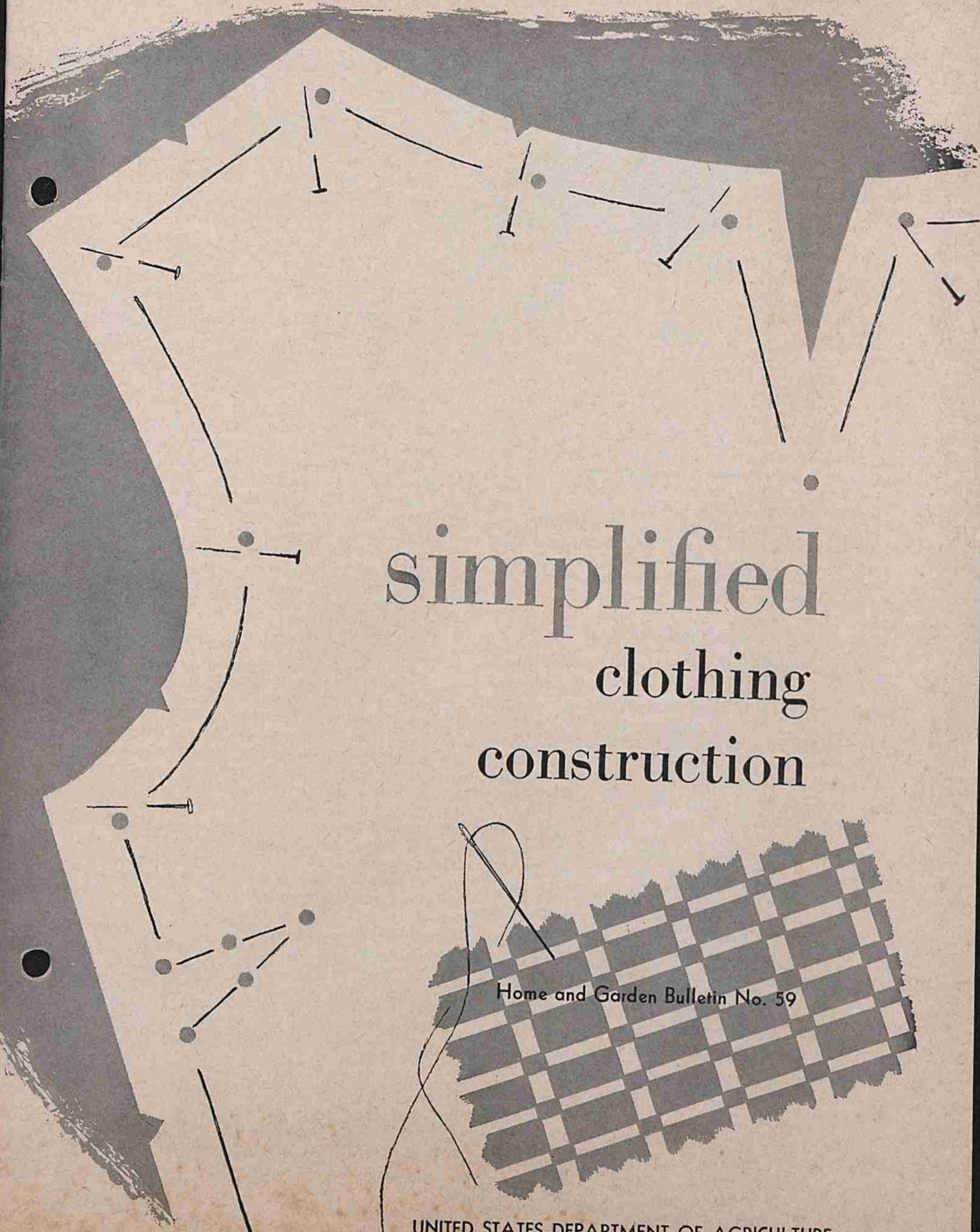
7. Learn to use and operate your machine. Also learn to make the adjustments, such as tension, stitch length, and presser foot control. Oil and grease it according to the manufacturer's instructions. See Farmers Bulletin 1944, mentioned p. 11.

Revised April 1960

Growth Through Agricultural Progress

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington 25, D.C. - Price 10 cents

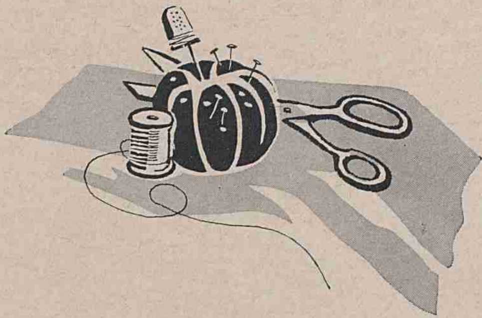
U.S. GOVERNMENT PRINTING OFFICE : 1960—O-560322



simplified clothing construction

Home and Garden Bulletin No. 59

UNITED STATES DEPARTMENT OF AGRICULTURE



simplified clothing construction

Prepared by

Margaret Smith, Clothing Specialist

The increasing interest in home sewing has created a need for simple, timesaving, yet satisfactory methods of making clothing that will be well made as well as attractive. There are many ways of simplifying sewing tasks, without sacrificing high standards of appearance, workmanship, and serviceability. In this bulletin are discussed ways to help decrease the time and effort spent in making clothing and yet obtain a durable, satisfactory garment.

MATERIALS

When time is limited and there is much sewing to do, look for materials that are easy to handle.

- Firm, closely woven fabrics are easy to cut out, can often be finger pressed and so save frequent trips to the ironing board, and because they don't fray, need little seam finishing. Ginghams, percales, and dressweight chambrays are examples of materials that can usually be made up quickly.
- Plain colors, allover prints, or small woven checks or stripes are quicker to cut out and put together than are larger plaids or stripes that must be matched to look well and so take much time and painstaking care both in cutting and putting together.
- Less material is needed for prints with no up and down than for directional prints, and less time is required to lay out the pattern. Less material is also needed for reversible fabrics that are the same on both sides than for fabrics with a right and a wrong side.

Some materials require careful sewing and skillful handling and take more time to make up well.

- Slippery fabrics, such as silk or synthetic sheers, are hard to cut out because they twist and slip; they also are hard to sew accurately.
- Loosely woven fabrics—voiles, silk or synthetic sheers, linens and rayons with a linen look, and tweeds—need a special seam finish to prevent fraying, so take extra time.
- Some materials are hard to sew. Very closely woven ones, such as balloon cloth, some of those treated with special finishes, and others made of some of the new manmade fibers, need special thread and machine adjustments to prevent puckered stitching. Pile fabrics, too—velvet, velveteen, and corduroy—need careful basting to keep the material from slipping as it is being stitched. All these materials are also hard to press.

Straightening the material before the pattern pieces are laid on it assures that the clothes will hang as well after washing or cleaning as they did before. Fabrics are always woven so the lengthwise yarns are at right angles to the crosswise ones, but they are often distorted in finishing so they look crooked.

When material needs to be straightened, first see that each end of the fabric is cut along a crosswise yarn. Many cottons, such as percale, chambray, and gingham, and some silk crepes, taffetas, and wool flannels can usually be straightened at the ends by tearing them crosswise. Other materials, such as voile, linen, spun rayon, sateens, and many novelty weaves, do not tear satisfactorily, so the ends should be straightened by pulling out one or two crosswise yarns and cutting along the open spaces. Materials with heavy crosswise yarns that are easy to follow can be cut along one of these yarns. If the yarns at each end seem to run downhill instead of straight across, the material needs to be straightened.

Most fabrics can be straightened by stretching the material on the bias between the low corner at one end and the opposite selvage, and then pulling crosswise from selvage to selvage. Cottons with glazed or other special finishes may have to

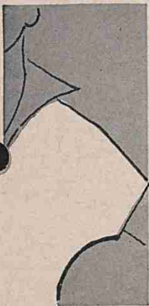


FIGURE 1

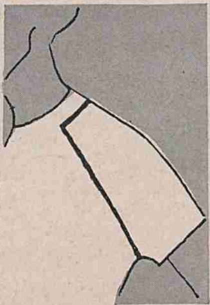


FIGURE 2

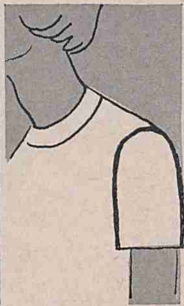


FIGURE 3

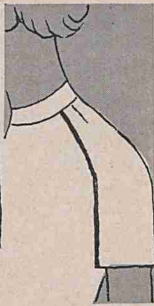


FIGURE 4

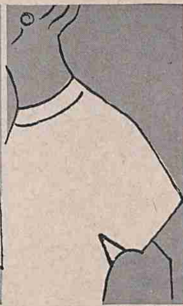

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FIGURE 5

be folded lengthwise, pinned across the ends and along the selvages, and then steam pressed, pulling the yarns into position as you press. Some of these materials may need to be wet thoroughly, then pulled into shape and ironed. Wools, if they are very crooked, may need to be steam pressed. Press out the lengthwise fold after the fabric is straightened.

PATTERNS

In the construction of clothing, selecting a pattern wisely can be a material help. A pattern that is the right size can save alteration and fitting time. Therefore, before a pattern is bought, it is important to check certain body measurements—chest, bust or breast, waist, hip, arm length, and back length. These measurements can be compared with those in the charts in the pattern books as a guide to classification and size of the pattern to buy. For irregular figures, patterns should be altered before the garment is cut out.

For beginners or those who have much sewing to do, it is a good idea to use patterns with style features that can be made well in a fairly short time and that need a minimum of fitting. Some style features to consider are the following:

Sleeves.—Kimono (fig. 1), raglan (fig. 2), or shirt-type sleeves are easier to fit and make than set-in (fig. 3) or epaulet (fig. 4) styles. Underarm gussets (fig. 5) make close-fitting kimono sleeves more comfortable, but since the corners are weak, they require careful reinforcement and therefore take more time and skill to make than the ordinary kimono sleeve.

Collars.—Collars with square corners (fig. 6) or with shallow curves (fig. 7) are easier to make well than those with sharp points (fig. 8) or deep curves (fig. 9) which require careful stitching, trimming, and clipping so that when turned they will be smooth with no bumpy edges or corners.

Neck finishes.—V-necklines (fig. 10) or collars sewed to V-necks are likely to stretch as they are being sewed, and may need extra stitching and careful handling to prevent stretching. Collars cut in one with the front of the blouse are not likely to stretch at the neck.

Shoulder fitting.—Shoulder tucks (fig. 11) are usually simple to make and easier to adjust than shoulder darts (fig. 12) when the shoulders need to be widened or narrowed.

Yokes.—Straight construction lines in some yokes and necklines require less time to sew and are likely to look better when finished than bias or curved lines (fig. 13), which must be stitched very carefully to avoid stretching and sometimes must be sewed over paper.


FIGURE 6


FIGURE 7


FIGURE 8

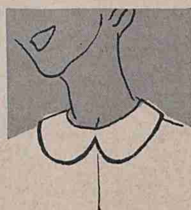
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FIGURE 9

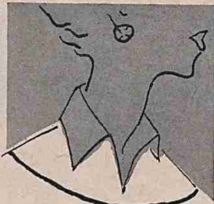

FIGURE 10 FIGURE 11 FIGURE 12 FIGURE 13

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Pockets.—Patch pockets, or those cut in with (fig. 14) or sewed to a seam, are quicker and easier to make and are usually more durable than bound or slit pockets (fig. 15), which require careful pressing, stitching, and clipping.

Skirts.—Gathered skirts (fig. 16), those with six or more gores, and those with unpressed pleats are easier to fit than skirts with pressed pleats, or those with two, three, or four gores.

CUTTING

For ease in cutting a garment, lay out the material, right sides together, so the marking can be done on the wrong side. Then place the pattern pieces accurately on the material according to the pattern layout suggested for the size and width of the fabric. Make sure the straight-of-goods marks are an even distance from the selvage, so each garment section will be cut exactly with the grain of the goods.

To cut accurately saves sewing time. Smooth seam edges are easier to sew evenly and to hold against the cloth stitching guide than those that are uneven and jagged.

Some women like to save time by cutting several garments at once. For this purpose the layers of fabric must be laid out perfectly straight and smooth, with the edges pinned carefully together to keep the material from slipping. Care must be taken that all the necessary pieces are provided for and cut out; when the fabric is laid out in single layers, it is easy to forget the second sleeve or collar. Extra time will be needed for sections that must be laid on a lengthwise fold of the material, and for accurately marking the pattern perforations.

More than six layers of lightweight material, such as gingham, chambray, or percale, are extremely hard to pin and cut at one time with home equipment. Six layers mean that three garments from the double fabric, or six garments from opened-out fabric can be cut, but this cutting requires a pair of sturdy, bent-handle shears and a strong hand. Smaller scissors are not heavy enough. When several garments are to be cut out at once, patterns with simple, straight lines are easier to manage.

MARKING

Time can be saved in putting the garment together if all the necessary pattern perforations, such as those for darts, pleats, plackets, and buttonholes, are marked before the tissue pattern is unpinned. However, all the stitching lines may not need to be marked. For example, seam allowances need not be marked if the seam width allowed in the pattern is carefully followed. Straight darts can be marked at the wide section

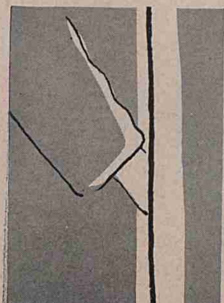

FIGURE 14

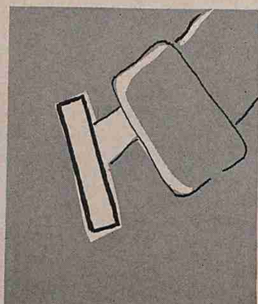

FIGURE 15

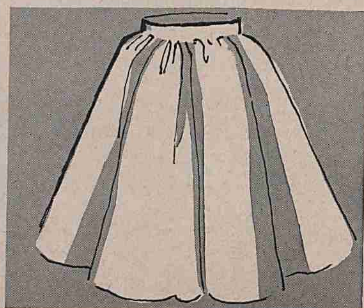

FIGURE 16

BN–7441

and at the point; then a guideline for stitching can be drawn between these two points at the left of the fold.

Construction lines may be marked in several ways:

Colored-chalk pencil and colored-carbon paper.—These materials afford an easy way of marking most firmly woven materials since two garment pieces can be marked at once. Place the carbon under the garment section and mark lightly on the top section with the pencil sharpened to a fine point, so the marks won't show when the garment is finished. Be sure to mark only on the wrong side of the fabric. A small ruler and the pencil and carbon paper may be used to draw short stitching lines.

Tracing wheel and colored-carbon paper.—A tracing wheel is used the same way as the colored pencil and the carbon paper, but the tracing wheel is harder to guide than a pencil and leaves more marks that are hard to remove.

Tailor's tacks.—Tailor's tacks may be needed for marking perforations on loosely woven materials and some allover prints where chalk or tracing-wheel marks might not show readily. Make them of contrasting embroidery cotton which has little tendency to pull out of the material. Remove the threads before machine stitching, as they are hard to get out once they are caught in with the stitching.

Pins.—Darts, tucks, and pleats can be marked with clean pins that won't leave dark marks when they are removed. Pin through both layers in the center of the perforation; then lift the material carefully and put a pin through the bottom layer in the hole made by the first pin. Anchor each pin firmly so it won't drop out. Pins have an advantage over pencil or tracing marks as the pins can be seen on both the right and the wrong sides.

Snips.—In the seam edges, notches or dart ends may be marked by making a very short straight cut or snip in the center of each notch or in line with perforations. Snips should be used sparingly, as they may interfere with alterations.

BASTING

For best results some type of basting is usually needed to hold two pieces of a garment together for fitting or stitching.

Pin-basting.—If no fitting will be needed, straight edges in firm materials may be held adequately with pins put in at right angles to the edge, but enough pins must be used to keep the material flat and the seam edges together. This method is called pin-basting. Put the pins in so they can be taken out with the free hand during stitching and thus avoid sewing over the pins and breaking or blunting the machine needle. Another way of pin-basting firm materials is to place the pins about 1 inch from the edge and parallel to it. This saves stitching time and also eliminates the danger of breaking or blunting the needle. Pin-basting should not be used on slippery materials such as synthetic sheers or on pile fabrics—the edges will not stay together unless they are held more securely.

Machine-basting.—This basting, made with long machine stitches about 6 or 8 to the inch, is a quick way of getting a garment ready for fitting, and the basting lines can be made straight. Such basting is harder to take out than hand-basting, and it cannot be pulled out quickly while the garment is being fitted, which is sometimes necessary.

Hand-basting is particularly helpful when sewing curved edges as on collars, or putting in sleeves, or when considerable fitting needs to be done.

Slip-basting—catching a folded edge to a flat section with slip stitches—is necessary when basting needs to be done from the right side as when matching uneven plaids or doing intricate seaming.

A combination of pin and thread-basting may be the most satisfactory method for most sewing. Time can often be saved by pinning together such edges as skirt seams, shoulder and underarm seams, and sleeve seams. However, when setting in sleeves or attaching a collar to a neck, basting helps to make the stitching quick, easy, and more accurate.

To thread-baste, use a contrasting thread and baste slightly outside the stitching line so the basting will not get caught in with the stitching. Cut off basting knots before stitching to keep from sewing them in with the stitching.

MACHINE SEWING

A cloth or seam guide (fig. 17) is a most useful machine attachment for sewing seams. Fasten it the width of the seam allowance from the needle point; then hold the seam edges steadily against it during the stitching. If the seam edges are even, the stitching line will be even. This guide works equally well for edge stitching.

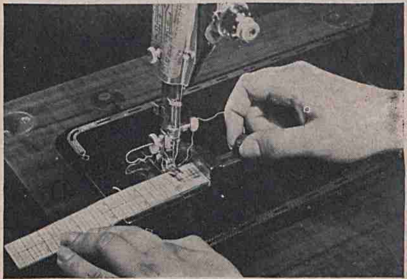

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FIGURE 17

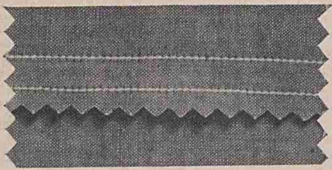

FIGURE 18

FIGURE 19

FIGURE 20

FIGURE 21

FIGURE 22

FIGURE 23 BN–7442

Stitches of an ordinary length, between 12 and 16 to the inch, are good for most home sewing. When stitching around points or into corners where the material will be cut close to the stitching, shorten the stitch to around 20 and 25 to the inch. Use reverse stitching on inside seams where it is essential that the stitching does not open. Reverse stitches should not be used on outside stitching where appearance is important, or at the ends of darts, as reverse stitches rarely fit exactly into stitches made with the forward motion and make the stitching bulky. Reverse stitching is particularly useful on school or utility clothes.

Choose a seam finish suited to the material and the garment. Plain seams may be adequate on fabrics that are firm and do not fray easily. Materials that fray, or are bulky, need special seam finishing for durability and professional appearance.

Double-stitched and pinked seam (fig. 18).—For use on cotton wash clothes made of firmly woven fabrics, such as gingham, percale, and chambray. These seams are durable, firm, and easy to make; they also are easy to iron as they iron straight and smooth from the right side, and the double stitching keeps them from stretching.

Closed and zigzagged seam (fig. 19).—For use on sleazy, loosely woven, or easily frayed fabrics that need special seam finishing. Machine-zigzagging or overcasting usually keeps such materials from fraying. This seam is also easy to iron from the right side.

Opened and pinked seam (fig. 20).—For use on thick or heavy fabrics, such as embossed or sculptured cottons, and some silks, rayons, and wools that do not fray.

Opened, stitched, and pinked seam (fig. 21).—For use on wool jersey or on bias seams; the extra rows of stitching help prevent stretching and also keep jersey seams from rolling.

Double-stitched and trimmed seam (fig. 22).—For use on laces and eyelet embroideries that require a flat, narrow, inconspicuous, yet durable seam.

Opened and overcast seam (fig. 23).—For use on heavier fabrics that may fray, such as linen, cotton crash, linen-weave silks and rayons, and denim. The edges may be overcast by hand or zigzagged on a swing-needle machine or with a special attachment.

French seam (fig. 24).—For use on sheer cottons, silks, and synthetics, such as voiles and sheer fabrics, that are likely to fray badly.

Self-stitched seam (fig. 25).—For use on fabrics that fray too much to be overcast. This seam is also used on unlined jackets or coats of cottons, rayons, and some lightweight wools.

Zigzagged seam (fig. 26).—For use on lingerie materials. It is stitched on the wrong side, pressed to one side, then zigzagged from the right side over the seam line. It is an elastic seam so is often used on slips. It is hard to wash clean, especially if dark clothes rub against a light-colored seam.

Flat-fell seam (fig. 27).—For use on men's and boys' shirts and work clothes. This seam with no raw edges is durable, but has a tendency to pucker with laundering and is hard to iron. It takes longer to make than many other seams.

Mock flat-fell seam (fig. 28).—For use on men's and boys' shirts and work clothes when a flat-fell seam is too heavy. It resembles a flat-fell seam in outside appearance, but is less bulky and easier to make. On the wrong side it has one raw edge which can be pinked or zigzagged if the fabric frays.

Bound seam (fig. 29).—For use on fabrics that fray badly. Net footing when used to bind seams on colored sheers, such as voile, makes the seams look less heavy than French seams. Rayon binding makes a neat seam finish for unlined jackets and coats of wool; on fabrics of manmade fibers, however, binding leaves an imprint on the right side.

ORGANIZING HOME SEWING

Time can be saved by organizing home sewing—planning how much stitching can be done at one time without interfering with the next steps—then how much trimming, turning, basting, and pressing are necessary before the next trip to the machine. Although planning is particularly easy when a garment can be made up without any fitting, it also helps to reduce the number of fittings.

A sport shirt is used here to illustrate how planned construction can save time. The same procedure can be followed, whether one shirt or several are to be made (fig. 30).

Pin:

1. Back pleats.
2. Yoke and yoke facing to back.
3. Shoulders of yoke facing to shirt fronts.
4. Interfacing to undercollar.

Fold:

5. Pocket hem to right side.
6. Pocket hem up about ¼ inch. Fingerpress.

Pin:

7. Pocket hem edges.

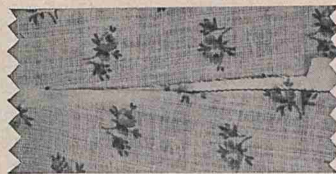

FIGURE 24

FIGURE 25

FIGURE 26

FIGURE 27

FIGURE 28

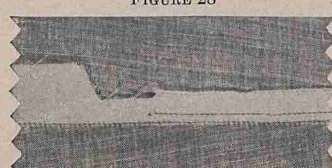

FIGURE 29

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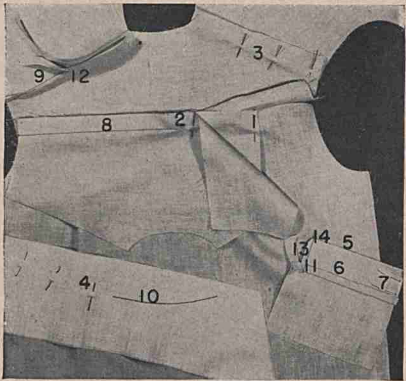


DN-1100

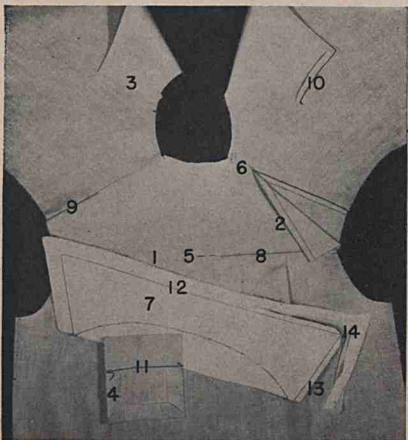
FIGURE 30

Stitch:
8. Yoke and yoke facing to back.
9. Shoulders of yoke facing to shirt fronts.
10. Interfacing to undercollar along crease marks.
11. Pocket hem edges a seam's width and the depth of the hem.

Trim:
12. Shoulder seams.
13. Pocket hem edges.

Clip:
14. Corners of pocket seams.

Press as much as possible, baste where necessary, then continue the stitching.



DN-1101

FIGURE 31

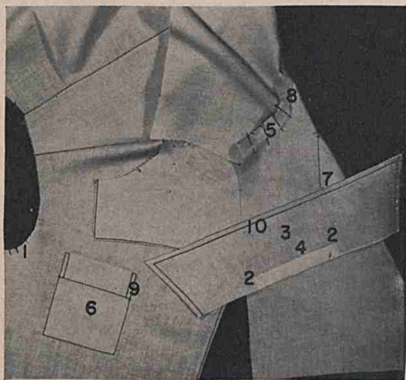
Press (fig. 31):
1. Yoke and yoke facing toward neck.
2. Turn under and press shoulder seams of yoke.
3. Turn under and press shoulder and front edges of facings.
4. Turn pocket hem right side out; turn under sides and bottom of pocket; press.

Pin, baste, if necessary:
5. Back yokes together.
6. Shoulder seams of yoke over seam of yoke facing, covering the machine-stitching.
7. Top collar to undercollar and interfacing.

Stitch:
8. Back yokes about $\frac{1}{8}$ inch above seam line.
9. Shoulder seams of yoke.
10. Shoulders and front edges of facings.
11. Pocket hem.
12. Top collar to undercollar and interfacing.

Trim:
13. Seam edges of collar to $\frac{1}{4}$ inch.

Clip:
14. Collar corners, almost to stitching.



DN-1102

FIGURE 32

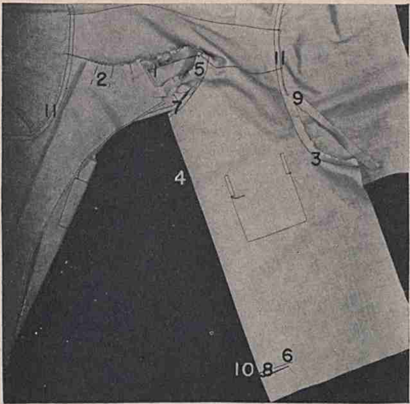
Clip (fig. 32):
1. Armhole edges at underarm area, cutting about $\frac{3}{8}$ inch deep.
2. Top collar at shoulder points, cutting in a seam's depth.

Turn:
3. Collar right side out.
4. Seam allowance of top collar under between shoulder points.

Pin, baste, if necessary:
5. Sleeve to armhole, stretching shirt armhole at underarm to fit sleeve.
6. Pocket to shirt front.
7. Collar edges, with seam line on the edge; work the corners out to a point; finger press or press.

Stitch:

8. Sleeve to armhole.
9. Pocket to shirt front.
10. Around collar the desired width from the edge.



DN-1103

FIGURE 33

Pin (fig. 33):

1. Collar to neckline.
2. Front facings back over neck.

Press:

3. Armhole seams toward sleeve.
4. Front facing edges.

Stitch:

5. Collar to neck and facing.
6. Bottom of front facings, even with the hemline.

Trim:

7. Neck seam edge to 1/8 or 3/16 inch.
8. Seam at bottom of front facing to 1/8 inch.
9. Armhole seam allowance of sleeve to 3/16 inch.

Clip:

10. Corner at front edges.

Stitch:

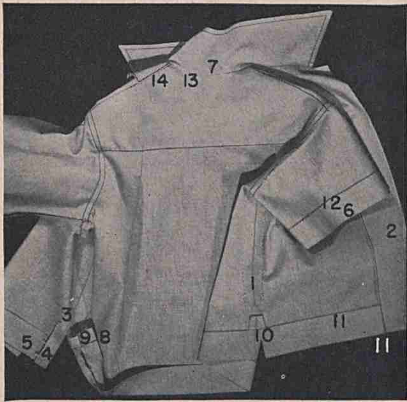
11. Finish seams as flat fell, mock flat fell, or leave plain and pink or zigzag, if necessary, to prevent fraying.

Stitch (fig. 34):

1. Underarm and sleeve seams.

Turn and press; baste, if necessary:

2. Front facings back to wrong side.
3. Seams.
4. Vent hems, if vents are desired.
5. Shirt hem.
6. Sleeve hems.
7. Neck edge of collar to back of neck.



DN-1104

FIGURE 34

Stitch:

8. At vent, turn hem to right side, stitch vent through hem on the side seam line.

Trim:

9. Vent seam edge to 1/4 inch.

Turn and press:

10. Vent and hem to wrong side, creasing on stitching line.

Stitch:

11. Shirt hem and around vents beginning at bottom of front facing.
12. Sleeve hem.
13. Back neck edge of collar to neck of shirt.
14. Shoulder edges of front facings to shoulder seams.

NOTE.—13 and 14 may be stitched by hand or by machine.

Dresses, blouses, and other garments can be made as efficiently as shirts, provided they do not require fitting. Stitch all darts or tucks; attach the cloth or seam guide and sew all the seams; stitch the collars and cuffs; then lengthen the stitch and do all the gathering necessary while the cloth guide is in place. This gathering may include sleeve caps, waistline edges of skirt or blouse, or elbow ease, depending on the style. After as much of the stitching has been done as possible, trim seam allowances where needed, snip corners, pink or edge-finish the seams, turn collars and cuffs right side out, and press so every edge will be ready for the next stitching.

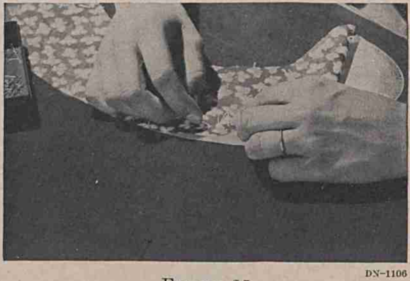
SIMPLIFYING CONSTRUCTION

Much of the detailed work of sewing—so important to the good appearance of a finished garment—can be simplified without either durability or good workmanship being sacrificed. In fact, appearance is often improved by the flat construction characteristic of the simplified procedures presented in the following pages. To simplify sewing does not necessarily mean the elimination of basting, when basting is necessary to help achieve the desired results; it may also mean the inclusion of some extra steps which may take a little extra time, but will make the construction process easier to do. For example, taking time to trim the seam allowance of a curved collar to $\frac{1}{8}$ or $\frac{3}{16}$ inch saves time in turning the collar, and results in a more even collar edge than would be possible if the seam edge were not trimmed.

Making Collars

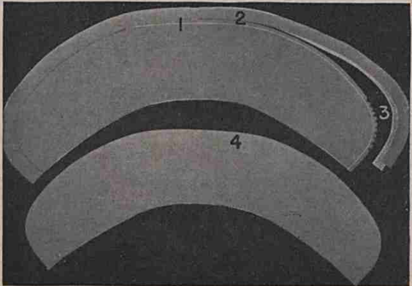
Round collars.—Round collars are used on many types of garments, but the method of making them is the same. The curve at each end of the collar must be identical; to make it so, draw a stitching line around each curve with a cup, saucer, or other round object of the right size being used as the pattern; or, make a paper pattern. To make the collar—

1. Seam the top and the undercollars together, right sides inside (fig. 35). If the material is soft and likely to stretch, make a whole paper pattern and sew through it; or use a thin interfacing of preshrunk fabric.



DN-1106

FIGURE 35

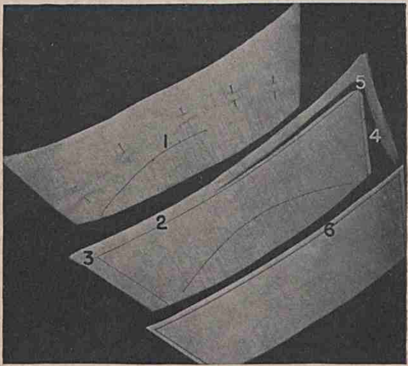


DN-1105

FIGURE 36

2. Trim the seam allowance to $\frac{3}{16}$ or $\frac{1}{8}$ inch (fig. 36); bevel the edges of thick materials; that is, trim one edge about $\frac{1}{16}$ inch narrower than the other.
3. Clip out small wedges of the seam around the curves to avoid lumpiness and so make a smooth flat edge when turned.
4. Turn the collar right side out; crease on the seam line; baste to keep it in place until the collar is stitched to the garment; press. On thick materials, ease the seam line slightly to the under side to keep it from rolling to the right side and showing.

Shirt collars.—Shirt collars are used on sport shirts, blouses, dresses, and on some jackets and coats. Lighter weight garments, such as dresses and blouses, are made the same way, but usually the stitching in Step 1, figure 37, is omitted.



DN-1107

FIGURE 37

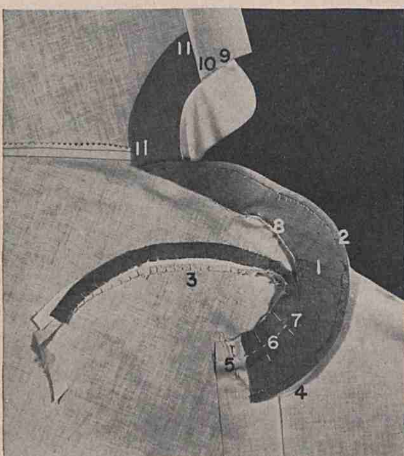
1. Pin the interfacing to the undercollar; stitch on the perforations marking the roll line.
2. Pin the top collar to the undercollar, interfacing outside. Draw a straight stitching line on each end of the collar; a bias edge such as this is hard to stitch exactly straight, even with a seam guide, and a guideline helps. Adjust the stitches to about 20 to the inch and stitch around the collar edges a seam's width from the edge.
3. Take one stitch across the corner, instead of pivoting the ends. This stitch allows room for the seam edges when the collar is turned right side out. If the material is thick or bulky, about three stitches around the corner may be needed.
4. Trim the seam allowance to about $\frac{1}{8}$ inch on firm materials, $\frac{3}{16}$ inch on fabrics that are likely to fray.

5. Clip off the corners almost to the stitching, so they will be sharp and flat when turned.

6. Turn the collar right side out, with the seam on the edge; work the corners out carefully to a point; a blunt darning needle is good for this. Baste, if necessary; press. Stitch evenly around the outside edge of the collar the desired width from the edge. This stitching gives a sharp edge and makes ironing easy but is often omitted on dresses, blouses, and outerwear.

Attaching Collars

Collars sewed on with a shaped facing.—The following method is a quick and easy one for attaching collars to school and utility clothes. However, it is not generally used on better garments, as the neckline is rather bulky and therefore does not set so well to the neck as when a bias facing is used. Also, it does not press or iron so well (fig. 38).



DN-1108

FIGURE 38

1. Seam the front and the back facings together at the shoulder. Clip the seam ends diagonally to the stitching so the neck and outer edges will be less bulky when finished.

2. Turn the outer edge of the facing under and machine-stitch; or pink or zigzag the edge, depending on the firmness of the material.

3. Clip the neck edge of the blouse and the facing about $1/4$ inch deep and $1/4$ inch apart; this makes it easier to fit the neck edges together.

4. Pin the collar to the neck of the blouse.

5. Turn and pin the front facings back over the collar.

6. Pin the shaped facing to the collar and the neckline, matching the shoulder seams.

7. Baste with rather small stitches to hold the collar in place and to make a guideline for stitching; machine-stitch.

8. Trim the seam allowance to $1/4$ inch or less.

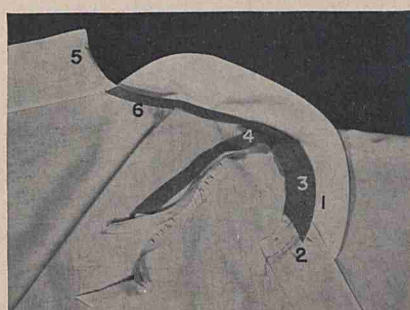
9. Turn the collar to the outside and facing to the inside; press.

10. To keep the facing from rolling up, stitch it around the neck edge close to the collar, sewing only the facing and the neck seam.

11. Tack the neck facing to the shoulder seams, the center front facings, and the back darts, to keep it in place during wear and cleaning.

Collars sewed on with a bias facing.—Most collars set to the neck better if they are sewed on with a bias facing, but the facing must be smooth, flat and narrow—about $1/4$ inch wide or less, depending on the material. On lightweight wash fabrics use a facing of self-material, or a commercial bias binding; on wool garments use matching silk or rayon. On medium weight or heavier materials, such as gingham, cotton, crash, linen, and some wools, use a single facing.

On thin fabrics, such as voile or batiste, use a double facing, which is easy to put on. Cut it twice the seam allowance width, plus the desired width of the finished facing. A double facing is shown in figure 39.



DN-1109

FIGURE 39

1. Pin the collar to the neckline, clipping the curved neck edges as needed.

2. Turn the front facing in place back over the collar and pin.

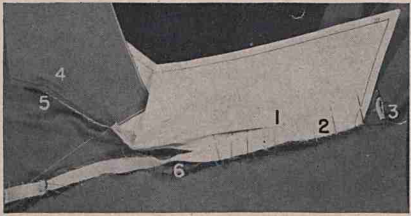
3. Steam-press and curve the bias to almost the same shape as the curved neck edge (see Binding, page 13); then pin the shaped bias strip to the collar and the neck edge. Baste with stitches short enough to hold a good curved line. Machine-stitch.

4. Trim the neck seam allowance to about $\frac{3}{16}$ inch or less; clip where necessary to make it lie flat.

5. Turn the facing to the inside of the garment. Press. Press the bias facing flat against the blouse.

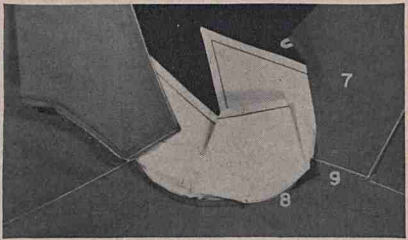
6. Sew the bias facing edge to the blouse, catching in the edge of the front facing. Machine-stitching may be used on school, play, or utility clothes; use hand sewing on better garments.

Convertible collar—sport-shirt method.—This method is a quick one for attaching a straight or shaped collar to sport shirts or school or work clothes. It is not suited to better garments where a flat neck join is desirable (fig. 40).



DN-1110

Figure 40



DN-1111

Figure 41

1. Clip the top collar a seam's depth at the shoulder points. Turn under this seam allowance across the back between the shoulder points.

2. Pin the collar to the neckline; snip the curved neck edges where needed.

3. Pin or stitch a fabric loop to the left front neck, if for a boy's or man's shirt.

4. Turn and pin the front facings back over the collar, the neck edges matching. Baste, if needed.

5. Machine-stitch the neck seam, being careful not to catch the turned-up edge of the top collar.

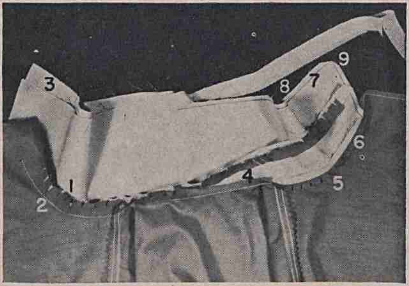
6. Trim the seam allowance to about $\frac{1}{4}$ inch.

7. Turn the facings to the wrong side (fig. 41).

8. Pin or baste the loose edge of the top collar over the machine-stitching. Machine-stitch over the neck seam or hem by hand.

9. Sew the facings to the shoulder seam, by hand or machine.

Convertible collar—dressmaker method.—This method gives a smooth flat front joining of the collar with the facing, and is suitable to use on better clothes and some tailored garments such as coats and suits. The collar pieces are attached to the facing and neck edges and then the collar is completed (fig. 42).



DN-1112

Figure 42

1. Clip the curved neck edges to within $\frac{1}{4}$ inch of the seam line so it can be fitted to a straight collar.

2. Pin, baste, and stitch the undercollar to the neck of the blouse.

3. Pin, baste, and stitch the top collar to the two front facings.

4. Trim the neck seam allowances to $\frac{1}{4}$ inch.

5. Clip the tight curved edges.

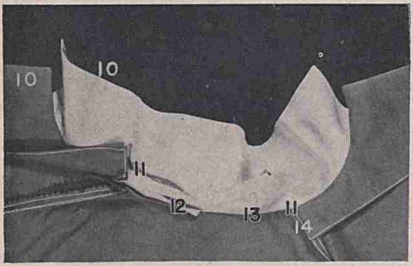
6. Press the seams open.

7. Pin, baste, and stitch the top collar and the facings to the undercollar and the blouse fronts, right sides together.

8. Trim the seam allowances to $\frac{1}{8}$ or $\frac{1}{4}$ inch.

9. Clip the corners almost to the stitching, so they will be sharp and flat when turned.

10. Turn the collar and the facings right side out, with the seam right on the edge on lightweight fabrics; on wools or heavier materials, roll the seam line slightly to the underside. Baste (fig. 43).



DN-1113

FIGURE 43

11. Clip the top collar at the shoulder points to the seam line.

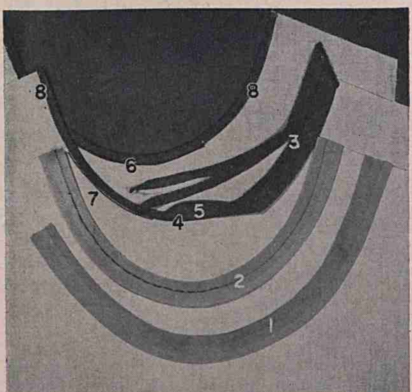
12. Trim the collar seam allowance across the back of the neck to 1/4 inch. Turn under to the seam line.

13. Sew the collar to the back neck seam by hand.

14. Tack the shoulder edges of the front facings to the shoulder seams by hand.

Finishing Edges

Binding.—A strong, easy-to-make neck or sleeve finish (fig. 44).



DN-1114

FIGURE 44

1. Dampen and press a single- or a double-bias binding so it has almost the same curve as the neck. When a single binding is used, leave the outer edge folded. Preshaped binding fits smoothly to a curved edge and insures a better finish than when the binding is eased on.

2. Baste and stitch to neck. If a commercial binding is used, lay the inside fold line against the seam line, or trim the neck seam to the same width.

3. If a double binding is used, stitch to the neck, then trim the seam allowance to 1/8 or 3/16 inch.

4. Press the seams and binding toward the neck.

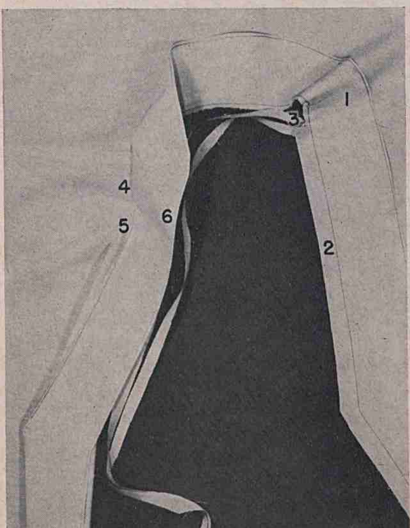
5. Fold the binding smoothly over the seam edges, working from the right side to insure an even width.

6. If the binding is to be sewed down by machine, fold it so the edge comes about 1/16 inch past the seam line. Baste; press.

7. Machine-stitch from the right side, very close to the seam line.

8. If the binding is to be sewed down by hand, make the folded edge come just inside the seam line. Baste, press. Then sew by hand to the first row of stitching.

Facing.—A smooth, flat finish for collarless necks, sleeves without cuffs, or sleeveless garments; also for front openings and other edges. If the pattern does not include facings, they can be cut according to the pattern edge to be faced (fig. 45).



DN-1115

FIGURE 45

1. Stitch any seams necessary in the facing, as at the shoulders, and press open. Be sure before stitching that the facing fits the garment edge exactly.

2. Stitch the facing to the garment.

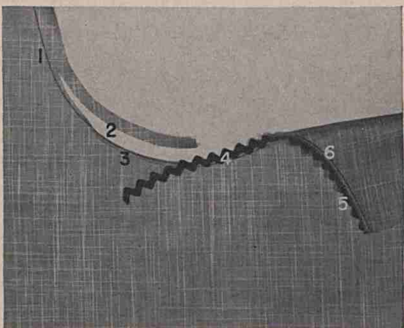
3. Trim the seam allowance to 1/4 inch. Clip any corners almost to the stitching.

4. Press the seam edge and the facing away from the garment.

5. Stitch the seam edges and the facing together close to the neck seam line, taking care not to stitch through the garment. This stitching helps keep the faced edge flat and the seam line slightly underneath.

6. Finish the inside edge of the facing, either with pinking, or with zigzagging, or by turning and stitching, according to the firmness of the material. Tack the facing firmly to the darts and the seams; if it needs to be fastened to the body of the garment, use tiny, loose stitches spaced an inch or so apart so they will not show or pucker on the right side.

Rickrack.—An edge finish that is strong, attractive, and practical for school and utility clothes made of materials that do not fray badly. Shown here as a finish for a neckline (fig. 46).



DN-1116

FIGURE 46

1. Machine-stitch a fold line slightly less than a seam's width from the edge to be finished.

2. Trim the seam allowance to 1/8 inch.

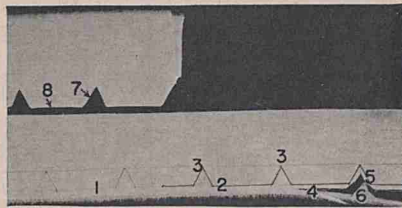
3. Turn the seam edge to the wrong side, folding just past the stitching line; press.

4. Pin and baste the rickrack over the fold so that only the points show on the right side.

5. On the right side, machine-stitch close to the fold.

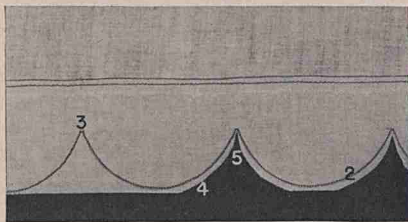
6. Stitch again on the right side, the width of the presser foot beyond the first stitching. This second row of stitching holds the inside points of the rickrack and the raw edges flat.

Notches and scallops.—An inexpensive, decorative, and easy way of machine-finishing straight, curved, or bias edges such as are found on collars, front openings, sleeves, and hems of firm materials (figs. 47–49).



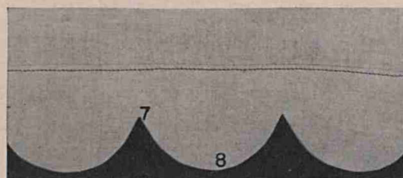
DN-1117A

FIGURE 47



DN-1118

FIGURE 48



DN-1119A

FIGURE 49

1. On the wrong side of the material mark stitching lines accurately. With a ruler draw the notches and the lines between; draw scallops with a scalloped ruler or a paper pattern made from a round object of the right size, such as a cup, saucer, or bottle.

2. Machine-stitch along the stitching lines with small stitches about 18 to 25 to the inch.

3. Instead of pivoting the needle at each point, make one stitch parallel to the edge between each notch or scallop. The points will then be sharp, strong, and shaped so they can be turned smoothly.

4. Trim the seam edges to 1/8 inch. A narrow seam allowance makes it easy to turn scallops smoothly and helps give a good curve.

5. Clip almost to the stitching at the points.

6. Trim the outside corners of the notches.

7. Turn right side out, working the seams out to the edge and forming sharp corners.

8. Finger-press or baste along the seam edge; press. (To finish the facing edge, see Finishing Hems, pp. 23, 24.)

Making Plackets

Faced placket.—A strong, flat, easy-to-make placket for neck or sleeve openings. It is suitable for use on firm fabrics, but the seam allowance at the point is too narrow for use on fabrics that fray badly. A straight strip of fabric may be used for this facing, or the whole front neck may be faced as in figure 50. Use the blouse pattern to cut such a facing. Do not cut the opening until after the stitching is done.

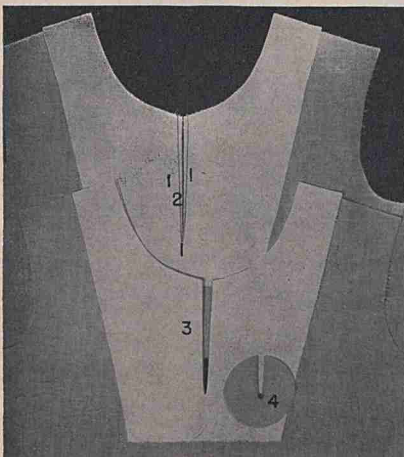


FIGURE 50

1. Draw stitching lines on each side of the center line, starting $\frac{1}{4}$ inch from the center at the top and tapering almost to the center front line at the bottom; leave just enough space here for one small stitch between the two lines. Stitch on these lines with small stitches, from 20 to 25 to the inch.
2. Cut down the center just to the stitching.
3. Turn the facing to the wrong side, exactly on the stitching line; press.
4. Reinforce the point with tiny blanket stitches worked with matching thread; give it additional strength with a blanket-stitched thread bar, about $\frac{1}{8}$ inch above the point.

Bound placket.—A placket that is stronger, neater, and easier to make than the conventional continuous bound opening. Can be used on most materials except sheers such as voiles where the placket ends would show through. Best fastenings—thread loops. Do not slash the binding or the opening before stitching (fig. 51).

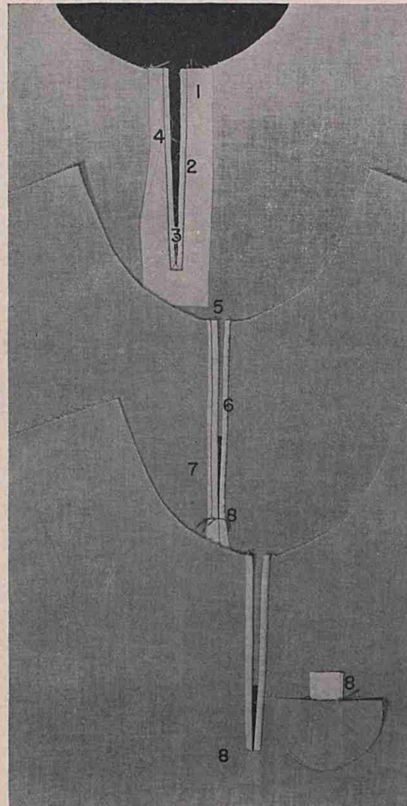


FIGURE 51

1. For the binding cut a straight strip of fabric about 1 inch longer than the opening and about $1\frac{3}{8}$ inches wide; the binding will be about $\frac{1}{8}$ inch wide when finished. Pin it in place and mark the cutting line down the center of this strip.
2. Machine-stitch straight down each side and straight across the bottom about $\frac{1}{8}$ inch or so from the cutting line.
3. Cut on the cutting line to about $\frac{1}{8}$ or $\frac{3}{16}$ inch from the bottom; slash diagonally into each corner just to the stitching so the binding will turn back smoothly. If the material is thick, the fabric may need to be trimmed off a little on each side of the cutting line so the binding can meet in the center and not overlap.

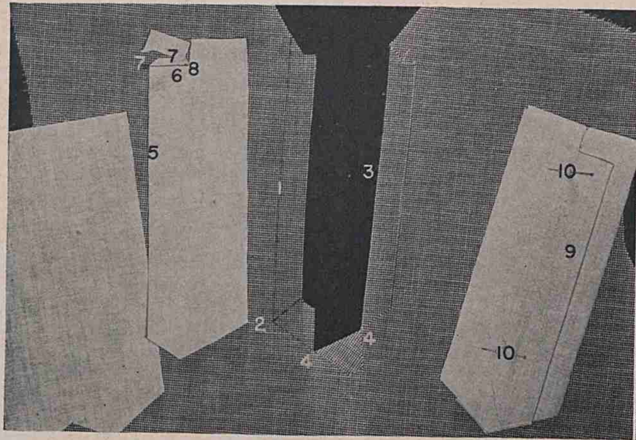


FIGURE 52 DN-1122

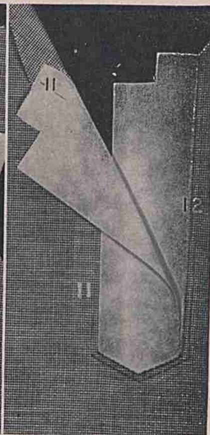


FIGURE 53 DN-1123

4. Fold the binding in half so the raw edges meet the stitching lines. Pull the bottom of the binding through to the wrong side and crease on the stitching line.

5. Turn the binding evenly over the raw edges of the opening so that the folds meet at the center.

6. To finish the binding by hand, turn it so that the outer fold comes just to the stitching on the wrong side. Hem or slip stitch.

7. For a machine finish, turn the binding so the outer fold extends about $\frac{1}{16}$ inch past the stitching on the wrong side. From the right side machine-stitch along the binding as close to the stitching as possible.

8. Fold the bottom of the opening back close against the stitching and sew by machine along the fold and along the line of the first stitching; catch in the point as you sew.

If the material is thick, omit Step 4; leave the underneath edge flat and finish as in Step 7, either by hand with small seed stitches or by machine.

Insert extension band.—A simplified method of making a front placket for sport shirts, blouses, and dresses. Resembles an applied placket but is stronger and easier to make and to iron. The pattern pieces included for an applied placket can be used in making this inset band (fig. 52).

1. Mark the fold lines on the garment a seam's width from the edge.

2. Cut just to the corners.

3. Turn under the seam allowance on the fold lines.

4. Turn the corners under sharply; work any short yarn ends to the underside and damp press.

5. Fold the bands lengthwise down the middle, right side inside: press.

6. Stitch the neck edges of the bands as far as the center front marks.

7. Trim the seam allowances to about $\frac{3}{16}$ inch; clip the corners almost to the stitching.

8. Clip to the stitching at the center front.

9. Turn the bands right side out; press.

10. Pin the right band over the left, with the center fronts matching. Reverse for men's and boys' shirts.

11. Pin and baste the blouse over the bands with the center fronts in line and the seam edges matching on the wrong side (fig. 53).

12. Machine-stitch close to the fold. For a tailored effect, stitch again the width of the wide or the narrow edge of the presser foot from the first stitching.

Fly-front for shorts (underwear type).—A simplified way of finishing the fly front, usually the hardest step in making shorts. Complete the placket before stitching the seams, as it is easier to make when the sections are flat (fig. 54).

1. Clip in to the bottom of the placket on both the right and the left front sections.

2. Fold the hem of the left front under on the center-front marks.

3. Turn under a $\frac{1}{4}$-inch seam allowance; finger press.

4. Machine-stitch the facing to the right front, right sides together.

5 Trim the seam allowance to $\frac{1}{8}$ inch.

6. Clip, turn under, and press the crotch seam allowance of the left front. Trim the seam to about $\frac{1}{8}$ inch from the fold (fig. 55).

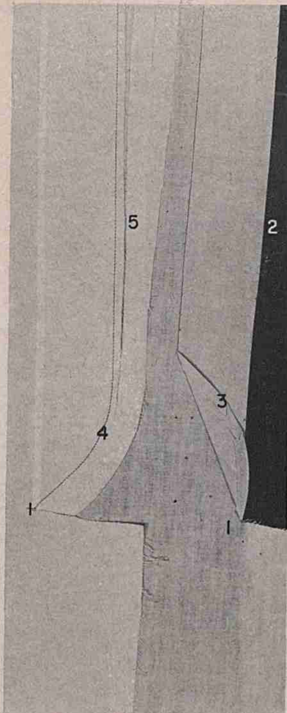


FIGURE 54 DN-1124

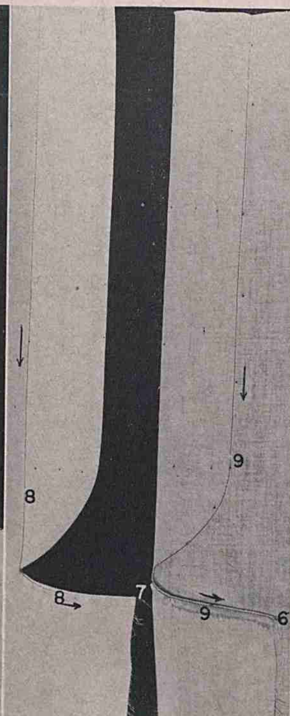


FIGURE 55 DN-1125

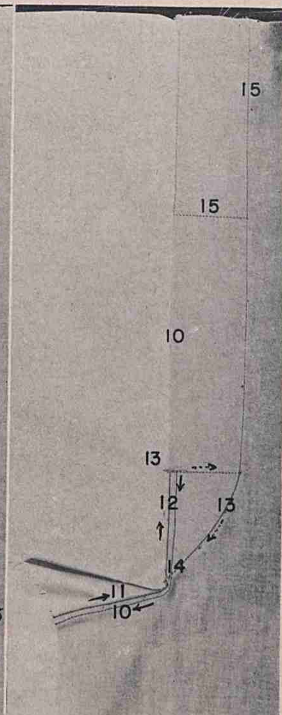


FIGURE 56 DN-1126

7. Fold the crotch seam allowance of the right front to the right side of the material; make a fold about ½ inch wide. Press. Trim the seam edge to about ⅛ inch.

8. Machine-stitch the facing to the right front and continue stitching along the fold of the crotch seam.

9. Machine-stitch the hem on the left front and continue stitching along the fold of the crotch seam.

10. Lap, pin, and baste the left front and the left crotch seam over the right front and the right crotch seam, covering the machine stitching (Step 8) and the raw edges of the crotch seams (fig. 56).

11. To stitch the crotch seam and the placket reinforcement, machine-stitch along the fold of the crotch seam, beginning at the bottom of the seam; stitch up to the mark indicating the bottom of the placket.

12. Stitch across the placket about ¼ inch and down the other side of the crotch seam.

13. Starting with several rows of forward and reverse stitches, stitch across the stitching line at the bottom of the placket, then down to the top of the crotch seam following the curved stitching line on the left front.

14. Reinforce the crotch seam and the placket with several rows of forward and reverse stitching.

15. Stitch the top of the placket along the stitching marks.

Fly for slacks, shorts, and other trousers.— Full directions for making this rather difficult placket simplify the process considerably. In making this fly, the facing for the left front and the top facing for the right front are made of the trouser fabric. For visual clarity, the facings shown here are all of contrasting material. The underfacing of the right front is cut with a lower extension to be used in reinforcing the crotch seam. If the pattern does not have this extension, add it when cutting the facings. Com-

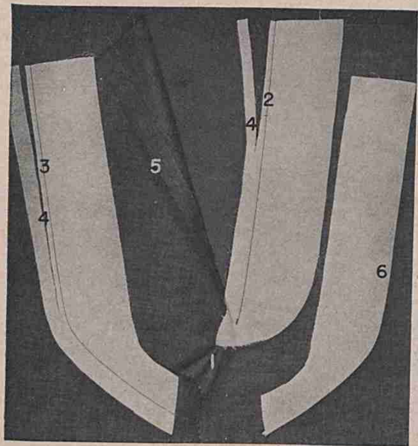


FIGURE 57 DN-1127

plete this placket before stitching the side and inseams (fig. 57).

1. Stitch the front crotch seam; press open.
2. Stitch the facing to the left front of the opening, right sides together.
3. Stitch the extension pieces together.
4. Trim the seam allowances to ⅛ inch or a little more.
5. Turn under the seam allowance on the right front opening; press.
6. Turn the extension pieces right side out with the seam worked out to the edge; baste and press.
7. Turn the facing of the left front to the inside, with the seam line slightly underneath; baste, if necessary; press (fig. 58).
8. Pin the zipper to the right side of the opening.
9. Lay the extension piece under the right front and the zipper, with the raw edges of the extension even with the raw edges of the right front. Pin and baste.
10. Machine-stitch as close as possible to the zipper, using the zipper foot, making sure the zipper pull will clear the fabric and not catch in it.
11. With the zipper closed, pin the left front over the right front, covering the line of machine stitching. Pin through the zipper tape and the extension piece (fig. 59).

The next three steps are very important and should be done slowly.

12. Open the zipper very carefully to hold it in position; as you do this

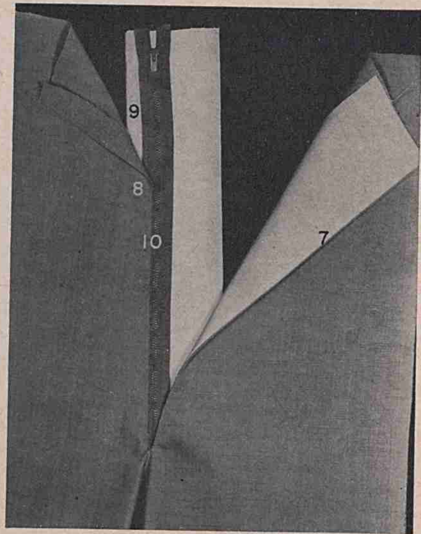


FIGURE 58 DN-1128

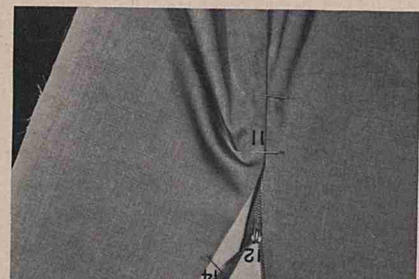


FIGURE 59 DN-1129

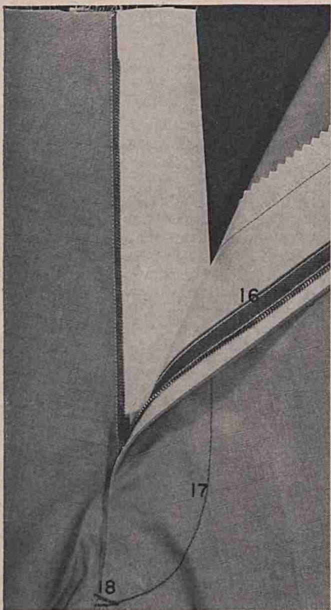


FIGURE 60 DN-1130

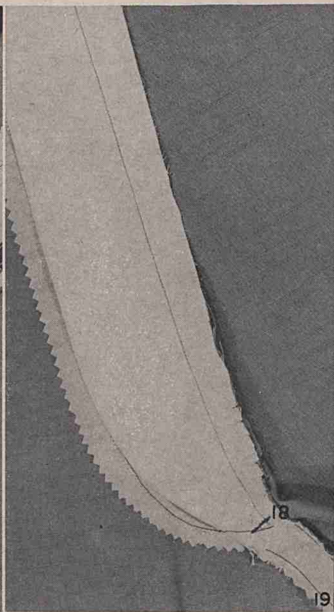


FIGURE 61 DN-1131

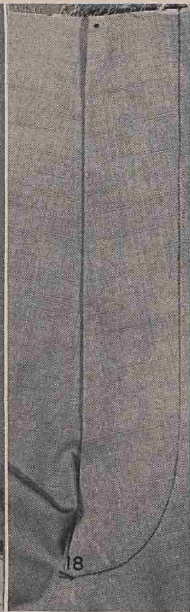


FIGURE 62 DN-1132

13. Separate the facing and the left front, holding the zipper in place, and

14. Repin the zipper to the facing only; baste.

15. Machine-stitch the outer edge of the zipper tape to the facing.

16. Stitch the zipper tape to the facing a second time, stitching just as close to the zipper as possible. For this, use a zipper foot (fig. 60).

17. Open the zipper, then machine-stitch the left front facing to the trousers, following the stitching marks (figs. 61, 62).

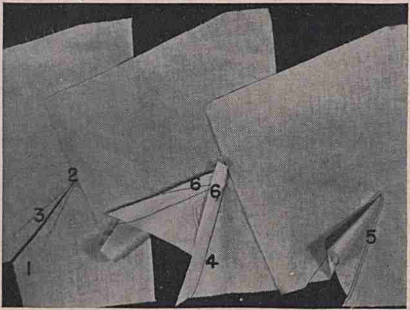
18. Reinforce the bottom of the placket with several rows of forward and reverse stitching or satin stitch made with the zigzagger or on a swing-needle machine.

19. Machine-stitch the lower section of the facing to the crotch seam.

Kimono Sleeves

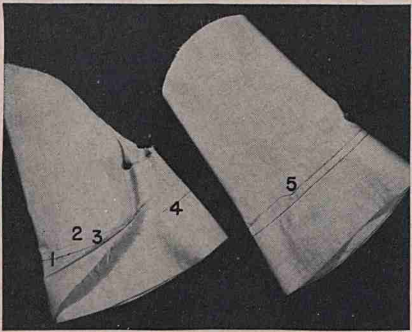
Kimono sleeve reinforcement.—Reinforcing kimono sleeves at the underarm curve as they are being made takes a little more sewing time, but saves considerable mending time and lengthens the life of the garment. For the reinforcement, use a narrow tape, a preshrunk selvage from the material, or a ⅜ inch strip of bias (fig. 63).

FIGURE 63 DN-1155B



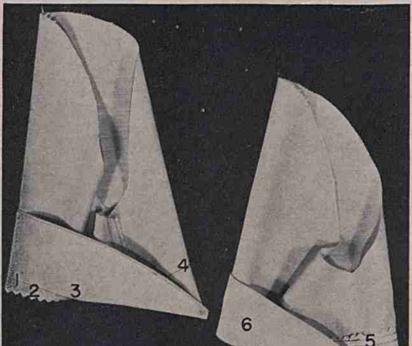
DN-1133

FIGURE 64



DN-1135

FIGURE 65



DN-1170

FIGURE 66

1. Press the seams open and finish the edges, or turn the seams to one side, depending on the fabric or garment.

2. Clip where necessary to make the seam lie flat at the underarm curve. Do not clip closer than 1/4 inch to the stitching line.

3. Machine- or hand-stitch a strip of narrow self-fabric, about 3/8 inch wide to the curved seam, stitching over the seam line and about 1/16 inch on each side of it.

Underarm gusset.—Gussets are needed in close-fitting kimono or drop shoulder sleeves to allow room for reaching, but the corners need to be reinforced. Gussets should be used only on materials that are firmly woven; if the fabric frays badly the corners will pull out, no matter how strongly they are reinforced (fig. 64).

1. On the wrong side draw stitching lines from the point through the seam marks.

2. Sew on these lines with a small stitch, from 18 to 20 to the inch. Take one stitch across the point before stitching down the other side so the seam edge at the point will turn under smoothly.

3. Cut down the center, just to the stitching.

4. Pin and baste the gusset to the slashed opening. Stitch just beyond the first stitching line.

5. Press the seams away from the gusset; machine-stitch on the outside fold on wash garments. A second row gives additional strength.

6. On better clothes, where the outside stitching might not be desirable, after the gusset has been stitched in place, stitch across and through the point on the wrong side.

Attaching Cuffs

Cuffs should be attached to sleeves so the finish is flat and inconspicuous for ease of ironing and attractive appearance. If the pattern does not call for cuffs, a cuff can be made from a straight or bias strip. Cut it the length of the sleeve circumference plus two seam allowances and two seams' width more than the desired finished cuff width.

Cuffs without bias facing.—The following method is a quick and easy way of attaching cuffs to school, utility, and some better clothes. Finish the upper edge of the cuff; turn right side out; press (fig. 65).

1. With the cuff right side out against the right side of the sleeve, pin, baste if necessary, and stitch the underneath section of the cuff to the sleeve.

2. Trim the seam allowance to 1/4 or 3/16 inch.

3. Press the seam up toward the sleeve.

4. From the right side, stitch the top cuff to

the bottom of the sleeve just inside the first row of stitching. This stitching keeps the top cuff in place.

5. Turn under the raw edge of the top cuff, clipping, if necessary, to make it lie flat. Machine-stitch to sleeve.

When cuffs are being attached to a better dress, proceed through Step 3; then finish the loose edge of the top cuff so it won't fray—pink, overcast, zigzag, turn under, and stitch or bind. Slip-stitch or catch-stitch the cuff edge to the sleeve.

Cuffs stitched to the right side.—The following method is a very quick but durable way of attaching cuffs to utility and better clothes made of fabrics that do not fray badly. A finished cuff is used here, ready to be sewn to the sleeve (fig. 66).

1. Pin the right side of the finished cuff to the wrong side of the sleeve; machine-stitch.

2. Trim the seam allowance to ½ inch; pink or zigzag, if necessary.

3. Press the seam edges toward the sleeve.

4. Machine-stitch the sleeve through the seam edges close to the first row of stitching; this stitching makes the cuff easy to turn up and keeps the sleeve edge finish flat.

5. In utility clothes, machine-stitch the seam edge to the sleeve the width of the presser foot from the stitching in Step 4. Omit in better garments.

6. Turn the cuff to the right side.

Finishing Pockets

Hemmed patch pockets.—A simplified and neat way of finishing the top of a patch pocket (fig. 67).

1. Turn the pocket hem to the right side along the fold marks.

2. Turn up the hem edge ¼ inch. On thick materials, zigzag, pink, or overcast this edge to keep the pocket flat. On some materials that fray but are not washable, finish the edge with seam tape.

3. Stitch across both ends of the pocket hem, a seam's width from the edge.

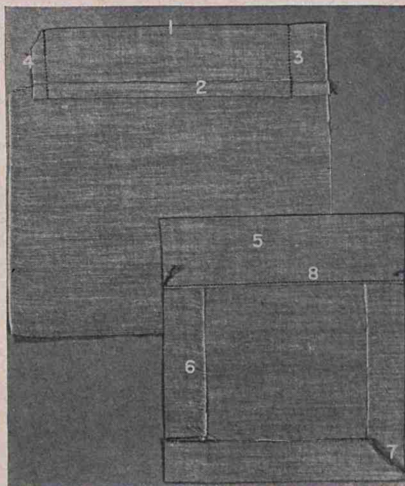
4. Trim the seam allowance to ¼ inch; clip the corners almost to stitching.

5. Turn the pocket hem to the wrong side, working the seam out to the edge and picking out the corners so they are sharp.

6. Turn under the pocket sides and the lower edge on the seam lines. Press the entire pocket.

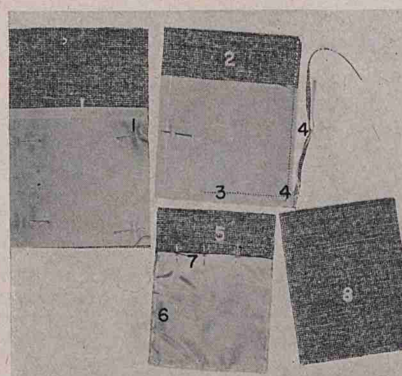
7. Trim off the corner seam allowances diagonally, almost to the corner.

8. Machine-stitch the top hem on pockets for shirts, school, and work clothes. For better garments, tack invisibly by hand.



DN-1136

FIGURE 67



DN-1137

FIGURE 68

Faced patch pockets.—An easy way of facing pockets so all the outside edges are finished before the pocket is turned right side out. Used on suits, jackets, coats, and some dresses where a firm pocket is desired (fig. 68).

1. Turn the upper edge of the pocket lining down ½ inch; pin and baste to the right side of the pocket, lower and side edges matching.

2. Turn the pocket hem over the lining; pin and baste.

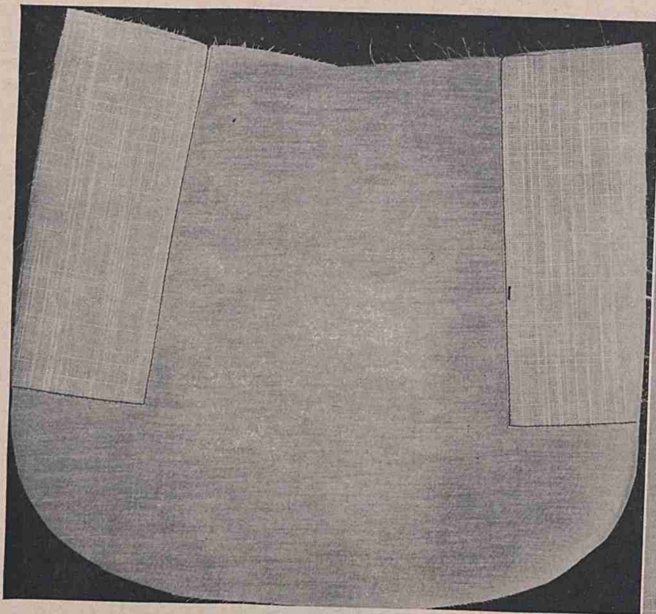


FIGURE 69 DN-1138

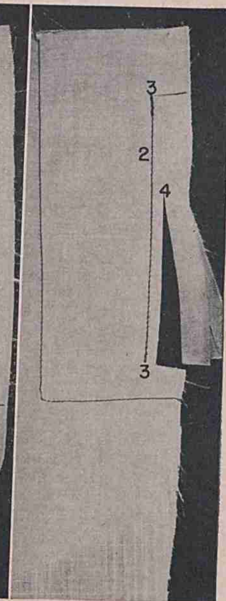


FIGURE 70 DN-1139

FIGURE 71 DN-1140

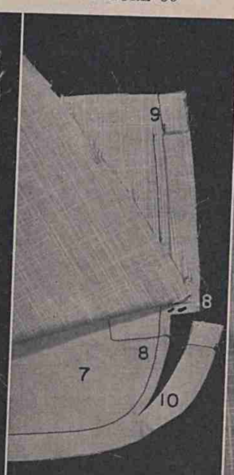


FIGURE 72 DN-1141

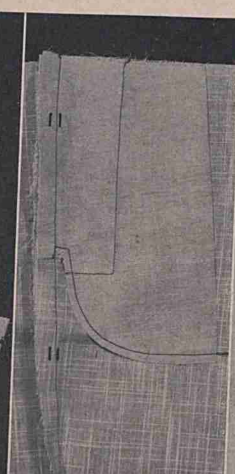


FIGURE 73 DN-1142

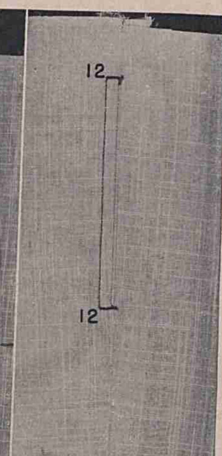


FIGURE 74 DN-1150B

3. Baste and machine-stitch the sides and the bottom of the pocket and the pocket lining through the hem to the top of the pocket.

4. Trim off the seam allowance to 1/4 inch; clip the corners almost to the stitching.

5. Turn the pocket right side out.

6. Baste and press the pocket sides and the bottom so the seam line is slightly underneath.

7. Slip-stitch the top of the lining to the pocket hem.

8. Finished pocket, ready to sew to garment, by hand or machine.

Side pocket for slacks, trousers, shorts; a hip pocket on dresses.—A simplified way of putting in these pockets so they fit smoothly. When making slacks or trousers, finish the pockets up to Step 10, figure 72, before putting in the front placket and the crotch seams. When putting this type of pocket into dresses, begin with Step 2, figure 70.

1. Turn under and press the inside seam edges of the pocket facings. Pin flat to the pocket; baste, if necessary; machine-stitch (fig. 69).

2. Pin the pocket to the side seam of slacks front, the right side of the pocket to the right side of the slacks. Machine-stitch between the pocket marks, a seam's width from the edge.

3. At each end of stitching, clip the seam allowance straight in to the stitching line.

4. Trim the seam allowance on the pocket opening to about 3/16 inch (fig. 70).

5. Turn the pocket to the wrong side, creasing exactly on the stitching line; press. Machine-stitch a presser foot's width from the fold. This stitching may be omitted on dress pockets.

6. Press the seam edges flat above and below the pocket "mouth," so they can be sewed smoothly to the back seams (fig. 71).

7. Pin the pocket edges together, right sides inside. Be sure both sides of the pocket are flat (fig. 72).

8. Stitch the pocket edges together, starting at the bottom of the opening, stitching straight in about 1/4 inch or so past the seam line so the pocket will not be caught into the side seam. Turn and continue seaming the bottom of the pocket.

9. Stitch the top of the pocket to the side seam edge.

10. Trim the seam allowance of the pocket to 3/16 or 1/2 inch. Can be stitched a second time 1/4 inch from the first stitching for reinforcement. Pink the edges, or zigzag those that fray.

11. Stitch the back section of the slacks to the front section and the pocket, taking care not to catch the pocket "mouth" in this stitching.

12. On the right side, reinforce each end of the pocket on slacks and trousers with several rows of forward and reverse stitching, or close zigzag stitches (figs. 73, 74).

Finishing Hems

Suit the hem finish to the material and the type of garment. However, in all dress, skirt, or coat hems, the first step is to mark the length an even distance from the floor. To measure, hold the ruler straight or use a measuring device that stands upright (fig. 75). Turn up the hem on these marks; pin, baste, and press. Then trim off the material so the hem is an even width from the fold (fig. 76).

FIGURE 75 DN-1143

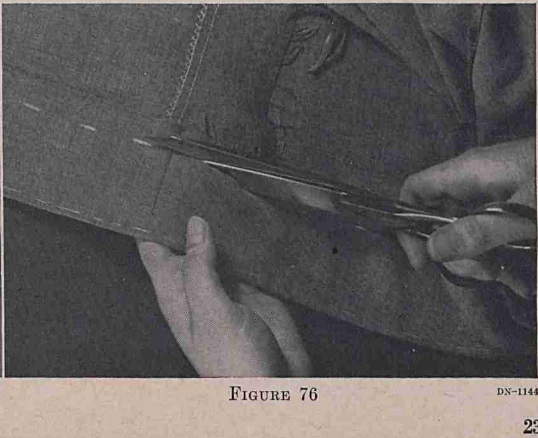
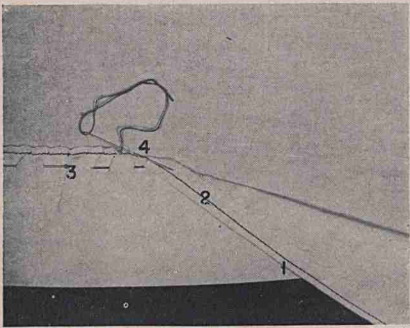
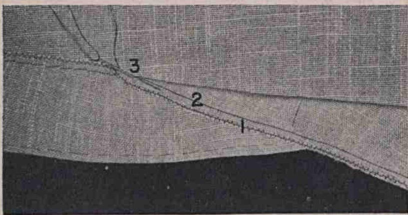


FIGURE 76 DN-1144



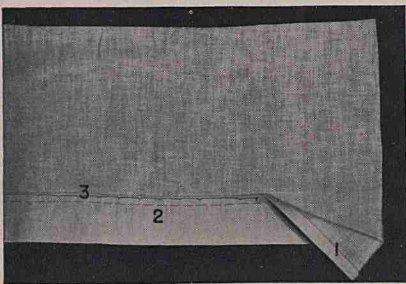
DN-1145

FIGURE 77



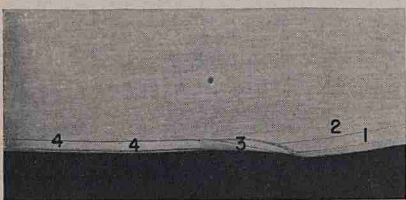
DN-1146

FIGURE 78



DN-1147A

FIGURE 79



DN-1148

FIGURE 80

Turned and slip-stitched hems.—For use on light- and medium-weight materials such as voile, gingham, chambray, and sheers of silks and synthetics (fig. 77).

1. Turn under the top of the hem about $\frac{1}{4}$ inch.

2. Machine-stitch about $\frac{1}{16}$ inch from the fold. If the hem is straight, use about 12 to 15 stitches per inch. If it is curved, use 6 to 8 stitches to the inch and pull up the underneath thread to ease the fullness in top of the hem to fit the dress. Lay out on a flat surface to keep the hem flat against the garment.

3. Pin or baste, about $\frac{1}{4}$ inch below the fold.

4. Slip-stitch the underneath side of the hem to the dress, along the stitching. Take back stitches every third or fourth stitch. This method keeps the stitching under the hem; it gets little abrasion from wear or laundering; and the stitches do not catch and break. It is a quicker method than hemming along the fold and gives a neater appearance on the right side.

Flat hem, slip-stitched.—For heavier fabrics—linens, coatings, spun rayons, failles, and similar fabrics (fig. 78).

1. Pink, overcast, or machine-zigzag the edge of the evened-off hem.

2. Machine-stitch about $\frac{3}{16}$ inch down from the edge. Pull up the underneath threads, if necessary, to ease in any fullness.

3. Slip-stitch, rolling the top edge of the hem away from the dress; catch the stitches into the row of machine-stitching.

Machine-hemmed.—One of the quickest ways of putting in a hem is to use a machine attachment or a swing-needle machine. The hem is particularly strong for school and utility clothes.

1. Turn under the hem edge $\frac{1}{2}$ inch.

2. Baste the hem to the skirt about $\frac{3}{8}$ inch below the folded edge.

3. Fold the skirt back on the basting line and stitch (fig. 79).

Machine-stitched hem.—For aprons, shirts, circular skirts (fig. 80).

1. Machine-stitch around the hem, $\frac{1}{8}$ inch from the edge.

2. Machine-stitch around the hem again, the width of the wide edge of the presser foot from the first row; these two rows of machine stitching serve as a guide in turning the hem edge up and under quickly and evenly.

3. Turn under just beyond each row of stitching; press; baste, if needed.

4. Machine-stitch around the top and the bottom of the hem. Stitch from the right side with the presser foot as a guide for best appearance.

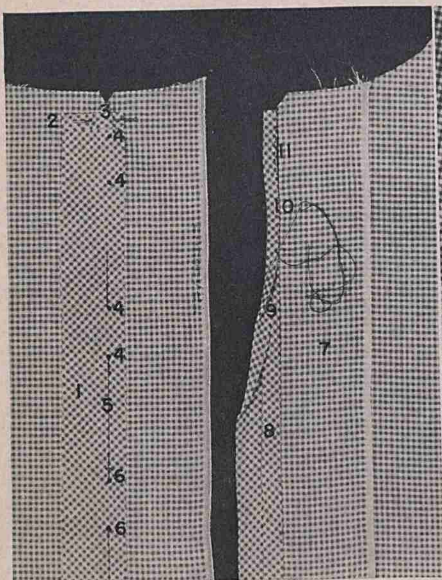


FIGURE 81 DN-1149

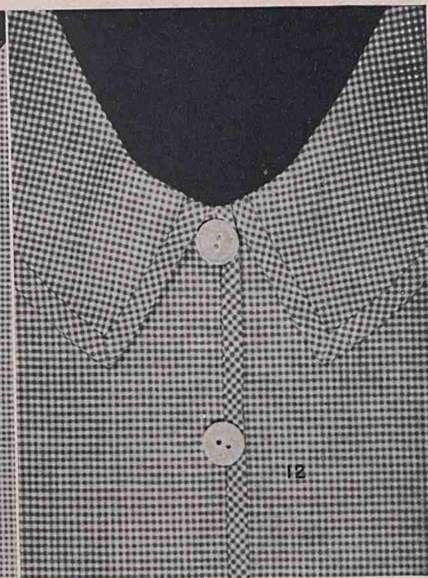


FIGURE 82 DN-1150A

Fastenings

Strip buttonholes.—Easy-to-make substitutes for lengthwise worked or bound buttonholes on a tailored dress or blouse. To make the finished edge as flat as possible, cut the front facing in one with the front (fig. 81).

1. Cut a strip of straight or bias fabric four times the desired finished width of the buttonhole binding. A finished binding ¼ inch wide gives a neat appearance.

2. Turn under the top edge of the strip ¼ inch.

3. Pin the strip to the garment, with the seam line of the strip exactly over the center front line and the top edge level with the neck seam line.

4. Mark the top and the bottom ends of each buttonhole an equal distance apart.

5. Machine-stitch on the center front line between each buttonhole, being sure to

6. Back-stitch at the beginning and end of each section of stitching.

7. Press the facing to the inside of the garment.

8. Press buttonhole strip away from the blouse.

9. Turn under the outer edge of the strip so the fold meets the stitching line and the folded strip is the desired width. For a narrower binding, trim it down before turning.

10. Overhand the strip to the stitching line between buttonhole openings, taking several back stitches at the beginning and end of each buttonhole.

11. At the buttonhole openings, overhand the loose, folded edges together.

12. Finished buttonhole strip (fig. 82).

Hammered-in snap fasteners.—Fasteners of this type are strong and easy to attach, well suited to utility clothes, but need strong reinforcement to keep them from straining and tearing the garment.

With separate stay (fig. 83)

1. Press the facing back to the right side, turning on the front fold marks. Stitch the neck edge from the fold to the collar point and trim the seam allowance to about ⅛ inch.

2. Lay a strip of firm fabric against the facing, with the edge next to the front fold. Pin or baste in place.

Facing stay (fig. 84)

1. Press the facing to the right side, turning on the front fold marks.

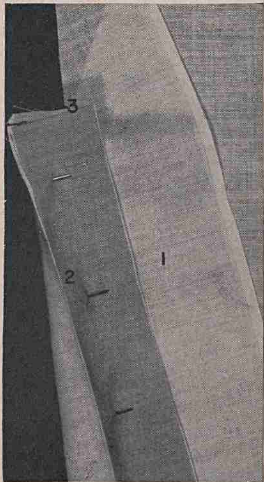


FIGURE 83 DN-1151

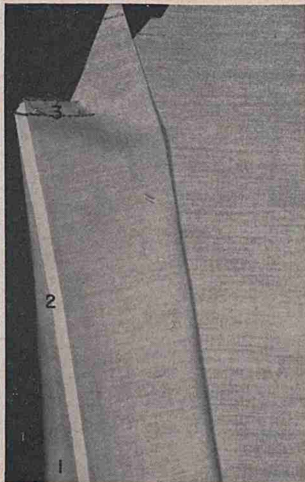


FIGURE 84 DN-1152B

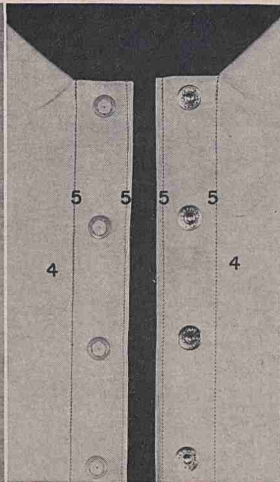


FIGURE 85 DN-1169B

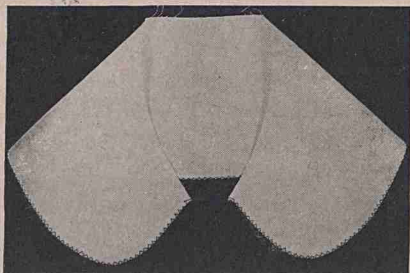


FIGURE 86 DN-1153A

2. Fold the facing back again toward the front, until the straight edge lies along the front fold.

3. Stitch and trim the neck edge; clip to the center front.

To finish both (fig. 85)—

4. Turn the facings to the wrong side; press.

5. Machine-stitch down both sides of the center front so the stitching will catch both edges of the stay. The machine stitching helps reinforce the fastenings. Both left and right fronts should be made the same way.

Trim Finishing

Simple, quick-to-make trim that gives a professional look to an otherwise uninteresting garment

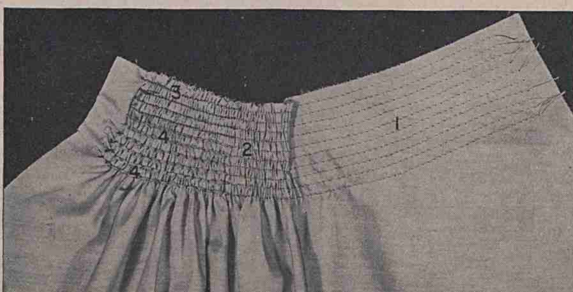


FIGURE 87 DN-1155A

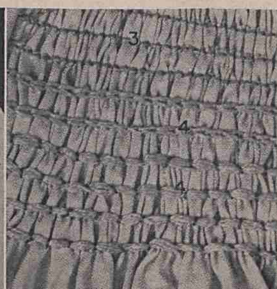


FIGURE 88 DN-1171

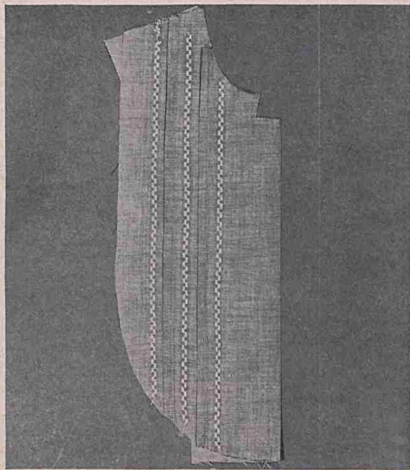
may be made with skillful handling of modern machine attachments. The trims that are shown here are effective, yet easy to make.

Zigzag stitch makes a simple, durable edge finish for collars, cuffs, and yokes that strengthens as well as decorates (fig. 86).

Smocking on blouses and dresses for little girls is effective but time-consuming. A quick way of getting a similar effect is as follows:

1. Lengthen the machine stitch and, with the edge of the presser foot as a guide, make several rows of stitching spaced evenly apart.
2. Pull the underneath threads to adjust the gathers, then fasten the threads.
3. Machine-stitch over each row of stitching with contrasting or matching thread to hold the gathers in place (fig. 87), *or*
4. Make decorative stitches such as couching or chain-stitch with embroidery thread; such stitches hold the gathers in place and give a semblance of smocking (fig. 88).

Novelty embroidery stitches can be made by machine (fig. 89). Decorative stitches can be made automatically with an attachment, or on a swing-needle machine, and are effective when well used.

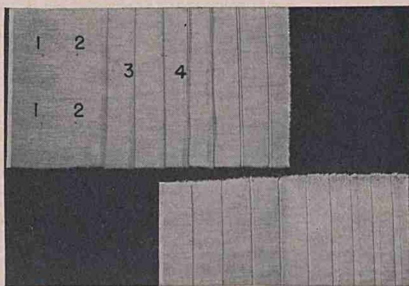


DN-1154

FIGURE 89

Tucks take extra time to make, but they are an inexpensive, easy-to-iron, and durable type of trim (fig. 90).

1. With small dots lightly mark the fold line of the first tuck, using a rule to be sure the line will be straight and will be on the straight of the goods. A transparent ruler is convenient for this.
2. Measure the distance to the next fold line and mark. Repeat for all the tucks needed.
3. Crease and damp press each fold line.
4. Adjust the edge-stitcher—a machine attachment—or the seam guide to the desired tuck width and stitch the tucks. If the tucks are wide, or the material is slippery, each tuck may need to be basted before being stitched. To tuck a yoke, collar, or cuffs when the pattern does not allow for it, tuck a piece of material large enough for the section and then cut it out, following the pattern.



DN-1156

FIGURE 90

Lace may be sewed on lingerie, robes, and dresses quickly and easily by machine with a zigzag stitch made with an attachment or on a swing-needle machine (1), or with a straight stitch (2). The straight stitch generally is better for dresses and the zigzag stitch for lingerie.

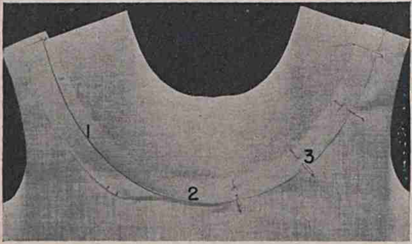
The edges of firmly woven fabrics that are unlikely to fray may be left unfinished under the lace. Other materials should be hemmed or faced before the lace is sewed on, or the edges may be handrolled afterward. The latter method is a good one to use on blouses and dresses (fig. 91).

DN-1157

FIGURE 91

Attaching Yokes

The following method is an easy way of making yokes that fit smoothly. Whether the yoke is round, square, or pointed, and for a blouse or a skirt, the method of making it is the same. A blouse yoke is shown here (fig. 92).



DN-1158

FIGURE 92

1. Mark the yoke seam line by adjusting the seam guide just a little less than a seam's width from the needle and stitching around the yoke. Hold the cloth evenly against the seam guide while stitching, taking care not to stretch or pucker the yoke edge. If the fabric is slippery or twists easily, this stitching may need to be done over a whole tissue-paper pattern.
2. Turn the yoke edge to the underside, just past the stitching line. Pin; baste, if necessary; press.
3. Pin the yoke flat over the joining garment section, with the raw edges meeting as closely as possible on the wrong side and notches matching. In order to keep the two sections flat for a good fit, it is not always possible to make the seam edges meet. Baste; machine-stitch close to the edge.

If it is preferred that the machine stitching not show, slip-baste the folded edge to the lower blouse section; then on the wrong side, open out the pieces so the seam edges are flat against the sewing machine and stitch over the hand basting.

Adjusting Gathers

Gather by machine to save time and to achieve an evenly distributed fullness. There are several ways of doing it, depending on the amount of fullness wanted.

Ruffler (fig. 93).—A moderate amount of waistline fullness as in little girls' skirts can be gathered or worked into small, close pleats (1) very easily with a ruffler.

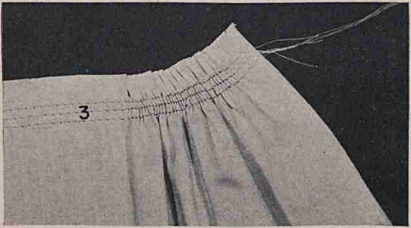
Gathering foot (fig. 93).—A slight amount of gathers (2) can be put in quickly with the gathering foot. This foot can also be used for shirring.

Long machine stitch (fig. 94).—When fullness needs to be adjusted to fit, the gathers may be put in by sewing with a long machine stitch, from 6

DN-1159

FIGURE 93

to 8 to the inch, then pulling up the underneath threads (3). One row of gathers at the seam line and 1/8 inch on each side of it help to distribute the gathers evenly. This method is an easy way to take care of the extra material in the tops of set-in sleeves (fig. 95) and to work in elbow fullness in long sleeves. It is also a quick but



DN-1119B

FIGURE 94

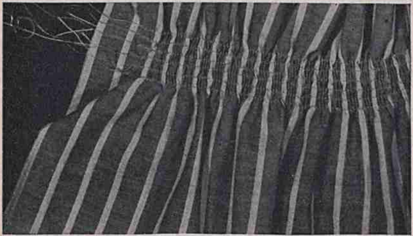
DN-1160

FIGURE 95

satisfactory way of easing a very full skirt to a small waist. To simplify working on long lengths of fabric, gather between seams, then pull up each section.

When fullness needs to be close fitting, yet adjustable, it can be held in with elastic thread or webbing.

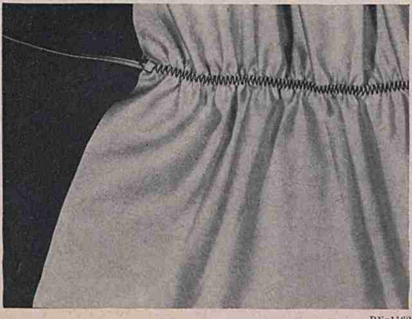
Elastic thread (fig. 96).—Use of elastic thread makes fullness at sleeves and waistlines soft and comfortable. Wind the elastic thread on the bobbin by hand and lengthen the stitch to about 8 or 9 to the inch. The thread gathers as you stitch.



DN-1161

Figure 96

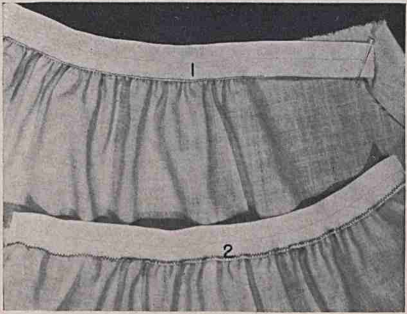
Elastic (fig. 97) can be inserted in a casing, or if narrow, sewed on with a zigzag stitch wide enough to cover the elastic.



DN-1162

Figure 97

Elastic webbing (fig. 98) makes a comfortable, adjustable waistline finish for shorts, briefs, and pajamas. For easy application, divide the waist edge and a snug waist length of webbing into eighths, and pin the elastic to the waistline with the respective points matching. Pin in between these points to hold the elastic in place during sewing. Basting is little or no help here. Stretch the elastic to fit the fabric edge as it is sewed, pulling with both hands to hold it flat against



DN-1163

Figure 98

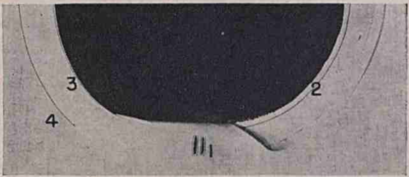
the material. Elastic webbing can be sewed on with

1. Straight stitch: Lengthen the stitch to about 8 stitches to the inch.

2. Zigzag stitch: Use the attachment or the swing-needle machine. Adjust to a moderately deep stitch, a little less than 1/8 inch, so the stitching can stretch with the elastic.

Casing Openings

Casing openings are needed for inserting or fastening a drawstring, ribbon, or elastic as at the neckline, sleeve, or waistline. Two finishes suitable for neck edges and one for waistline openings of pajamas or shorts are shown here.



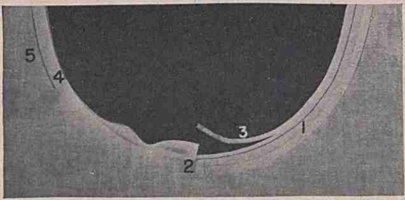
DN-1164

Figure 99

Buttonhole (fig. 99).—A neat finish for the right side of a neck edge, sleeve, or waistline.

1. Make two buttonholes by machine, about 1/4 inch apart, where the opening is to be. If ribbon is to be used as a drawstring and is to show, make the buttonholes on the garment; if the drawstring is to be concealed, make the buttonholes in the hem or facing. In each case, make them before the hem or facing is sewed down.

2. Stitch a facing to a curved edge, right sides together, and trim the seam allowance to 1/4 inch. If the edge is straight, it may be hemmed.



DN-1165

FIGURE 100

3. Turn the hem or facing to the wrong side; press; stitch close to the neck edge.

4. Stitch the other edge of the facing or the hem to the garment.

Hemmed opening (fig. 100).—

1. Shape bias tape to fit the neckline, with the inside edge pressed open, or use a shaped facing.

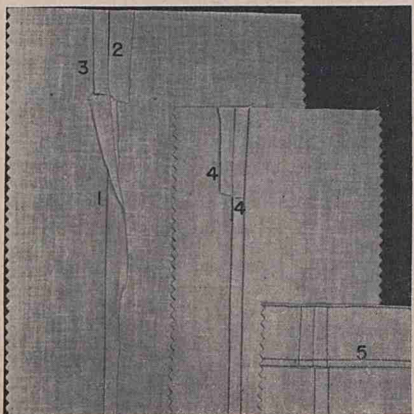
2. Fold the tape or facing ends back so they just meet to form the opening; pin, baste, and stitch the tape to the garment.

3. Trim the seam allowance to ⅛ inch.

4. Turn to the wrong side; press; stitch close to the edge.

5. Stitch the other edge of the tape or facing to the garment.

In-seam opening (fig. 101).—An easy way to finish a waistline opening when elastic or drawstring is to be used. The opening may be in the side, center-front, or center-back seams.



DN-1166

FIGURE 101

1. Stitch the seams up to the hem marks.

2. Above the hem marks, press the seams open.

3. Turn under the seam edges to make a ¼-inch hem on each side. If the seams are flat fell, clip the seam as far as the stitching line so the edges will turn back flat.

4. Machine-stitch hems of opening; if flat-fell seams are to be used, stitch one hem and the second row of the seam at one time.

5. Turn the top hem to the wrong side. Machine-stitch the hem, making two rows at the bottom and one row along the upper edge. This method keeps the seam opening on the wrong side.

Finishing Belts

Fabric or ribbon belts can be finished to look professional at little cost. The belt end is usually the hardest part to make. Some easy ways are as follows:

Belt of grosgrain ribbon or belting (fig. 102)

1. Fold a piece of ribbon two times the length of the finished belt in half crosswise at the midpoint of the belt; stitch straight across the belt with short machine stitches. This makes the point of the belt.

2. Fold one piece of the belt back under the other, with the stitching down the center.

3. Crease the belting on each side of the stitching to make points that are identical on each side.

4. Edge-stitch the belt and point. If a firmer belt is desired, insert belting or stiffening before the edges are stitched together.

Self-material over belting (fig. 103).—An easy-to-make and durable belt for utility and school clothes. Be sure the belting is washable and has a permanent finish.

1. Cut a belt strip ⅛ inch wider than twice the width of the belting; turn under and press so that the raw edges meet in the center.

2. Fold the belt end back in the middle, wrong side out, and stitch across the end.

3. Turn the belt end right side out; press.

4. Baste and stitch the belt to the belting along both sides and point.

5. Trim off the belting end slightly under the fabric edge.

6. Finished belt.

Self-material belts (fig. 104).—An easy-to-make tie belt for aprons, house and school dresses.

1. Hem both sides of the belt.

2. Fold the belt end lengthwise, wrong side outside; stitch.

3. Turn the belt end right side out; press.

4. Stitch across belt end.

Eyelets for belts (fig. 105).—Openings for the tongue of a belt buckle are not difficult to finish. Eyelets may be hand worked with a blanket or overhand stitch, or metal eyelets may be inserted with an inexpensive attachment.

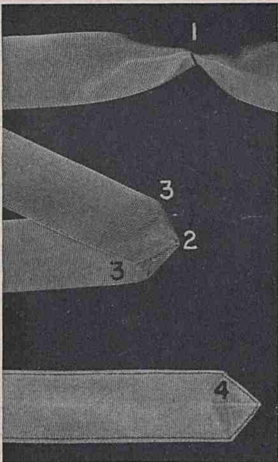


FIGURE 102 DN-1169A

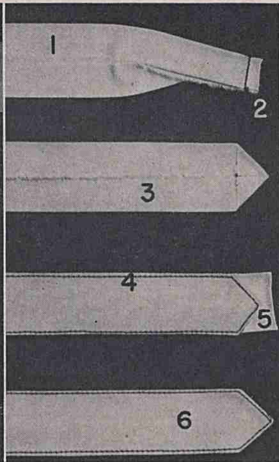


FIGURE 103 DN-1167B

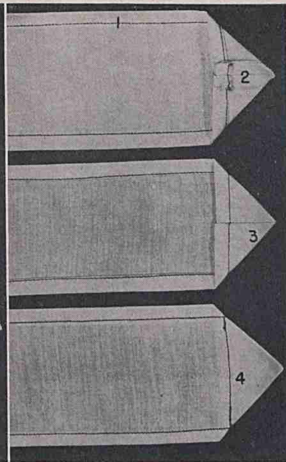
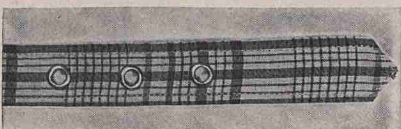


FIGURE 104 DN-1167A



DN-1168

FIGURE 105

EQUIPMENT

Proper tools are needed to make sewing easy as well as accurate. The ones found useful for most home sewing are listed below:

Cutting and Sewing Aids

Cutting shears.—At least 8 inches long, with blades that cut precisely to the point.

Scissors.—Small ones, about 5 inches long for such work as cutting threads.

Pins.—Silk dressmaker pins, size 16. This size is suitable for working on most fabrics.

Tape measure.—Get one that will not stretch, either of fabric or a rollup metal.

Colored-chalk pencils.—For easy marking of pattern perforations; the marks can be brushed off quickly when no longer needed.

Needles for hand sewing.—Size 7 or 8 needles are strong enough for sewing heavy fabrics such as work cottons. A finer needle, size 9 or 10, is easier to use on fine wools, silks, cottons, and other lightweight fabrics. Crewel needles, those with large eyes, are easy to thread. There are also needles with "threaders" attached; they are good for basting.

Thimble.—Get a thimble that fits snugly so it will not drop off the finger while sewing, but not so tight as to be uncomfortable. When buying a thimble, try it on for a perfect fit.

Colored thread.—Contrasting basing thread is easy to follow when stitching.

Ruler, 6-inch transparent.—Get a ruler with 1/8-inch markings on both sides and ends. It can be used as a guide when basting or marking seam widths and corners.

Cloth guide.—A machine attachment to guide to the edge of the fabric while stitching. Aids in making the stitching even.

Seam-width marker.—A small gummed marker to be fastened on to the machine throat plate. Saves time when the cloth guide needs adjusting. Throat plates with permanent indications of stitching width are now available on many machines.

Bias cutting guide.—A small attachment to be slipped on a scissor blade to aid in cutting bias strips of fabric evenly.

Pencil sharpener.—Get a small, inexpensive one for keeping sharp points on pencils to be used for marking notches and perforations.

Hem marker.—Get an accurate one for marking skirt lengths. Hem markers requiring a second person to pin the length are more accurate than those that are self-operating.

Stiletto.—A sharp instrument for punching eyelets and removing bastings.

Ironing Aids

Careful pressing often saves basting and is a help in producing attractive, well-made garments. The following equipment is needed for pressing:

Iron.—Preferably an automatic one, with a temperature indicator which prevents damage to heat-sensitive fabrics.

Ironing board.—Have a well-padded ironing board that can be lowered to sitting height. It is convenient for small pressing jobs and can serve also as a sewing table between pressings.

Press cloths.—These cloths are needed for pressing fabrics likely to be damaged by direct contact with the iron. There are many good ones specially treated to make pressing effective—heavy cotton ones for use on wools, nonwoven cloths for most materials, and those made of organdie with see-through qualities.

Sponge.—A cellulose sponge for dampening fabrics or press cloths; it spreads the moisture evenly and is more serviceable than natural sponges.

Water container.—A convenience at the ironing board. Use the lid to rest the sponge on between usings.

Machine-Attachment Aids

Some sewing processes can be dóne quickly and satisfactorily by machine, particularly on work and school clothes. Buttonholes, hems, seam finishing can be done on a swing-needle machine, or by means of the following special machine attachments:

Buttonholer.—A useful attachment for making buttonholes on men's shirts, on housedresses, and on school clothes.

Edge-stitcher.—For keeping outside stitching very close to the edge.

Gathering foot.—For gathering long lengths of fabric.

Narrow hemmer.—For making tiny hems on ruffles.

Overcaster.—For finishing seam edges on fabrics that fray badly.

Ruffler.—For gathering such things as skirts into small, flat pleats.

Zigzagger.—For finishing seam edges of such fabrics as rayons, linens, and some wools that will fray badly.

Publications of the U. S. Department of Agriculture that provide further information on home construction of clothing are listed below:

How To Tailor a Woman's Suit, Home and Garden Bulletin No. 20

Coat Making at Home, Farmers' Bulletin No. 1894

Fitting Coats and Suits, Home and Garden Bulletin No. 11

Fitting Dresses, Farmers' Bulletin No. 1964

Pattern Alteration, Farmers' Bulletin No. 1968

Clothing and Housing Research Division
Institute of Home Economics
Agricultural Research Service

This publication supersedes Farmers' Bulletin 1954, Making a Dress at Home

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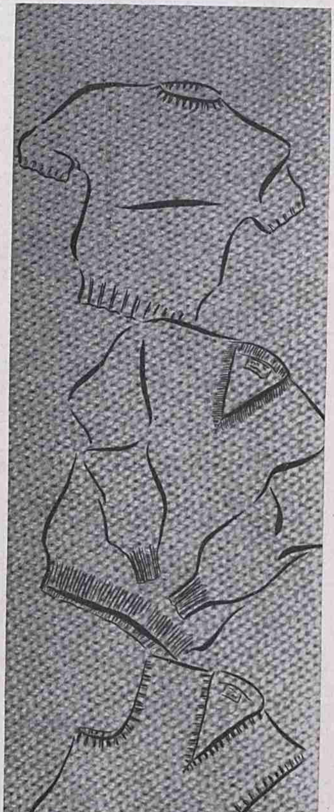
Buying SWEATERS for the family



Home and Garden Bulletin No. 16

Bureau of Human Nutrition and Home Economics

U. S. Department of Agriculture

Buying sweaters for the family...

By Shirley Johnstone, *clothing specialist*

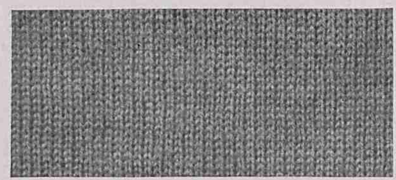
No matter how much or how little you have to spend on a sweater, you'll be more likely to choose one that will give satisfaction if you know how to judge quality of sweaters on the market.

Information in this publication on different kinds of knitting, quality of materials, methods of construction, and grades of workmanship—and what to expect from each in service and appearance—is intended to help you choose a sweater that will best serve your purpose and give maximum wear for money spent.

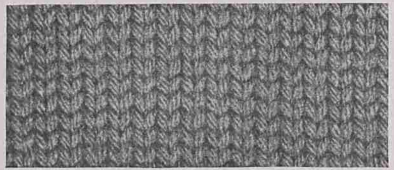
Learn to know sweater fabrics

Take a close look at the fabric of a sweater before you buy. The purpose for which a knit fabric is best suited depends on the kind of knitting and the yarn used.

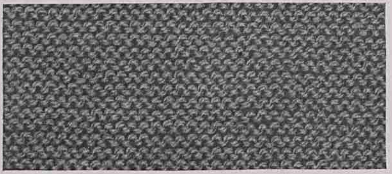
Various stitches used in knitting sweaters are illustrated below and on the next page. Usually you will find one kind in the body of the sweater and another—generally ribbing—in the bandings at neck, wrists, and bottom.



Plain stitch—sometimes called flat stitch—is most used for sweaters. It can be knit rapidly and so is inexpensive to manufacture. On the face of plain-knit fabrics you can see rows of lengthwise ribs. On the back, your eye is led crosswise by a stitch that looks like purling.



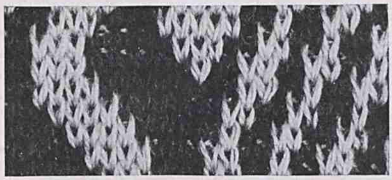
Shaker knit is a name usually given to a plain knit when a heavy yarn and a coarse stitch are used. A plain knit of smaller yarn and a finer stitch may be called baby shaker. Naturally, heavy shakers are warmer than baby shakers. Each is much used in work and sport sweaters.



Purl stitch looks on both sides like the under side of plain knitting. It stretches a little more lengthwise than plain knit, but much less crosswise. Because of crosswise firmness, bands of purling are often used at sweater shoulders to help keep them from stretching out of shape.

Cable stitch, which is a combination of plain and purl stitches, makes a pattern that looks like twisted rope. It is used both in sportswear made of heavier yarn and in dressier sweaters of fine yarn. The stitch may be used for the entire sweater or as trim for plain knit.

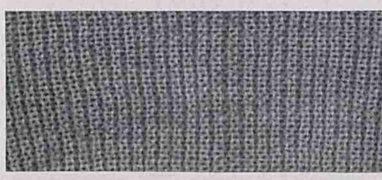
Jacquard knit, a type of knitting that makes intricate patterns, is usually double knit and extra warm, a favorite for sportswear. It may be single knit with an open, lacy pattern. You will know that a sweater is double knit if the pattern colors are reversed on the wrong side.



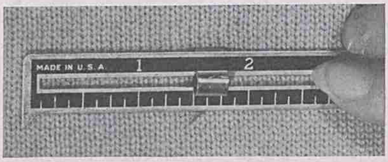
Swiss rib, commonly called 2-by-2 rib, is generally used for sweater bandings. It is made by knitting two stitches, then purling two. The two rows of purled stitches, which are down between the raised ribs of knit stitches, actually do not show unless banding is stretched.

One-by-one rib is made like Swiss rib except that one plain stitch alternates with one purl stitch. Not as elastic as 2-by-2 ribbing, it is likely to stretch out of shape unless tightly knit. It looks neater and daintier than the 2-by-2 and is used on very-fine-knit sweaters.

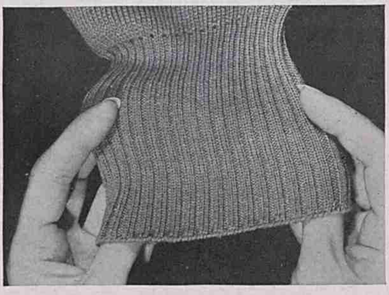
Half-cardigan is a stitch that looks much like 1-by-1 rib, but somewhat flatter because the ribs are wider and the spaces between them are smaller. This stitch makes a fine, elastic ribbing. It is most used for bandings, but is satisfactory also for the body of a sweater.

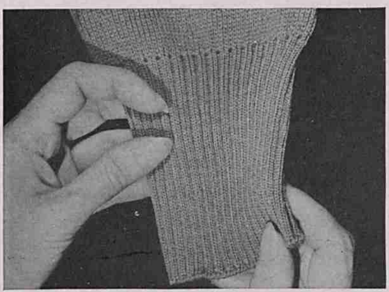


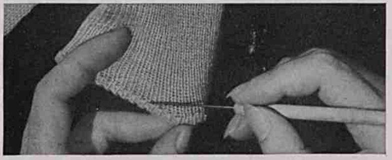
Rack stitch, a variation of half-cardigan, makes a herringbone or V pattern on right side, a 1-by-1 rib on back. Banding of this stitch is extra firm, but less elastic than others—good on sweaters that get hard wear. It stands strain without loss of shape, and is decorative.



To measure the gauge of a knit fabric, count the number of stitches within a space of 1½ inches.


Stretch banding to see if it springs back to shape.


Good banding springs back quickly and completely.


For added strength, the edges of ribbed bandings on sweaters are sometimes reinforced with extra yarn.

Fineness of knit fabrics depends on the gauge—the number of stitches within a space of 1½ inches. The higher the gauge, the finer the knit. For example, a 21-gauge sweater (21 rows of stitches within 1½ inches) is fine-knit; a 6-gauge sweater is coarse-knit.

High gauges are best suited to fine yarns, low gauges to heavy yarns. When the gauge is right for the size of the yarn, the fabric is firm—and firmness is protection against pulling and snagging of yarns and loss of shape by stretching or shrinking. To make a little yarn go a long way, manufacturers often use loosely knit fabrics to make sweaters, then stretch them to size. Such a sweater snags easily, may lose shape in wearing and washing.

In bandings, look for a firm, close knit that will stand strain without losing its shape and elasticity. As a test, stretch the banding between your hands, then let it spring back. A firm rib-knit will spring back quickly to its original shape. A banding that fails to do this will lose its shape and need reblocking after a few wearings.

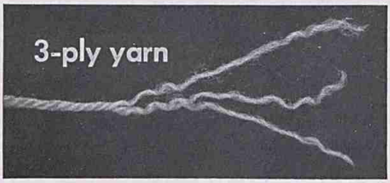
For best elasticity, a ribbed banding should be knit with a higher gauge than the body of the sweater. You can see whether this has been done by comparing the size of the stitches.

Fibers used in sweaters

Wool, cotton, and various man-made fibers—nylon, rayon, Orlon, Vicara—are used in sweaters.

For knitting, the fibers are made into yarns of 2-, 3-, or 4-ply. To see what is meant by ply, untwist a piece of wool yarn. A 3-ply yarn will separate into three strands, in each of which the fibers have been twisted slightly before being twisted together. The more plies in a yarn, the stronger and heavier it is.

A loosely twisted yarn makes a sweater that feels soft and flexible but tends to pill with wear—fibers rub up and form little balls on the surface of the knit fabric. If yarn is tightly twisted the ends of the fibers cannot rub up and pill readily. However, some pilling must be expected in most sweaters. Sweaters made of yarns too tightly twisted do not have the soft feel and warmth generally desired.



Wools

The greatest number of sweaters are made of wool, which is a natural for sweaters. Wool of good quality is durable, elastic, and warm. Knitting enhances these natural qualities.

Wools used in sweaters include, in addition to sheep's wool, such animal fibers as cashmere, vicuna, mohair, and Angora rabbit hair. These are considered luxury fibers. Woven labels attached to the neck of a sweater or a tag hung from a button usually name the fiber used in the yarn. Sweaters made from sheep's wool may be labeled "worsted" or "woolen."

• Worsted yarns are made from long-staple wool fibers, which have been combed to make them lie parallel. The yarn is tightly twisted—has a smooth finish and luster. The fabric knit from it is firm, strong, and resistant to the rubbing that causes pilling.

"Zephyr" yarn is a type of worsted yarn spun from the finest of fine wool. It is very soft and used only in fine-knit sweaters.

"French-spun" yarns are soft worsted yarns made from shorter fibers than those ordinarily used. "French" refers only to the method of spinning. It does not mean the yarns were spun in France.

• Woolen yarns are spun from short crisscrossed fibers that have not been combed. The yarn feels soft and fine. Fabrics made from them are soft and lightweight and wear well, but they tend to pill and are not as durable as worsted knits.

Shetland wool is so named because it comes from the Shetland Islands. It is a lightweight, warm-feeling fiber. The name is often misused today to mean soft, fine wool that is much like Shetland but not from the Shetland Islands.

• Cashmere, a very soft and fine silky yarn made from the fleece of cashmere goats, is the most used of the luxury fibers. The fleece is imported and limited in supply, which keeps the cost high. Such other fibers as sheep's wool and nylon are often blended with cashmere for extra strength and durability. Blending makes the fiber go further and permits lower cost.

The best cashmere sweaters are very soft, getting softer with each washing, are finely knit, and are free from the black or dark hairs sometimes found in low-grade cashmere. Cashmere is, in fact, so soft and perishable that it requires special care in handling.

• Angora rabbit hair is the soft, fluffy hair combed from a special breed of rabbit. Sweaters of Angora rabbit hair are required to be so labeled. Best qualities, which have extra-long fibers, are known as French Angora. For greater durability and reduced cost, this fiber may be blended with wool or nylon.

Angora sweaters are always fluffy. Because they shed badly they are most practical for wear with skirts of matching colors or with tweeds, on which fuzz will not show as it does on plain materials of contrasting color.

• Mohair is a smooth, wiry fiber from the Angora goat. Kid mohair is most used in sweaters because it is fine and lustrous. The yarns are fine and loosely spun. For softer yarns, mohair is most often blended with wool and the blend is referred to as wool rather than mohair.

• Vicuna is hair from a small animal of the camel family, the vicuna, which lives in the Andes. It is the finest of all wools and extremely soft. Only a small quantity is available and this is used in very high-priced merchandise. Few sweaters of vicuna yarn are on the market.

Guide to wool quality

It is impossible for the buyer to know with certainty the actual quality of the wool in a fabric, either woven or knit. However, every wool garment carries a label, required by the Wool Products Labeling Act of 1939, that states whether it is "wool," "reprocessed wool," or "reused wool." The Act further requires that when other fibers have been blended with the wool, the label state the percentage and kind of each fiber.

Wool, according to the Act, contains only new fibers. However, it may include unused wool wastes accumulated during manufacture but before weaving or felting, or fibers reclaimed from unused wool knitted clips.

Reprocessed wool is made from fibers reclaimed from woven or felted materials that have not been worn or used. It is sometimes used in sweater yarns.

Reused wool is made from woven or knitted materials that have been worn or used. Fibers of reused wool usually are too short for sweater yarns unless blended with better fibers. Such blends are used in lower priced merchandise.

Aside from a factual label and the price range, the only way at present to estimate quality of wool in a sweater is by feel and appearance. Developing a feel for quality takes practice, but is time well spent when factual information is missing. It is easy to be fooled by appearance.

Take a sweater in your hand and gently squeeze the fabric, or slip your fingers in the sleeve. High-grade wool will feel soft, lightweight, and lofty, a term used by the trade to describe a full-bodied, firm feel. The degree of softness you can expect must naturally depend on the type of sweater you want and the weight of yarn that is practical. Poor-quality wool will feel harsh, rough, and scratchy against your skin. Small bits of rough material may even make it feel prickly.

Cotton

Cotton yarns, such as bouclé, which have little nubs or knots at intervals to add interest and body to the yarn, are widely used in all-season sweaters. Cotton is cool, comfortable, holds dye well, and is easy to launder. However, it does not have the elasticity of wool and after a few wearings a cotton sweater will need reblocking to size. Plain cotton yarns are rarely used in sweaters.

Man-made fibers

Nylon, rayon, Orlon, and Vicara have special qualities that have established them with the sweater industry and with persons who wear sweaters. At the same time, these fibers are helping to stretch our supply of wool.

• Nylon used in sweaters is spun nylon which differs from the more familiar monofilament yarn used in hosiery and lingerie. The fibers are short and the yarns are spun with air spaces that help to make the sweater warm.

Nylon sweaters are easy to wash and they dry more quickly than those of natural fibers, though the air spaces in spun nylon do hold water and slow up drying somewhat. Nylon sweaters keep their shape, need no blocking, and have a soft, comfortable texture that is particularly pleasant to persons with sensitive skins. Nylon is moth-resistant. Perspiration does not cause it to mat or felt.

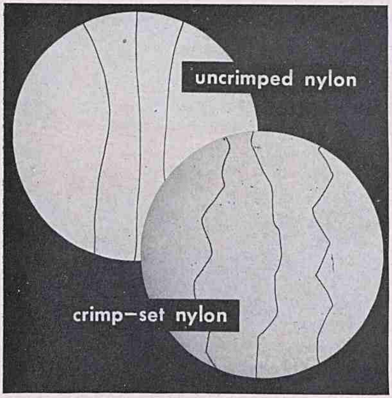
Improved manufacturing processes have overcome to a large extent the undesirable qualities of the first nylon sweaters—which were shiny, lacked the resiliency of wool, sagged, held fold wrinkles, and in general did not measure up to wool sweaters in appearance. However, nylon sweaters still hold wrinkles and are heavier-feeling than wool. Like some wool sweaters, they pill, and because nylon fibers are strong, the little balls cling more stubbornly than on wool.

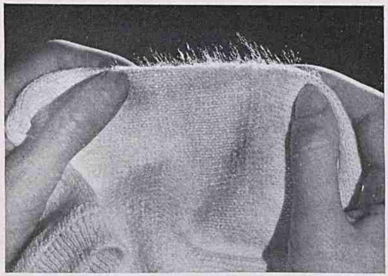
Two kinds of nylon fibers are used in sweaters—virgin nylon staple and garnetted nylon. It is well to know the properties of each before you buy.

Virgin nylon staple fibers are brand new, and have never before been made up into yarn.

Garnetted nylon fibers have been reworked from salvaged nylon waste. The reworking process breaks the fibers and when these are spun into yarn the resulting yarns are generally not as durable as those spun from virgin nylon.

Sweaters of garnetted nylon do not have the firm feel or warmth of virgin nylon, and the color may be dull or grayish. They pill badly and do not hold their shape well. However, for a lightweight sweater blouse that will not receive hard





To find if nylon fibers have been crimped, fold the fabric, pull up some surface fibers, and look at them closely against a contrasting background. See whether fibers are straight and smooth or crimped and zigzag. A fabric may have both.

wear, garnetted nylon may be satisfactory. Sweaters made from it can be sold at surprisingly low prices, as compared with those made from virgin or new nylon.

Sweaters of either virgin nylon staple or garnetted nylon are usually labeled "all nylon," "100-percent nylon," or simply "nylon." Virgin nylon, however, is often labeled as "virgin nylon" or "new nylon." Garnetted nylon is rarely, if ever, so labeled.

The term "crimp-set" on sweater labels means that the normally straight nylon fibers, either staple or garnetted, have been permanently crimped. This treatment gives the fibers more of the qualities of wool—makes them less shiny and gives them a soft, springy, woollike feel.

Nylon staple (cut filaments) is being blended with wool for sweaters, apparently quite satisfactorily. Nylon adds strength, makes the sweaters dry more quickly and helps them retain their shape. A nylon-and-wool sweater must be cared for and protected from moths in the same way as an all-wool sweater.

● Rayon, a fiber common in woven clothing, is used to only a small extent in sweaters. You will find it in novelty sweaters of nubby-type yarns, or it may be blended with wool. Rayon used alone does not have the elasticity or warmth of wool, feels soft but heavy, and is weak when wet—a point to keep in mind when caring for a rayon sweater. Those brushed to look like wool are highly flammable, and should be given a permanent fire-resistant finish by the manufacturer.

● Vicara, one of the newest fibers used in sweaters, is made from the protein found in the kernel of corn. For sweaters it is blended with wool—or wool and nylon.

These combinations make sweaters that are soft and firm, look like all-wool, and may be more durable and more resistant to wrinkles and mildew. The blend is also more resistant to moths, but of course moths will attack the wool fibers and sometimes cut through or eat the other fibers to get at the wool. A sweater containing Vicara needs the same protection against moths as does an all-wool sweater. Vicara sweaters should be handled carefully when they are washed, because the fiber is weakened when wet.

● Orlon, another new synthetic fiber used in sweaters, has some of the properties of nylon. Sweaters made of Orlon are easily laundered, dry quickly without need of blocking, do not shrink, and are resistant to moths. They feel softer than nylon—more like a silk-and-wool mixture—and are more resistant than nylon to wrinkling. The chief disadvantage of Orlon is slight fuzziness after laundering, which is not too objectionable.

Examine workmanship

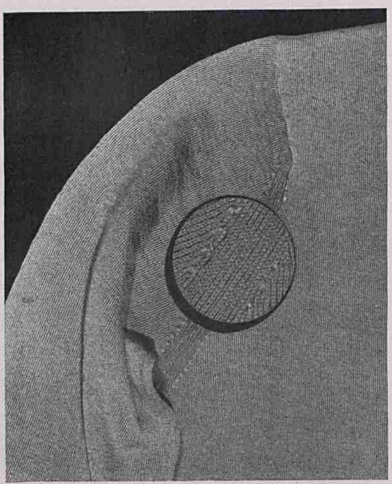
The workmanship in a sweater—the way parts are shaped and joined, finishing of the neck and front openings—is another guide to quality.

Shaping of sweaters

Sweaters may be full-fashioned—sometimes called hand-fashioned—or cut-and-sewn, depending on the method of shaping. In some, the two methods of shaping are combined.

Full-fashioned sweaters. The finest and most costly sweaters are full-fashioned throughout. The different parts—back, front, and sleeves—are knit on flat machines that shape and bind off the edges as they knit. This shaping is done by increasing or decreasing the number of stitches, which make little fashioning marks. You will find these about the armholes, sleeves, sides, and sometimes the neck line of a full-fashioned sweater.

Stitches that look like fashioning marks but are only for appearance are sometimes found on cut-and-sewn sweaters. If the marks are genuine, the rows of knit stitches come together at an angle; if imitation, the rows are parallel.

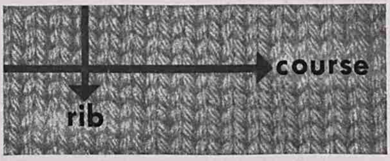


Fashioning marks identify a full-fashioned sweater.

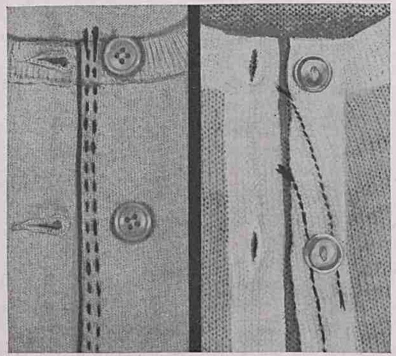
Cut-and-sewn sweaters. In cut-and-sewn sweaters you will find much variation in quality. Though many are good buys for both serviceability and appearance, all of the least expensive sweaters are made by this method.

For cut-and-sewn sweaters the pieces are cut from knit yardage just as clothes of woven goods are cut—a faster and less costly method than knitting shaped pieces. Unless cutting is done precisely with wales (lengthwise ribs) and courses (crosswise rows) the sweaters will sag and twist. In the manufacture of high-grade cut-and-sewn sweaters, care is used in laying out goods, placing patterns, and cutting.

To see whether a sweater is cut straight, follow the ribs and courses. With a large stitch, this is easy to do; but on finer knits it takes a little practice. Careless cutting may show up anywhere in a sweater, so look at back, front, and sleeves.



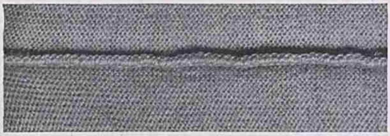
Straight cut follows crosswise rows, lengthwise ribs.



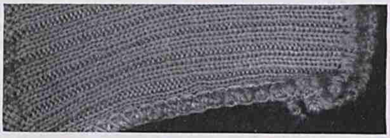
Cardigan front should run with wale, not off-grain.

Looped seam: Pieces machine-stitched just back of bound-off edges. Seaming looks like hand sewing.

Well-made merrowed seam: Closely spaced covering stitches prevent raveling. End securely fastened.



Overlocked seam: Pieces joined with a stitch that looks like buttonhole stitch used in hand sewing.



Poor merrowed seam: Covering stitches are widely spaced. Seam ending is insecure—will work open.

Seams and joinings

The way the parts of a sweater are put together affects serviceability and appearance.

Looped and overlocked seams. In full-fashioned sweaters, seams joining front, back, and sleeves are made by looping or overlocking Both are satisfactory methods.

Looping looks like hand seaming. For a looped seam, pieces are machine-stitched together just back of the bound-off edges with a single-ply yarn of the same fiber used in the sweater. Since shaped-as-knit pieces cannot ravel, the seaming stitches may be close to the edges, making a fine, soft, flat seam that is elastic and comfortable.

For an overlocked seam, two bound-off edges are joined with a stitch that looks much like the buttonhole stitch used in home sewing. Overlocking is done with a single-ply sweater yarn. The finished seam is small and durable, but more noticeable and not as flat or flexible as a looped seam.

Merrowed seams. In cut-and-sewn sweaters, seams must be stitched securely and covered to keep cut edges of the fabric from raveling. This is done on a machine that stitches and covers the edges at the same time, making a merrowed seam. Stitching thread is cotton; cover thread may be cotton or sweater yarn.

Except for the row of stitching just back of the covering stitches, merrowed seams look much like overlocked seams. The stitching makes them stiffer and less elastic—and they are more noticeable, particularly if the cotton thread fades, as it often does. Width of merrowed seams depends on the fineness or coarseness of the knit. At best they are heavier than the seams used on full-fashioned sweaters.

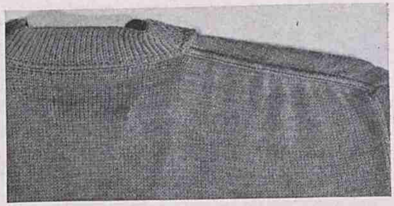
Closely spaced covering stitches are a mark of a well-made merrowed seam. In a poor seam, the stitches are sometimes so far apart that the raw edges of the knit fabric come through between them. Such a seam has so little stretch that the thread snaps easily, and unless the break is promptly mended holes or runs in the fabric soon follow.

Examine seam ends in cut-and-sewn sweaters. If not fastened securely they work open with wear.

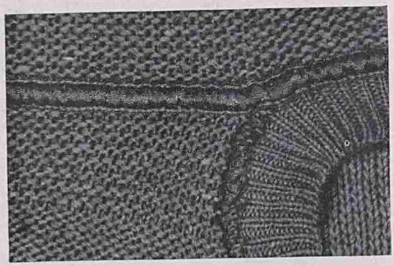
Seam coverings. Shoulder and back-of-neck seams in cut-and-sewn sweaters often are covered with straight tape, a strip of knit fabric, or overlock stitch. These coverings keep the seams from stretching out of shape and protect the stitching against wear. If tape is used, be sure it has been eased on so that it will give slightly as the fabric stretches.

Whether overlock stitch, tape, or knit fabric is used, machine stitches show on the right side. This stitching stregthens the seams and is not noticeable unless the thread fades.

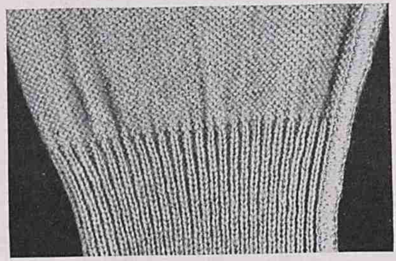
Overlock stitch covers seams at neck and shoulder.



When seams are covered, stitching shows on outside.

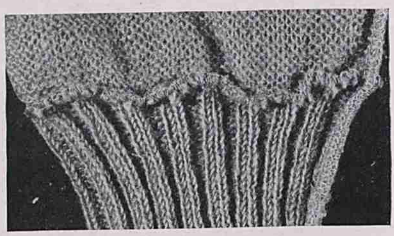


Tape used to cover seams—eased on so it will give.



Looped joining looks like continuous knitting.

Tape at neck-line seam; overlock stitch at shoulder.

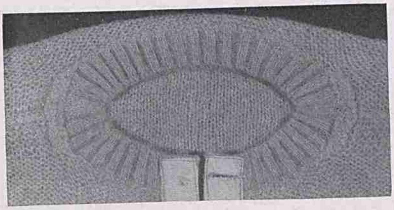


Seamed joining makes a stiff, bulky ridge.

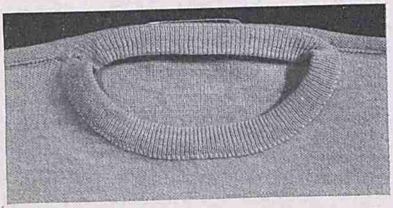
Joinings for bandings. In the best grades of sweaters, both full-fashioned and cut-and-sewn, bandings are joined to the sweater by looping—a hand process that continues the knitting without a seam. A looped joining is smooth and neat and keeps its elasticity.

In men's and boys' utility sweaters and in many sweaters of lower grades, separate knit bandings are often joined to the sweater with overlocked seams. Compared with looping, seaming makes a stiff, bulky ridge, but is durable if fabric edge is stretched as sewn.

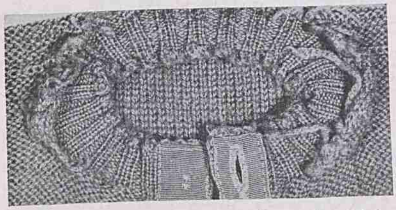
Stretch seams to see whether they give readily. If they do not, they will bind and thread will break.



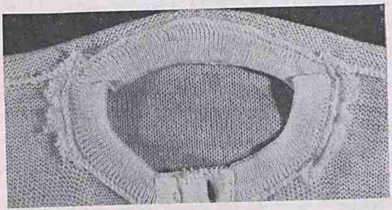
Good single-looped neck line has smooth flat joining.



Double-looped neck line—good shaping, flat finish.



Excess yarns make neck finish bulky and unsightly.



Poor shaping and excess yarns make poor neck line.

Neck finishes

Because the necks of sweaters have to stand a lot of strain, the finish is important. If the neck stretches out of shape the fit and general appearance of the sweater is spoiled.

Neck finishes are described as single-looped and double-looped. A single-looped neck line has only one thickness of ribbing, bound off on the outer edge. After the ribbing is looped to the body of the sweater, excess yarns inside are usually clipped off to make a smooth, flat finish.

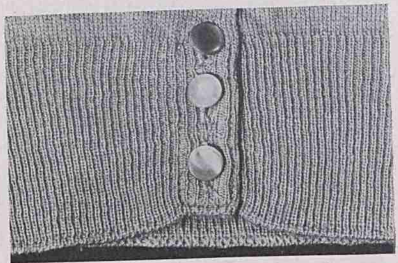
To help make the neck fit snugly, elastic thread is sometimes carried along with the knitting yarn into the edge.

The term double-looped means that the ribbing is actually double, with a fold on the neck edge. A double-looped neck has less stretch than a single-looped one, but keeps its shape better. This firmer construction is a special advantage in sweaters of nylon and cashmere. These yarns are very soft and have less elasticity than some other kinds so that the sweater neck tends to get out of shape more easily. Elastic thread is sometimes run through the neck-line fold to help hold its shape.

Front openings

A good front opening follows one lengthwise rib of the sweater. Openings usually are faced with rayon grosgrain ribbon or knit banding.

Ribbon facing, most often used on women's cardigans, makes a neat finish and is a strong reinforcement for buttons and buttonholes. Its chief disadvantage is that the ribbon may fade or shrink and thus spoil the appearance of an otherwise good sweater. Unfortunately, few sweaters have fact tags that tell whether the ribbon is colorfast and preshrunk.



Ribbon facing has shrunk, spoiled shape of sweater.

A facing of knit banding has the advantage of always matching the sweater exactly in color and reacting the same to washing. It is more bulky, however, than ribbon.

On many men's and boys' cut-and-sewn sweaters, front and neck openings are finished with a knit banding which is continued around the neck line. The seams are either left standing or sewed flat with an overlock stitch that shows on the right side of the sweater. In a utility sweater this stitching is not objectionable if neatly done. It gives extra protection to seams likely to be strained.

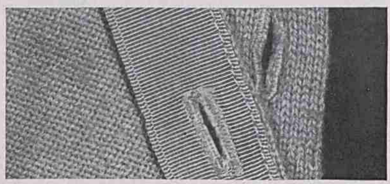
Look at the end finish of knit bandings. In better grade sweaters, the lower edge is usually turned up and covered neatly and firmly with tape. In sweaters of lower grades, bandings often are finished only with weak stitches which may soon break and pull out.

Buttonholes. Good buttonholes add to the appearance and lifetime of a sweater. A firm reinforcement of either ribbon facing or knit banding is needed to keep the buttonhole from spreading and pulling out. A well-made buttonhole is cut straight with both the knit and the reinforcement. The stitches are deep enough to prevent pulling out, and close enough together to cover the cut edges. Buttonholes with widely spaced and shallow stitches look rough, stretch out of shape, and tear easily.

For crosswise buttonholes, the facing or banding should be a little wider than the buttonhole is long so that the buttonholes will not run off into the knit fabric.

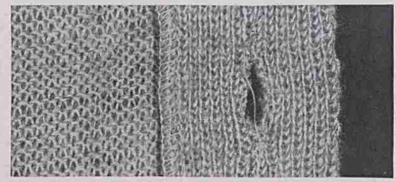
With vertical buttonholes this problem is avoided. However, on a close-fitting sweater vertical buttonholes do not stay fastened as well as crosswise ones.

Facing of knit banding matches sweater exactly.



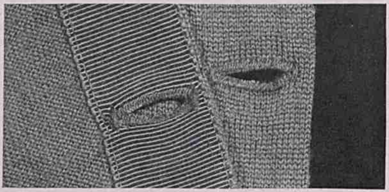
Good buttonhole has deep, closely spaced stitches.

Tape makes good firm finish for seamed-on banding.

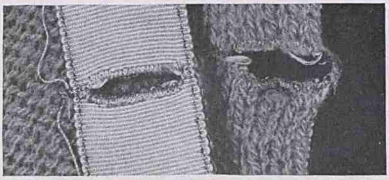


Widely spaced shallow stitches, buttonhole weak.

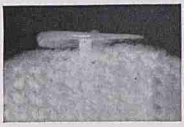
Uneven hem and weak stitches make a poor finish.



A crosswise buttonhole with good reinforcement.



Buttonhole cut to edge of ribbon soon tears out.



Examine under sides and edges of pearl buttons for thin spots and other defects that may cause breaks.

Look to see if buttonholes are evenly spaced and the same distance from the edge. Unevenly spaced buttonholes, not uncommon on sweaters that are speedily made, spoil the appearance of the garment.

Buttons. Pearl or synthetic buttons are most used on sweaters. Often they are dyed to match the sweater color. They are not damaged by frequent washing and if of good quality they look and wear well.

Occasionally advertisements or tags on sweaters mention buttons of "salt water pearl." Unlike ordinary pearl buttons, these have a soft play of colors such as you see in soap bubbles. They cost more, but to many the added appearance value is worth the higher price.

Nylon buttons, which look like plastic, are now being used on nylon sweaters. These buttons will not crack, chip, or break with ordinary wear. They can be dyed with the sweater, which insures a perfect match in color and helps keep production costs down.

Buttons should be evenly spaced and sewed on securely, with no loose dangling threads, so that you will not have to reset or resew them before the sweater can be worn. Since buttons do loosen with wear, no matter how well sewed, a few extra ones are sometimes furnished with a sweater to prevent the inconvenience and expense of having to buy a whole new set if one is lost.

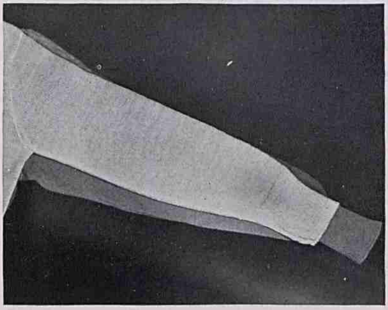
Be sure size is right

Women's sweaters are sized according to bust measurements; men's and children's, by chest measurements. Generally, sweater sizes, whether men's, women's, or children's, run smaller than those of other ready-made clothing because allowance is made for the stretch of the fabric.

Many women find sizing a problem. Most women do not want the close fit that results when a sweater must be stretched to size. For easy fit they need to buy a size or two larger than their usual dress size. A woman who wears a 36 dress, for example, will need a size 38 or 40 sweater. Women who wear large sizes may have difficulty finding a sweater that fits comfortably unless the manufacturer's line runs large.

Sweaters of the same style, marked with the same size number, may differ as much as 2 inches in bust or chest measurement and an inch or more in sleeve length and width. In some better grade sweaters the need for improved sizing has been taken into account. The amount a fabric stretches is not included in the sweater size so that the consumer can buy a sweater according to actual size needed.

Until such sizing becomes a general practice, it is best not to rely on size labels. Rather, have the person for whom the sweater is bought try it on—over the kind of clothing that will be worn underneath. This takes a little time but will save exchanges, which are troublesome and costly both to you and to the store.



Difference in sleeves of sweaters marked same size.

To look and feel right, a sweater must fit correctly. Below is a checklist for good fit.

Neck line fits snugly and comfortably . . . is shaped so that it lies smooth and flat . . . does not ride up on the neck.

Shoulder seams set well . . . shoulders do not sag.

Armholes are comfortably large . . . do not bind.

Sleeves set neatly to armhole lines . . . do not pull on the shoulders . . . have ample width, especially through upper arm.

Long sleeves come to the wrist . . . have slight ease that keeps them from working up. In children's sweaters a turn-back cuff allows for growth.

Fit through body is easy, with slight fullness, no strain.

Front opening stays neatly closed, with no gapping or pulling between buttons.

Line around lower edge is even.

Rib-knit at lower edges and wrists fits neatly.

Find out about special finishes

Shrinkage and damage by moths have long been problems with wool sweaters. To help overcome these difficulties, various shrink-resistant and moth-resistant finishes have been developed and are being used more and more. They may add a little to the cost but usually prove an economy in the long run.

Shrinkproofing

The cause of shrinkage may be careless washing or stretching in manufacture.

Wool sweaters mat and felt if put in too-hot water, changed suddenly from hot to cold water, or rubbed vigorously. It is impossible to bring back the original shape once this has happened. Careful washing according to directions will help prevent such needless waste.

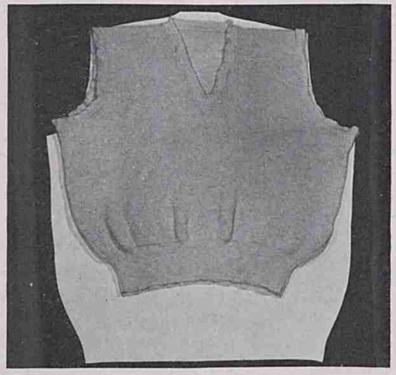
If a sweater has been stretched in manufacture, on washing it goes back to its original size, which may be a size or two smaller than you intended to buy. This is called relaxation shrinkage and no amount of careful handling in laundering or cleaning can prevent it.

High-grade sweaters are never stretched to size in the manufacture. Instead, they are knit oversize and then shrunk to the desired measurements to prevent excess relaxation shrinkage. Slight relaxation shrinkage must be expected even in the best of sweaters because of the very nature of knit goods, but with little effort these sweaters can be blocked to their original size.

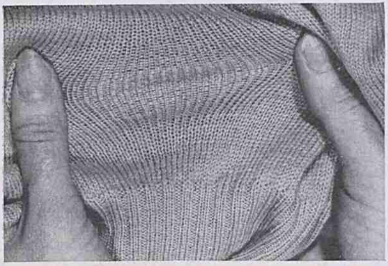
On labels of sweaters with a shrink-resistant finish you will find such terms as "Will not shrink out of fit," "Shrink controlled," "Won't mat, won't felt," "Will not shrink below knitted size," "Shrink-resistant." Read these labels carefully to find out exactly what to expect from the finish on the sweater you buy.

The shrink-resistant finish should apply to all trims such as ribbon facing on cardigans, which can spoil the appearance of a sweater if they shrink. Also, it would be to your advantage if the label stated the percentage of shrinkage to be expected, as do labels on most preshrunk cotton goods.

Even though a sweater has a shrinkage-resistant finish, careful washing is necessary—wool is easily damaged, and harsh treatment during laundering can cause permanent injury.



Sweater stretched in manufacture shrank excessively. White outline shows sweater size before laundering.



To find out whether sweater was stretched in manufacture, pull gently. Good-quality knit is elastic.

If stretch is slight and fabric looks thin and loosely knit, it probably has been stretched to size.

Mothproofing

Because so many sweaters now appearing on the market have a mothproof finish, it is important to know something about how long the finish can be expected to last and whether it will stand up after repeated washings or dry cleanings. Some of the finishes are guaranteed for the life of the garment through any number of dry cleanings. Others will last for only a limited number of dry cleanings and washings. Some will not stand washing at all. Be sure to read the label.

If the sweater you buy is not mothproof, your dry cleaner may be able to apply a mothproof finish. There are also preparations for home use. Even though a sweater has been treated, putting it away clean is still good protection against moth damage.

Ask about colorfastness

If a sweater fades, it may become useless; so get as much information about colorfastness as you can. Unfortunately, labels on sweaters give little, if any, information on this point. Colors are seldom guaranteed.

Because wool takes dye easily and holds color well it is reasonably fast to both light and washing. Bright colors generally are not as fast as pastels or deep, dull shades. Of the different kinds of dyes used, vat and mordant colors are fastest to laundering and sunlight and will doubtless be used more and more to meet the increasing demand for washable wool sweaters.

Cotton and rayon sweater colors may or may not be fast to light and laundering, the fastness of the color depending on the type of dye used and the way it is applied. Cotton sweaters can be dyed to be as colorfast as good cotton woven goods.

Low-cost rayon sweaters often are dyed with dyes that are not fast. Fast dyes are more expensive and therefore are not used on inexpensive goods.

Nylon sweaters may be fast to light and washing, but the fiber is relatively new and experimental work in dyeing is still being done—as it is on other new man-made fibers.

At the present time there is no way of knowing whether thread, ribbon, and buttons are colorfast. However, when a sweater is labeled "washable," you may expect these items, as well as the sweater fabric, to be fast to washing. If the sweater is labeled "dry cleanable" this may be a warning that colors may fade in washing. Don't take chances. It is a costly waste when sweaters must be discarded long before they are worn out merely because thread or ribbon has faded.

Until facts on colorfastness are given, protect the color by following exactly all printed directions for laundering or dry cleaning that come with a sweater. This is especially important for sweaters knit with more than one color. If not fast, the colors run into each other. Even with utmost care, some sweaters—those of high grade as well as those of lower quality—bleed easily and fade, and the dye may rub off and ruin other clothing. When a sweater or any part of it proves not to be satisfactorily colorfast, return the garment to the store buyer, who may inform the manufacturer.

In white and pastel sweaters look out for gray or black streaks running through the yarn. These are caused by machine oil and are difficult, if not impossible, to remove by either laundering or dry cleaning.

Read the label

Factual labels on a sweater are your best means of getting accurate information. You may find a woven label at the back of the neck, a pin ticket, a tag hung to a button, or all three on one sweater.

Most sweaters have the small woven label. It usually carries a trade name or manufacturer's name. This is useful when you are pleased with a certain line of sweaters and wish to select from that line again. The woven label may also state the wool content, size, and name of a special finish.

Three types of labels commonly found on sweaters.

Pin tickets, as a rule, are for store use only. Sometimes they, too, carry size number, a statement of wool content, and the name of the manufacturer.

The hang tag is usually the most complete label on a sweater and therefore the most valuable. It generally contains any facts given about fiber content, finishes, wearing qualities, size, and care.

Read labels carefully and ask questions about qualities not mentioned. In this way you encourage more complete and definite labeling.

These are facts that it would be helpful to have when buying a sweater:

- Fiber content. The kind, or kinds, of fibers and the amount of each present, with information about special qualities that can be expected, such as resistance to fire, mildew, and perspiration. This information is needed especially for unfamiliar fibers, new blends, or fibers whose natural qualities have been altered by special treatment.
- Size. Labels that explain the method of sizing are especially valuable.
- Colorfastness. Whether knit fabric and other materials are colorfast to light, washing or dry cleaning, and perspiration.
- Shrinkage-resistance. Kind of finish and amount of shrinkage to be expected. If special washing care is necessary, this should be stated.
- Moth-resistance. Length of time finish can be expected to last—for example, how many dry cleanings or launderings it will stand.
- Advice on care. Proper method of washing, blocking, drying, and storing.
- Manufacturer's name and address. This indicates that the manufacturer is willing to take responsibility for the quality of his product.

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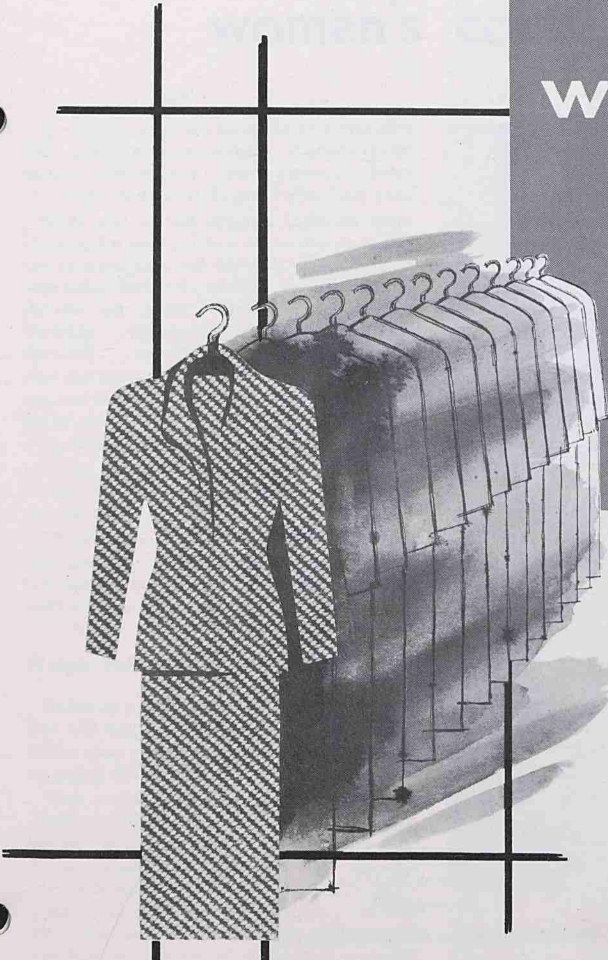
Buying women's coats and suits



Home and Garden Bulletin No. 31
Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

Contents

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Agricultural Research Service
U.S. Department of Agriculture
Washington 25, D.C.
January 1954
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Buying women's coats and suits

A well-chosen coat or suit can be worn year after year—as long as it is presentable. A poorly chosen garment often becomes a disappointment, so hangs idly in the closet or is discarded after little wear.

Sound coat or suit shopping begins at home. Planning for your purchase before you go to buy saves money, time, and materials. Take stock of your needs. Decide the qualities you want most in the new coat or suit. Consider the rest of your wardrobe . . . the occasions on which you will wear the outfit . . . the climate in your locality . . . the time and money you can spend on upkeep . . . the way you travel . . . styles and colors most becoming to you.

In short, know what you need and want and what you can do without if you can't find one coat or suit that has everything desired at the price you can pay.

On the following pages, facts are presented that may help you plan and judge whether a suit or coat has the qualities that meet your needs and whether it has values right for the price.

Weigh values with price

Decide on a price limit before you go shopping. This will keep you from overspending and will narrow your choices so that you can concentrate on getting the most for your money.

Shop at stores with a reputation both for merchandise of good quality and for fairness to customers. If you are tempted to slip into a shop that sells clothing that looks the "same" but costs much less than at another store, remember there's a reason for that lower price. Quality has been cut in some way. For example, the outer material may have been cheapened by the kind or quality of fibers used. The garment may be skimpily cut, and unskilled machine work may have been used in place of skilled machine and hand work.

Suits and coats of good quality have many hidden values—in materials, cut, and workmanship—which justify a reasonable price. These hidden values will keep such clothes in service long after so-called bargains fail.

When a coat or suit seems higher priced than you think reasonable, ask why. Perhaps the cloth is of scarce imported fibers; but it may not look better or wear better than a less costly domestic material. Perhaps the design was originated by a famous designer; designs by lesser knowns may be just as good. If you can afford and get satisfaction from the luxury of name designs they may be worth the price to you; but, if you are searching for service in proportion to money spent, avoid such merchandise.

Best wear values in both coats and suits are in simply designed classic styles. In dressmaker coats and suits where much of the cost goes into styling less wear may be obtained for the money spent.

Consider style and color

Before you shop for a new suit or coat it is well to have your mind made up about the general style and color you want. But be prepared to adjust your wants to the stock available or you may never find anything that satisfies.

Study current styles and colors, keeping your needs in mind. Read dependable fashion books and magazines and learn the differences between good styles that will look well for several seasons, and short-lived fads.

Each season certain colors, style features, and silhouettes are in high fashion. However, a suit or coat in high fashion is not a good buy for you unless it looks well on you, fits your way of life, and promises to stay in fashion as long as you must wear the garment.

Take stock of your wardrobe, considering clothes on hand and clothing you intend to buy, to be sure the new garment will go well with them. If you're buying a coat or suit primarily for warmth, make certain that the style as well as the material actually contributes to warmth.

If you are buying a coat or suit for work or school a classic style is a good choice. Classic styles are designed for sports and utility wear—change little year after year. For the comfort so essential to everyday wear you'll want ease but not bulk. And coats with moderately full skirts will be much more practical than the full-styled, which drag on the floor when you are sitting. Also, it is a chore to keep the latter brushed clean and neatly pressed.

For a coat or suit that will serve equally well for church, social functions, or shopping, a simple distinctive dressmaker type of garment may be the best choice. Although such a garment may not wear as long as a classic it will be more appropriate for the various occasions on which you will wear it.

A becoming design

Choose a coat or suit designed for your figure and your age—one that enhances your good features and calls attention away from those not so good. A young woman who, because of her measurements, must choose from women's sizes will want to avoid that which looks too mature for her years. And a mature woman who finds her size in the junior department will do well to look for styles that are junior in size but not in appearance.

Following are suggestions to help you choose a style for your figure.

Coat or suit jacket

- Full coats, such as the tent- or bell-shaped, and belted and short coats look well only on tall, slim figures. A heavy or short woman will look more slender and taller in straight or slightly flared, full-length coats. Princess lines are slimming, especially good for a tall, heavy woman who wants to look more slender.

- Double-breasted jackets and coats are for the tall, slim figure. A short, heavy woman will do better to choose single-breasted styles. Emphasis at center front, such as a long row of closely set, not-too-large buttons directs attention to the center, so is slimming and lengthening.

- A tall, slim woman may wear longer suit jackets than the short, stout woman may wear. Whatever type you are, be sure the jacket line does not divide the figure in half.

- Man-tailored suits and coats usually look best on a tall woman who has good posture, broad shoulders, and slim waist and hips. However, a woman whose figure is such that she wears a man-tailored suit well may look better in softer dressmaker styles because of her personality type.

- Watch collar heights. Collars that are high or turned up in the back are for the woman with a long neck. Low rolling collars and collarless styles are better for short necks. Short, wide revers are for the tall, slim woman; long, narrow revers are flattering to a heavier figure.

- Jackets only slightly fitted in the back hide the natural waistline, make a woman with a short waist appear to have a longer waist. A short-waisted woman should avoid close-fitting jackets.

- Because full, bulky sleeves broaden, they are for the tall, slender woman. Sleeves styled to fit more closely are better for one who is short and stout. Set-in sleeves with lightly padded shoulders flatter a figure with narrow, sloping shoulders, as well as a figure with oversize hips. Dolman and raglan sleeves and set-in sleeves pointed at the top are flattering to a woman with square shoulders.

Skirt

- Slim, narrow skirts are for the slim woman who has slender legs and walks with a short stride. A stouter woman, one who walks with a longer stride, or one with heavy legs looks better when walking if her skirts have a slight flare or low pleats.

- Skirts with hem slits are also for the tall, long-legged woman. On a short woman with short legs, skirt slits are conspicuous because they open too far up on the legs, and they are likely to be strained and torn.

- Skirts that are fitted about the waist with darts rather than unstitched pleats are more flattering to most women's figures, a point to remember if you often remove your jacket.

- Skirt length of both coats and suits can best be determined by what looks good on you—not by a set number of inches from the floor. A tall woman with long legs can wear her skirts farther from the floor than can a short woman. Generally, mid-calf length is both becoming and functional but the best-appearing length varies with individuals.

When you check length, see how the skirt looks as you stand, as you walk, and as you sit. Narrow skirts shorten more than do flared or full skirts as you walk and sit.

A practical color

The color of a suit or coat often makes the difference between a satisfactory or unsatisfactory buy. Select a color that not only is becoming but will match or harmonize with other garments you will wear with it. Colors that look well together add much to the charm of clothes and to the satisfaction you get from them.

To help you in choosing colors, it's a good idea to take little clips of materials with you when you shop. If you can't get clips of the actual material, match the colors to paper. Because of the wide range of colors now available in fabrics, it is often very difficult to match colors by memory alone.

If your wardrobe is limited, and you must wear a coat or suit for several seasons, choose a conservative color. Neither you nor those who see you often will tire of such a color. Gray or beige is practical because you can wear almost any color dress or accessories with it. Colorful or patterned suits and coats are good choices only if you have several outfits.

It's practical to consider whether a color will show soil quickly. Some colors, lovely as they may be, show every speck of lint or dust. Some can be worn only a few times before they look soiled, so must frequently be spared for cleaning; this is both inconvenient and expensive.

Features that help make a coat warm: Closed neck, buttoned-down front, roomy pockets, sleeve guards.

Warmth features

In choosing a coat that will be warm enough, think of the prevailing winter temperature in your locality. If temperatures hover around zero or below, check for style features that shut out cold and keep body heat in.

Examples of these features are:

- A full-length coat.
- Fitted or straight box coats rather than full, much-flared styles that let cold air in from the lower edge.
- Opening that buttons well down the front. Such an opening keeps you much warmer than does a one-button or clutch-style opening.
- A coat with a belt.
- Rolling collars that can be fastened high and close under the chin rather than collarless garments or those with open neck lines.
- Sleeves shaped in closely to the wrists or equipped with inside sleeve guards.
- Large, deep pockets that you can put your hands into for extra warmth.

Coats for wear in localities with mild winters and coats and suits for between-seasons wear may be most comfortable with style features that let in some air. For cold-weather wear in localities

SIZE CHART

Size name and range	Women for whom suitable	
	Height	Figure type
Women's—38 to 44	5 feet 5 inches to 5 feet 9 inches.	Substantial build, broad shoulders, long waist, full arms.
Misses'—10 to 20	5 feet 5 inches to 5 feet 9 inches.	Slim to medium, well-proportioned.
Women's half sizes—$12\frac{1}{2}$ to $26\frac{1}{2}$	5 feet 5 inches and under.	Short, slightly plump, narrow shoulders, short waist, full bust.
Junior—7 to 17	5 feet 4 inches to 5 feet 6 inches.	Small, slim, youthful figure; narrow shoulders and narrow, round hips; small, high bust; short, small waist.
Average to brief—10 to 20	5 feet 5 inches and under.	Slim to medium size, evenly built. Now considered average figure.
Tall girls—10 to 20	5 feet 9 inches and over.	Slim and tall.

where the temperature is changeable—or for all-seasons' wear—coats with detachable liners are practical.

Be exacting about fit

For good service and easy care, as well as for neat appearance and comfort, good fit in a coat or suit is essential. Clothing that fits is not strained, does not muss or wrinkle as readily as does ill-fitting clothing, takes less pressing.

The right size

Although efforts are being made to improve sizing of women's coats and suits, it is not always easy to find an outfit that fits perfectly. So many systems of sizing are in use that no two lines of suits and coats fit the same even though labeled the same size.

The only solution at present is to try on clothes in your size range until you find out which lines are built for your figure. Such trying-on is wearisome, but time well-spent. Once you find a line or lines of clothes that fit without major alterations you can turn to them the next time you buy.

Don't buy a coat or suit that needs major alterations. Such alterations are costly and uncertain as a garment proportioned for one type of figure can rarely be altered so it fits another equally well. Also, alteration departments in retail stores are seldom able to rip tailored wear apart and put it together again as skillfully as it was made originally.

The first step in finding a well-fitting suit or coat is to determine your size and figure type. The chart of present sizes, shown above, may help you to know which shops or which departments in a store are most likely to have clothes that fit you.

Checklist on fit

Take plenty of time to examine the fit of a coat or suit before you buy. Try the garment on over the same type of clothing you'll wear under it. Look at yourself from the front, back, and sides in a full-length mirror. See how the garment looks in action—as you walk, sit, and reach.

Points to check are listed on next page.

Coat or suit jacket

Comfortable fit throughout.

Collar holds up close to the neck at back and sides.

Shoulder line straight from neck to highest point of sleeve.

Grain of goods hangs straight at center front. Crosswise grain of cloth runs straight around body and sleeves at bust level.

Darts in jackets, directed to the bust.

Sleeves, roomy enough for clothing worn underneath. Elbow ease provided in the cut. Bend elbow to be sure this ease is where it will function. A long sleeve should reach the wristbone as you touch the lobe of the ear on the same side.

Waistline. Curve of lengthwise seams in jackets or fitted coats slightly below the natural waistline.

Closing fastens without strain. If the garment is fitted or semifitted, waist fastening should be exactly at the waistline.

Length. For figure flattery, the bottom of the jacket should not come exactly half way between the shoulder line and lower edge of skirt. Lower edge of jacket or coat should run straight around the figure, an even distance from the floor all around. Full-length coats should be at least one-half inch longer than dresses and suits to be worn under them.

Skirt

Easy walking room to avoid ripped seams and discomfort. Enough sitting room to prevent both strain and crosswise wrinkles—and to keep the skirt from pulling up too short when you sit, as well as to prevent cupping under.

Waist band fits snugly to the figure, holds skirt in place.

Hips—smooth with comfortable ease, extra ease at fullest part of hips.

Side fastening lies flat and smooth.

Grain of goods. Lengthwise grain hangs straight at center front and center back. Crosswise grain runs straight around figure at hip level in all straight cut skirts.

Back hangs straight with no cupping under at the seat. Check this from the side.

Lower edge straight, an even distance from the floor all around.

Examine workmanship

A well-made garment may keep its good appearance and shape after long wear and many cleanings, but a poorly made garment may lose its shape in one cleaning and so become generally unsatisfactory.

Differences in workmanship

In judging quality of workmanship one of your best aids is knowing something about steps in manufacture. In manufacture, workmanship of women's coats and suits is graded from one to six, depending on the care and skill with which the various steps are carried out. One is the lowest grade, six the highest, with the other four grades ranging between.

Some of the differences between workmanship in low-grade and high-grade women's tailored coats and suits are illustrated on page 12. But there are other important differences that pictures cannot show. These are outlined below.

Best grade suits and coats are made from fine materials that tailor and press well. These materials are thoroughly shrunk, then inspected for flaws in weave and color. The designs and patterns for a garment are carefully worked out with proper regard for fullness of size. These patterns are then placed on the material with painstaking regard for grain of goods. This means more goods must be used than if grain of goods is disregarded. However, cutting according to the grain of the goods is highly important if the garment is to be comfortable and hang well on the wearer. Cutting is carefully done—either one thickness at a time by hand, or a few at a time by electric cutters.

The high-grade garment is assembled and stitched, with perfectly matched thread, by skilled craftsmen. Silk thread is used because it is strong and elastic. Such stitching gives instead of breaking if seams are strained. Between sewing operations, skilled pressers steam and shape the garment. This way shape is actually sewed into the coat or suit, and you are assured the same fit as long as the garment lasts.

Low-grade suits and coats are made of materials that do not tailor well or keep a press. To reduce production costs the cloth is used just as it comes, with little or no regard for flaws—no precaution against shrinkage. Breaks and spots sometimes appear in such coats or suits and these garments may be too small after the first few cleanings.

Patterns are cut for greatest economy of fabric. Pattern pieces are then placed as close together as possible on material that is piled high, layer on layer. Proper grain of goods gets little thought, so the finished garments often twist, hang unevenly, or sag.

Unskilled workers sew low-grade clothes at high speed with little attention to accuracy. Inside them you frequently find two or three colors of thread, for as work progresses and workers sew clothes of different colors, they don't bother to change to matching colors. There is no shaping and little or no pressing as a garment is made. Hand work is reduced to the minimum—ordinarily limited to lining armholes, and it is poorly done.

Marks of quality

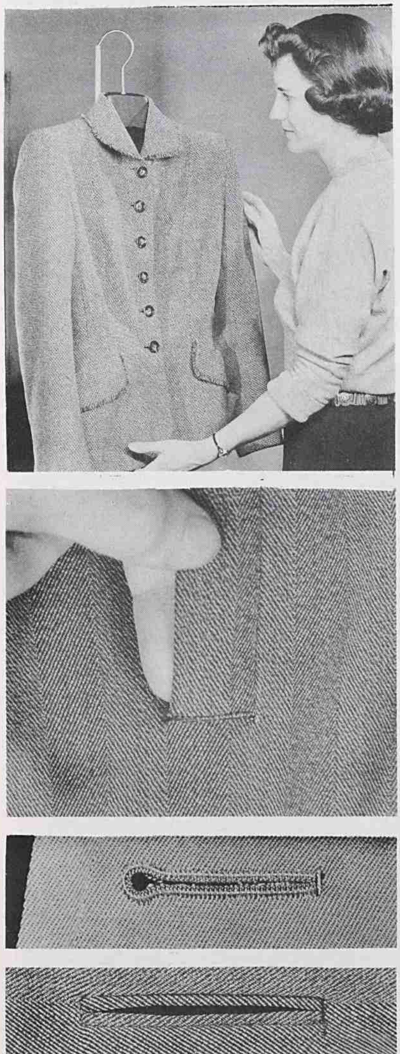
Look first at the outside of a suit or coat. A good one is neatly pressed, smoothly shaped, and evenly stitched, with perfectly matched thread.

Examine pocket corners, ends of buttonholes—especially bound ones—and other places likely to get much wear or strain.

Buttonholes should be cut with the grain of goods. If cut off-grain they will stretch out of shape and hang open with use. Bindings of bound buttonholes and pockets should be narrow, squared off securely at the ends, and finely stitched. If they should pull out it is rarely possible to repair them satisfactorily. Worked buttonholes may be made by hand or machine. Either is satisfactory if well done, but hand-made ones are more flexible.

Linings and the way they are put in are usually good signs of the hidden values within a coat or suit. If lining quality compares with that of the outer cloth, and if the lining is smoothly and neatly fitted with expansion allowance in back and neatly put in with fine stitches about edges and armholes, you can be fairly certain that workmanship and materials you can't see are comparable in quality. Linings that fray easily should have generous seam allowances and the seams should be finished off with stitching that protects them so they won't pull out with wear and cleaning.

The lining in a high-grade classic coat or suit is tacked securely around the armholes and along



Good-quality clothes are trim-looking, smoothly shaped, neatly made. Look closely at welt pockets and buttonholes where weak spots lead to trouble.

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the shoulder and side seams. This holds the lining where it belongs as the coat is put on and taken off, also helps keep the shape and fit of the jacket or coat. However, as a short cut in the manufacture of dressmaker styles, linings are commonly run up by machine and slipped into place with only a few loose tack stitches to hold them in place. Linings put in this way do not fit well, and they are likely to wear out all too soon about the armholes. Also, the tack stitches work loose and let the lining shift.

Hidden qualities. After looking at the outside and inside, find out what you can about what's in between—the interlining if there is one, and the other qualities illustrated on page 12.

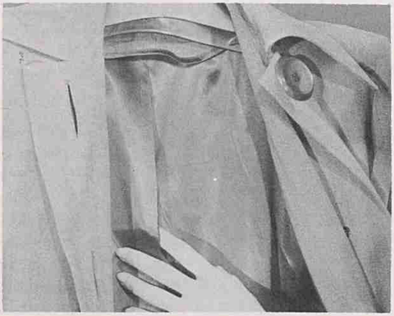
Most coats are now made with an open lower edge, so you can usually look and feel inside. If a coat has an interlining it should be tacked securely in place to side seams, shoulder seams, and around the armholes.

Frequently the lining and interlining are seamed together, then installed as one. This saves manufacturing time but results in thick, bulky seams that cannot be pressed flat. Such seams also give the lining of a coat an untidy appearance and may cause the wearer discomfort, as they press against the neck and shoulders.

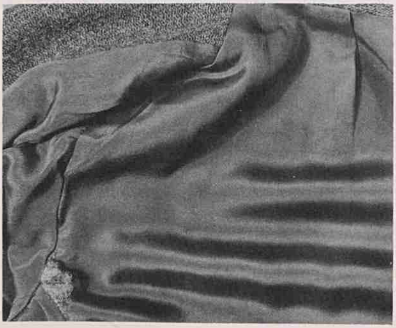
For facts about workmanship that you can't see or feel, first look for factual tags on the garment. If there are none, ask the salesperson for information. A movement is now under way to train salespeople to answer questions consumers ask about hidden values of merchandise. If your salesperson cannot answer your questions, ask the person who buys the garments for the store. Buyers are frequently on hand and should be fully prepared to supply the facts you need.

Hand tailoring. Suits and coats with much hand work may be labeled "hand-tailored." This term is no longer assurance of fine-quality hand sewing, because both good hand work and very poor hand work may be so labeled. Examine the garment and judge the quality of the hand work for yourself. High grade hand work is beautiful and flexible. Stitches are fine, close together, neat, and secure. Poor hand work looks bad, stitches are coarse, far apart, untidy, and insecure. Good machine work looks and wears far better and is preferable to poor hand work.

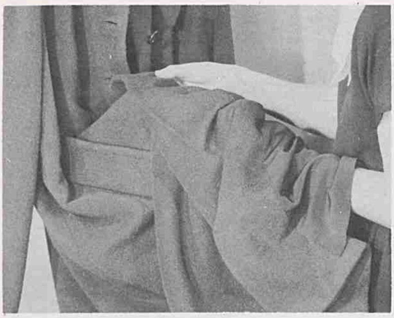
If the lining is smoothly fitted and neatly stitched in, workmanship within usually is good.



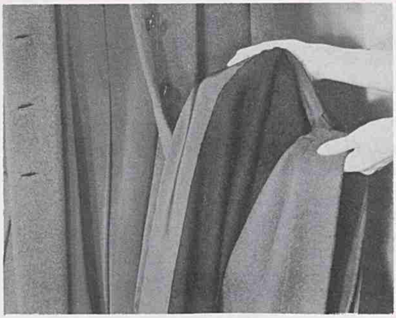
Pleat at center back allows for give—helps make coat comfortable, keeps lining from being strained.



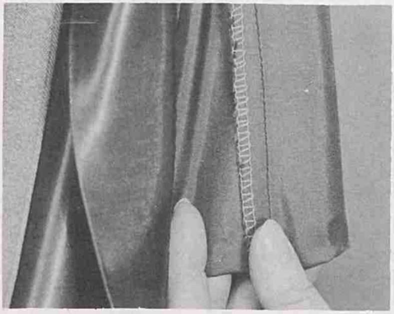
Lining closely fitted with no allowance for give is strained, pulls out, makes wearer uncomfortable.



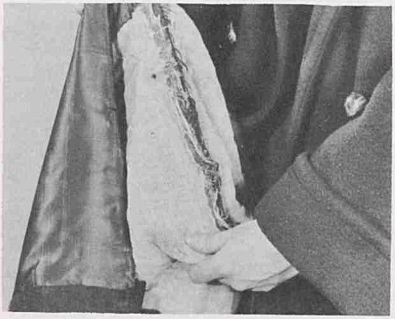
When coats are open at lower edge, feel or look up inside to check the materials and workmanship.



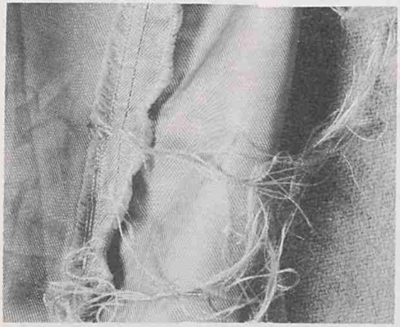
An interlining properly put in is seamed separately from the lining, but lining covers its lower edge.



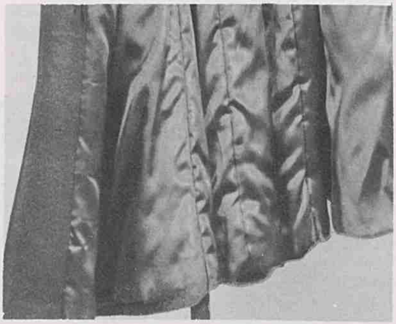
Most lining materials fray readily, need generous seams with edges finished to keep them from fraying.



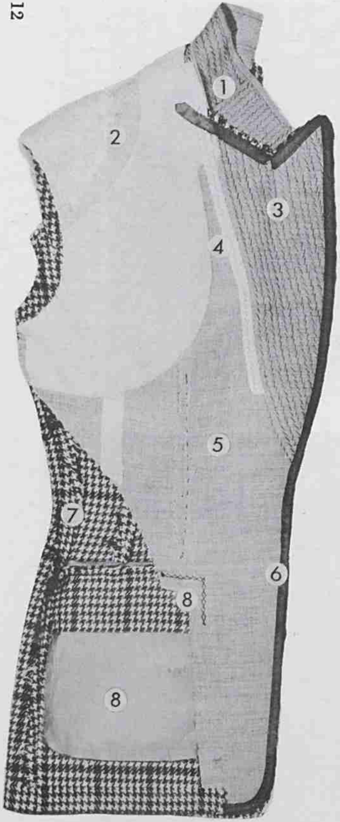
To speed manufacture, lining and interlining are often seamed as one. Seams are bulky and untidy.



Unfinished seams soon become a tangled mass of frayed yarns, may even pull out beyond repair.

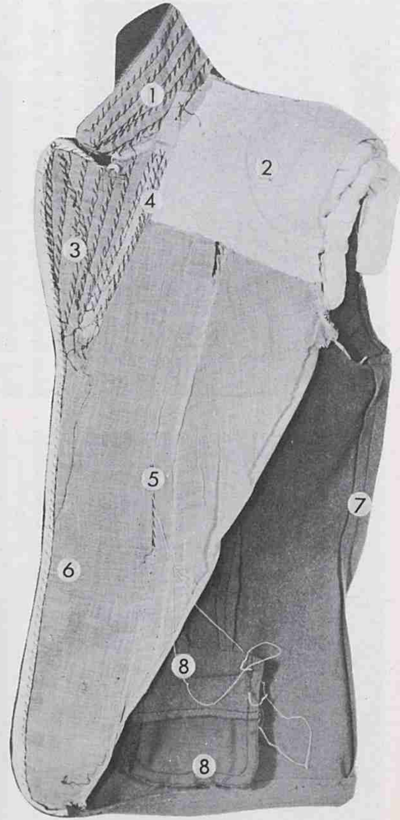


Lining seams are puckered on the right side it interlining and lining have been seamed together.



High-grade construction versus low

HIGH-GRADE	LOW-GRADE
1. Collar	
Linen interlining—hand-stitched and hand-shaped. Will keep shape permanently.	Interlined with sleazy, sized cotton—machine-stitched. Shape pressed in, not permanent.
2. Shoulders	
Soft cotton, haircloth, felt—hand-stitched together—make firm, soft shoulders. Permanent shape. Wigan holds shape in back.	Skimpy, low-quality materials let shoulders lump, break, lose shape. No wigan to keep shape in back.
3. Lapels	
Shaped and stitched by hand. Keep shape and firmness; always roll back.	Few rows of machine stitching—no shaping. Lapels become limp, fall forward.
4. Bridle stay	
Cotton tape. Coat front eased to tape makes neck line hold to chest.	Cotton cloth instead of tape, no chest ease—lets neck line buckle.
5. Coat front	
Good-quality canvas of weight suited to outer cloth keeps body permanently.	Sized cotton loses stiffness in cleaning. Leaves the front limp.
6. Tape stays	
Narrow, soft tape hand-stitched along both edges holds shape, keeps edges thin.	Twill tape stitched in with edge rolls, thickens coat edges.
7. Seams	
Allowances for outlets. All seams carefully pressed. Stitching adjusted to cloth. Matching thread.	Allowance often skimped. Pressing poor. Stitches long, thread often weak and not matched.
8. Pockets	
Tacked to coat front for support. Inside made of close-woven material.	Not supported by coat front. Strains coat. Pocketing is sleazy and poorly stitched.



Find out about materials

It is not easy to judge whether materials in a coat or suit have all of the qualities you want. Feel and appearance have long been the woman shopper's best guides to quality, but neither is adequate or dependable these days. Modern manufacturing processes and skillful pressing can make poor materials look so much better than they are that even experts can be deceived.

Your best helps are factual tags on materials which tell things about them that you cannot see or feel. Also, you will benefit by learning about the fibers and fabrics commonly used in coats and suits. This knowledge is fast becoming a necessity if you would evaluate information on tags, judge correctly the qualities that cannot be seen and felt, and give the garment the kind of care that will make it serve best.

Facts about fibers

• Fiber-content statements

Always look for a fiber-content tag or label, one that tells not only what fibers are in a cloth, but how much of each if the material is made of more than one kind. Usually content tags are attached to a sleeve or front button of a coat or jacket and to the waist of a skirt. Read this label carefully to see exactly what parts of the garment the label mentions. Most commonly, the labels refer only to the outer cloth. Some apply also to the lining and to the interlining or front.

Wool.—Coats and suits that contain wool in the outer cloth or in an interlining used for warmth are required by Federal law to bear labels that state the fiber content. These labels must describe the fiber as "wool," "reprocessed wool," or "reused wool" and give the percentages. If a cloth containing wool also contains fibers other than wool, the percentages of such fibers must likewise be designated on the label.

The term "wool" covers not only sheep's wool, but specialty fibers such as mohair, cashmere, alpaca, camel's hair, llama, or vicuna. However, "wool" usually means sheep's wool unless labeled with its animal source. Because most of the other kinds of wool are considered luxury or novelty fibers, manufacturers who use them ordinarily find it to their advantage to specify the kind.

A cloth labeled "wool," "all wool," or "100-percent wool" is made of new wool or wool reclaimed from manufacturers' clippings of knit fabrics. Often a little of another fiber—5 percent or less—may be desirable for decoration, such as a fine stripe. The cloth may still be labeled in the same way but with this addition, "Exclusive of ornamentation." "Virgin wool" is new wool that has never before been spun into yarn. It is not required that such wool be labeled in any way except as "wool." However, some manufacturers specify it as "virgin." Virgin wool may or may not be better than one labeled "wool." Quality depends on length of fibers and their fineness, strength, crimp, elasticity, and luster.

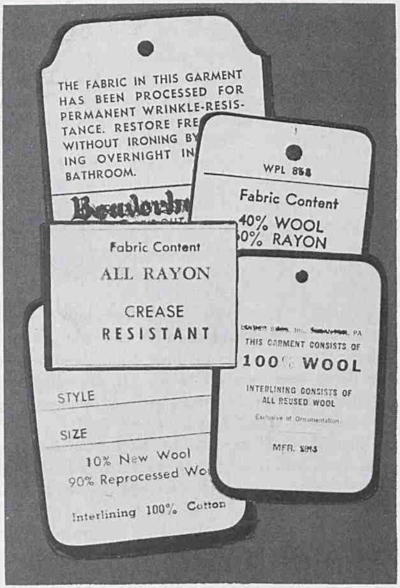
If labeled "reprocessed wool," the cloth is made from wool reclaimed from woven or felted goods—chiefly clippings from clothing manufacture—that has never been used or worn. If the wool was originally high grade, the reprocessed wool may be as good as or better than some new wool.

"Reused wool" is reclaimed from wool that has been made into fabrics, then worn or used. Before reclaiming, the used articles are cleaned and graded. The fibers of reused wool are broken and short, not good to use alone for making new yarns. They are used widely and well in quilted interlinings, or they may be combined with longer and stronger wool fibers for making low-priced suits and coats.

Rayon and acetate.—All fabrics of rayon or acetate must now be labeled as such and, where the fabric contains rayon and acetate or rayon and acetate with other fibers, all the fibers must be appropriately identified, according to trade practice rules promulgated by the Federal Trade Commission in December 1951. Formerly, both of these fibers were labeled "rayon." Although similar in appearance, rayon and acetate do not have the same physical and chemical properties and so require different care.

Linen, silk.—The Federal Trade Commission's trade practice rules require the labeling of the linen or silk content in a fabric, and where linen or silk is blended with other fibers the identification of such other fibers.

Other fibers.—Fabrics or products made from other fibers that resemble wool must be labeled as to fiber content. In addition, the Federal Trade Commission may require the disclosure on labeling of any fiber which so simulates another fiber as to have the capacity and tendency or effect of deceiving the purchasing public.



Read all tags attached to the coat or suit you are considering for facts about materials and workmanship that you cannot see or feel. At left, some typical tags with facts about quality.

Fibers, natural and manmade

Wool is the fiber most used in coatings and suitings, because its natural qualities make it ideal for the purpose. However, the demand for the high grades of wool used in coatings and suitings has made such wool higher in price than many women can afford. As a result, the use of other fibers in coatings and suitings is increasing.

The present trend is toward blends of fibers. Thus one fiber in the right amount counteracts the disadvantages of another—or may add qualities that make a cloth suit its purpose better.

If you should buy a fabric made of a blend of fibers, note the kind and percentage of each fiber in a cloth and consider whether the good qualities of one fiber outweigh those not so good in another.

The chart on pages 15, 16, and 17 lists facts about natural and manmade fibers that are now used in suitings, coatings, and linings or which are being developed for those uses. Such facts may help you decide how well these fibers will suit your needs.

Because the material or the styling and construction of most coats and suits require dry cleaning, most of the facts about the washability of fabrics made from each fiber are omitted. With the growing trend toward washable clothing, some coats and suits are now sold as washable. In buying one of these be sure that all materials in the coat—lining, paddings, thread, as well as the outer cloth—are equally washable.

Coatings and suitings

Fabrics used as the outer cloth for coats and suits are many and varied. They differ not only in fiber content, but in the way in which the fibers have been spun into yarn, and the yarns woven into fabrics. Also, various types and methods of dyeing are used to give color, and various finishes are often applied to add properties not in the fiber or fabric.

Fibers used in coatings, suitings, and linings

As a greater variety of textile fibers become available, the array of fabrics used in coats and suits is expanding.

Little is known regarding the performance or durability of the fabrics made from newer manmade fibers; much is being learned by experience with them. A study of the properties of these fibers shows that each one has special features along with certain disadvantages. Since some manmade fibers are still in the developmental stage, certain qualities may be improved, and the properties listed for them in the following outline may change.

Fiber	Properties of— Fiber	Properties of— Fabric	Uses
NATURAL FIBERS			
Sheep's wool	Fine to coarse. Luster varies. Elastic. Medium strength. Good resistance to mildew. Subject to moth damage unless treated for moth resistance.	Resilient. Wrinkle-resistant. Soft, warm hand (texture and feel). Wide range of colors which can be made fast to light and cleaning.	Wide variety of wool coatings and suitings. Manmade fibers may be blended with sheep's wool for special qualities, designs, colors.
Mohair	Coarse. Lustrous. Strong. Subject to moth damage unless treated for moth resistance.	Resilient. Wrinkle-resistant. Crisp hand. Wide range of colors.	Blended with other fibers; adds strength, crisp hand, texture to the blend.
Cashmere	One of the finest natural fibers. Soft, delicate, silky. Lightweight. Subject to moth damage unless treated for moth resistance.	Resilient. Wrinkle-resistant. Very soft, luxurious hand. Drapes beautifully. Not suitable for hard wear.	Used alone in luxury materials. Other fibers are blended with cashmere to add strength and lower the cost. Cashmere, when blended with other fibers, adds softness. Limited quantity and high cost of obtaining fibers make cashmere very costly.
Camel's hair	No. 1 quality (undercoat) fine and downy. No. 2 quality coarser. No. 3 quality coarse with stiff hairs. Subject to moth damage unless treated for moth resistance.	Resilient. Wrinkle-resistant. Soft hand in fine qualities, harsh in coarse.	Used alone or blended with sheep's wool and cashmere in casual and all-purpose coatings. No. 1 quality in highest grade fabrics. No. 3 quality in low-priced coats.
Alpaca	Coarser than No. 1 quality camel's hair but fine and silky. Soft. Lustrous. Strong. Subject to moth damage unless treated for moth resistance.	Resilient. Wrinkle-resistant. Soft, warm hand.	Blended with other fibers.
Silk	Fine. Soft. Lustrous. Strong. Elastic.	Resilient. Wrinkle-resistant. Soft hand. Drapes well. Wide range of colors.	Used alone and in blends for lightweight suitings. May be used in linings of some high-grade coats and suits.

Fibers used in coatings, suitings, and linings—*Continued*

Fiber	Properties of—		Uses
	Fiber	Fabric	
NATURAL FIBERS—*Continued*			
Cotton	Fine to coarse. Dull unless mercerized for luster. Less elastic than animal fibers. Subject to mildew.	Not resilient. Wrinkle-resistant and shrink-resistant finishes usually used on all-cotton suitings. Medium-soft hand. Wide range of fast colors.	Used alone, or in blends with other fibers to lessen cost and increase comfort. All-cotton fabrics now made to resemble wool suitings for all-year wear.
Flax	Coarse. Lustrous. Strong.	Not resilient. Wrinkle-resistant finishes essential. Crisp hand. Wide range of colors.	Used alone in summer suits.
MANMADE FIBERS			
Rayon	Filament rayon looks much like silk. Spun rayon looks much like wool or linen. Strong when dry; weak when wet. Does not melt; burns readily. Subject to mildew.	Lacks resilience. Wrinkles readily unless treated for wrinkle resistance. Dries slowly. Can be pressed at fairly high temperature. Wide range of colors. Difficult to let out garments satisfactorily because fabrics may retain stitching holes. The properties of rayon fabrics vary because of the many types of yarns and finishes used.	Used alone, or blended with wool and manmade fibers in suitings and coatings, chiefly to reduce cost. Widely used in linings because of range of colors and low cost.
Acetate	Filament acetate looks much like silk. Spun acetate may look like wool or linen. Medium strength. Does not flash burn; melts at moderate temperature. Resistant to mildew.	Somewhat resilient. Wrinkles readily unless treated for wrinkle resistance. Many colors gas-fade (or fume-fade) unless the fabric has been treated to resist gas-fading. Accumulates static electricity. Dries faster than rayon. Wide range of colors. Requires low pressing temperature to prevent glazing and melting. Difficult to let out garments satisfactorily because fabrics retain stitching holes.	Used alone, or blended with wool and manmade fibers in suitings and coatings to reduce cost. Acetate may contribute to the hand in a blend while other fibers will add strength to acetate material. Used in linings because of wide range of colors, soft hand, and low cost.
Vicara	Vicara looks much like wool. Weak when wet. Subject to mildew. No attraction for moths.	Resilient. Wrinkle-resistant. Warm, soft hand. Does not accumulate static electricity. Wide range of colors. Pressing care same as for wool.	May be blended with wool to reduce shrinkage and cost of cloth. Blended with other fibers for wool-like texture and softness.

Fibers used in coatings, suitings, and linings—*Continued*

Fiber	Properties of—		Uses
	Fiber	Fabric	
MANMADE FIBERS—*Continued*			
Nylon	Filament nylon looks much like silk. Spun nylon looks much like wool or linen. Strong, wet or dry. Does not flash burn. Resistant to mildew. No attraction for moths.	Keeps shape. Requires little or no pressing. If pressed, requires low pressing temperature. Lightweight. Accumulates static electricity. Dries quickly. Resists abrasion. Soil easily removed. Wide range of colors.	Blended with wool and other fibers for strength, lightweight, and wear resistance in coatings and suitings. Used in some linings.
Dynel	Dynel is wool-like. May be soft as cashmere or coarse as mohair. Strong, wet or dry. Does not flash burn. Resistant to mildew. No attraction for moths.	Lightweight. Wrinkle-resistant. Resilient. Keeps shape. Holds creases and pleats. Dries quickly. Requires very low pressing temperature; shrivels and stiffens at usual pressing temperatures. Colors are limited as yet.	Blended with other fibers less sensitive to heat, thus making fabrics easier to press without damage. Used in washable fleeces requiring no ironing. Less expensive than Orlon.
Orlon	Filament Orlon is silk-like. Spun Orlon is wool- or linen-like. Strong. Does not flash burn. Resistant to mildew. No attraction for moths.	Resilient. Wrinkle-resistant. Keeps shape. Holds creases and pleats. Very lightweight. Little if any pressing required. If pressed, requires low-temperature pressing. Dries quickly. Accumulates static electricity. Colors are limited as yet.	Used alone or blended with other fibers for suits. All-Orlon washable fleece used in coatings. Less expensive than Dacron.
Dacron	Spun Dacron is wool-like. Strong, wet or dry. Does not flash burn. Resistant to mildew. No attraction for moths.	Very resilient. Wrinkle-resistant. Keeps shape. Holds creases and pleats. Very lightweight. Resists abrasion. Requires little or no pressing. If pressed, requires low temperature to prevent glazing. Accumulates static electricity. Tends to pill with abrasion.	Used alone or blended with other fibers for suits.
Acrilan	Filament Acrilan is silk-like. Spun Acrilan is wool- or linen-like. Does not flash burn. Resistant to mildew. No attraction for moths. Takes dyes easily.	Resilient. Wrinkle-resistant. Keeps shape. Holds creases and pleats. Dries quickly. Requires low pressing temperature. Accumulates static electricity.	Experimental work is under way on all-Acrilan and blended materials for suits.

Wool fabrics may be worsted or woolen. Worsteds are made of long wool fibers, combed so the fibers lie parallel, then twisted into strands each of which is called a "ply." Two or more plies are twisted together to make yarn that is even, strong, and firm. Fabrics woven from these yarns are smooth and firm—can be beautifully tailored and pressed.

Woolens are made of shorter fibers than those used in worsteds. Fibers are not combed, but are crisscrossed in the yarn. Most woolen yarns are one-ply and loosely twisted. The sturdiest are two-ply and more tightly twisted. Fabrics made from woolen yarns may be rough, nubby, or napped.

When all coatings and suitings were made of wool, such materials as gabardine, serge, and sharkskin were accepted as worsteds. Others such as tweed and fleece were accepted as woolens. Nowadays, with the increasing use of manmade fibers, many materials bear these same names even though made partly or wholly of other fibers.

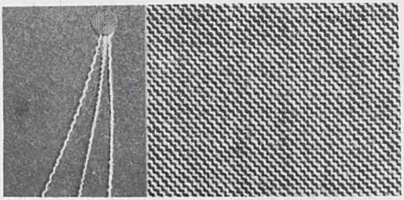
Many suitings, especially in low-priced or "budget" lines, are now made entirely of manmade fibers, chiefly rayon and acetate. Some of these fabrics look and feel so much like wool you may not notice the difference. On such suits the required content label is especially helpful.

The label, in addition to telling what the cloth is made of, should tell what finishes if any have been applied and how long they may be expected to last, also the kind of care recommended. Not all materials made of manmade fibers can be pressed as you press wool. Some are easier to handle and others require more caution.

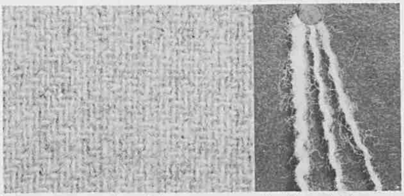
Although names of materials—as "gabardine" or "flannel"—without a statement of fiber content now tell you no more than the way the fabrics are woven, this knowledge can be helpful in judging how materials will wear. Some materials, because of the way they are woven, are better for rugged wear. Others not so strong are serviceable enough for clothing worn chiefly on dress-up occasions.

On pages 19 and 20 is a list of types of coatings and suitings that are widely used year after year, with facts to help you judge which ones will best suit your needs.

Most suitings and coatings are made in plain or twill weave. Plain woven goods have lengthwise and crosswise yarns that pass alternately over and under each other. A twill weave has diagonal lines, which make a 45- to 70-degree angle with the crosswise yarns.



Worsteds—made of long wool fibers combed parallel, twisted into smooth yarns. Sharkskin shown.



Woolens—made of shorter, uncombed wool fibers—have rougher texture than worsteds. Tweed shown.

Plain or twill weaves may be closely or loosely woven. In general, the more closely the yarns are woven, the better the materials will keep their shape and the more hard wear they will take without becoming shabby.

Compare the list of qualities of the various fabrics with the qualities you want in a garment. If you want a coat chiefly for warmth, the outer cloth and all other materials in the garment should be chosen for maximum warmth and minimum weight. Also, if the garment is to get hard everyday wear, look for wear-resistant qualities.

If you have little time for keeping clothes in order, look for qualities that make a fabric easy to care for. Find out if it can be cleaned easily, whether it will wrinkle quickly, and whether wrinkles would hang out overnight. You can tell something about wrinkle shedding by squeezing cloth tightly in your hand—then releasing it.

Materials with a fuzzy or suede-like finish pick up soil, while hard-finished materials do not collect soil quickly. Hard-finished materials, however, become shiny with wear.

Special finishes. If a material has a wrinkle-resistant finish, find out if the finish is durable. Some finishes become less resistant to wrinkling with wear and repeated cleaning; others are not effective after the first cleaning.

Coatings and suitings

Material	Appearance	Fiber Content	Properties and Uses
Gabardine	Hard-finished worsted-type twill weave—fine or coarse, lightweight or heavy. Solid color. "Sheen gabardine" is made of very fine yarn, with steep twill, which gives a smooth satiny surface.	Most gabardines are all wool, but many are now made of such manmade fibers as rayon and acetate.	Used widely in both suits and coats. Rayon and acetate gabardines are commonly used in storm coats. Tailors well, keeps shape, wears well. Becomes shiny; needs special care when pressed to avoid shine. Colors in lower grades of gabardine may be affected by dry cleaning.
Flannel	Twill or plain weave. Either worsted or woolen type. Full nap often hides weave. Striped or plain.	Originally all-wool. Now flannels of manmade fibers have been developed for clothes in budget price lines.	Good qualities are serviceable in suits, lightweight coats, and coat linings. Flannels made of wrinkle-resistant manmade fibers wrinkle more than do those of good wool, and wrinkles do not hang out as well. However, these flannels cost less and may be pressed quickly and easily.
Sharkskin	Hard-finished worsted-type twill weave with alternate light and dark yarns. May be plain, striped, or patterned.	Wool usually, although manmade fibers are being used to make this material available in less expensive clothes.	Neat, trim-looking in suitings and utility coatings. Wears very well, keeps shape and press. Doesn't show spots, soil, or mends readily.
Tropicals	Lightweight worsted-type plain, open weave—smooth and unnapped.	Wool, or blends of various manmade fibers. Those blended with wool are most common and generally most satisfactory.	Cool, porous, resist wrinkles, and require little or no pressing. Used for summer or lightweight suits.
Tweed	True tweed has a rough twill weave. May have nubby multicolored yarns, plaid or check patterns. Made in both coat and suit weights.	Wool in true tweed — but other fibers made to look like wool are being used in novelty and low-cost tweeds. Great care needs to be used in selecting tweeds as it is not easy to tell good quality from poor.	Best qualities stand up under harsh treatment—require little care, resist wrinkling, and don't show spots, lint, or repairs. Poor qualities are scratchy and do not wear well.
Homespun	Plain, loosely woven, rough, nubby. Looks much like tweed and may be miscalled tweed.	Coarse wool often mixed with wiry hairs. Like tweeds, the quality of homespun varies much and its appearance can be deceiving.	Good qualities stand a lot of hard wear and do not wrinkle. Used in sports coats.
Fleece	Bukly coating in plain or twill weave, which does not show on right side because of thick nap. Usually plain.	Sheep's wool, or one of the specialty wools such as cashmere, or camel's hair; these also may be blended. Manmade fibers are also used in fleeces; some are backed with cotton.	Appearance and warmth vary greatly with fibers and weight of fleece. High-grade fleeces are soft, silky, pliable, warm, and do not collect soil readily. Fleeces of inferior quality or fleeces made of fibers that develop static collect soil quickly. Light colors show soil readily so are costly to maintain unless washable. Fleeces often shed; this should be expected.
Chinchilla	Originally heavy pile fabric, but it is now lightweight. Densely napped with tiny nubs over the surface.	Wool	Warm, soft coating for casual wear. Collects lint readily—requires much brushing.
Reversible coating (Double cloth)	Two separate cloths linked together making outer cloth and lining as one.	Wool	Practical for between-seasons coats. Not warm enough for cold winters unless worn with a warm suit.

Coatings and suitings—*Continued*

Material	Appearance	Fiber Content	Properties and Uses
Suede cloth	A compact cloth with short cropped nap. Looks much like suede leather.	All wool originally but now it may be made of manmade fibers blended with the wool.	Rich looking cloth used in winter coats. Collects lint, requires much brushing.
Fur fabrics	Resemble such furs as persian lamb, caracul, leopard, or broadtail. On close examination, particularly from the under side, it is easy to see that these materials are woven or knitted fabrics instead of fur.	The fiber varies; the one that best imitates the fur is used.	These are luxury fabrics, which do not always clean satisfactorily. Often become fuzzy and lose curl where coat or suit is rubbed as worn. Warmth varies.
Jersey	Fine, knit material with soft, very light nap.	Wool usually, but some jerseys are now being made of a blend of wool and manmade fibers.	The most satisfactory jerseys are special suit or coat weights that are guaranteed not to sag. Jersey is lightweight to wear; it resists wrinkling, is an excellent choice for travel.
Corduroy	A pile weave with narrow lengthwise ribs of pile.	Cotton	Used with shower-resistant finish for storm, and other utility coats. Wears reasonably well if background weave is firm. If loose, the pile gradually works out. Does not keep a neat press. Pile may flatten at elbows and skirt back. Inexpensive.
Linen	Firm, plain-woven, somewhat coarse, summer suiting.	Flax. Many linen suitings have durable wrinkle-resistant finish. Some fabrics made to look like linen are of cotton, rayon, or silk.	Long-wearing and practical.
Shantung	Plain-woven spring and summer suiting with thick and thin crosswise yarns. Has silky sheen.	Pure silk in finest fabrics. Rayon and acetate in lower-priced shantungs.	Wears fairly well. Heavy slub crosswise yarns eventually cause lengthwise yarns to split. Becomes shiny. Rayon shantung often dull and lifeless.
Faille	Firm, ribbed, somewhat crisp hand. Dressy fabric for spring and fall suits and coats.	Silk or manmade fibers.	Very attractive suiting. Becomes shiny with wear and pressing.

Linings in Coats and Suits

Material	Appearance	Fiber Content	Characteristics
Crepe	Plain woven lining with slightly roughened surface. Best qualities are soft, fine, and compactly woven.	Usually rayon or acetate; sometimes silk.	Rayon or acetate crepe of good quality wears well, usually stands more abrasive wear than soft silks.
Satin	Lustrous, smooth, and soft. Shiny on right side, dull on under side. Crepe satins are softer, more supple than plain.	Silk, rayon, or acetate	The slippery surface of satin makes coats slide on and off easily—helps cloth resist soil. Silk satin is softer, drapes better, is less shiny, and has warmer texture than satins of manmade fibers. Both kinds wear well if firmly woven, good quality. Because lining satins fray they will serve you better if cut edges are finished.
Twill	Diagonal firm weave. Finest qualities look much like satin.	Acetate or rayon	Wears very well if quality is good. Widely used in tailored suits and toppers. Because twill linings fray, seams need to be generous, or protected with a serging stitch, which serves as secure overcasting. Narrow seams pull out.
Taffeta	Plain-woven; crisp hand. Sometimes taffetas have fine crosswise rib; these taffetas are plain color. Taffetas made of yarns the same size both ways are usually patterned.	Ordinarily rayon or acetate.	Taffeta linings give body to coats—help pravent wrinkling, make coats slide on and off easily. Good qualities wear well, considering cost.
Alpaca pile	Looks much like fur. Pile about ⅜ inch deep.	Alpaca pile surface—cotton backing.	Used chiefly to line and trim storm coats. It is very lightweight, soft, quite warm, but bulky. Soft texture, not prickly as might be expected from appearance.
Nap-back satin	Lustrous satin on top side serves as lining; dull nap on under side takes place of coat interlining.	Rayon or acetate surface, cotton backing.	Lining and interlining combined in one fabric lacks air space of usual lining plus interlining which contribute to warmth. This material is best suited to coats for moderate temperatures. Seams are bulky.
Metal-insulated lining	Crepe or satin lining with gray metallic backing.	Rayon or acetate with aluminum coating on back.	Keeps in more body heat than usual lining. Does not take the place of warm interlining plus lining. Metal backing flakes off where material is creased. Material wrinkles badly. Stiffer than linings without this finish.
Fur	Usually short-haired fur of lower quality than fur used for outside of coat.	....	Very warm, but bulky and somewhat stiff.

Linings

The lining of a coat or suit should be both serviceable and good-looking. If it is a sleazy quality that will soon wear out, or if it water-spots, pulls at the seams, shrinks, changes color, or fails some way in cleaning, it will spoil an otherwise good outfit and will need to be replaced. Money spent relining a coat might better be invested in a garment with a higher quality original lining.

The chart on page 21 lists the most used kinds of linings and facts about each.

Some coats and suits now carry tags with facts about linings—what they are made of, how long they will wear. Although indefinite, such statements as "guaranteed to wear the life of the garment" are some assurance of durable qualities.

Few garments carry tags relative to gas- or fume-fading although this is one of the most troublesome and wasteful of all lining failures. Although a lining may last very well, that is little comfort when a woman suddenly finds that after storage or dry cleaning the lining in her navy blue coat is changing from navy to pink.

Interlinings and liners

No research has as yet provided a practical way of measuring a coat's warmth, but for anyone who needs a warm coat the right interlining is most important. In addition to the interlining—the outer cloth, the lining, and the air spaces within and between these materials also provide warmth.

To examine the interlining, lift up the lower edge of the lining and turn it back. The materials you're most likely to find are listed below along with facts about each to help you in selecting the interlining that suits your needs.

In recent years, detachable coat liners have become popular. They can be put in or taken out to suit the temperature and season of the year. A liner consists of interlining covered with lining. The interlining may be woven wool, chamois, or fur. Chamois and fur are the warmest. Interlinings of wool cloth may or may not be warm depending on the quality of the wool. Some are fine quality—compactly woven, napped, and warm; others are loosely woven, have little or no nap—obviously are not good quality or warm.

Trim

In high-grade clothes, emphasis is on cut, line, and material. Little if any trim is needed. Simple functional trim that will last as long as the garment is best.

Cloth trim can be effective and it adds little if anything to the cost unless detailed labor is required. Good cloth trims are bandings of self fabric, placed biaswise or crosswise, and bandings of same material as the outer cloth, but of different design—such as checks or plaids on a plain material.

Interlinings

Material	Appearance	Characteristics and Uses
Woven wool	A loose-woven, soft-draping fabric with nap on one or both sides.	Soft, flexible, lightweight. Most used in dressy or all-purpose coats for moderate climates. Rarely warm enough for severe cold.
Quilted wool	A middle layer of reused wool fibers quilted between two layers of thin cotton cloth much like cheesecloth.	A warm interlining if the layer of wool fibers is even and not skimped. Chief objection to quilted interlinings is their bulk. Rows of quilting should be close enough together to keep filling from shifting.
Chamois	Slightly fuzzy, soft, flexible leather—natural color. There are a few imitations of natural chamois which are not as soft or flexible.	Warm and wind-resistant—good for very cold climates. Used in some coats with detachable linings. Requires special care in dry cleaning.
Napped cotton	Usually mottled gray and white, or all black. Napped on one side.	Suitable for coats to be worn in warm climates or between seasons. Lightweight and not very warm.

Stitching is good trim on tailored or casual clothes. It should be well done—that is, even, firm, neat. Good stitching can strengthen a garment, give body to collars, cuffs, and edges. Also it doesn't become shabby or wear out before the body of the garment.

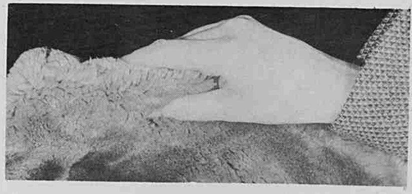
Fur is a trim that adds considerably to the cost of a garment. It may account for a third or more of the price you pay. Fur trim is commonly used on places that get the most rub—collars, cuffs, edge trim—and even the best quality furs cannot hold up too well in these places. Unless you can afford to pay the price for good quality fur—one that will look and wear reasonably well—it is ordinarily better to put your money into a high-grade, all-cloth suit or coat.

Cost of upkeep for a fur-trimmed coat is more than for an all-cloth coat. For best care, fur should be removed from the cloth and cleaned separately. It is dried and stiffened by solvents used in cleaning. However, because of the cost of removing fur at each cleaning, giving it special handling, and putting it on again, most fur-trimmed coats are cleaned the same way as all-cloth coats. Such cleaning dulls fur and in time causes skins to split.

If you should buy a coat or suit with fur trim, look for lustrous thick fur with no thin, weak spots. Feel it for soft, supple pelts. Note the color; it should be even and characteristic of the kind of fur it is. Among the most expensive furs are persian lamb and beaver. Inexpensive furs are mouton (sheepskin) and coney (rabbit).

A Fur Products Labeling Act, in effect since August 1952, requires that any fur product must bear a label giving the name of the animal that produced the fur. The label must also tell the purchaser if the fur was bleached or dyed—or if it is all or part paws, tails, bellies, or waste fur. Such fur does not wear as well as new fur or that from the back and sides.

Buttons may be decorative as well as functional if of good design and quality. Look for smooth-edged buttons that slip in and out without straining or wearing the buttonholes. Buttons are seldom sewed on securely when you try on a coat or suit because there's always a possibility that they may need to be reset to suit the purchaser. To avoid loss, resew every one with strong thread. Loss of one button frequently makes it necessary to buy



If a coat or suit you consider has fur trim, look for soft, supple pelt and dense, lustrous fur.

a whole new set, unless extra buttons are provided with the garment.

Materials commonly used in making buttons are listed below, with facts about their use and wearing qualities:

Horn buttons are expensive but very attractive on tailored clothes. They have a soft transparency —usually are a light color with dark amber or gray streaks within.

Pearl buttons are most used on lightweight suits and coats. They are durable and good-looking. Best quality pearl buttons are lustrous, smoothly polished, and uniformly thick.

Plastic buttons, which are being used more and more, are inexpensive. Those of good quality serve very well, are not affected by pressing, but others may fade, break, or change color. A good plastic button is smoothly finished and the surface is softly polished.

Tortoise-shell buttons are used chiefly for decoration, often on coats that fasten with one large button.

Leather buttons, frequently used on sports coats, are expensive, lasting. Chief objection to them is that they darken with use.

Metal buttons are of various types and qualities. Those with satin finish seem to hold up better than shiny ones, which are easily scratched and then become discolored. If the metal button is not smoothly finished underneath it may cut the thread that holds it to the garment and be lost.

Cloth-covered buttons are inexpensive and a sure way of matching the suit or coat in color. They wear out quickly and often need to be replaced. If you have the cloth, which may come from having a coat or suit altered, this isn't too much of a problem, since the expense of having buttons made is small.

Other publications on clothing

Other publications of the Institute of Home Economics on the selection, construction, and care of clothing are listed below. They can be obtained from the Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

Men's suits: How to judge quality. Home and Garden Bulletin No. 54.

How to tailor a woman's suit, Home and Garden Bulletin No. 20

Coat making at home, Farmers' Bulletin No. 1894

Child's self-help overall, Leaflet No. 251

Fitting coats and suits, Home and Garden Bulletin No. 11

Fitting dresses, Farmers' Bulletin No. 1964

Pattern alteration, Farmers' Bulletin No. 1968

ABC's of mending, Farmers' Bulletin No. 1925

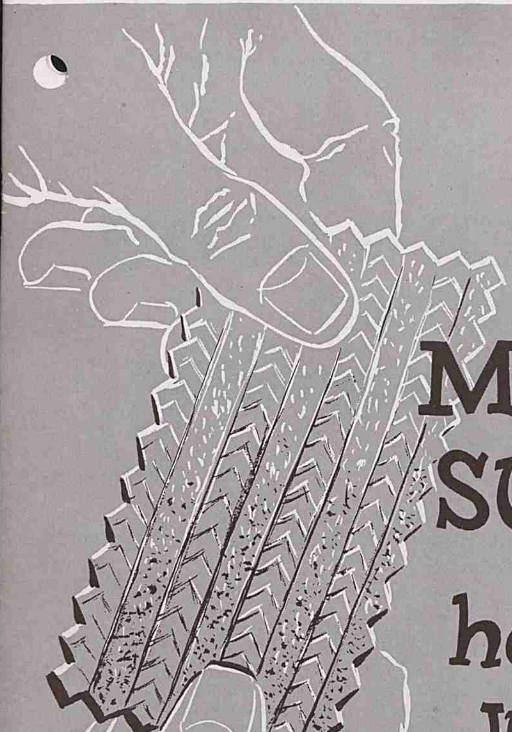
Mending men's suits, Home and Garden Bulletin No. 39

Detergents for home laundering, Home and Garden Bulletin No. 49.

Growth Through Agricultural Progress

☆ U.S. GOVERNMENT PRINTING OFFICE : 1961 O—604408

HOME AND GARDEN BULLETIN NO. 54



MEN'S SUITS how to judge quality

U. S. DEPARTMENT OF AGRICULTURE

N-78006B

MEN'S SUITS how to judge quality

CLARICE L. SCOTT, CLOTHING SPECIALIST
CLOTHING AND HOUSING RESEARCH BRANCH
AGRICULTURAL RESEARCH SERVICE

This bulletin is intended primarily for the use of extension workers, teachers, and others who give information to families interested in better management of their incomes through improvement in purchasing. Included are facts regarding the fabric, construction, and appearance qualities currently found in men's suits, which the purchaser can consider in making a choice.

Much that affects the wearing quality, appearance, and fit of a man's suit is hidden. Certain values show up only with wear and cleaning. Consequently, there is no sure way to tell by examining a new suit whether it has all the particular qualities wanted and is a good buy for the price.

How then can a man buying a suit make a wise choice? He can learn how the various fibers used in suiting differ in their characteristics . . . what kinds of suitings are best for different kinds of wear . . . how suits of different grades are made and how materials and workmanship affect values . . . how to judge fit.

THE OUTER CLOTH

One of the first things to consider is the outer cloth—how it looks and feels. Experts, whose fingers through long experience have become sensitive to quality, can judge a fabric more or less accurately by its "hand" (or feel) and its looks, but feel and overall appearance can be deceiving, even to experts. New fibers, special finishes, and modern manufacturing techniques produce cloth that is not always what it appears to be, either in fiber content or quality. Also, the skill with which even the poorest suits are pressed and displayed can make the materials look much better than they are.

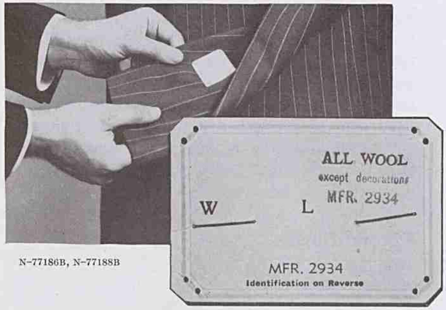
Even so, there are facts to be learned about suitings that will serve as a guide to quality. It is helpful to know the nature of the different fibers they contain, to be able to identify the commonly used types of suitings, and to know the advantages and disadvantages of each. Mistakes in choice can be avoided by knowing what kinds of fabrics stand up best with wear and cleaning . . . which resist wrinkles and hold a press . . . which are least likely to become shiny . . . which will be most comfortable and practical through a hot summer.

Fiber-Content Labels

Information about the fibers in a suiting is often given on a label or tag. If the fabric contains any wool, the Wool Products Labeling Act of 1939, a Federal law, requires that each piece of the suit be labeled with the following information:

> (1) Wool fiber content: the kind of wool and the amount of it in the suiting; (2) the percentage, if any, of fibers other than wool; (3) the name of the manufacturer or persons selling the suit, or the registered number of the manufacturer, together with the name of the retailer or wholesaler. Facts on the tag refer only to the outer cloth, not to linings or materials that make up the foundation of the coat front.

The wool in suitings is most likely to be fleece wool from sheep. Other fibers classified as wool by the Act, and used in suitings, are mohair, cashmere, and alpaca.



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Suitings that contain wool must be labeled with the amount and kind of wool used and the name or registered number of the manufacturer.

Terms used on labels to describe the kind of wool in a suiting—"wool," "reprocessed wool," and "reused wool"—indicate only whether the fibers are new or used. Quality depends on the characteristics of the fibers—their length, fineness, strength, crimp, elasticity, and luster.

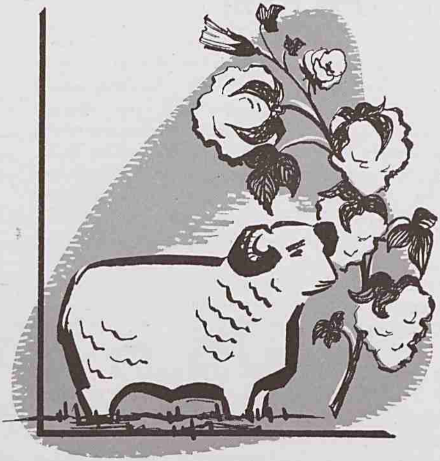
Cloth labeled "wool," "all-wool," or "100-percent wool," is made from new fibers or fibers reclaimed from manufacturers' clippings of knit goods. "Virgin wool" applies only to fibers never before spun into yarn. The Act does not require that it be labeled in any way except as "wool"; a fabric labeled as "virgin wool" may or may not be better than one labeled "wool."

"Reprocessed wool" describes fibers reduced from woven or felted wool fabrics—chiefly manufacturers' clippings—that have never been worn or used. Though reprocessing breaks and shortens the fibers somewhat, suitings made from them may give good wear.

"Reused wool" means that the fibers were reclaimed from knitted, woven, or felted materials—clothing, blankets, and the like—that have been worn or used. Articles are cleaned and graded before being reused. Because the wear they have received and the reclaiming process break and weaken the fibers, they generally are blended with stronger wool fibers when spun into yarn.

No Federal law requires the labeling of fabrics made entirely of fibers other than wool. The Fair Trade Practice Rules promulgated by the

Federal Trade Commission, however, state that if fiber content of materials made of or containing rayon, acetate, linen, or silk is given, the fibers should be listed in order of decreasing percentage composition. For example, a listing of a suiting's fiber content as acetate-rayon-nylon means that the material contains more acetate than either rayon or nylon, and more rayon than nylon.



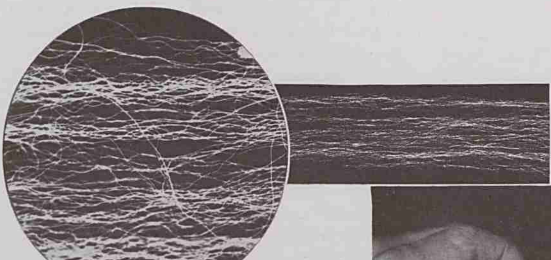
Natural Fibers

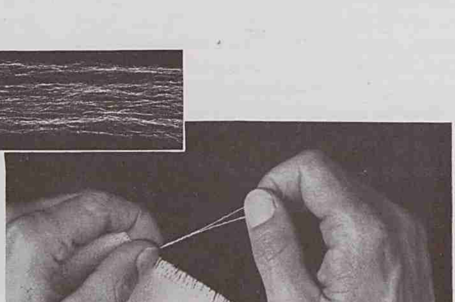
Wool.—Wool suitings and the fibers from which they are made fall into two classes—worsteds and woolens.

In worsted the fibers are combed to take out short fibers and make longer ones lie parallel. Fibers then are twisted into a yarn that is even, fine, and strong. Two or more of these single yarns may be twisted together to make a plied yarn. Many worsteds are made with two-ply warp (lengthwise yarns) and single filling (crosswise yarns); better grades may be two-ply in both warp and filling.

Worsted suitings are generally close woven, hard finished, smooth, and supple. If you squeeze one in your hand, it will spring back into place as soon as you release it. Examples are all-wool gabardine, sharkskin, and unfinished worsteds. Worsteds wear well, but the hard, clear-finished ones without nap, such as gabardine, tend to shine with wear and pressing. "Unfinished," or "semi-finished," worsteds have a light surface nap, which helps postpone shine or prevent it.

Woolen yarns are not combed; they contain both short and long fibers, which lie crisscrossed. Most woolen yarns are single strand and loosely





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In worsted yarns long fibers, combed to lie parallel, are tightly twisted into a ply. Two or more plies may be twisted together to make a plied yarn.

twisted. The cloths made from them are not as serviceable as worsteds, but they lend themselves to napping and to the casual styling that many men like. Some woolen yarns, however, are two-ply and tightly twisted; these make tough suitings.

In general, woolen suitings are softer and less firmly woven than worsteds. They do not keep their shape or hold a press as well, but on the other hand they do not wrinkle as readily.

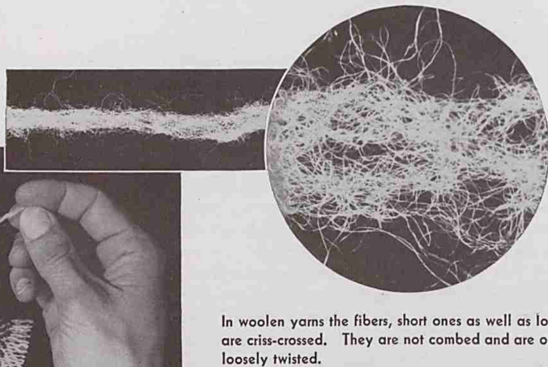
Typical woolens are tweed and twist. These and similar suitings are easily cheapened with harsh, inferior wool fibers, or they may be a blend of wool with fibers other than wool. It is well to examine them carefully; check the fiber-content label, and read such information as the manufacturer has provided.

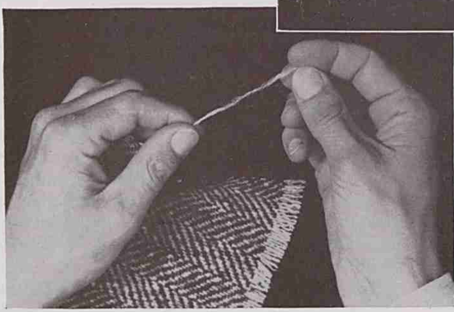
Cotton.—As men's interest in summer comfort increases, so does the use of cotton in suitings. All-cotton is cool and comfortable for hot, humid weather, but without special finishing, it is easily rumpled, needs frequent pressing and laundering. Soil-resistant and wrinkle-resistant finishes help overcome these disadvantages. Since all of these finishes are not equally lasting it pays to look for a tag that assures you of a durable finish.

Cotton is often blended with manmade fibers such as Orlon and Dacron, in suitings. The special advantage of these blends is that the fibers complement each other. Orlon and Dacron in right proportions contribute wrinkle resistance, dimensional stability, crease retention, and make a suiting easier to care for than one of all cotton. On the other hand, being nonabsorbent, these manmade fibers make warm fabrics—a disadvantage that can be overcome to some extent by cloth construction that provides ventilation. Also they are highly sensitive to heat and pressure, so are easily damaged in pressing; and they accumulate static electricity, which causes a suiting to cling to the body when the air is cool and dry. Cotton in combination with them helps to overcome these undesirable qualities.

Flax.—Flax is used in all-linen and blended suitings. It is naturally absorbent, therefore cool, and it lends itself to attractive textured weaves. Its chief disadvantage is lack of resilience; fabrics made from it wrinkle easily. An all-linen suit requires an effective and durable wrinkle-resistant finish for best service. In blends, flax is most often combined with wool, mohair, and other fibers that supply resilience.

Silk.—Silk as a fiber for men's suitings grows steadily in popularity because it makes a fabric that is soft, lightweight, comfortable, and handsome. Used alone it is expensive; it is not hard wearing.





In woolen yarns the fibers, short ones as well as long, are criss-crossed. They are not combed and are only loosely twisted.

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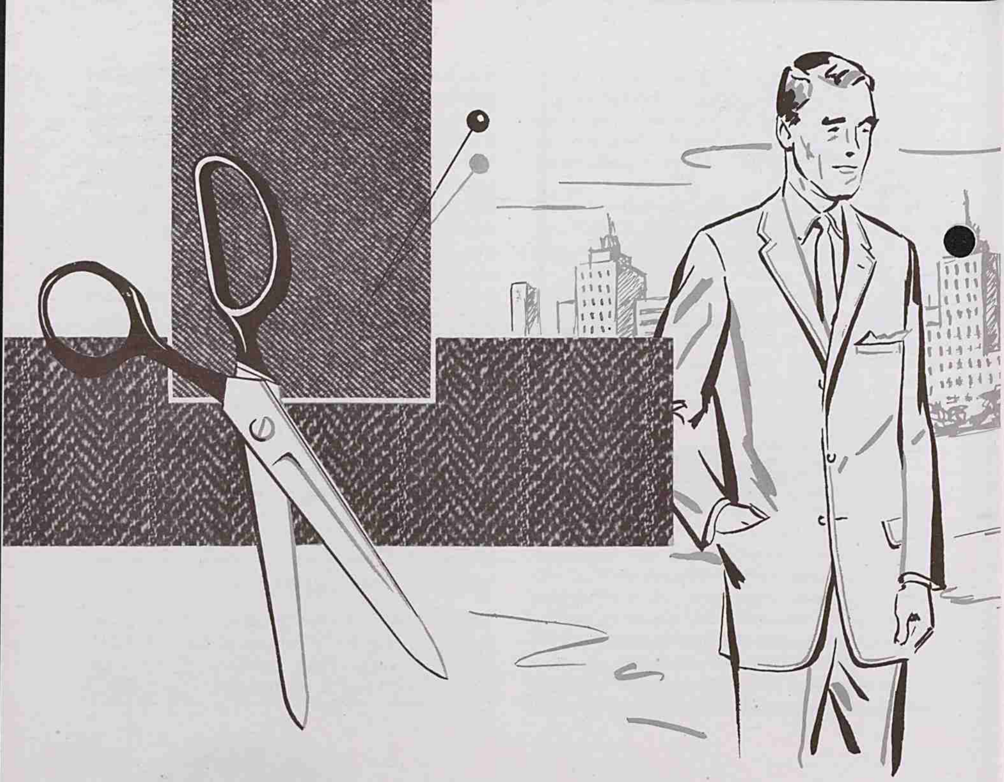


In certain blends, however, even a small percentage of silk gives the suiting a soft hand and a pleasing texture, while other fibers may provide endurance. The fiber-content label will be helpful in judging such materials.

Manmade Fibers

Rayon, acetate, nylon, Dacron, Orlon, Dynel, Vicara, and Acrilan are the manmade fibers used increasingly in suits for men. Experience is showing that these fibers generally function best when blended with each other or with natural fibers such as wool, mohair, silk, flax, or cotton. In blends, one fiber in proper proportions supplies qualities that another lacks, or it may counteract what is objectionable in another.

Rayon and acetate, oldest of the manmade fibers, each possess qualities that supplement the other, so they are widely used together in summer suitings. Both of these fibers are cool and inexpensive. However, since neither fiber is naturally resistant to wrinkling, rayon-acetate suitings require lasting wrinkle-resistant finishes for good service. Rayon and acetate are widely used also in blends with other fibers, both natural and manmade.

The newer manmade fibers are used mainly in blends, some of which have proved their worth

while others are still experimental. Research is in progress to determine the best use of each of these fibers—to find ways of counteracting such undesirable qualities as roughing up, pilling, glazing, and accumulating static electricity, and also to find out the proportions of any one fiber that must be used in certain blends to produce desired effects.

Suits made of materials containing 50 percent or more Dacron or Orlon will, if their patterns have been properly worked out, feel larger in certain places than those of wool in corresponding sizes. This is essential to your comfort. Unlike wool, these fibers lack give; therefore, the fullness ordinarily eased and shrunk in has to be removed and the patterns cut larger. Some of the places where suits of manmade fibers may feel large are: Through the shoulders, at the elbows, about the armholes, and in the crotch and the seat of the trousers.

Letting out seams in suitings of manmade fibers is often a problem because needle holes may be permanent. Seam creases also may be permanent unless pressing temperatures were kept very low when the suit was made.

It is important to get proper directions for the care of suits containing manmade fibers. All of those named here except rayon and Vicara are sensitive to heat and pressure, so they require special care in cleaning and pressing.

In some suits, woven labels bearing directions for care are sewed inside both coat and trousers, where they are always at hand. Or there may be a hang tag or pocket stuffer with specific instructions on care.

Weave of the Fabric

The way suiting is constructed—that is, the weave—is another thing to notice when considering a suit. Weaves most used in men's suitings are plain and twill.

Plain weave is the simpler, with lengthwise and crosswise yarns passed alternately over and under each other. Tropical worsteds and some tweeds show clearly this type of construction.

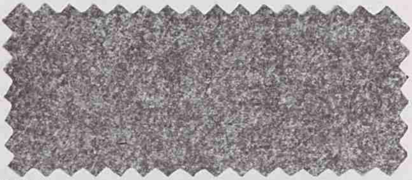
In twill weaves, crosswise yarns go over and under two or three of the warp yarns, forming fine diagonal lines as the weave develops. These lines can readily be seen in gabardine or sharkskin.

Whether plain or twill, a suiting may be firmly or loosely woven. In general, a fabric with a firm weave keeps its shape better, holds a press better, and is more durable than a fabric with a loose weave.

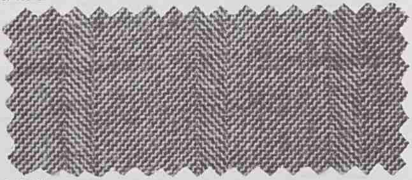
Types of Suitings

The fiber content, the type of yarn, the weave of the cloth, and the way it is finished, give a fabric its characteristic qualities.

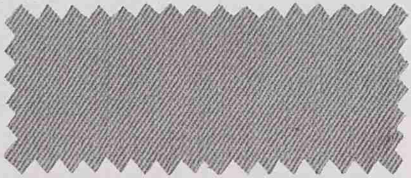
On the next two pages are pictures and brief descriptions of types of fabrics commonly used in men's suits. Some of the fabrics with names that were once synonymous with wool, such as flannel and gabardine, now may be made from any one of a number of fibers or combinations of fibers. The descriptions given for the suitings illustrated, however, apply only to high-grade worsteds or woolens, unless other fibers are indicated.


N–77175B

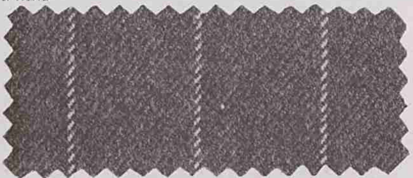
Flannel.—May be worsted or woolen. Woolen flannel has a thick nap that almost hides the weave. Worsted flannel is finer, not so thick or heavily napped. It is more serviceable, has better appearance than woolen flannel.


N–77178B

Sharkskin.—A worsted twill. Neat, sturdy, practical—good for office wear. Light and dark yarns alternate lengthwise and crosswise. May be plain, striped, or patterned. Mends and spots do not show readily.


N–77177B

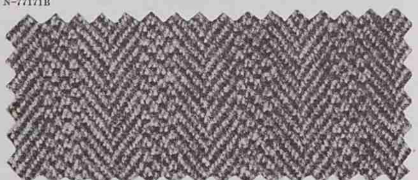
Gabardine.—A worsted twill—hard and smooth-finished—in solid colors. Good qualities wear well and hold creases. Becomes shiny with wear and cleanings. Spots, soil, worn places, and repairs show readily.


N–77176B

Semifinished or unfinished worsteds.—Smooth, soft, closely woven. Usually twill; sometimes plain woven. The term "unfinished" is misleading; these worsteds actually have a light nap, which helps prevent shine.

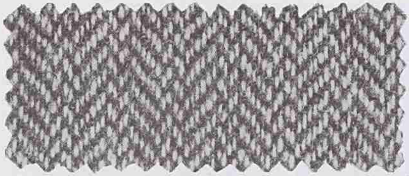

N–77171B

Tweed.—A rough, bulky woolen. Plain or twill weave. Warp yarns often white; crosswise yarns colored and nubby. Best qualities are very serviceable. Because they have a prickly texture, they are uncomfortable in any except cold climates.


N–77174B

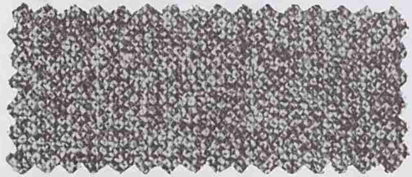
Cheviot.—May be worsted or woolen, twill or plain weave. Resembles tweed but is finer and of lighter weight. Has a wiry hand. Substantial; stands rough wear, but does not hold creases and shape.

Shetland.—True Shetland is imported. "Shetland-type" suitings are more common. Resembles tweed but it is softer, lighter in weight, more loosely woven. Does not keep good shape or press.



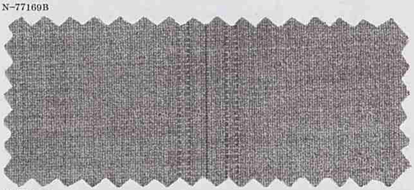
N–77170B

Twist.—Plain-woven, rugged woolen. Both warp and filling yarns are tightly twisted. Resembles tweed. A twist is stiff compared with fine worsteds. Excellent for men who want an extra-hard-wearing suit.



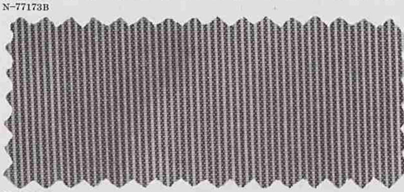
N–77169B

Tropical worsted.—Lightweight, plain-woven, unnapped, porous, smooth, and soil resistant. Designed for spring and summer, but gaining favor for year-round wear. Good tropical resists wrinkles and gives good service.



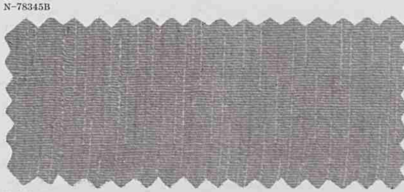
N–77173B

Cord.—Popular summer suiting made with heavy, light-colored lengthwise cord yarns alternating with narrow stripes of finer, darker yarns. May be all-cotton or of manmade fibers. Generally inexpensive.



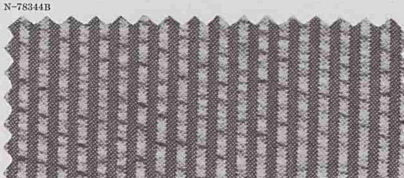
N–78345B

Shantung.—Originally all-silk, but many modern shantungs are made of fibers other than silk. Nubby filling yarns give texture. Lightweight and comfortable, but readily damaged by hard wear.



N–78344B

Seersucker.—Washable summer suiting. Has alternate plain and crepe stripes. All-cotton is cool but quickly rumpled. With Orlon or Dacron it may be less cool, but it resists wrinkles, retains creases, keeps trim appearance, and is easily cared for.



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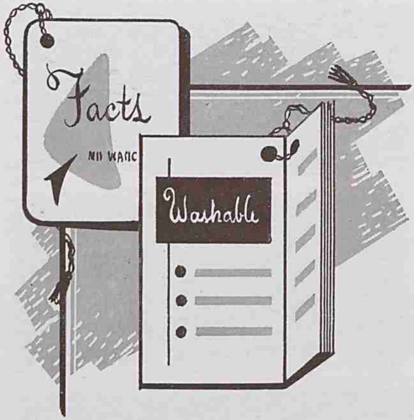

Shrinkage Resistance and Colorfastness

A satisfactory suiting, whatever the fiber, neither shrinks nor fades when given recommended care. Statements direct from the manufacturer are the best assurance that a suiting will not shrink or fade noticeably, but such statements are not furnished with all suits. The next best source of information is the salesman or department buyer.

If no information is available, it may help in making a choice to keep in mind that all materials used in high-grade clothes have been carefully shrunk, tested, and inspected. The cost of these processes has to be included in the price of the suit. However, thorough preshrinkage and fastness of color add so much to the value of a suit that they are well worth the additional cost.

In suits made to sell at a low price, materials are used just as they come from the cloth manufacturers. One lot may be shrunk satisfactorily and be colorfast, another may not. This may explain why one suit keeps its size, shape, and color, and another from the same source shrinks and fades.

In summer suits, shrinkage may be a problem. One way to guard against it is to make sure that directions for cleaning or washing are carefully followed. Unless a suit is labeled washable, it is best to have it dry-cleaned. A suiting that looks washable may not be. Sleeve linings or construction materials within the coat may not be washable; if a single item, such as tape or interfacing, draws up or stretches, it can permanently ruin a suit's fit and appearance.

Warmth

In wool suitings, weight is the best guide to warmth. Twelve- to 14-ounce suitings are regarded as medium to heavy, suitable only for cold weather. Ten-ounce and lighter weights are usually designated for spring and summer, although many men now choose lightweight wools for year-round wear.

Weight is not a guide to the warmth of suitings of manmade fibers. Some manmade fibers are very strong; hence, they can be made up into thin, lightweight suitings. Such suitings are not necessarily cool. If they are made with a high percentage, or entirely, of nylon, Dacron, or Orlon, they may be as warm as heavier suitings of wool, or warmer. As yet there is no practical guide for judging the warmth of suitings that contain manmade fibers.

Color and Texture

For low-cost upkeep of a suit, mixtures are a better choice than plain colors, dark colors better than light. Mixtures don't show spots, shine, or mends as readily as plain colors do.

Although, ordinarily, a suiting with a smooth, slick texture sheds soil better than one that is ribbed, creped, or woven with slub yarns, a suiting of manmade fibers that accumulate static electricity will attract and hold soil regardless of texture. Static electricity is less of a problem in warm weather than in cold.

For hot weather, light colors are often preferred because they are cooler than dark colors. If light-colored summer suitings are too thin, however, colored or patterned shirts or shorts may show through them, and light may silhouette the figure. To judge transparency, lay the unlined back of the coat over darker suiting; extra materials in the coat front hide this fault.

LININGS AND POCKETINGS

Linings.—Most tailored suits are half or quarter lined. Those best for hot weather are skeleton lined.

Acetate twill is a much used body lining; it is inexpensive, even in good qualities, and stands up well with wear. Best qualities are made of very fine yarns; the weave is firm and close; and the hand is soft and supple. Poor qualities are coarse and loosely woven and the hand is crisp. Acetate linings, unless specially treated, sometimes lose color because of gas (or atmospheric) fading, even as the suit hangs in the shop.

Bemberg linings in plain, satin, or patterned weaves are used increasingly in better grades of suits. These linings have a soft hand and smooth texture; they are lightweight—in keeping with the new soft suitings, and they are not subject to gas fading.

Certain invisible qualities are important to any good suit lining. For example, colors should be fast to gas fading, to perspiration and cleaning, and to crocking—that is, rubbing off. Thorough shrinkage is necessary if a suit is to fit and look as well after cleaning as before.

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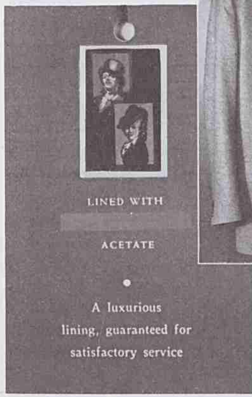
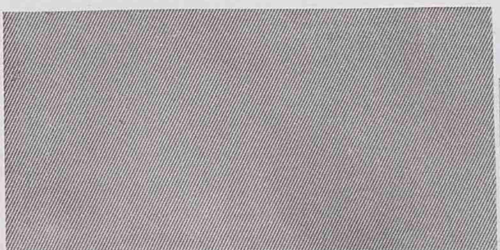


N-78346B

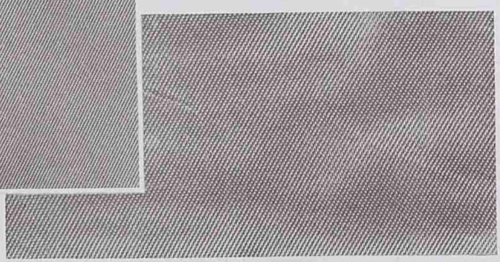
Look for a tag or pocket stuffer that gives facts about the lining. If you find none, ask the salesman or buyer for information.



N-8786D

Good

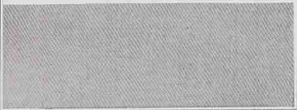
Poor



N-8788D

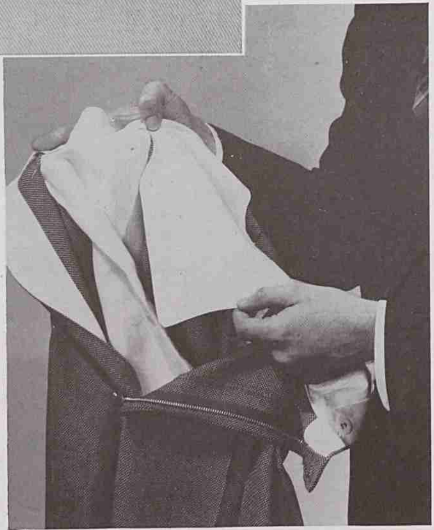
Good-quality linings (left) are made of fine yarns; the weave is close and firm; the hand is soft and supple. Poor-quality linings (right) are coarsely woven and have a crisp hand.

N-77163B



Pocketings in suit coats.—Silesia is the familiar twilled cotton used in coat pockets of better grades of suits. In best qualities, it is closely woven twill, much like silk in hand and appearance. It is strong and lasting. In medium-grade suits, coarser cotton of the same type is used, while in the lowest grades, coat pocketing is usually plain-woven, sleazy cotton, crisp and slick with sizing. If crushed in the hand it wrinkles readily. With use and cleaning the sizing comes out, leaving limp, flimsy pocketing that soon wears out.

Pocketings in trousers—Among the materials for trouser pockets and facings of good-quality suits is closely woven twill cotton, which is thicker and has a more leathery hand than material used in pockets of the coats. In low-grade trousers, the pocketing is coarsely woven and filled with sizing. It softens with cleaning and is not durable.



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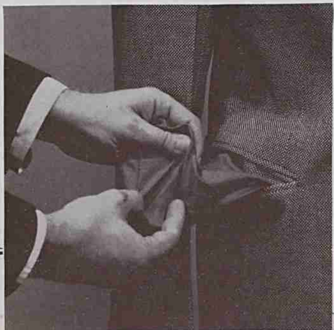
Good trouser pocketing is firmly woven; it has a soft, leathery hand.



Good coat pocketing is closely woven; it has a soft hand.

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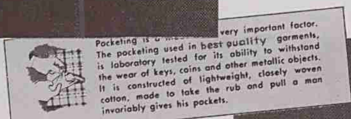

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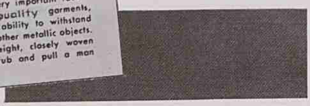

N-77162B

WORKMANSHIP AND CONSTRUCTION MATERIALS

Both visible and invisible qualities of workmanship and the construction materials (which are those materials used between outer cloth and lining) have a definite effect on a suit's appearance, the way it fits and feels, and the way it holds up with wear and cleanings. These qualities vary as grades of suits range from high to low.

On pages 22 to 27 are illustrated differences that are typical of high-, medium-, and low-grade built-up suits—that is, suits with linings and inner construction for year-round wear. On pages 28 and 29, contrasting grades of strictly summer suits are shown.

All suits do not fit into the few grades that are illustrated. There are other grades between these, as well as grades that overlap the ones shown. However, knowledge of differences such as those shown by these contrasting suit qualities will be helpful in evaluating qualities in between.

Some knowledge of manufacturing practices and how they affect suit quality may also prove helpful in judging the worth of a suit. In the sections that follow, construction materials and workmanship on which the quality of a suit so largely depends are described.

Poor quality in hidden workmanship and hidden materials become evident when a suit is worn and cleaned. Causes of the faults illustrated clockwise below: Lapels were not shaped; armhole tape was not preshrunk; pocket was made without an inside stay.

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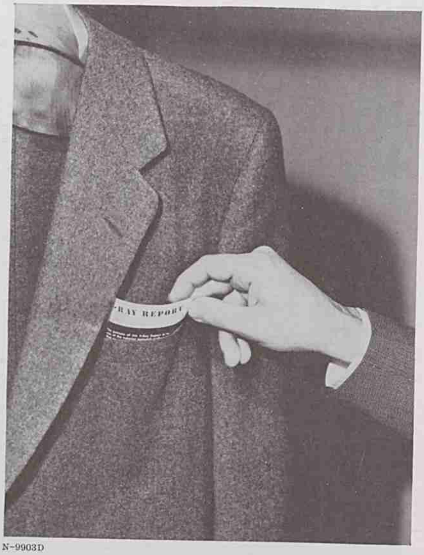
9952D

N-78339B



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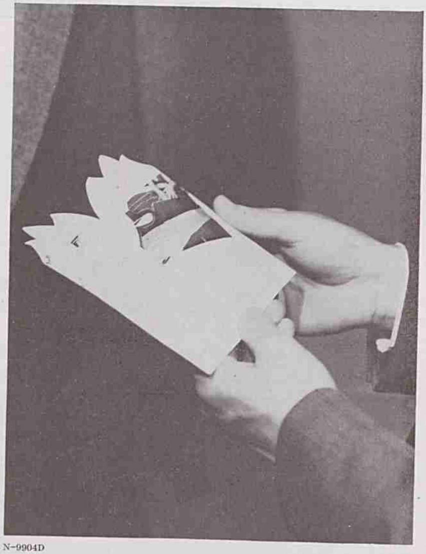


N-9904D

In the coat pocket you may find a booklet that explains and shows qualities you can't see.

Patterns

In the manufacture of high-grade suits skilled designers and highly trained pattern makers are employed. Patterns are carefully sized for comfort and free action, and include generous allowances at all outlet seams.

In the manufacture of low-grade suits neither designers nor skilled pattern makers are employed. Patterns are trimmed down in size as much as possible, and there are minimum seam allowances, frequently not enough for outlets. A suit made by such a pattern may not be comfortable, and it may prove to be a loss if the purchaser should at some time need to have it let out.

Preparation of Materials

Before the cloth for high-grade suits is cut, it is shrunk, inspected for flaws, and straightened, as are any of the construction materials that need such treatment. In the manufacture of low-grade suits, these steps are omitted.

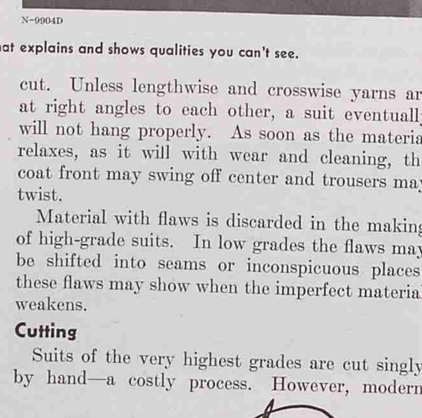
Thorough shrinkage of all materials prevents the puckering and buckling that so often spoil the appearance of men's suits.

Straightening of materials is essential to good cut. Unless lengthwise and crosswise yarns are at right angles to each other, a suit eventually will not hang properly. As soon as the material relaxes, as it will with wear and cleaning, the coat front may swing off center and trousers may twist.

Material with flaws is discarded in the making of high-grade suits. In low grades the flaws may be shifted into seams or inconspicuous places; these flaws may show when the imperfect material weakens.

Cutting

Suits of the very highest grades are cut singly by hand—a costly process. However, modern



equipment for spreading cloth and for cutting has made it possible to cut several layers at a time with a high degree of accuracy. This is contributing much to economy in production.

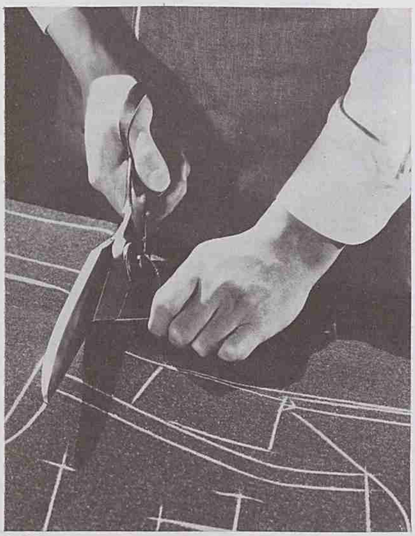
For high-grade suits patterns are laid accurately with the grain of the cloth. Plaids, checks, or stripes are precisely matched, crosswise as well as lengthwise. There are no piecings.

In cutting low-grade suits, cloth is piled high. Patterns are placed for economy of cloth—not always as they should be for a properly cut garment. Patterned suitings are matched only lengthwise, and trousers are pieced in the crotch. Accuracy is sacrificed for speed in cutting. Frequently, the grain of the cloth is pulled out of line as the pile of cloth sways when it is cut.

Although the matching of a patterned suiting does not affect service values of a suit, it is an indication that the entire suit has been made carefully. Places to check for the matching of patterned suiting are: Center back seam of coat, side seams, armhole seams, where the edge of the collar rolls over and meets the coat in back, front closing, pocket openings, and collar notches.

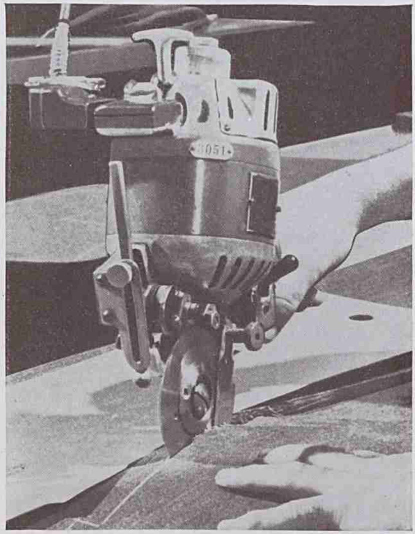
N-9928D

In high-grade clothes all materials are carefully inspected.



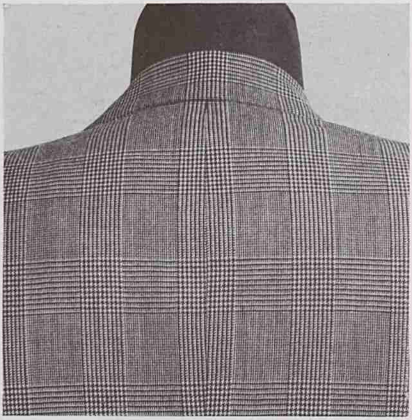
N-9809D

Highest grades of men's suits are cut precisely by hand, one at a time.



N-9861D

With modern equipment several layers of cloth can be cut accurately at one time.



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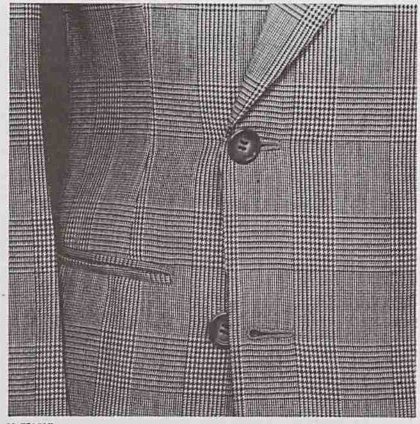

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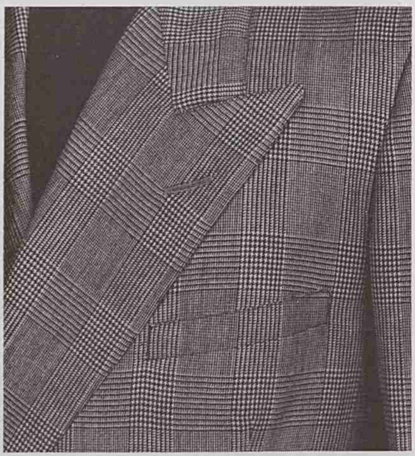


N-77160B

Pattern is matched both lengthwise and crosswise in a high-grade suit. Check pattern matching at points shown here.

To check for piecings look on the outside of the crotch of the trousers. Cloth reinforcements usually cover piecing seams on the inside. Piecings do not affect the wearing quality of a suit. But because they are stiff and bulky, they may affect comfort and precise fit.

Sewing and Shaping

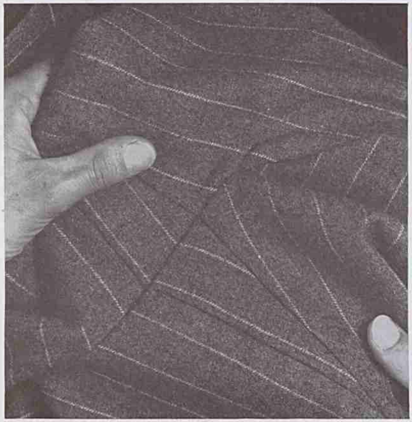
Men's suits of high grade are sewed, pressed, and shaped by skilled craftsmen. Seams are evenly stitched with silk thread for strength and elasticity. It will give under stress without snapping. Thread is matched to the suiting in color and is colorfast.

After each sewing operation, good suits are carefully shaped and pressed, and the construction processes that follow make this shaping permanent.

Because much of the sewing in high-grade suits has always been done by hand for softness and flexibility, the term "hand-tailored" has come to be associated with fine workmanship. A "hand-tailored" label on a suit, however, is not a reliable guide to quality. It means only that the suit coat was made with at least 21 specified hand operations; there are no requirements for the quality of the work. The finest suits are made with many more than 21 hand operations, all expertly done.

High-grade handwork can be identified by stitches that are fine, close together, neat, and secure. In poor handwork, stitches are coarse, far apart, uneven, and insecure. Good machine sewing looks and wears far better than poor hand sewing.

Low-grade suits are hurriedly stitched together. Little time is taken for pressing, none for shaping. Handwork is limited to the few operations for which there are no machines.



N-77183B

Trousers pieced at the crotch.

Coat Fronts

In the regular built-up suits, the "coat front"—the foundation between outer cloth and linings—is perhaps the most complex part; the quality of materials and the quality of workmanship in it have a most important effect on the way a suit looks, fits, and wears throughout its lifetime.

In the best suits the coat front consists of carefully selected construction materials, shaped and sewed by skilled craftsmen. The basic or foundation material, often referred to as hair

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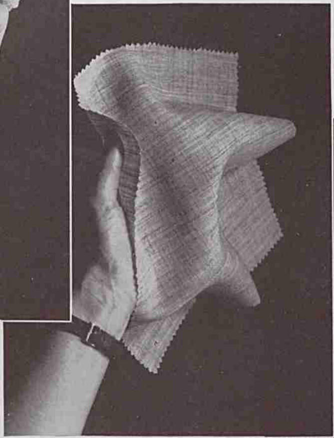

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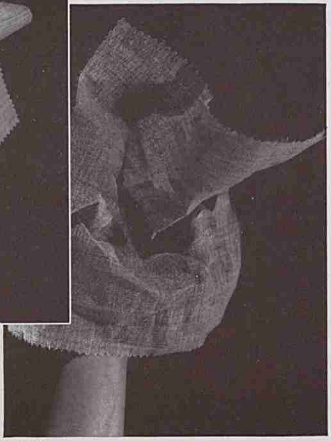
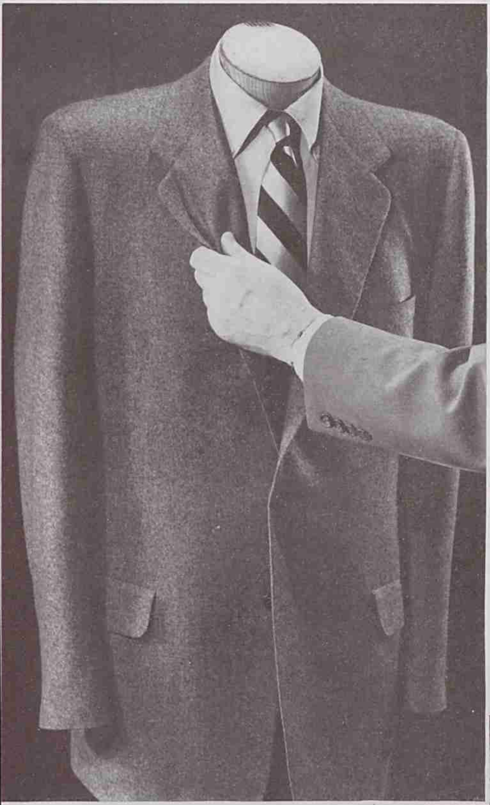


N-78341B

Good interfacing feels springy when crushed in the hand (left). When released (center), it recovers quickly with no wrinkles. Low-grade interfacing (right), wrinkles badly and does not recover.



N-78011B

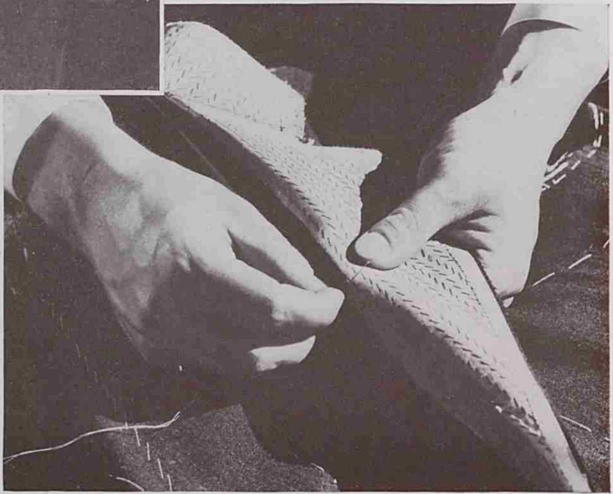
canvas or interfacing, is a highly resilient blend of worsted, goat hair, and cotton. It will feel soft, yet springy, if squeezed in the hand; and it will resume shape without a wrinkle when released.

Inside the collar is a specially developed linen which, like the front interfacing, never loses body. Collar and lapels are shaped by hand and sewed as shaped with hundreds of tiny padding stitches. A collar made this way keeps its shape permanently. It will always set up properly about the neck. Lapels will always roll back—never fall forward. These qualities can be detected by gently rolling forward a tip of the collar or lapel. If permanently shaped it will flip back into place immediately.

Shoulders of a good suit are slightly built up, but natural looking, with carefully shaped, soft, lightweight padding. Haircloth—a wiry, extremely resilient material of cotton and coarse hair—gives the shoulders a firm, straight line that will not break.

Thoroughly shrunk tape keeps the front edges of the coat and the armholes from stretching or puckering. This tape may be linen, silk, or bias cotton, depending on the nature of the outer cloth and the individual factory's method. It is put in so that the coat edges, when pressed, will be thin and sharp, with the seam very slightly to the underside.

Squeeze the coat front in your hand. If materials and workmanship inside are of high grade as shown at right, the coat front will feel soft and springy, and will resume its shape quickly when released.



N-9880D

Along the roll of the lapels is the bridle stay. This holds the chest fullness, which is evenly eased in by hand, then pressed. This construction makes the V-line—the line formed by the roll of the lapels—set close to the body regardless of how the wearer bends or moves about.

In low-grade suits coat fronts are in striking contrast to those in suits of high quality. Foundation material may be a canvaslike cotton or burlap, neither of which is resilient. If squeezed in the hand, there is none of the resiliency found in high-grade clothes.

Collar interlining is sized cotton, which soon softens and leaves the collar limp. There is no hand shaping of the collar and lapels. If you roll the tips, they will not flip back into place as in high-grade suits.

Machine stitching, which is less flexible than handstitching, holds the coat and its foundation together. The lower the grade of suit, the skimpier is this stitching.

No haircloth is used to keep shoulders from breaking. Pads tend to be heavy and oversized, with little shaping. In time they hump and sag at the sleeve head. Differences in shoulder padding are noticeable when you try on coats of different grades; you can also easily feel the difference with your fingers.

Tape ordinarily is not shrunk. As a result, front coat edges and armholes may stretch or pucker after the suit is cleaned. Along the coat edges this tape is sewed in with the seams and interfacings, making stiff, thick edges that become even more bulky as the free edge of the tape rolls.

Because chest fullness is not eased to the bridle stay, the V-line of a low-grade coat tends to buckle out as the wearer bends. This can easily be noticed when a suit is tried on.

In strictly summer (washable) suits, coat-front construction is much simpler than in regular built-up suits, and workmanship is not as detailed. Linings and paddings are reduced to a minimum—or omitted if the suiting has good body.

This simplified construction, of course, makes for coolness and ease of laundering. A strictly summer suit, however, cannot be expected to keep as trim an appearance as a well-made built-up suit.

N-78013B

Shoulders of a good suit are natural looking—only slightly built up. Padding is soft, lightweight, and carefully shaped.

N-9926D

Machine stitching replaces hand shaping and stitching in medium- and low-grade suits. The lower the grade, the less stitching.

Coat Pockets

Pocket openings in high-grade suit coats are reinforced inside with lightweight linen for durability. The reinforcement is then securely tacked to the coat foundation, which takes the strain of use and protects the pockets against torn ends and baggy openings. This safeguard is omitted in low-grade suits.

Coat Sleeves

The way coat sleeves hang is a visible guide to quality of workmanship. For comfort and for good appearance as well, sleeves must be set so that they bisect the side pockets; that is, so that the front fold of the sleeves comes to the middle of the pocket as the sleeves hang naturally. Otherwise, they will restrict the upper arm uncomfortably and wrinkle badly. Notice both sleeves; in lower grades of suits the two sleeves frequently hang differently.

In the best suits, sleeves are carefully shaped and rolled, with no pressed-in creases. Crosswise wrinkles—unavoidable at the bend of the arms as a suit is worn—are accentuated when sleeves are creased lengthwise.

Coat Linings

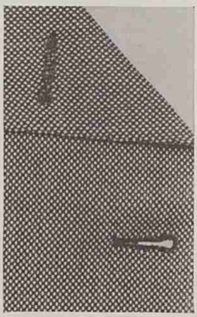
The way the lining is put in a coat is another visible indication of quality. In suits of good quality, the lining is smoothly but easily fitted, without wrinkles, and invisibly handstitched with matching silk thread. Sleeve linings are smoothly eased to the armholes and stitched in place with very fine close stitches. At the lower edge of the coat a small fold over the hem provides give. This fold is high enough so there is no chance of the lining showing below the coat's edge.

In low-grade suits linings are likely to be wrinkled because they are not carefully fitted. Sleeve fullness often is bunched about the armholes and coarsely stitched with heavy cotton thread. Lower edge pleats are skimpy and may hang below the coat because the hem is skimpy also.

N-78321B

Coat sleeves should be set so they bisect the pockets. They should be rolled, not creased.

N-77217B



N-77219B

Look for buttonholes that have closely stitched, firm edges as shown in illustration at left.

Buttonholes

In the best suits, buttonholes are worked by hand for flexibility, and are skillfully made. However, it should not be concluded that all hand-worked buttonholes are good. Machine-made buttonholes may be equally serviceable—sometimes even more so—but they are less flexible. Points that indicate well-made buttonholes are close even stitching on the underside as well as on top, a firm edge, and well-reinforced ends.

Trousers

In good suits trousers compare well with the coats in overall appearance and quality of construction. This is not always so in low-grade suits.

Whether trousers always set up well about the waist or break and slip down below a belt depends largely on the interfacing. Linen has permanent body, which assures that the waistband will always set well—never break down and wrinkle between belt supports. These supports are evenly spaced and neatly applied. Pockets are generous in size and twice-stitched with cut edges enclosed.

Trousers of low-grade suits may feel firm about the waist, but this is only temporary firmness. The interfacings are highly sized cotton instead of linen. Sizing comes out in the first cleaning, leaving the waistband soft and limp. Pockets are skimped in size and poorly made.

GOOD FIT IN A SUIT

A good-fitting suit not only looks better and feels better than one that fits poorly, but it also wears better and costs less for upkeep.

Let the clothier measure you for size and determine your body proportions. From years of studying men's proportions, manufacturers have developed a wide range of sizes and size variations—regular, short, long, short stout, long stout, and many more. In general, the higher the grade of suit, the greater the number of variations.

Better grade suits are fuller cut than the poorer grades. A man who takes size 40, for example, in a high-grade suit may need a 42 in one of lower quality.

The model, or style, of a suit also may influence fit. Though styles in men's suits do not change rapidly or drastically, new models are endorsed each year by the International Association of Clothing Designers, and these, with variations, are used by all clothing manufacturers. It may be to your advantage to ask about and try on the different models to see which looks best on you. By knowing the current models, a suit that would soon be outdated can be avoided.

In making certain of a good and comfortable fit, it is advisable to try on the whole suit—coat, trousers, and vest, if there is one. It is also helpful to stand naturally while viewing the front, back, and sides, and to see how the suit feels in action . . . as you walk about naturally . . . step up and down . . . flex your arms . . . bend . . . sit and cross your knees.

Few men can buy readymade suits that need no alterations. Minor alterations, such as lengthening or shortening sleeves, lowering or raising the collar, or lifting a shoulder with additional padding, are to be expected.

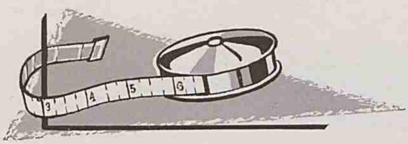
Major alterations, such as shortening a coat or resetting the sleeves, are never advisable. And under no conditions should a suit proportioned for one type of body build be reworked for another; it will never fit satisfactorily. All major alterations, of course, are costly.

MADE-TO-MEASURE SUITS

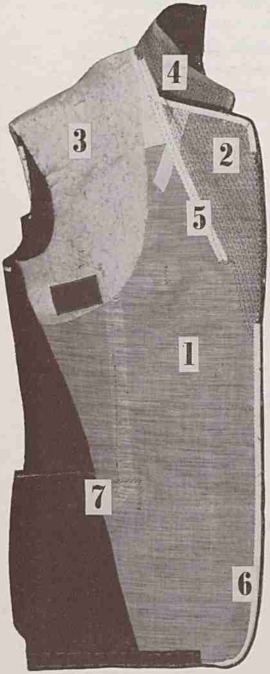
For the man who has trouble in finding a readymade suit in the size, model, and material he wants, the "made-to-measure" or "tailored-to-measure" suit may be the solution. These suits, bought through retailers, are made by manufacturers known as tailors to the trade. Chief advantage in buying a suit this way is the chance of more personal fit and the avoidance of alteration costs. Disadvantages are the uncertainties that go with special orders—and waiting.

When you buy a made-to-measure suit, the retailer takes your measurements and you choose the model and the suiting you want. On receiving the order, the manufacturer selects the proper pattern and incorporates in it any special measurements that may be requested. The suit is cut, basted together, and sent back to be tried on. After a fitting, the suit is returned to the factory for finishing. If a skillful fitting job was done, the finished suit probably will need no alterations, or only minor ones.

Standards of making made-to-measure suits vary, so there is a wide range in quality, just as in ready-to-wear suits.



HIGH-GRADE



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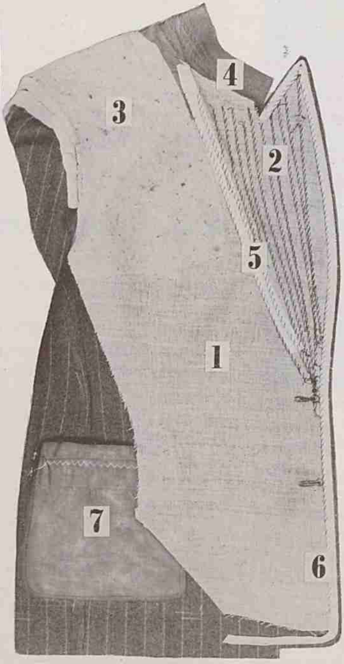
MEDIUM-GRADE



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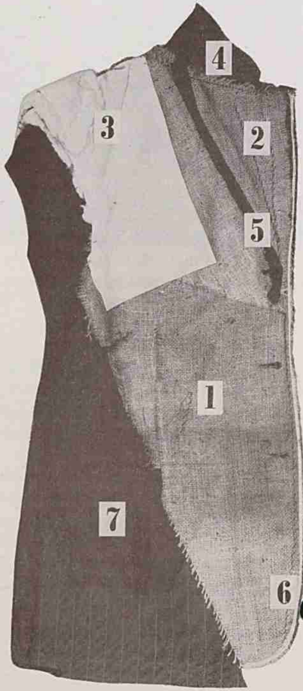
LOW-GRADE



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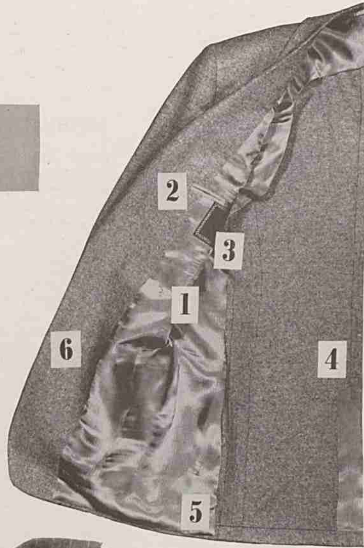
COAT FRONTS

	HIGH-GRADE	MEDIUM-GRADE	LOW-GRADE
1. Foundation	Interfacing of worsted, goat hair, and cotton. Highly resilient, it keeps coat front permanently trim. Weight depends on suiting.	Coarser, lower grade interfacing. Rayon may replace some of the wool. Coat will not keep new appearance as long.	Coarse cotton or burlap interfacing. Not resilient. Coat will lose shape with wear and cleaning.
2. Lapels	Permanently hand-shaped with fine padding stitches. Lapels always roll back to the coat, never fall forward.	Not shaped, but closely stitched by machine. Lapels flatten to suit without roll; tend to fall forward, particularly if large.	No shaping — machine-stitched. Very little stitching. Lapels will become limp, fall forward, and sag.
3. Shoulders	Haircloth, thin soft felt, lightweight padding—permanently shaped with handstitching. Shoulders straight and firm; chest rounds smoothly.	Haircloth, felt, pads, and workmanship of lower quality than in high-grade. Machine work replaces hand work.	Cheap, lumpy padding and paperlike felt — no haircloth, little stitching. Coat front will break.
4. Collar interfacing	Specially made linen, shaped by hand and stitched by hand to undercollar. Collar turns over smoothly, will set properly to neck for lifetime of suit.	Sized cotton replaces linen. Machine-stitched to undercollar. Collar firm but lacks shape; usually does not set up close to neck as suit ages.	Sleazy, sized cotton, skimpily stitched by machine. Collar neither turns over smoothly nor sets well to neck.
5. Bridle stay	Chest fullness eased evenly to stay helps make coat comfortable. V-line holds to chest. Handstitching keeps edges of tape flat.	Some chest fullness eased to stay, but not evenly. V-line may buckle as suit is worn. Tape machine-stitched on edges—will remain flat.	No chest ease—V-line of coat will buckle out. Tape stitched only in center by machine—edges will roll with cleanings.
6. Taping	Narrow, thin, thoroughly shrunk. Linen, cotton, or silk—straight or bias, depending on suiting. Handstitched along edges inside seam line for thin coat edges that cannot pucker or stretch. Armholes taped, with necessary sleeve ease carefully adjusted.	Cotton tape stitched in with front edge seam. Coat front may be cut away, but stitching tape in with seams tends to thicken coat edge. Armholes are taped, but usually sleeve ease is not evenly distributed.	Sleazy cotton tape stitched with canvas in edge seams rolls and makes very thick coat edge. Will not take a sharp press.
7. Pockets	Generous size; neatly made of soft, fine, durable cotton. Openings reinforced with thin linen. Securely hand-tacked to foundation to relieve outer cloth of strain.	Good size; less neatly made — of less durable pocketing. Openings may be reinforced with cotton pocketing. Tacked with machine stitching to foundation. Not always secure.	Small, poorly stitched, made of sized cotton. Not tacked to foundation. Outer cloth is easily strained, may tear at pocket ends, let openings sag.

INSIDE THE COAT

HIGH-GRADE



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MEDIUM-GRADE

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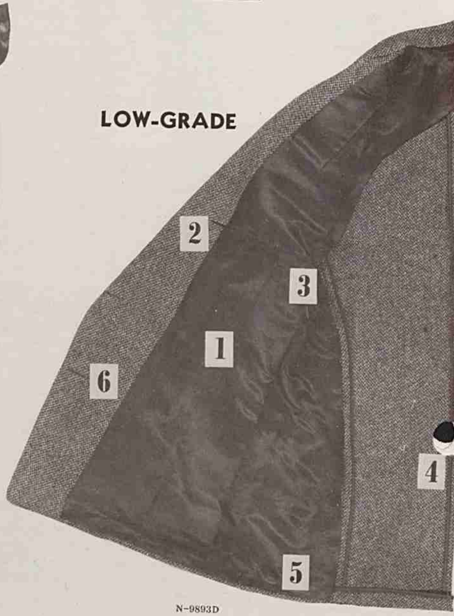
LOW-GRADE



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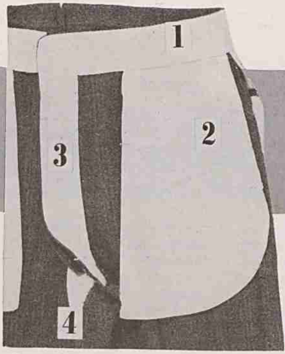
	HIGH-GRADE	MEDIUM-GRADE	LOW-GRADE
1. Lining	Usually soft, firm-textured Bemberg; sometimes silk. Finely stitched with silk thread for give and strength. Sewed to front of side outlet seams to provide for smooth fit and ease of pressing and making alterations.	Usually good-quality acetate. Durable but less soft than linings in better suits. Stitched with cotton thread instead of silk. Sometimes sewed over side seams.	Coarsely woven acetate, which often gas-fades. Stitched with cotton thread. Large coarse stitches around armhole. Sewed to side seams. Not well fitted or neatly pressed.
2. Letter pocket	Precisely made, smooth and flat.	Made less precisely, but well.	Uneven, badly sewed.
3. Manufacturer's identification	Label below letter pocket identifies manufacturer.	Some suits carry label of manufacturer below letter pocket; others carry store label instead.	Label does not name manufacturer. He is identified only by a number on the size ticket.
4. Seams	Usually booked (turned and invisibly stitched). Generous outlets at center back and sides. Silk thread for strength and give. Thread is carefully matched to color of suiting.	Often booked, particularly if suiting contains man-made fibers. Frequently piped (bound) to match lining. Small outlets. Matched cotton thread.	Piped with material not same as lining. No allowance for outlets. Thread is cotton; it is not matched to suiting and may not be colorfast.
5. Hem	Booked to match seam finish. May be stitched over lining in front, or lining may be turned down over hem. Wide enough so lining will not show below coat.	Booked or piped to match seams. May be finished the same as high-grade suits, but often hems are not so wide.	Piped in back. Front hems skimpy; lining sewed over hems may show below coat.
6. Buttonholes	Skillfully handworked with silk twist. Stitches close and even. Flexible and strong, neatly outlined, fine in appearance.	Worked by hand or machine. Machine work is less flexible but more lasting than handwork ordinarily found on medium-grade suits.	Machine-worked with cotton thread that often fades. End reinforcement sometimes omitted.



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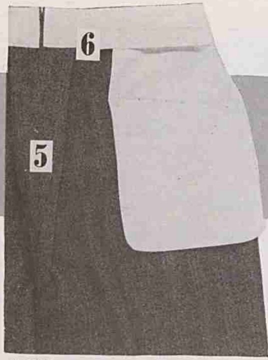

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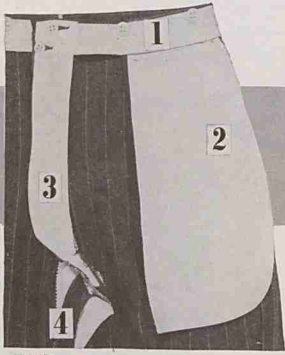
High-grade

Medium-grade



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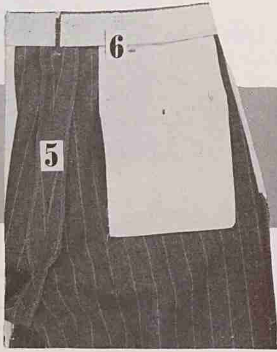

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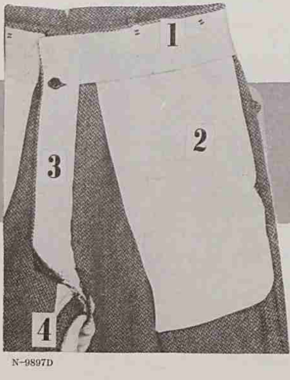

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Low-grade

TROUSERS

	HIGH-GRADE	MEDIUM-GRADE	LOW-GRADE
1. Waist	Interfacing of linen, which resists crushing, makes comfortable waistband that sets well permanently. Facing of soft durable cotton with silklike texture, hand-hemmed to trousers.	Cotton interfacing, which does not preserve set of waist. Facing is durable pocketing, machine-stitched with stitch that looks much like hand hemming.	Interfacing of sleazy sized cotton, which loses body, lets waistband crush and wrinkle. Facing is poorer quality pocketing, machine-hemmed to trousers.
2. Pockets	Generous size, convenient shape, evenly cut. Closed seams. Pocketing is closely woven durable cotton with very soft, leathery hand.	Less generous size; not shaped or sewed as carefully as in high-grade. Closed seams. Pocketing durable and leathery but less fine and soft than in high-grade suits.	Skimped in size, unevenly cut and sewed. Closed seams. Pocketing heavily sized, not lasting.
3. Fly and crotch	Smoothly faced with pocketing. Facing extended to reinforce crotch line. No piecings in crotch. Cotton reinforcements stitched in with back rise and inseams.	Same construction as in high-grade suits. Difference is in quality of material and workmanship. Crotch usually pieced; little reinforcement in crotch and seat.	Facings are made of a variety of materials. Poor construction; pieced crotch, covered with bulky cotton. Little reinforcement.
4. Inseams	Generous allowance for outlets.	Smaller allowance for outlets.	No allowance for outlets.
5. Back rise	Twice stitched with silk thread for strength and give. Generous allowance for letting out. Waist facing hand-hemmed over back seam.	Special chainlike stitch for give and strength. Cotton thread. Less allowance for letting out. Waist facing machine-hemmed over back seam.	Lockstitched with cotton thread. No give, little strength. Little if any allowance for letting out. Waist facing finished by machine over back seam.
6. Buttons for suspenders	Good quality, evenly spaced, and sewed on securely.	Good quality, evenly spaced, sewed on securely.	Cheap quality, not evenly spaced or securely sewed.

N-9902D

POOR WASHABLE SUIT

N-9901D

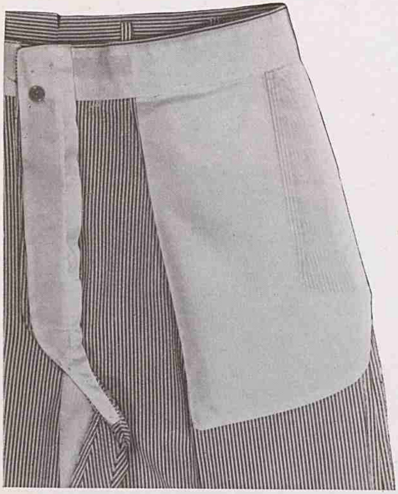
SUITING soils readily. It is difficult to wash clean and to press neatly. Finish is temporary; suiting will soon become limp and will then be easily rumpled. Suiting will shrink. Colors are not fast.

CONSTRUCTION MATERIALS—interfacings, pocketings, facings, tapes, shoulder paddings—will fray, pull out, and shrink.

LINING. Lining in sleeves makes suit maintenance difficult. Lining and suit material do not shrink equally; therefore, alterations will be necessary after washing to restore presentable appearance.

WORKMANSHIP is weak and unpresentable. Cannot withstand repeated washings. Makes suit difficult to press smoothly.

GOOD WASHABLE SUIT



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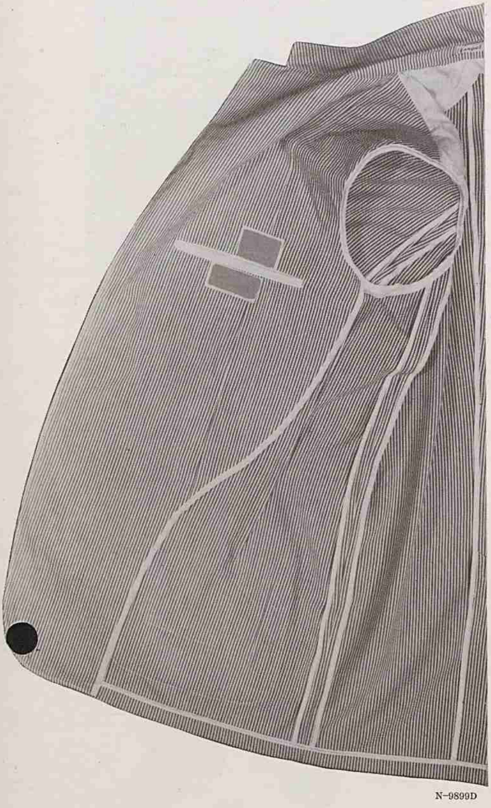


N-9899D

SUITING is resistant to soil and easy to wash. It is presentable with little pressing. It is lightweight but not so thin that clothing underneath shows through. Firm, permanent hand will last through repeated washings. Suiting is resistant to wrinkling, will not shrink or stretch, and is colorfast to light, perspiration, and washing.

CONSTRUCTION MATERIALS—interfacings, pocketings, facings, tapes, shoulder paddings—are lightweight and durable. Trouser waistband interfacing is permanently firm. All of these construction materials have the same dimensional stability when washed as the suiting.

LINING. Suit is skeleton lined of self material. There are no sleeve linings. This type of lining contributes to summer comfort and ease of maintenance. Lining washes as well as the suiting does.

WORKMANSHIP inside and out is neat and durable; it can withstand both wear and washing. Lines of construction are thin, particularly at edges and corners.

CHECKLIST FOR GOOD FIT

THE COAT

• Sets well with soft, but firm, unbroken shoulder line from neck to shoulder point.

• Hangs straight, front and back, from shoulders to lower edge with no unsightly wrinkles. Small vertical folds for shoulder and arm action should not be considered wrinkles.

• Collar sets close to the neck at back and sides with one-half inch or more of the shirt collar showing.

• Coat does not look too tight or feel too tight when it is buttoned.

• The waist is shaped only slightly.

• Coat long enough to cover seat of trousers—length proportionate to a man's height.

• Skirt of coat fits about hips easily and smoothly with no flare.

• Lapels roll neatly as the V-line holds close to the chest.

• Armholes fit easily, the arms can be raised without lifting the coat noticeably.

• Sleeves are one-fourth to one-half inch shorter than shirt sleeves, which should come to bend of wrist.

THE TROUSERS

• Smooth, easy fit about waist and hips.

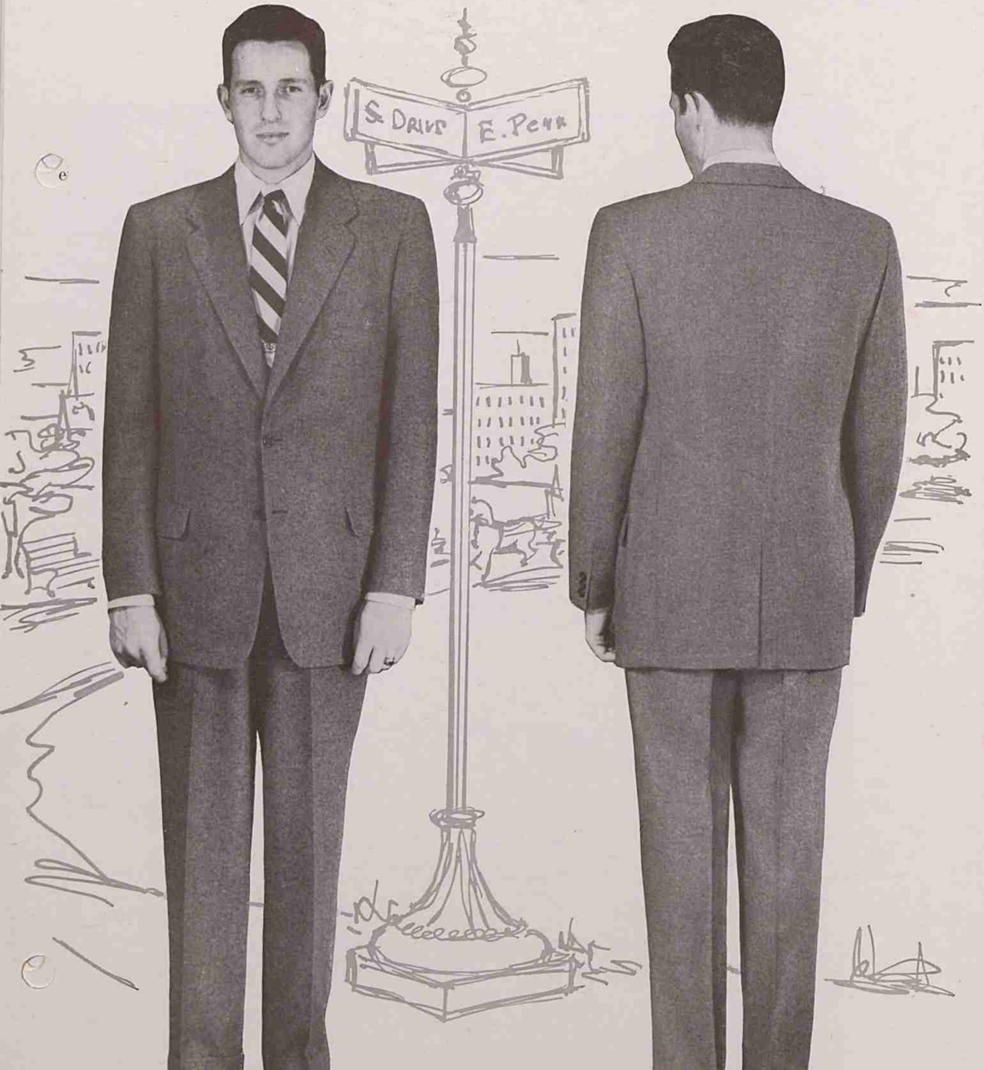
• Hang straight from waist, are creased with the grain of the goods, both back and front. (This is easy to see if the suiting is coarsely woven or striped.)

• Comfortable, smooth seat.

• Legs just long enough for slight break at instep. Deep breaks make trousers look too large. Also, trousers that are too long rub the shoes in back, soon become soiled and worn.

THE VEST

• Fits down well over the top of the trousers. Shirt cannot show between trousers and vest.



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Washington, D. C.
Issued February 1957

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Miscellaneous Publication No. 688,
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For sale by the Superintendent of Documents, U. S. Government Printing Office
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No longer have this - was replaced by Clothing Repairs

Mending MEN'S SUITS

UNITED STATES
DEPARTMENT OF AGRICULTURE
MISCELLANEOUS PUBLICATION
NO. 482

MENDING MEN'S SUITS

by

CLARICE L. SCOTT, associate home economics specialist

ANNE F. HAGOOD, assistant scientific aide

Bureau of Human Nutrition and Home Economics, Agricultural Research Administration

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If she has a knack with her needle, the home sewer can confidently undertake a good many of the simpler repairs and alterations in a man's suit or overcoat. Success, however, does call for learning and using some of the tried and tested methods of professional tailors.

A number of these tailoring techniques, adapted to home use, are pictured and described in this publication. The home sewer can, for example—

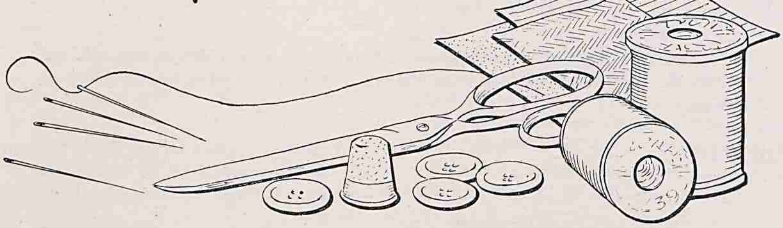
- Patch or darn a worn spot at elbow or trouser knee so it will not be noticeable.
- Fix frayed edges of sleeves and trouser cuffs.
- Patch a vest badly worn at underarm.
- Replace worn-out sleeve linings, inside pockets, and trouser seat.
- Restore, by machine stitching, pin stripes that have rubbed off.
- Repair worn buttonholes . . . small holes . . . three-corner tears.
- Adjust trousers for good fit, comfort, and better wear when a man gains or loses weight or when a boy keeps growing.

In addition to mending and altering, much suit saving can be done by guarding against wear—as shown in the directions for putting wear guards in trouser legs, retreads in trouser knees and seats, and underarm shields in coats. And the day of mending can be further postponed by giving a suit good care in everyday use—for which suggestions are offered.

Washington, D. C.

Issued January 1943
Slightly revised January 1946

Mending Materials



BEFORE YOU rip . . . cut . . . stitch, make sure you have on hand mending supplies that will make your work easier and your results better looking. Try to find thread, lining cloth, buttons, and other materials that match as nearly as possible those in suits on hand.

THREAD. Buy three-cord mercerized thread, size 0, for stitching. This is stronger than thread ordinarily used for home sewing. Buy darker rather than lighter colors if you can't get an exact match. Usually, black thread looks better than blue on a navy suit because blue thread works up much lighter than it appears on the spool.

Best thread for stitching buttonholes is buttonhole twist made especially for men's suits. It is heavier than that sold at notion counters for women's clothes and lighter than the kind for overcoats. This twist is sold by the yard, eight strands braided together. Three-fourths of a yard will make eight average buttonholes.

BEESWAX. A piece of beeswax is helpful in waxing thread for sewing on buttons and reworking worn buttonholes, and for waxing the cord over which buttonholes are worked.

BUTTONS. Keep buttons from worn-out suits to replace those lost or broken. If you haven't done this, buy matching pants buttons at notion counters. They are not expensive.

LINING. Get rayon lining materials that will not melt when you press them. If there is no label, ask your dealer what kind of material it is. Preshrink lining material before you cut it—otherwise it may shrink when cleaned so that seams pull out. When you buy dark linings, ask for those that will not rub off on white shirts.

POCKETING. If possible, get cotton twill made especially for inside trouser pockets. This is a sturdy material that outlasts muslin. It comes in 30-inch widths, so that two side pockets can be cut from one length. The amount needed to make two side pockets is about 16 inches. Pocket lengths vary, so measure before you buy. Remember to allow some extra for seams.

GUARDS. Best wear guards for trouser cuffs are made from wool cloth, the same as the suit. But if you have no extra pieces of suiting, use heavy cotton tape about five-eighths inch wide or sturdy matching cotton turned under on each side.

PRESSING SUPPLIES. You need to steam-press wool as you make most repairs if you want the finished work to look well. So have on hand a sponge and press cloths—one of cheesecloth for quick pressing, one of firm cotton for the final pressing.

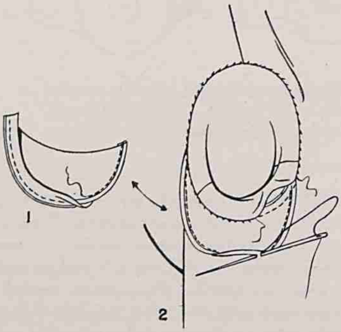
When you press, dampen the place to be pressed with warm water. Lay the press cloth over it. Set the iron down squarely on the press cloth . . . lift the iron . . . set it down again. Never press moisture completely out of wool or it will look hard and lifeless.

SCRAPS. Save scraps of matching suit material for future repairs. If your suits are custom-made, get a few scraps left over from fitting. On ready-made suits, save the pieces cut off in making alterations.

Guard Against Wear

Make a suit wear longer, postpone more difficult repairs with shields, wear guards, and retreads. Sew these into a suit when it is new. There is no need to wait until it shows wear.

SHIELDS



Wear and perspiration can soon cause holes under the arms in a suit lining . . . can stain and mat the outer material of the coat. Guard against this with shields that tack in.

Make underarm shields of fabric that matches or is similar to the suiting in the coat. Or, if you cannot get similar material, make shields of rayon lining.

Cut two pieces of wool cloth the shape of shields—one to be sewed in under each armhole.

1. Bind all around with rayon. Rip the lining apart from the armhole just far enough to tack the shield in place.

2. Slip-stitch shield to the coat lining around the outer edge. Sew the lining back in around the armhole.

WEAR GUARDS

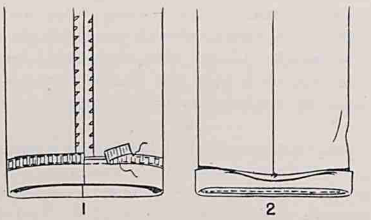
Wear guards protect trouser legs from the rub of shoes. To make them, use heavy tape about five-eighths inch wide, or cloth cut from the leg seams.

To put a wear guard on trousers with cuffs, first turn down the cuff.

1. Baste the guard on just inside the leg next to the fold that will be the bottom edge of the trouser. Stitch by machine along both edges of the guard.

2. Turn the cuff back and tack it in place.

To put a wear guard on trousers without cuffs, first rip open the hem. Baste, then stitch, a guard on just inside the lower edge of the leg—on the hem side of the bottom crease. Then rehem the trousers.

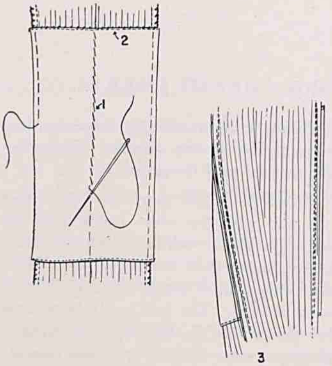


KNEE RETREADS

These are rayon pieces set in from seam to seam across the front where trouser legs get the most wear and where they are often damaged by perspiration. Retreads on the knees also help to hold in a press.

Cut two rectangular pieces of rayon lining material as wide as the front of the trouser leg near the crotch, and as long as it is from the level of shorts to 3 or 4 inches below the knee. Turn under and stitch the top and bottom edges of each retread.

Pin and baste the retread along the outside trouser seam so it will extend below the knee 3 or 4 inches. Then pin and baste the top edge of the retread to the trousers. Baste it along the front trouser crease.



1. Tack along one side of the trouser crease with tailor's basting. Smooth the retread over to the inseam, pin, and baste to the seam line. Trim off excess material.

2. Slip-stitch the retread loosely to the trousers along the top edge so that it will not hinder dressing. Be sure the stitches do not show from the right side. Leave the lower edge loose.

3. Stitch exactly on the original seam lines. This must be done by turning the legs over and stitching from the back of the seams, because the retread covers the stitching at the front.

SEAT RETREADS

Retread the seat to protect against wear, perspiration, and scratchy material—and to make it easier to keep a press in the suit.

1. Mark notches for matching, then rip the back rise of the trousers from about 6 inches below the top down through the crotch.

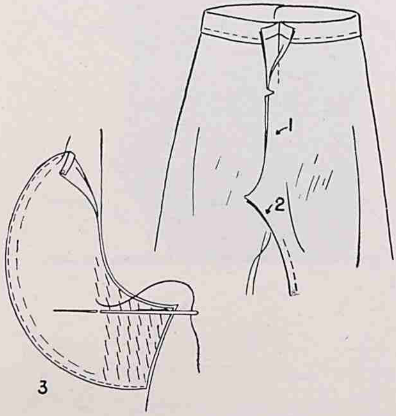
2. Rip the inseams down 3 or 4 inches from the crotch. Press the seam creases out flat.

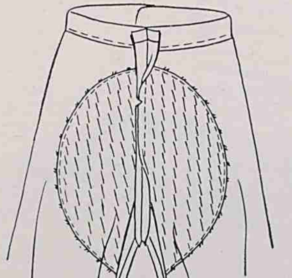
Cut a paper pattern for the retread. Fit and shape it carefully. From this pattern, cut two pieces from preshrunk rayon lining, one for each side of the seat. Turn under and baste the outside curved edges of these two pieces. Stitch by machine close to the edge and press. Pin each half retread in place with the seams carefully matched. Baste loosely.

3. Start at the crotch point and tack each retread smoothly in place with tailor's basting. Make the basting stitches about one-half inch apart and the rows of basting about one-half inch apart—a little closer where the cloth is thin. The basting should follow the lengthwise grain of the cloth so no stitches show on the right side.

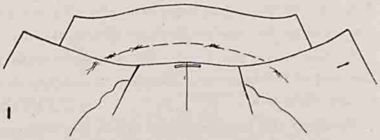
4. Slip-stitch the outer edge of the retreads to the seat of the trousers. Be sure no stitches show on the right side.

Restitch the inseams, then stitch the back rise twice for strength. Steam-press.





Coat Repairs



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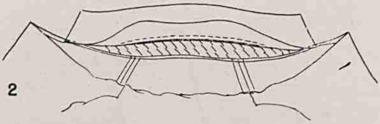

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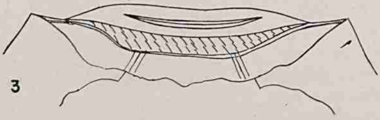

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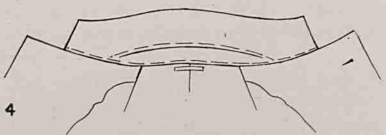

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WORN COLLAR ROLL

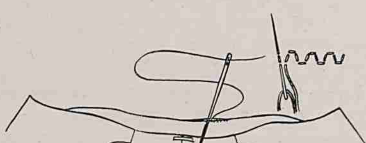
1. Run a white basting thread along the right side exactly on the line of wear. Rip collar and lining apart around the neck.

2. Inside the collar, pinch the line of wear up into a fold with the white basting line on the folded edge. Baste with small stitches. Machine-stitch no more than one-eighth inch from the folded edge. Clip through the fold with sharp, pointed scissors. The fold is cut after stitching, rather than before, to hold the shape of the collar. It also does away with the problem of matching the pattern of the cloth along the seam line.

3. Press the new seam open. Shape the top collar back in place over the under collar.

4. Hold loosely so the collar will not curl along the outer edge, and baste on the roll line to keep top collar in place. Smooth, pin, and stitch the lining back in place around the neck.

5. To make the seam line along the collar roll show less, pinch it between the thumb and forefinger, and stitch back and forth over it in a V direction. Be careful to pick up only one yarn on each side of the seam line. Pull the thread up close. This is known as the rantering stitch. Press, and the seam will hardly show.



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FRAYED SLEEVE EDGE

Rip the sleeve lining from the coat at the cuff. Cut off sleeve buttons that are in the way. Take out the cotton fabric stay inside. Turn down the sleeve hem. Brush and scrape out all lint and soil.

1. Cut through the crease exactly on the line of wear. Trim off the worn parts of both the sleeve and the inside facing. Keep a straight even line as you cut.

2. Pin and baste the facing back to the sleeve, right sides together. Match seam and press lines. Take a very tiny seam, no more than one-eighth inch deep. Press this seam open.

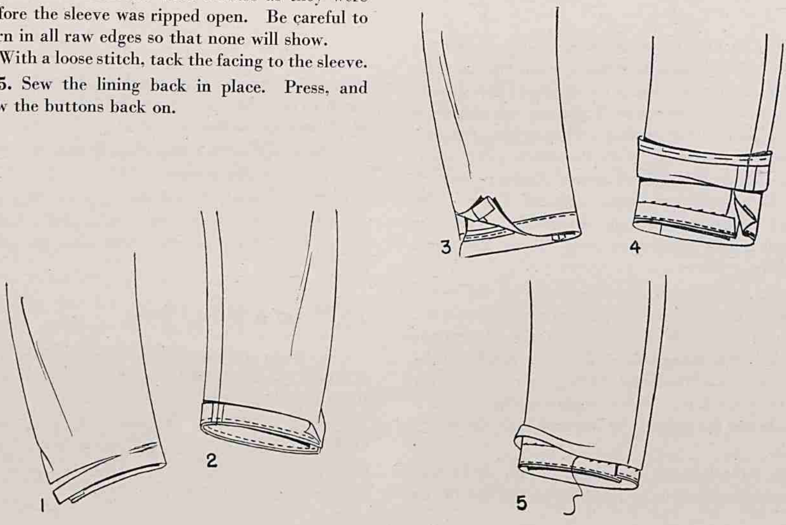
3. With the facing turned down, stitch it by machine very close to the seam line. This line of stitching keeps the seam flat so that it won't roll to the outside.

4. Turn the facing up inside the sleeve and baste it so that the seam line and machine stitching are just inside the sleeve.

Fold and finish the vent corners as they were before the sleeve was ripped open. Be careful to turn in all raw edges so that none will show.

With a loose stitch, tack the facing to the sleeve.

5. Sew the lining back in place. Press, and sew the buttons back on.

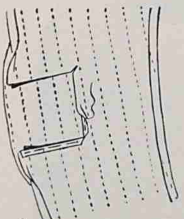


WORN ELBOWS

Rip the lining apart from the sleeve at the cuff and pull it up into the sleeve where it will be out of the way of your work.

To Repair a Hole

Set in a block of matching material. If you have no extra matching material on hand, enough can be cut from the inside facing of a vest or coat. Replace that material with another of similar color and weave.



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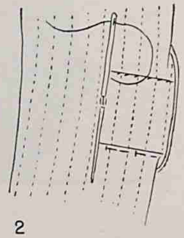

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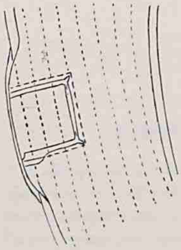

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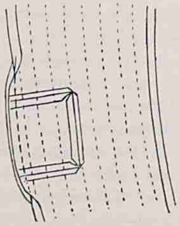

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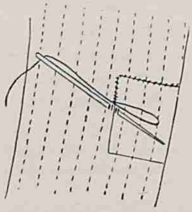

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1. Cut with the grain of the goods around the hole. If it is next to a sleeve seam, rip the seam open and let one side of the finished block go into the seam. Press the piece you cut out and use it as a pattern for cutting and matching the new piece to be set in. Cut the patch piece about one-half inch larger all around than the pattern so as to have one-fourth inch for seams. Clip each corner of the hole diagonally. Turn the edges under one-fourth inch. Baste and press lightly.

2. Lay the patch on the inside of the sleeve under the hole with the pattern matched exactly. Pin in place. With contrasting thread hem the folded edge around the hole to the patch. Take stitches about three-eighths inch apart through the edge of the fold. These stitches are to serve as a guide line for seaming by machine from the wrong side.

3. Now turn to the inside of the sleeve and stitch the patch in by machine on the line of the contrasting thread. The seams on all sides of the patch have to be the exact width allowed, or the patch will not lie flat.

4. Steam-press the seams open and mitre or clip out the bulky corners.

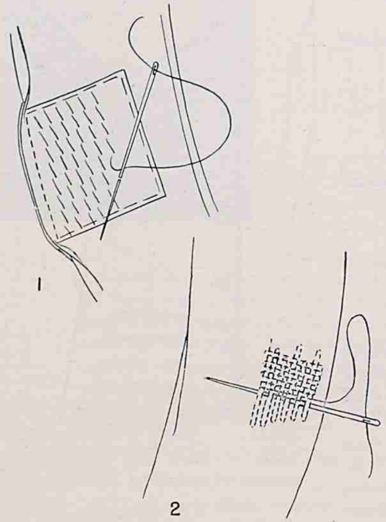
5. On the right side hide the seam line with the rantering stitch used to finish the repaired collar roll (p. 6). This strengthens and hides the seam line.

To Mend a Thin Elbow

Cut a piece of cloth or rayon lining large enough to cover the underside of the entire thin spot. Baste in place.

1. Tack with rows of loose tailor's basting. Make the rows of basting parallel to the lengthwise grain of the cloth, about one-half inch apart—closer where the cloth is very thin.

2. From the right side, darn with sewing thread that matches or is slightly darker than the material. Darn in line with the yarns in the cloth both lengthwise and crosswise and let each stitch catch through to the piece of cloth underneath.



TO RELINE SLEEVES

Rip the sleeve lining apart from the coat at the armhole and the cuff. Pull out the loose threads that tack the seams of the lining and the coat together. A sleeve has two seams, because most men's coat sleeves are made from two pieces. Rip open the seams of one sleeve lining—the least worn—or cut exactly on the stitching lines. Press each of the two pieces so that they may be used as patterns in cutting the new linings. Shrink and press the new lining material unless it is known to be preshrunk.

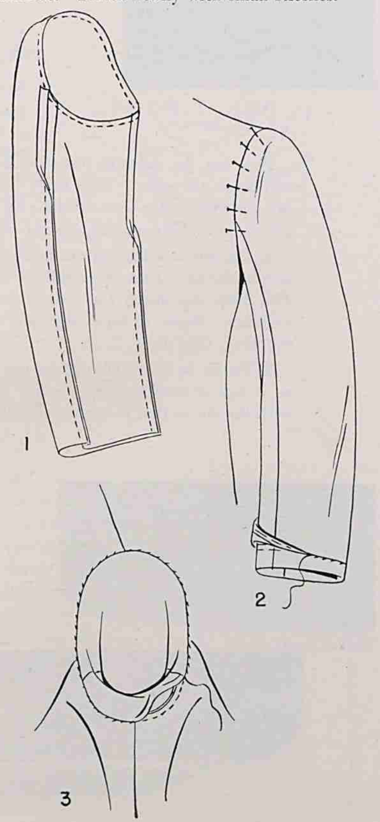
Before you cut, compare the size of the old lining pieces with the measurements of the coat sleeve. It may be that the rayon in the old lining has shrunk so that the new lining needs to be cut a bit larger. If so, make the allowance for shrinkage; then add about five-eighths inch for seams, and 1 inch or more as turn-up at the cuff.

1. Seam the lining. Press the seams open. Stitch by machine around the top of the sleeve, slightly less than the five-eighths inch allowed for a seam. This will hold the edge firm as you turn under and baste the five-eighths inch allowance. Press.

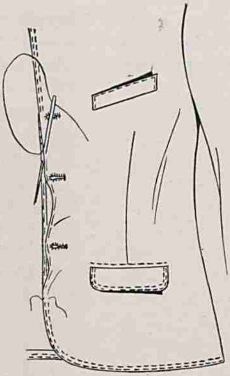
Turn the coat sleeve inside out. Pull the lining over it. Turn up and baste the amount allowed at the lower edge. Pin in place around the cuff.

2. Slip stitch to the coat. As you pull the lining up towards the armhole, tack lining and coat seams together at the back of the sleeve with loose basting stitches.

3. Fit and pin the lining smoothly around the armhole. Finish neatly with small stitches.



WORN COAT EDGE



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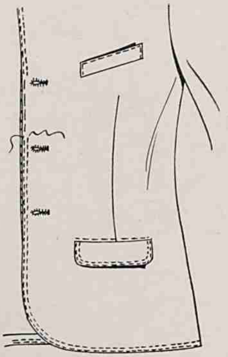

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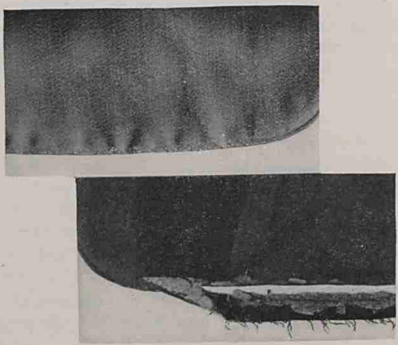
Pick out the machine stitching a little above and below the wear. With tailor's chalk strike a line for a new edge that will take off all the worn part but still keep a straight front edge.

1. On this new line turn in both the coat front and its facing. Baste each side as you turn it in. Pin, then slip stitch the coat front and facing together. Baste to hold edge firm for machine stitching, then press.

2. Stitch on the coat edge by machine exactly as it was originally. Let the new stitching join with the old so that it is not noticeable.

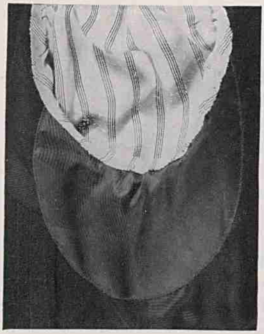


LUMPY COAT HEM

Sometimes lumps of lint collect in the corners and lower edges of the coat. Unless you remove this, the cloth will get shiny and wear thin on these lumps, and it will be impossible to give the coat a flat, sharp press where this lint gathers. Instead, the hem will look rippled and lumpy.

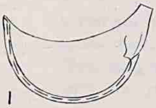
Open coat hem at the lower edge. Scrape out lint and soil collected there. Resew.

UNDERARM PATCHES FOR COAT LINING



If the lining at underarm is only slightly worn, put a shield patch over it. If it is so badly worn that you have to cut away some of the lining, seam in a patch. Sleeve linings also may be patched in these same ways.

Shield Patch



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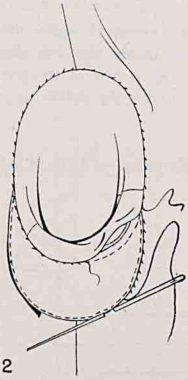

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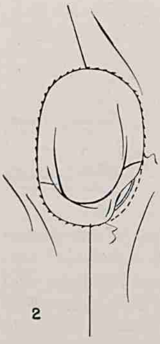
Rip the sleeve lining apart from the coat around the lower half of the armhole. Make a paper pattern shield-shaped to fit the underarm and to cover the worn place. Cut two shields—one for each side—from new lining material. Allow about one-fourth inch around the outer edges for turning under and about one-half inch on the armhole edge for a seam.

1. Turn under the outer edge of each shield, baste, and stitch by machine.

2. Tack each shield in place to the armhole seam. Smooth to fit the coat, and pin or baste. With matching thread slip stitch the shield to the coat lining. Sew the lining back in place and fasten off all threads.



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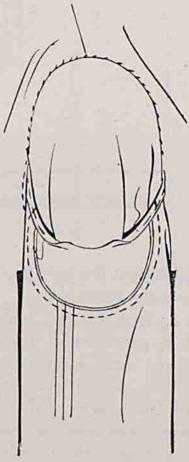
Seamed-in Patch

If the lining at the underarm is so worn that part of it needs to be cut away, seam in a patch. Rip the sleeve lining away from the lower part of the armhole. If it's the sleeve lining that needs a patch, it also may be ripped loose at the cuff and pulled inside out to make the patching easier.

With tailor's chalk mark on the lining the part to be cut away, then cut. Use this piece as a pattern for cutting the new patch. Allow twice the usual seam allowance on the edge to be sewed into the lining.

1. Baste and seam the new piece into the old lining. Press the seam.

2. Finish the armhole as it was at first.



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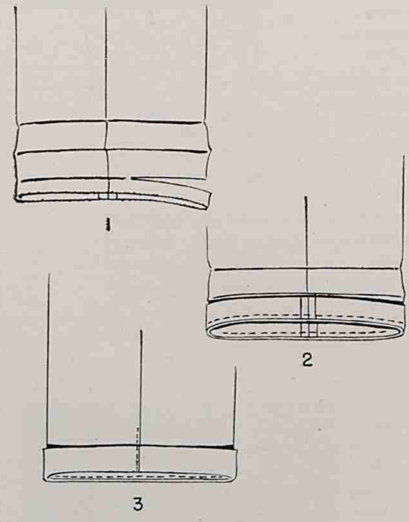
Trouser Repairs

WORN TROUSER CUFFS

Many suits still have cuffs that can be used to make trousers give longer wear. Cuffs may be repaired five or six times before trousers are noticeably shortened.

Cuffs are about 1¾ inches deep and the facing turned up inside the leg about 1 inch deep. Starting with a pair of trousers with plain cuffs you can make the following repairs one after another . . .

First Repair—Plain Cuff



Pick out the tacks at the side of the cuff. Rip open the lower edge.

1. With the cuff unfolded you will see three sharp press creases. Cut off the cuff exactly on the line of wear, which is the lowest crease. If the wear is only on the very edge, no extra cutting will be necessary. If the edge is worn up into the inside hem, trim it so you have a straight edge, or so you can make a straight seam.

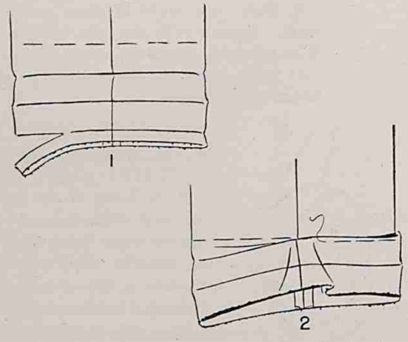
So little is taken off in the seams that the trousers are not noticeably shortened.

2. Seam the piece you have cut off back to the pants leg—with right sides of material together. Take a very tiny seam, no more than one-eighth inch wide. Do not press this seam open. Instead, press both sides of the seam toward the facing.

Fold the cuff back in place and baste so that the new seam line is held just inside the trouser leg. Press to sharpen the creases. Now turn down the cuff and stitch by machine on the facing side next to the new seam line. Machine-stitch again to hold the top edge in place. Hand stitching here wears out too quickly. Put a wool or tape guard in for longer wear (p. 4).

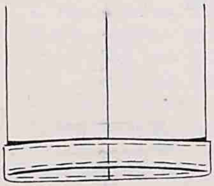
3. Turn the cuffs up and tack them at the sides. Do this by hand from the inside or on the right side by machine. To tack by machine, set the machine needle in the seam line one-half inch above the bottom of the trousers. Stitch up and beyond the cuff top one-half inch.

Second Repair—French Cuff



Rip out machine stitching put in with the first repair. Open the trouser cuffs as before.

1. There will be three sharp press lines. Cut off along the worn seam line at the bottom. With tailor's chalk strike a line 1¾ inches above the top crease. That marks where the top of the new cuff must come.



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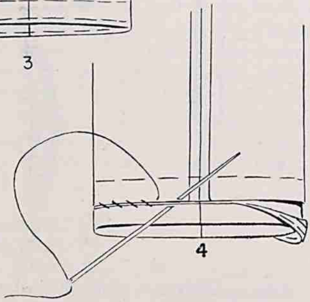

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2. Fold, then baste, along the line of the top crease. Baste this fold to the chalk guide line just made.

3. Fold and baste along the second press line to form the lower edge of the trousers. Steam press to sharpen these folds and to show where to turn under for the inside finish.

4. Turn in the cut edge so that it just meets the newly made inside fold. If it should lap, a ridge will show through the middle of the cuff. Join the two folds with slip stitches, taken closely enough that they will not catch in wear.

Tack or machine-stitch the cuffs in place and give a final press. Then protect the lower edge with a wear guard—it's easier to sew it on by hand for this type of cuff.

Third Repair—French Cuff

Make this repair in the same way as the first by taking the line of wear out in a seam. Rip open the French cuff, cut along the line of wear, seam the piece back to the leg. Then turn and stitch by machine so the new seam is barely inside the trousers—not on the edge. Finish off in the same way as before the repair was made. It may be necessary to press out the old fold so as to get a perfectly smooth fit.

Fourth Repair—No Cuff

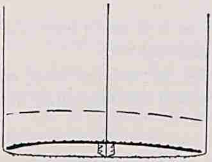
Rip out the French cuff and finish the leg without a cuff.

Turn down the top crease of the French cuff to form the lower edge of the trousers. Steam press to take out all other creases.

1. Mark and trim for a 1¾-inch hem.

2. Before the hem is stitched in place, sew on the wear guard as illustrated.

3. Then hem the trousers securely by hand. Be careful that no stitches show on the right side of the trouser leg.



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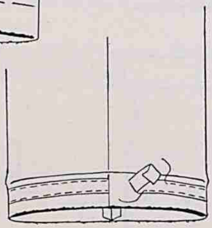

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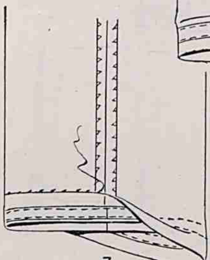

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Fifth Repair

Open the hem, take off the tape, and cut along the worn edge. Seam out the worn part as in the first repair. Stitch the wear guard on again by machine, then hem by hand.

Sixth Repair

Repeat fifth repair if the trousers are long enough to permit it.

FRAYED POCKET EDGES

Slightly Frayed

1. If the edges of side pockets are worn but not along the full length of the opening, rip the inside facing apart from the pocket edge a little beyond the worn part.

If the wear is slight, you need only turn in the worn edges, slip stitch them together and finish the same as before.

2. If the edges are more worn, trim off the worn parts of both the facing and the pocket edge, but be very careful to keep a straight line. Reseam the facing to the pocket edge by machine, taking a very tiny seam.

3. Roll the seam line so it is barely inside the pocket opening, then baste and press.

Stitch the pocket edge by machine once or twice, depending upon how it was finished in the first place.

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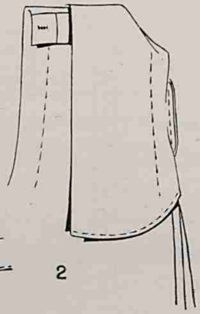

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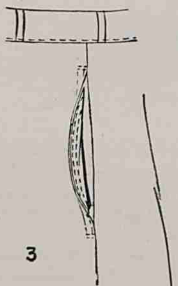

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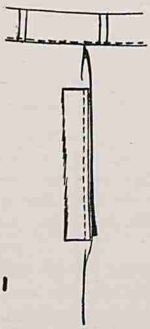
Entire Edge Frayed



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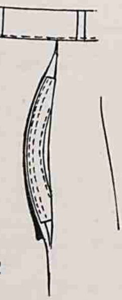


2

If the pocket is worn along entire edge—

Cut the bars at each end and rip the seams open a little, just above and below the pocket. Rip the facing apart from the pocket mouth. Trim off the worn part, being careful to keep a straight line, then reseam. If the facing is worn deeply, rip the other side of it away from the cotton pocketing and turn that side out to the pocket edge.

1. Reseam the facing to the pocket mouth with right sides of the two pieces together.

2. Turn facing back into the pocket with the seam line just inside. Baste, press, and stitch as it was before you ripped it. Resew the seams above and below the pocket. Then bar pocket ends by stitching back and forth to strengthen them.

TO REPLACE INSIDE POCKET

First turn trousers inside out and rip out stitching that holds pocket to waist band.

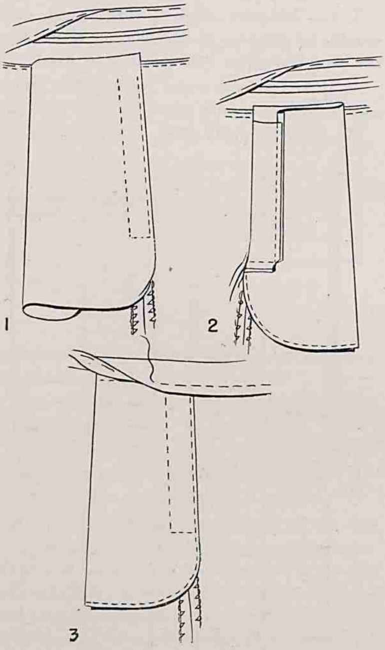
Cut a paper pattern for the pocket. Mark the side that is to be laid on the fold when you cut the new pocket. Allow about three-eighths inch for seams when you cut.

Cut off the old pocket next to the two wool facings just inside the pocket mouth. This leaves in some of the old pocketing that is stitched back of the wool facing. If this part of the old pocket were ripped out, it would be more difficult to put in the new one.

1. Turn under the seam allowance along one side of new pocket. Baste and stitch it back of the wool facing, over the old pocketing, as illustrated. French-seam lower edge of pocket and retrace the stitching at corners.

2. Smooth and pin in place the other side of the pocket—the side that lies next to the trousers. Pin this along the edge of the other wool facing. It will be necessary to trim off or turn under a little more of the pocketing on this side. Baste, and stitch twice by machine.

3. Slip the top of the pocket underneath the waist band, then stitch by machine from the right side. Use dark thread on the spool and white in the bobbin.



INSIDE POCKET REPAIRS

If the inside pocket has only a small hole in the corner, restitch the lower edge of the pocket above the hole. Do not cut off the pocket below the stitching.

Half Pocket Repair

If only the lower part of the pocket is worn out, make a half pocket repair.

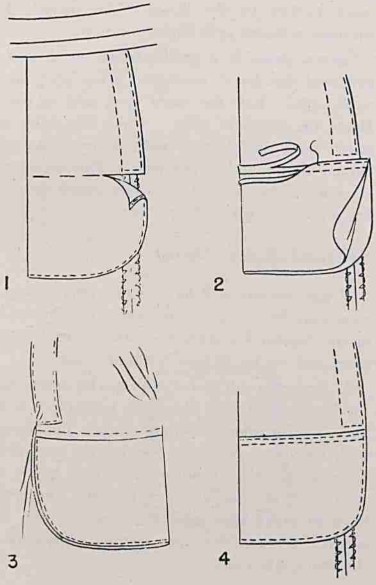
1. Cut off the worn part of the pocket. Lay the folded edge of this old pocket bottom on a lengthwise fold of new pocketing. Cut a new half pocket, adding three-eighths inch for seams at the side and twice this amount for the top edge, which will be seamed to the old pocket.

2. Sew the new half pocket to the old with the seam outside. Press this seam up, trim away the under half, and finish as a flat fell. This keeps the inside of the pocket smooth and comfortable to use.

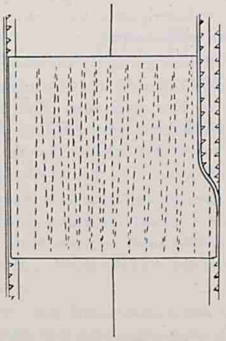
3. Turn the pocket inside out. Take a one-eighth inch seam around the side and bottom.

4. Turn the pocket back into the trousers and finish as a French seam by stitching one-fourth inch from the edge. Fasten off the threads at the end of the stitching.

Remember to keep the pockets on both sides of the trousers exactly the same length.



WORN TROUSER KNEES



When knees wear through, they may be patched in the same way as worn elbows (p. 8). If you have enough material, you can make this patch less noticeable by extending the patch block to the nearest side seam.

If knees are worn so that only lengthwise yarns are left, darn by hand to matching or harmonizing cloth tacked to the inside. Use thread that matches material or is slightly darker.

Shown above is a quick strong mend that is practical for boys' everyday pants and men's work suits. Lay the worn spot over a patch. Baste the patch in place. From the right side stitch back and forth closely by machine with thread that matches perfectly. This mend will show more than a hand darn does unless the cloth has a mottled or tweedy pattern.

Seamed Knee Mend

If the trousers still have plain cuffs, a strip of wear may be cut out of the knee, the lower part of the trouser leg moved up and seamed at the knee, and the leg finished without a cuff.

1. Open the cuff and rip the two leg seams from the bottom to a little above the worn place at the knee. With ruler and chalk mark a line straight with the crosswise yarns close to the top of the worn spot. Mark another line just below the wear. Check the distance between these two lines to make sure it is the same all the way across. Cut out this worn section of the knee on the two chalk lines.

2. Then seam the raw edges of the two remaining parts of the trouser front together. Press the seam open.

This will change the side edges of the leg front a bit, so lay a ruler along each side, strike a straight line, trim on this line, and reseam the trouser leg at the sides.

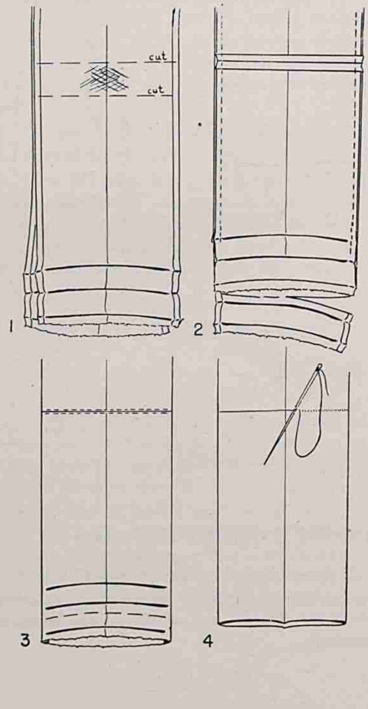
To mark the lower edge of the trousers for finishing, measure down from the top crease the exact width of the piece cut out of the leg plus two seam allowances. This new line at the front should correspond with the top crease at the back of the leg.

Allow about 1¾ inches more for a hem, then cut off any material that is left. Finish as a hemmed trouser leg (p. 13).

3. For everyday trousers, make patch more durable by stitching by machine on each side of the seam line rather than finishing by hand.

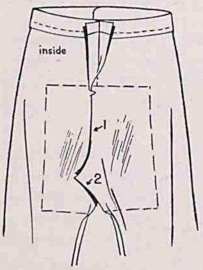
4. Make the seam across the knee less noticeable with the rantering stitch (p. 6).

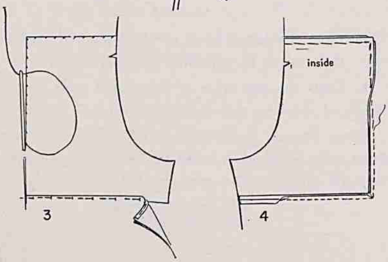
Cross-stitch to hold seam edges flat inside.



TO RESEAT TROUSERS

When trousers are so badly worn in the seat that you can no longer repair them with patches and darns, reseat them. Cut material for reseating from a vest, from the more worn of two pairs of matching trousers, or from a discarded coat.





Sometimes you can find swatches of matching material in shops.

Make notches or marks that will serve as a guide in reseaming.

1. Rip open the back rise beginning about 6 inches from the top of the trousers.

2. Rip the inseams down 3 or 4 inches.

Mark with chalk the worn part to be cut out. If the suiting is striped or checked it will be easier to hide the seam and match the piece if you cut the worn place out with the crosswise and lengthwise yarns of the goods. If trousers are of plain material, make the outer edge of the new seat curved.

Use the piece you have cut out as a pattern for matching and cutting the new seat. Allow double seam allowance around this piece to make up for the seam that must be taken from the trousers to sew in the new seat.

3. Turn under and press lightly a seam allowance around hole cut in trousers. Clip corners the depth of the seam allowance. Lay the new seat under this hole and match carefully from the right side. Baste the trousers to the patch with loose hemming stitches. Let these stitches catch only in the edge of the folded trouser edge. They serve as a guide for the inside stitching and will be pulled out later.

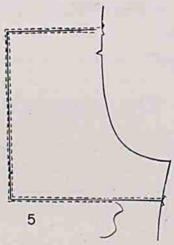
4. Turn the trousers inside out and stitch by machine exactly on this line of hand stitching. Press the seam open.

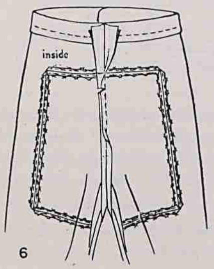
5. If the trousers won't be worn for "Sunday best," strengthen this seam by turning to the right side and stitching by machine close to each side of the seam. This will also hold the seam flat on the wrong side.

To finish the seam so that it is less noticeable—instead of strengthening by machine stitching on the right side, hide the seam line with the rantering stitch used to finish the collar roll (p. 6).

6. Then, to hold the seam flat on the inside of the trousers, catch stitch as illustrated.

Restitch the inseams and back rise of the trousers and press.

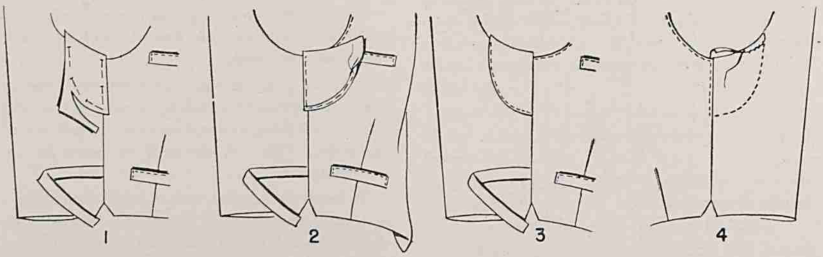




Vest Repairs

VESTS often need repairs at the underarm. Mend a small hole or worn spot here with a shield patch. Use a panel patch for larger worn places.

SHIELD PATCH



1. Cut a paper pattern that will cover the worn part of the vest. From this cut a patch of rayon lining material. Allow about one-fourth inch for turning under all around.

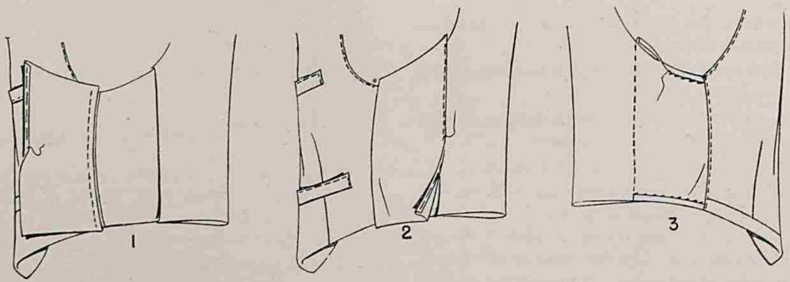
2. Turn under, baste, and press the curved edge of the shield. Lay the right side of the rayon patch back against the right side of the wool front of the vest. Stitch in line with the underarm seam of the vest.

3. Turn the patch back in place over the worn spot, then stitch by machine to the vest.

4. Turn the top edge of the shield over to the inside of the vest and hem by hand.

Even though both sides of the vest may not need to be patched, it looks better to have a patch on each side if a man goes coatless.

PANEL PATCH



Cut a strip of rayon the length of the vest at the underarm, plus a seam allowance for turning under at both top and lower edge of the vest. Cut it wide enough to cover the worn spot and allow for about one-fourth inch turn under at each side.

1. Lay the right side of the patch back against wool front of vest. Stitch along underarm seam.

2. Press the patch toward the back of the vest. Turn under, baste, and press the other side of the patch and stitch it to the vest, covering all the wear.

3. Turn under and shape the patch over the top and lower edges of the vest. Hem by hand to the lining of the vest.

Small Repairs

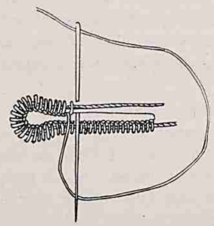
There are a number of minor repairs that may be needed on trousers, coat, or vest. No matter where they are, the method for making the repairs is the same.

WORN BUTTONHOLES

Use twist made especially for working buttonholes on men's suits. If you can't get this buttonhole twist, use double ordinary thread. Wax it for strength and easy handling (see Beeswax, p. 3).

Pick out all worn and ragged stitches of the buttonhole. Be careful not to pull the hole out of shape as you rip out the old stitching. Join new stitching with old carefully so that it won't show where the repair is made.

1. If the entire buttonhole has to be reworked, work over gimp or several strands of thread twisted together and waxed.



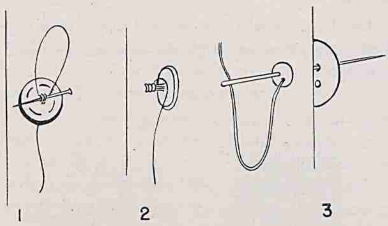
PULLED-OUT BUTTONS

If a button has pulled off and taken a bit of cloth with it—darn it or patch it—depending upon the size of the torn place.

If the hole is smaller than the button, darn with matching yarns over a small piece of reinforcing material slipped under the hole. Then sew the button on again.

If the suiting is torn beyond the button so that a darn wouldn't be strong enough to hold the button, set in a carefully matched block patch as you would for repairing a worn elbow (p. 8).

To prevent strain that may cause the button to pull a hole in the suiting again, sew the button on with a shank.



1. Make the shank by laying a pin or two across the top of the button. Sew several times over the pins and through the button and material.

2. Pull out the pins, lift the button, wind the thread beneath the button, and fasten off. Length of shank needed depends on thickness of the suiting.

3. For even greater protection, sew a tiny stay button directly under the top button but on the inside of the suit. Sew through both buttons at the same time and make a shank inside the top button long enough to allow the buttonhole to fit underneath without strain on the cloth.

TO RESTORE PIN STRIPES

Pin stripes worn off at the knees, elbows, or seat of a suit can be restored by machine. Since the material is likely to be worn a bit in these places it is a good idea to reinforce them at the same time.

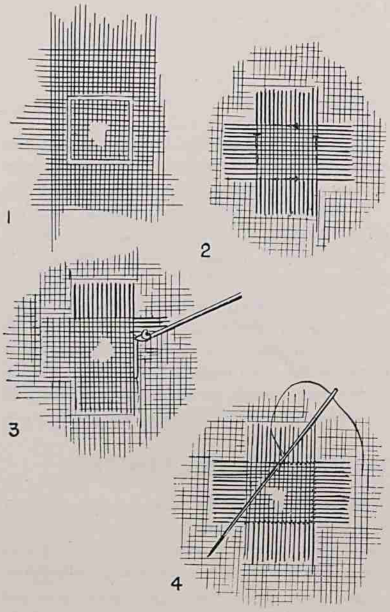
Cut rayon lining pieces the proper size and baste them underneath the places to be restriped. Thread the bobbin of the machine with white thread and use a spool of thread that matches the suiting for the top stitching. Tighten the top tension of the machine so that the white thread underneath is drawn to the surface and gives the same effect as the stripe. Experiment until you get the right tension adjustment, then stitch along the old stripe lines. Tie and clip off the thread ends on the inside of the suit.

When other kinds of stripes wear off, it is probable that they too can be restored.

REWEAVE PATCH

When a hole or a close group of holes would make a darn difficult or when a darn would show too much, apply a patch over the hole. This patch, put on from the right side of the material, is suitable only for material that is rather coarsely woven.

On the material to be patched, mark with four pins a square or rectangle the size of the patch you need.



1. Clip out only one yarn on each side of the square or rectangle. Pull one yarn out in each direction, leaving the outline of the patch you want to make.

2. Cut a matched patch piece about 1 inch larger all around than this space. Be sure the lengthwise yarns of the patch match with the lengthwise yarns of the suiting. Ravel out yarns from each side until the patch piece is an exact fit. Lay the matched patch on top of the hole on the right side of the material. Pin it in place.

3. From the wrong side of the material, pull the raveled yarns through to the wrong side with a small crochet hook. Draw the raveled yarns through the spaces left by the pulled out yarns. Do this all around until the patch sets smoothly over the damaged spot.

4. With needle and thread take little hemming stitches on the wrong side of the patch along the line where the yarns have been pulled through. This holds the patch in place. Steam-press the patch.

THREE-CORNER TEAR

If the tear is not frayed badly, the best way to mend it is to seam by barely catching a yarn or two inside the frayed edge. Steam-press the seams open, clip off any thick corners. From the right side, hide the seam line with the rantering stitch used to finish off the worn collar roll (p. 6).

If the tear is badly frayed, or if the suiting is so heavy that a seam would be thick, machine-darn the tear to a matching piece of suiting or a piece of lining.

Baste a piece of matching cloth or lining under the tear. Arrange any loose yarns so that you will stitch over them. Thread the machine with carefully matched thread. Stitch back and forth over the tear and deep enough into the material so that it will be sure to hold. To stitch backwards, barely lift the presser foot, then move the material forward slowly enough to get stitches of the right size. Lower the foot again to stitch forward. This is quicker than turning your work or using the lever that new machines have for stitching in reverse.

SMALL HOLES

Repair tiny holes by reweaving with yarn pulled from the inseams. To repair larger holes, set in a carefully matched piece of cloth under the hole and darn so as to hold the cut edges flat. See page 8 for darning the elbow.

Trouser Adjustments

When a man gains or loses weight or when a boy grows, trousers may need to be adjusted for good fit, comfort, and better wear.

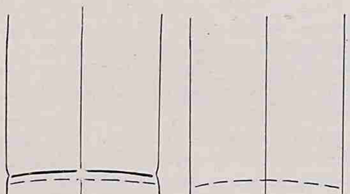
TO LENGTHEN TROUSERS

Pick out the tacks at the sides of the cuff and rip open the lower edge. Spread the cuffs out full length. If the cuffs have never been repaired or adjusted, there will be three sharp press lines. The top crease marks the length the trousers have been, so measure from this line when you mark for a new length.

1. Measure down from the top crease the amount you want to lengthen the trousers. Mark around the leg with tailor's chalk. Steam out all old press lines.

Make a plain cuff or a French cuff, depending upon how much you are lengthening the leg. If 1 inch or less is being added to trouser length, finish again with a plain cuff. If trousers are lengthened more than 1 inch, finish with a French cuff.

Plain Cuff Finish



1 2

2. From the chalk mark, measure down 1¾ inches and mark a line around the trouser leg. Mark another line 1¾ inches below that.

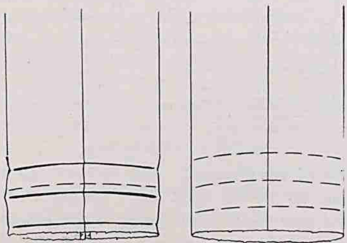
Pick up, fold, and baste along the middle chalk line. Pin the first and third lines together and baste. Steam-press.

Fold to form the new cuff along the line where the third and first chalk lines are basted together. Baste to hold the cuff in place and press.

To finish the cut edge, which is turned up inside the trouser leg, turn the cuff down again, baste, and stitch it by machine. Finish with a wear guard (see p. 4), then tack the cuffs at the side.

For illustrations that show details of plain cuffs, see page 12.

French Cuff Finish



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If you need to lengthen the trousers more than an inch, finish with a French cuff.

1. From the chalk line that is the guide for the new length, 2, strike two more lines—one 1¾ inches above the first line, one 1¾ inches below.

Fold on the center line and baste. Lay this fold against the top line and baste. Fold and baste along the lower line, which marks the bottom edge of the cuff. Steam-press.

Turn the cut edge up inside the pants and turn in so that it just meets the top fold. Trim off any extra material. Join the two folds with hand stitches about one-fourth inch apart so they won't catch on shoes. Put in a wear guard (see p. 4). Steam-press and tack cuffs at the side.

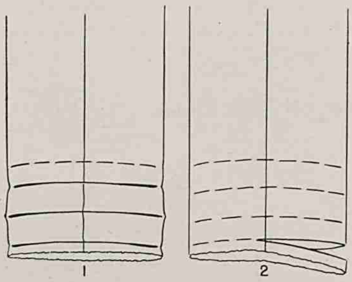
For illustrations of details of French cuff, see page 12.

TO SHORTEN TROUSERS

Pick out the tacks at the sides of the cuff and rip open the lower edge. Spread the cuffs out full length.

1. From the top press crease, which marks the old length, measure up the amount the leg is to be shortened. Mark around the leg at the new length with tailor's chalk. Steam-press to take out creases.

2. From the line just drawn, measure down and mark two more lines 1¾ inches apart. Strike a fourth line about 1½ inches below the bottom line and cut away all goods below this line.

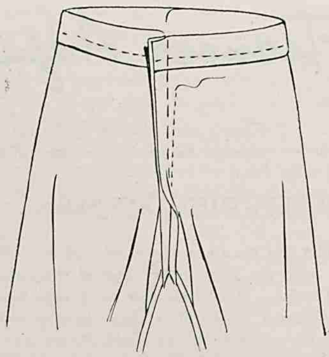


Finish as a plain cuff. Pick up, fold, and baste along the middle chalk line. Pin the first and third lines together and baste. Steam-press.

Fold to form the new cuff along the line where the third and first chalk lines were basted together. Baste to hold the cuff in place and press.

To finish the cut edge, which is turned up inside the trouser leg, turn the cuff down again, baste, and stitch it by machine. Finish with a wear guard (p. 4), then tack the cuffs at the side.

Illustrations on page 12 show details of finishing the plain cuff.



LET OUT OR TAKE IN SEAT

At the back rise of most trousers there is a generous seam allowance. Reseam along the back rise to make the seat smaller or larger as the need may be. Do this before you rip out the old stitching, then rip the old seam, and steam-press the new seam.

However, if there is some doubt about the fit, baste the new seam line, rip out the old stitching, and fit the trousers before stitching by machine.

LET OUT TOO-SHORT CROTCH

Rip the inseams down from the crotch point about 12 inches. Open the back and front rise slightly—just so the seam allowances of the inseams are free. You will find plenty of seam there for this purpose if the trousers have not been adjusted before.

Let out the seam as needed and resew, tapering off to meet the old stitching lines of the inseams. Press open, then reseam the front and back rise, and press again.

Care Saves Mending

Here are a number of preventive measures that make a suit "live" longer and help cut down on repair jobs.

BRUSH AND AIR. Brush suits often—in the direction of the grain of the cloth. Brush inside the suit as well as out, in and around pockets . . . inside cuffs if there are any.

If a closet isn't well-ventilated, it's a good idea to let a suit hang in the open to air before it goes into the closet. From time to time, give suits an outdoor airing.

HANG IT STRAIGHT. Put suit on a hangar as soon as you remove it. Don't spoil the press by laying it carelessly over a chair.

Put coat on a wooden hanger—one with broad shoulders made especially for men's shoulders. See that shoulders set squarely on the hanger.

Hang trousers on a special trouser hanger or over the cross bar of a wooden hanger. If you must use a wire hanger, place a heavy piece of cardboard or a thick piece of paper over the cross-bar first to help prevent crosswise creases on the trousers. Pull trousers through the hanger as far as the width of the hanger will allow so that the thicker part of the trousers lies over the hanger bar. Creases here show less than in the middle of the trouser leg.

When there is no hanger at hand, use the loop at the back of the neck to hang a coat. Or hang it over the back of a chair. But save the shape of the shoulders and collar . . . pinch up the coat back so that the shoulders rest on the corners of the chair.

REGULAR CLEANING AND PRESSING. Dirt grinds into wool and makes it wear out more quickly. Take your soiled suits to a cleaner who does a thorough cleaning job. More drastic—and therefore more wearing—cleaning methods are needed for badly soiled suits.

If you press suits at home between cleanings, look for spots before you press. A warm iron "sets" spots so they will never come out. Always steam press wool—never set the iron directly on the wool itself (see Pressing Supplies, p. 3), and be careful about scorch. Wool can scorch even when you have a cloth over it if your iron is too hot.

PROTECT AGAINST MOTHS. Clothes moths can undo all your saving of wool. Never leave woolen clothing lying around on closet shelves. If you have a woolen garment hanging in the back of the closet, air and brush it once in a while.

Before storing wools away for a season have them dry-cleaned, or brush and air them thoroughly in the sun.

Store wool suits and overcoats—or have them stored—in paper bags, wrapped in paper, sealed in boxes, or in trunks, chests, or tight closets. Seal paper bags and packages. Trunks and chests must have tight-fitting lids. A closet set aside for storage of wools should have all cracks in plaster and around baseboards filled up and a gasket on the door so that it shuts tightly.

Play safe by using flakes, crystals, or balls of naphthalene in wool you store at home. As these preparations evaporate they give off a gas that first discourages the moth larvae from feeding on wool and then, if concentrated enough, kills them.

About 1 pound of flake naphthalene is enough for a small chest, trunk, or box. Sprinkle through folds of clothing around cuffs and creases, tie in sacks on hanger necks, slip into pockets, or hang high in closets.

TIPS TO THE MAN WHO WEARS THE SUIT. Remember that keys carried everyday in the hip pocket rub against chairs and wear holes through both pockets and outer cloth. Overloading stretches and strains pockets—sometimes tears the corners.

Pens and pencils need clips and well-fitting tops if they are not to stain or jab holes.

Thin pads on office chairs save the seat of trousers from getting shiny so quickly.

A belt that fits easily through belt loops won't rub the loops fuzzy as will a wider belt.

Trousers one-half inch above the heels don't get so much rub and therefore wear longer about the lower edge than longer trousers.

If you get a suit soaked in rain or snow, let it dry slowly in a well-ventilated room, away from heat. Brush the suit well after it dries.

Contents

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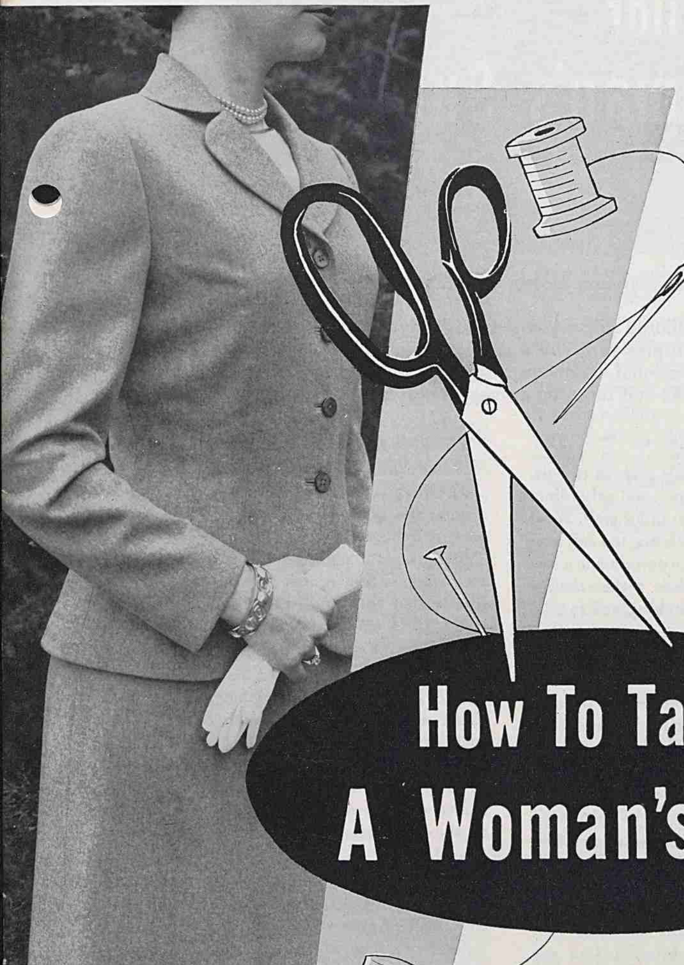
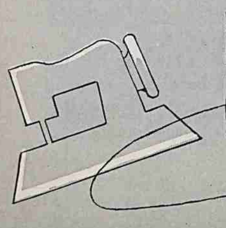


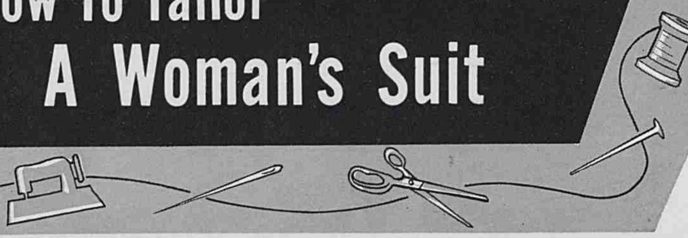
How To Tailor A Woman's Suit

Home and Garden Bulletin No. 20



UNITED STATES DEPARTMENT OF AGRICULTURE

How To Tailor A Woman's Suit



by Margaret Smith, *Clothing Specialist*

It is easy to make a tailored suit if you sew skillfully and have the patience to do careful work. You can give your suit a custom-made look by using the tailoring techniques that professional tailors use. In this bulletin these techniques have been simplified to make suit tailoring as easy as possible.

• MATERIALS •

Outer cloth.—Suiting materials such as tweeds, stripes, men's wear worsted, flannel, and gabardine, are all firm and heavy enough to tailor well. Wool crepes and other similar materials are too soft and dressy for a tailored suit. If you've never made a suit before, choose a plain-color fabric rather than a stripe or plaid. These require matching, and so take more time and care and skill.

Be sure the material is thoroughly preshrunk before you cut into it. If you can't buy one that is labeled preshrunk, have it shrunk at the store or at a tailor shop. Or you can shrink it yourself by laying the material out flat and straight on the ironing board and pressing with a steam iron or a damp cloth and ordinary iron. (See pressing directions, p. 3.)

Lining.—For lining a tailored suit, the best choice is a color that matches the suit material as nearly as possible. Choose a mediumweight flat crepe of rayon or silk. It is not so stiff as regular lining material and won't change the fit of your suit. Be sure the lining is preshrunk before you cut into it; otherwise, it will draw up when the suit is cleaned.

Interfacing.—For interfacing the jacket front, use a lightweight hair canvas of wool and goat hair, or a woven cotton interfacing with a special resilient finish. If neither is available, use preshrunk wigan or firm muslin.

For the collar interfacing and stiffening for the sleeve pads, tailor's canvas—a loosely woven linen—is a good choice. Many tailoring supply shops and department stores sell it. If you can't get tailor's canvas, a firm grade of muslin will do.

Findings.—For taping front edges of the jacket, around the armholes, and the lapel crease, you'll need a lightweight tape or a firm cotton selvage. Tailor's tape, a plain-woven, linen tape about 1/4 inch wide, is firm enough, yet not thick and bulky like twilled tape, and can be shaped to fit curved edges. Or a narrow rayon tape may be used. Be sure to shrink any tape before you use it.

Choose matching silk or colorfast mercerized thread for outside stitching on most wools. Use rayon or silk thread for seams that get extra strain, such as armholes, and for hems. Select thread a shade darker than your suit material. For basting in folds or pleats, a fine mercerized or a six-cord thread about size 150 won't leave as heavy a mark on the fabric after it is pressed as ordinary sewing thread.

If you plan to make worked (tailored) buttonholes, you'll need buttonhole twist to match your suit. And to strengthen the sides of the buttonholes, buy a spool of gimp (a heavy thread used by tailors in making buttonholes), or wax ordinary sewing thread to use instead.

To make the sleeve pads, you'll need a sheet of cotton wadding or loose cotton batting like that used for making comforts, or you can buy ready-made shoulder pads at notion counters.

It's best to get your buttons when you buy the material so you'll be sure to have them on hand when you are ready to make the buttonholes. Choose buttons that will stand dry cleaning.

• PRESSING •

Careful pressing as you make a suit is very important. Pressing each seam, dart, or fold thoroughly before crossing with another seam or fold makes it easier to put your suit together correctly. Then when you've finished your suit, a good final pressing will give it that "tailored" look. Some home sewers take the suit to a tailor for its final pressing to be sure of a professional-looking job.

You can do a much better pressing job with a few simple pressing aids. They help in pressing as you make the suit and also in keeping your finished suit and other tailored garments well pressed.

A large *tailor's ham* is useful in pressing front darts, shoulder seams, and lapels. A *sleeve press pad* is needed in shaping sleeves at the elbow and pressing sleeves after the suit is made without wrinkling the lining or body of the jacket. A *collar press pad* makes it easier to press the inside neck edge of the collar. It can also be used for shrinking in fullness at top of sleeve.

If you don't already have these pressing tools, you can make them at very little cost. Directions for making them are on page 24.

Many wool suitings can be pressed with a steam iron. You don't need a press cloth with an iron of this kind. With an ordinary iron, use a press cloth. For some suitings you can use cheesecloth or a commercial press cloth treated to prevent scorch. If the material is likely to get shiny, use two press cloths—one of heavy wool flannel next to the suiting, the other of heavy cotton or linen on top of the flannel.

Press a sample of your material to see which method of pressing is best. Some wools crinkle when pressed with a steam iron; others may be flattened too much when cheesecloth is used.

As you make the suit, press all seams, folds, darts on the wrong side so they won't get shiny. Dampen the press cloth with a wet sponge or cloth. Then press, lifting the iron and setting it down—don't push it along, you may stretch the material out of shape. After you press, don't move the material until it is thoroughly dry, or it may wrinkle.

You may have to give the seams and edges of a thick, wiry material like homespun a final pressing on the right side to make them lie flat. Such materials do not get shiny easily.

When pressing materials like gabardine that get shiny very easily, press on the wrong side if possible. When you must press such materials on the right side—as at pockets, front edges, and lapels to make them lie flat—lay a piece of gabardine face down on the part to be pressed. Then cover with the wool and cotton press cloths, dampen, and press very lightly. When you lift the press cloths, hold the seam or fold down flat with your fingers until the material is dry. If pressing has made the material shiny, rub lightly with a piece of the gabardine, or use one of the commercial products that remove shine.

To press pleats or pockets on the right side, slip a piece of wrapping paper under the pleat or top of pocket and use a press cloth. This keeps the fold from leaving a press mark on the jacket.

Place a chair or table near the ironing board to lay the suit on while you press parts of it. Then the rest of the garment won't hang off the board and stretch the seams.

Keep a sponge and a pan of clean, warm water handy to dampen the press cloth.

• FITTING •

To test the fit of the pattern, make a trial jacket of muslin, pin shoulder pads in place, and try on over a blouse. Pin the jacket in front, with center fronts matching and the top pin where you will place the top button.

Now look at the jacket carefully—at the front, sides, and back to see how it fits (see fig. 1). Make any necessary changes, then wear the jacket around a while to make sure it still fits well and feels comfortable.

Before you take the jacket off, mark the fold or crease line of the lapel and collar with pencil, so you can mark these same lines on the pattern or woolen jacket.

If you alter the muslin model be sure to make the same changes in the paper pattern before you cut out the wool jacket. Or you can use the fitted muslin model as the pattern. Rip the best half of the jacket apart carefully, taking care not to stretch the seams, then press each piece flat with a hot iron.

Altering the pattern before you cut does not mean that you will not have to fit the woolen jacket. Try on the jacket several times as you make it—before you machine-stitch any seams, when you pin the undercollar in place, and again when you set in the sleeves and mark the places for buttonholes, pockets, and hem lengths. Try it on whenever you are uncertain of the fit; it may save ripping later.

Fitting the Muslin Jacket

Shoulders.—If the shoulder seam curves to the back, you may need to make the back shoulder line longer. It should measure about ½ inch more than the front.

Chest.—If there are wrinkles or the jacket seems too wide across the chest, you can usually correct it by making a deeper front dart. Or an extra layer of padding tacked to the interfacing of the wool jacket sometimes corrects this.

Front.—When the center front edges of jacket pull toward the back, the front edge is probably too long from shoulder seam to bustline. Shorten with a dart from center front to the side, just above the bust level.

Collar.—When the collar stands away from the neck, rip off the collar and repin so it fits better.

Armholes.—The armhole line should look just the same on you as it does in the pattern sketch. If wide shoulders are in fashion, see that the top armhole line comes right at the outer edge of your arm. But don't make the shoulders so wide that the armhole line drops down on your arm so far that it will not look right, even with shoulder pads.

If the muslin jacket pulls to the back and feels too tight in front of the armhole, the back of the armhole may be too short. To correct, take out the sleeves. Have someone cut the back of the jacket straight across, halfway down the armhole. Then drop the lower back until the pull is relieved in front. Pin in a strip of muslin to hold the two sections of the back together.

Hips.—Don't fit your muslin jacket too tightly around the hips. The wool jacket may fit differently and you can always take in the hip seams when you put the jacket together. If the muslin model is tight around the hips, let out the seams, then allow extra seam allowance when you cut out the woolen jacket.

For more detailed information on fitting suits, see "Fitting Coats and Suits," U. S. Department of Agriculture Home and Garden Bulletin No. 11.

Shoulder seam in a straight line from neck base to top of arm.

Jacket smooth between neck and armholes.

Center front edges hang straight down.

Collar sets well to neck at back and sides.

Lapel and collar lie back smoothly.

Waistline of jacket slightly below the normal waistline.

Sleeves hang straight down without wrinkles in sleeve cap or at underarm.

Elbow fullness at bend of elbow.

Sleeve length is right.

Jacket fits smoothly but not tightly around hips.

Figure 1.—Points to check in fitting.

• CUTTING •

Before you cut out your suit, press the pattern pieces and material.

Then lay the material out flat so lengthwise and crosswise yarns are exactly straight. Fold the material lengthwise and pin together at the selvages and at each end.

Place the pattern pieces on the material, following the layout in your pattern construction chart. Have the perforations that mark the straight-of-goods exactly parallel to a yarn of the material (fig. 2).

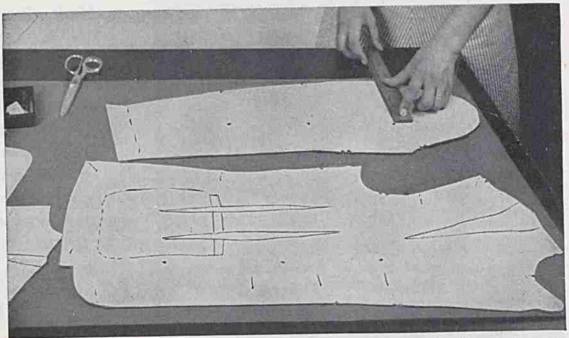


Figure 2.—Measure from the selvage to the straight-of-goods perforations to be sure the distance is equal at all points on the pattern piece.

Cut the undercollar and collar interfacing on the bias. Even if the pattern perforations indicate that the undercollar is to be cut on the straight of the goods, the collar will fit more smoothly if cut on the bias. Lay the center-back seam line of the undercollar pattern exactly on the bias of the material when you cut.

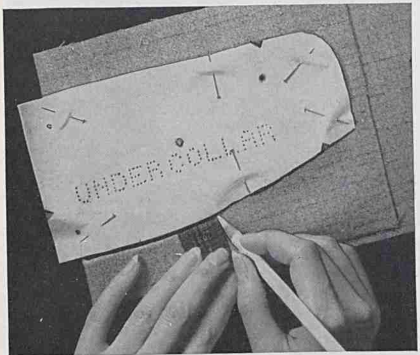


Figure 3.—To cut the top collar from the undercollar pattern, lay the center-back seam perforation on a lengthwise fold of the material. Draw in a new cutting line, adding about 1/8 inch to each side and end.

Before you cut out the top collar, compare the size of the top collar pattern with the undercollar. The top collar should be about 1/8 inch larger all around to allow for the collar roll. When the pattern doesn't allow for this roll, cut the top collar from the undercollar pattern, adding about 1/8 inch to the end and each side of the pattern when you cut (fig. 3).

If your suiting has a definite grain or design, don't cut out the pockets until you are ready to make them. Then you can match the material.

Use the jacket front pattern to cut a pattern for the interfacing. Before you cut out the pattern you'll have to mark the line for cutting the interfacing on the muslin model or pattern (fig. 4).

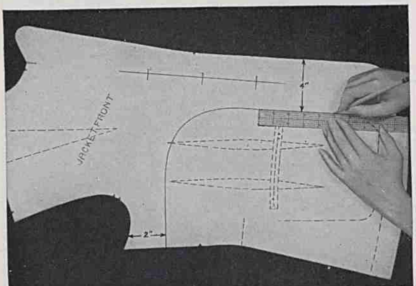


Figure 4.—Start the line for the interfacing about 2 inches below the armhole on the jacket front pattern. Make the interfacing about 4 inches wide down the front.

When you cut out the skirt, add about 1/2 inch to the left side seam—from the waistline down about 8 inches—to allow for the placket finish. Otherwise you may have to piece the skirt when you make the placket.

You often have to cut the back lining from the jacket pattern. Be sure to add 1/2 inch to center back of pattern from neck to waistline to allow for a 1/2-inch center-back pleat Leave pattern pinned on the material until you are ready to sew the lining (see fig. 52, p. 21).

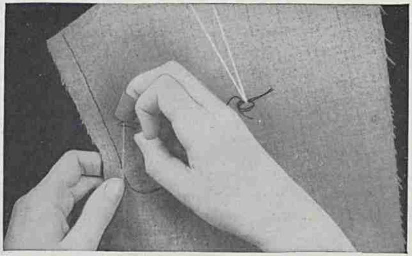


Figure 5.—Stitch around neck and armholes, just outside the seam line, to keep edges from stretching.

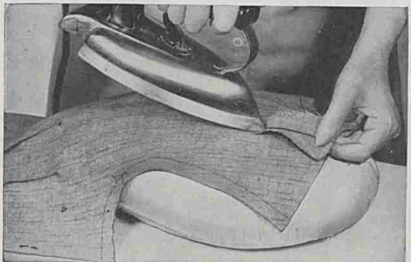


Figure 6.—After stitching and cutting jacket shoulder dart, open the seam lightly with the tip of the iron.

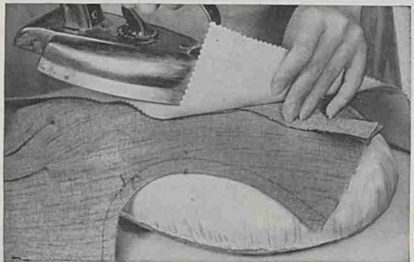


Figure 7.—Smooth the shoulder dart wrong side up over the tailor's ham and press with a damp cloth.

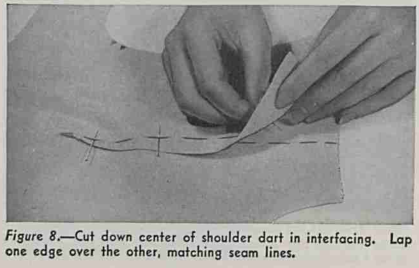


Figure 8.—Cut down center of shoulder dart in interfacing. Lap one edge over the other, matching seam lines.

Mark all notches and perforations with chalk or tailor's tacks in contrasting color, as soon as you finish cutting each piece. If there are darts or tucks to be made, or any stitching that will be hard to get straight, draw stitching lines on the wrong side with chalk or pencil, using a ruler as a guide.

As soon as you take the pattern off the material, stitch with machine stitches or backstitches around curved edges such as neck and armholes, to keep the edges from stretching and spoiling the fit of your suit (fig. 5).

• MAKING THE JACKET •

Darts

Make the darts first. For the shoulder darts, begin at the wide end and stitch to nothing at the point. Work the thread ends back into the stitching, tie them, or leave ends long enough so they won't pull out.

Cut large darts, such as those at the front shoulder, down the center to about 1/4 inch of the stitching at the point. Open the seam lightly with just the tip of the iron so as not to press in a fold along the stitching line on the right side (fig. 6). Be careful not to scorch the material.

To be sure you'll have a smooth rounded effect at bustline and no pouch in shoulder dart, smooth the dart point over the curve of the tailor's ham. Press on wrong side (fig. 7).

Clip waistline darts in the jacket if necessary to make them lie flat.

To make the shoulder darts in the interfacing, cut down the center of the dart between stitching lines to the point. Lap one edge over the other, matching the stitching lines (fig. 8). Pin and sew by hand or by machine. Trim off the surplus seam allowance to 1/4 inch (fig. 9). Press.

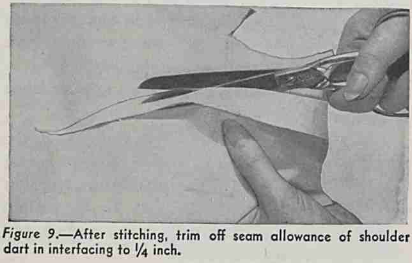


Figure 9.—After stitching, trim off seam allowance of shoulder dart in interfacing to 1/4 inch.

Interfacing

Before you sew the interfacing to the jacket, lay the bust section of the interfacing, right side up, smoothly over the tailor's ham. Then lay the jacket front over the interfacing, matching the darts. Be sure there are no wrinkles in either piece. This is easier to do on a curved surface, like the tailor's ham, than on a flat surface.

Pin the two pieces together, then, keeping them on the ham, baste them together from the right side. Start at the middle of the shoulder seam and baste to the bottom of the interfacing. Baste just to the line that marks the lapel crease, with rows of tailor's basting about 2 inches apart (fig. 10).

When you've finished basting, trim off even with the jacket any edges of the interfacing that extend beyond the jacket.

Lapel

Mark the seam allowance around the lapel edges of the interfacing with chalk or pencil. This seam allowance will be cut off later.

Pin a strip of preshrunk tape over the line on the interfacing that marks the lapel crease. Start the tape at the seam allowance line at the bottom of the lapel and pin to about ½ inch below the neck seam line (fig. 11). Leave about 2 or 3 inches extra length on the tape so it can be sewed down later over the undercollar crease.

Baste the tape over the lapel crease with two or three lengthwise rows of tailor's basting. Catch in the interfacing and jacket front with each stitch. Make the stitches small so they won't show through on the jacket front. In suit tailoring several rows of tailor's basting are called padding.

With rows of tailor's basting, pad the interfacing to the lapel. Start basting next to the tape, and work toward the outside edges of lapel. Baste lengthwise in rows about ½ inch apart. Roll the lapel over your fingers as you baste. This makes the underpart of the lapel a little smaller than the interfacing so it will lie smooth without wrinkles when the lapel is turned back on the jacket front. Baste only to the seam line around the edges (fig. 12).

Trim off the seam allowance of the interfacing to make the edges as flat as possible when the front facing is sewed on.

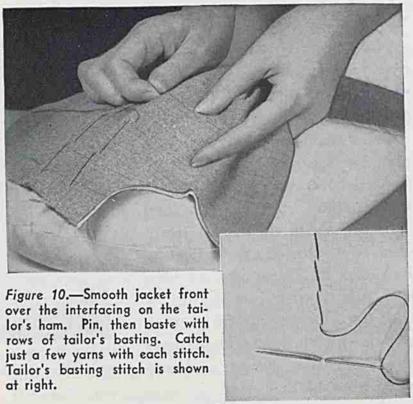


Figure 10.—Smooth jacket front over the interfacing on the tailor's ham. Pin, then baste with rows of tailor's basting. Catch just a few yarns with each stitch. Tailor's basting stitch is shown at right.

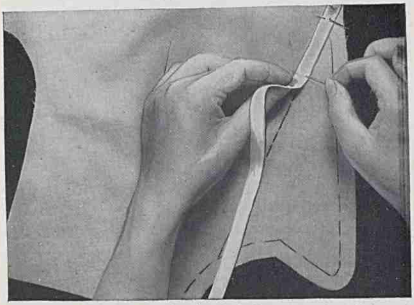


Figure 11.—Pin tape to lapel interfacing so center of tape Is directly over the lapel crease line. Then baste tape with rows of tailor's basting, catching in interfacing and jacket front with each stitch.

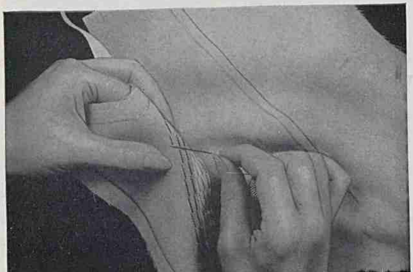


Figure 12.—As you baste interfacing to jacket front, roll the lapel between your second and third fingers and hold it firm with your thumb.

Seams

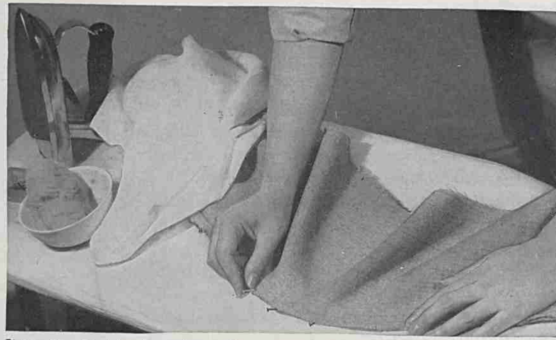


Figure 13.—Stretch edges of curved seams as at center back of jacket or at armholes as much as you can. Pin to the board, dampen slightly, then press.

Machine-stitch the back, underarm, shoulder, and sleeve seams, using the seam gage as a guide for straight stitching.

Press seams out flat. Pull the material crosswise as you press, so as not to press in a fold along the stitching on the right side. This is easy to do with a steam iron. If you haven't a steam iron, first open the seams on the wrong side lightly with just the tip of the iron, being careful not to scorch the material. Then press the seams flat, using a dampened press cloth.

Clipping curved seams such as those at the center back of jacket to make them lie flat weakens them, so it's better to stretch the edges after the seams are stitched (fig. 13).

After stretching, press the seams open with a press cloth. If the seams are very curved, you may also need to clip the edges in a few places to make them lie flat.

The back shoulder seam line is usually cut longer than the front, and the fullness eased to the front shoulder or taken up in a dart. If the fullness is eased to the front shoulder, it usually looks and fits better, keeps the shoulder seam straight, and prevents its pulling to the back.

Gather the back shoulder by machine, and draw it up until it is the same length as the front. Pin and stitch to front (fig. 14). Then shrink in the fullness. To do this, lay the material on the ironing board so the ripples you want to shrink in are on top, and press with a cloth, using plenty of moisture.

You can ease elbow fullness in the sleeves in the same way.

Before you machine-stitch the shoulder seams, cut off the shoulder-seam allowance on the interfacing to take out extra bulk. Then, after the seam is stitched and pressed open, catch the seam allowance of the jacket front lightly to the interfacing to hold it in place. Or if you prefer, you can stitch the interfacing in with the seam, then trim off the seam allowance of the interfacing close to the stitching.

Shoulder seams need to be taped to prevent stretching. After you stitch and press open the seams, try on the jacket right side out to let the seams set to your shoulder. They will probably stretch a little. Pin tape smoothly to the opened seam while you still have the jacket on, so tape won't pull the seam. Sew tape by hand with tailor's basting or small running stitches (fig. 15).

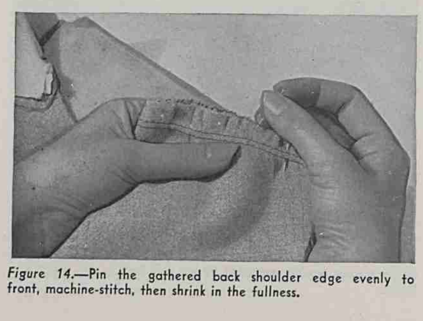


Figure 14.—Pin the gathered back shoulder edge evenly to front, machine-stitch, then shrink in the fullness.

Figure 15.—To keep shoulder seam from streching, sew tape over open seam wih tailor's basting.

Undercollar

Seam the center back of the undercollar by machine, and press the seam open.

Lap the center back edges of the collar interfacing with seam lines together, and sew, either by hand or by machine. Trim off the seam allowances to about $\frac{1}{8}$ inch.

Pin collar interfacing over undercollar, along the neck edge. Make a sharp fold with your fingers along the crease line (fig. 16). Then with a row of back stitches, catch in both undercollar and interfacing along the crease line.

Pad the neck edge, below the crease line and between the shoulder seam marks, with crosswise rows of tailor's basting to keep the edge from stretching. Roll the collar and interfacing over your finger as you baste, so the interfacing will stretch as much as it needs to (fig. 17). Pad just to the seam line.

Now pad the collar outside the crease line. Since the outer edge of the collar must stretch crosswise to make it set well, make the rows of basting lengthwise between the crease and the seam allowance (fig. 18).

Trim off the full seam allowance of the interfacing on all edges (fig. 19).

Trim the neck seam allowance of the undercollar to about $\frac{3}{8}$ inch, then turn it smoothly over the interfacing, and cross-stitch.

The top collar can be sewed on by hand or by machine (see p. 12). If you plan to sew it on by hand, turn all the seam edges of the undercollar over the interfacing and cross-stitch (fig. 20). If the top collar is to be sewed on by machine, leave the ends and outside edge flat.

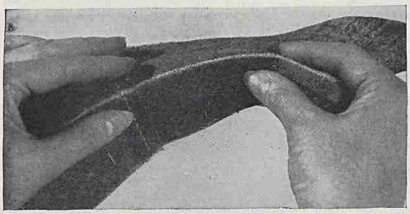


Figure 16.—Pin the collar inerfacing to undercollar along neck edge. Make a sharp fold along the collar crease line.

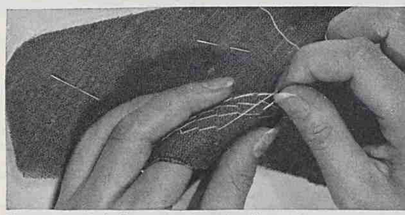


Figure 17.—Pad the neck edge of collar with rows of tailor's basting. Make the rows crosswise between shoulder seams to keep neck edge from stretching.

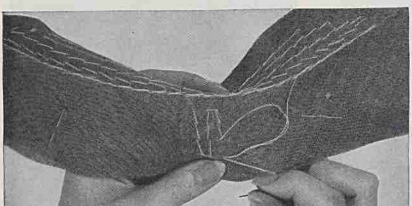


Figure 18.—Roll outer edge of collar and interfacing over your finger and baste in lengthwise rows.

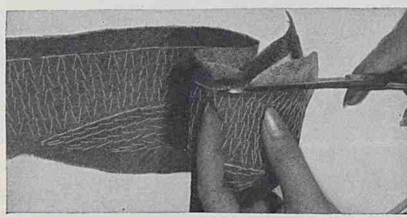


Figure 19.—Cut off seam allowance of collar interfacing so the collar edges will lie flat.

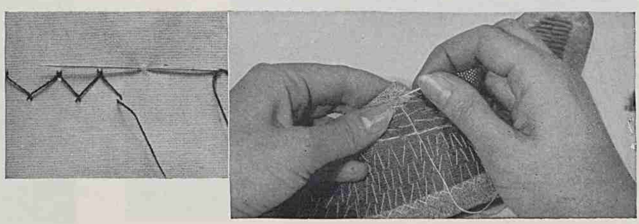


Figure 20.—Fasten undercollar seam allowance to collar interfacing with cross-stitching. The cross-stitch used in tailoring (shown at right) is the same as the catch-stitch in dressmaking. Use this stitch for sewing down facings and hems or to fasten pleat in lining of jacket.

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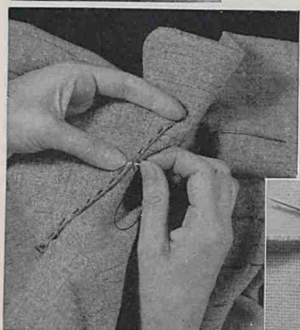
Figure 21.—Try on jacket; adjust collar until it fits.

Pin the undercollar to the neck line of the jacket. Try on the jacket, with the shoulder pads in place, to see if the collar sets well in the back and on the sides and does not ride away from your neck. If the collar does not fit well, re-pin while you have the jacket on. (fig. 21).

Baste undercollar in place, and fell firmly by hand to the jacket (fig. 22). This is an easy way to sew an undercollar on any type of coat or suit.

Clip the neck seam allowance of the jacket just to the stitching, at the point where the collar joins the lapel (fig. 23). Trim off the seam allowance to about ⅜ inch from this point to the shoulder seams. Clip occasionally so the seam will lie flat. Press the seam open, and catch-stitch the edge to the interfacing to keep the seam flat at the neck (fig. 24).

Pin the tape along the collar crease (fig. 25). Cut off the tape where the crease begins to curve across the back. Pad tape to the collar crease with rows of tailor's basting. This keeps the crease from becoming limp above the neck line.



← Figure 22.—Fell neck edge of undercollar to seam line of jacket. Use felling stitch below to join a folded edge to garment. Stitches are vertical on right side.

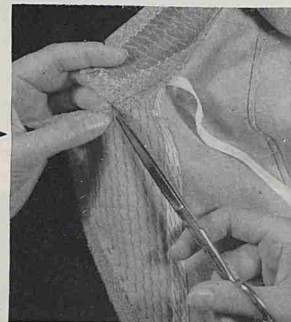
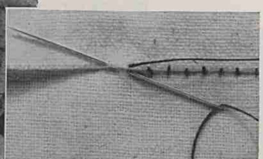
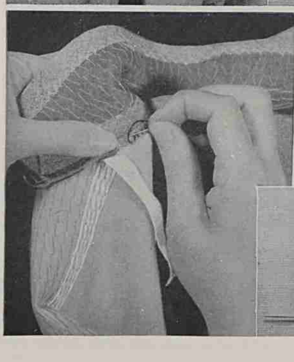


Figure 23.—Clip the neck seam allowance to the stitching, so the seam opens flat. →





← Figure 24.—Press neck seam open and catch-stitch the edge to interfacing. Catch-stitch shown below is used to quickly join raw edges to garment.

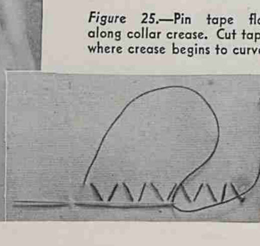
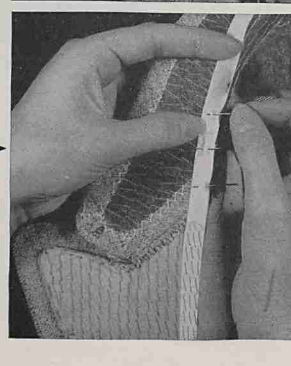


Figure 25.—Pin tape flat along collar crease. Cut tape where crease begins to curve. →



Front Facing

If you are planning to make two-piece or bound buttonholes, make them before you put on the front facing (see Buttonholes, p. 18).

Before you baste the front facing to the jacket, draw in the stitching line along the top edge of the jacket lapel. For a straight edge, use a ruler.

Mark the front stitching lines on the under side of one jacket front. Then lay this front over the other to compare the edges. They should be exactly alike before the facing is basted on. Mark stitching lines on the second jacket front.

Tape the front edges of jacket to keep them from stretching. The easiest way is to sew preshrunk tape just inside the seam line (fig. 26). Or baste the tape over the seam line so it will be machine-stitched with the front facing.

At the corners, whether pointed or curved, lap the tape and cut out any folds to take out extra bulk. Catch the loose edge of the tape lightly to the interfacing so it will stay flat.

Pin and baste facing to jacket front. Around the lapel and down to the top button mark, ease the facing on to the jacket (fig. 27). This allows for a slight roll and keeps the seam edge slightly underneath. Below the top button mark, ease the jacket to facing, so lower corners of the jacket will lie smoothly. Machine-stitch exactly on the seam line. If the suiting is thick, finish the top of lapel by hand after you turn the facing to the under side (see p. 12).

After stitching the facing, trim off the seam allowance of jacket front and facing—one edge to about ⅜ inch, the other to about ¼ inch. This tapers off the seam allowance at the edge and is less likely to leave a mark on the right side when pressed. Trim off the seam allowance of the interfacing to the stitching.

Open front edge seams with the tip of the iron (fig. 28). Press seams flat so the facing can be turned accurately to the under side.

Where the lapel joins the collar, clip in just to the stitching line so the facing will fold back smoothly at the neck. Clip the seam allowance at the corners to within a few yarns of the stitching, so the corners will be flat.

Turn the facings to the under side. From the mark for the first button to the neck, baste along the fold from the facing side, rolling the seam edge a little to the underneath (fig. 29).

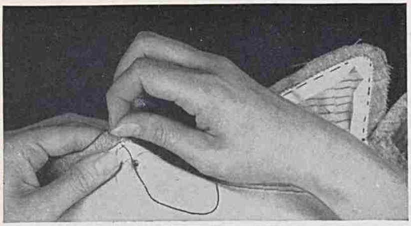


Figure 26.—Baste tape to front edge of jacket to prevent stretching. Stitch with running or hemming stitches.

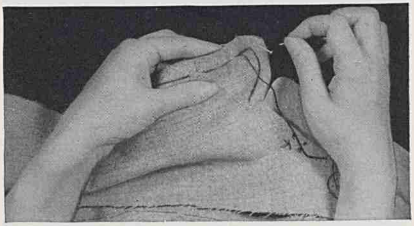


Figure 27.—Pin and baste facing to jacket front, easing fullness in facing to jacket from neck to top button.

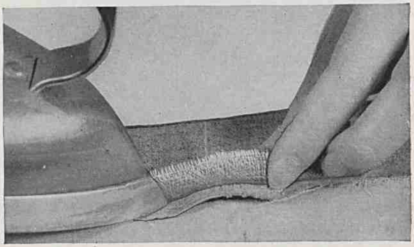


Figure 28.—Trim off seam allowance on front edge and open seams with tip of iron. Press flat.

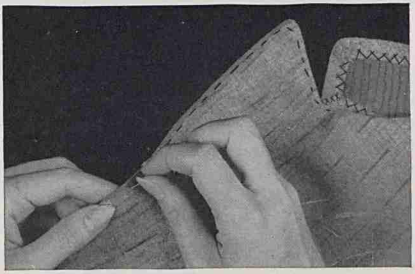


Figure 29.—Turn facing to underside and baste, rolling edge a little to the underneath so seam line won't show on the right side.

From the top button mark to the bottom of the jacket, baste from the jacket side, again rolling the seam edge slightly underneath.

Now if you didn't machine-stitch the top edge of the lapel, finish it by hand. Turn under and baste the seam allowances of the top edges of both facing and jacket. Press, then pin the two edges together so edge of facing extends slightly beyond edge of jacket. Baste, and overhand (shown in fig. 34) the two edges together.

Press the lapel section over the tailor's ham to give it a slight curve, so it will lie back over the chest smoothly (fig. 30). Don't press in the lapel crease. Press the lower front of the jacket on the ironing board.

Turn the lapel back on the jacket and pin or baste along the lapel crease line, through the facing, interfacing, and jacket. Smooth facing in place and pin and baste inside edge to jacket.

Mark neck seam line on the facing with chalk, exactly in line with the neck seam on the jacket. Turn under on this line, and trim seam allowance to 1/4 inch. Pin, baste, then fell along neck seam of jacket (figs. 31 and 32). Press.

Cross-stitch the inside edge of the facing to the jacket, to about 6 inches from the lower edge. Use large stitches as they won't pull the jacket front.

Top Collar

The top collar may be sewed on by hand or by machine, depending on the material and the style of collar.

If collar corners are rounded or the fabric is rather lightweight, it is quicker to sew the top collar on by machine. But if the material is thick, the collar will probably fit better and the corners look sharper and more flat if stitched by hand.

To stitch collar by hand.—Turn under the seam allowance on the outside edge and ends of the top collar, baste, and cross-stitch just as you did for the undercollar (see fig. 20). Trim out the extra bulk at the corners and overhand the raw edges together. Press flat.

Lay the top collar over the creased undercollar —pin and baste where needed to hold the two collars smooth (fig. 33). The edges of the top collar should extend 1/8 inch beyond the edges of the undercollar. Overhand the edges together firmly (fig. 34).

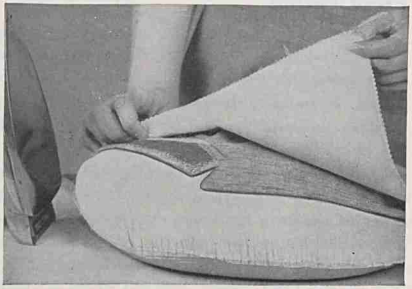


Figure 30.—Press lapel and undercollar over tailor's ham. Do not press in the lapel crease.

To stitch collar by machine.—You don't need to turn under outer edges of the undercollar as you do when joining the collars by hand. Pin the ends and outside edge of top collar to the undercollar, easing in the extra length and width that allows for the collar roll. Baste with small stitches exactly on the seam line. Machine-stitch.

Trim off the seam allowance to 1/4 inch. Catchstitch the seam allowance of the undercollar to the interfacing, and the seam allowance of the top collar to the fabric lightly so the stitches won't show on the right side. This keeps the seam edges from rolling up and making the collar edges bulky when the suit is worn.

Turn the collar right side out and baste along the edge, keeping the seam line slightly underneath, not right on the edge. Press.

Join top collar to neck line.—When the outer edges are finished, pin the top collar to the underneath collar along each side of the crease line. Mark the neck seam line on the collar with chalk, so the line comes right over the neck seam of the undercollar. Keep the collar creased as you work on it, to be sure the top collar won't draw up when finished.

Clip seam allowance at shoulder marks just to the seam line. Trim the neck seam allowance of the top collar to 1/4 inch, from the point where lapel joins collar to the shoulder marks (fig. 35). Turn under and pin along the neck seam of the front facing (fig. 36). Fell firmly to the neck seam of the facing, and press.

Since the jacket will be lined, don't turn under the neck seam allowance across the back of the neck. Sew it flat to the neck of the jacket with running stitches, just below the neck line.

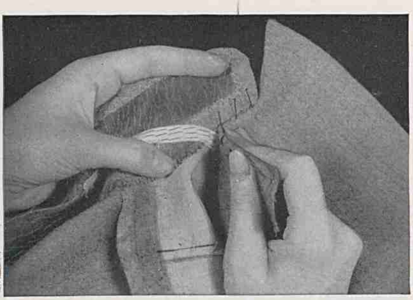


Figure 31.—Turn under neck seam allowance of jacket facing. Clip in a few places so seam will lie flat. Pin in place along the neck seam line of jacket.

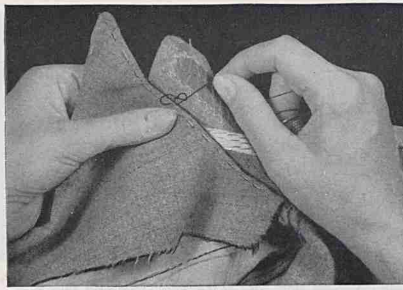


Figure 32.—Baste and fell neck edge of facing invisibly to neck seam line of jacket. See detail of felling stitch in figure 22.

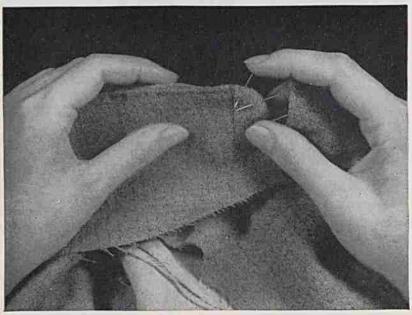


Figure 33.—Pin the top collar over the undercollar so the top collar extends about 1/8 inch beyond the undercollar. Then the seam edge will not show from the right side.

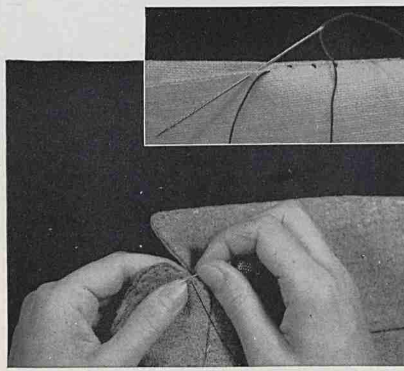


Figure 34.—Be sure the top collar lies smooth over the undercollar. Baste around the edge, and overhand. Overhand stitch is shown above.

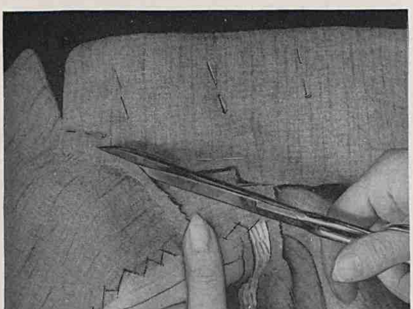


Figure 35.—Trim off neck seam allowance of top collar to 1/4 inch, from shoulder seam to the point where collar meets lapel.

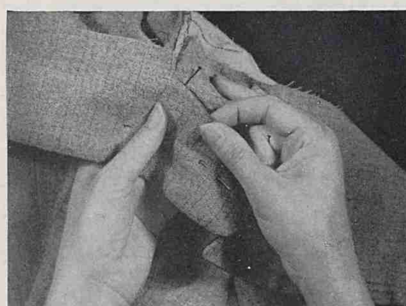


Figure 36.—Turn under neck seam allowance of top collar so it lies exactly along the neck seam line of the jacket. Fell firmly to neck line of front facing.

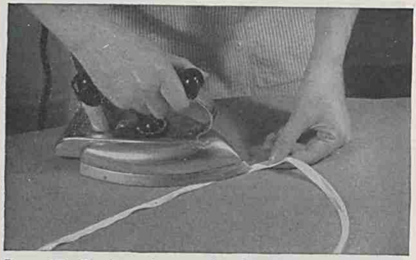


Figure 37.—To shape the tape for the armholes, first dampen, then stretch the outer edge of the tape. Press until dry.

Figure 38.—Slip the sleeve over the sleeve press pad. Shrink in the fullness at the inside elbow, and press the whole sleeve until it fits smoothly over the pad.

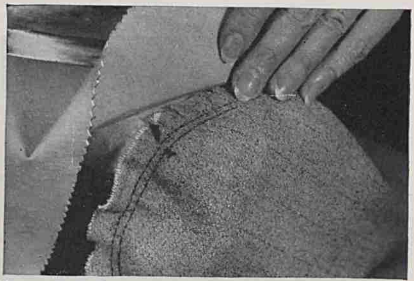


Figure 39.—Gather the top of the sleeve by machine, and pull up the gathering thread. Shrink in top-of-sleeve fullness before you baste in the sleeve.

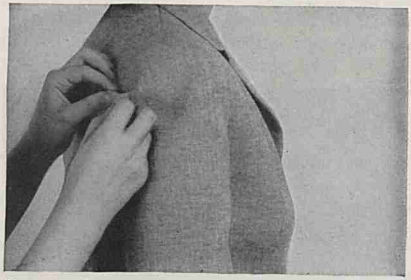


Figure 40.—Try on jacket, with sleeve pads in place, and check fit of sleeves. Adjust fullness in sleeves until they hang smoothly without a wrinkle.

Sleeves

Try on the jacket with shoulder pads pinned in, to be sure armhole edges set smoothly.

Tape the armholes just as you did the front of jacket (fig. 26), but first shape the tape to fit (fig. 37). If the armhole does not fit smoothly when you try on the jacket, hold in the material where necessary when you pin the tape. Baste the tape in place, working in the extra material evenly, then shrink in this fullness.

Shape the sleeve over the sleeve press pad and shrink in any fullness (fig. 38). The thickness of the pad makes just an impression of a crease on each side of the sleeve, instead of the sharp crease you would have if you pressed the sleeve flat on the ironing board.

Most jacket sleeves need to be eased into the armhole. Gather the top of the sleeve by machine, and pull up the underneath gathering thread until the sleeve is about the right size for the armhole. Then slip the top of the sleeve over the large end of the sleeve board or the collar press pad and shrink in as much of the top fullness as you can (fig. 39). This makes the sleeve easier to put in.

When you pin the sleeve into the armhole, ease any fullness to each side of the sleeve top, leaving about an inch smooth on each side of the shoulder seam. Then baste the sleeve in, exactly on the seam line. Use small basting stitches that will follow the curve of the armhole and make a guideline for machine-stitching.

Pin the shoulder pads in place, and try on the jacket to be sure the sleeves hang smoothly, without a wrinkle, and that the armhole seam looks even from the right side (fig. 40). Underarm wrinkles in the body of the jacket can often be taken out by using thicker shoulder pads. While you have the jacket on, measure the hem length of the sleeve.

Trim off seam allowance of interfacing. Stitch in the sleeves, taking care not to let the stitching line waver.

Figure 41.—Dampen and press lower seam edges of armhole on sleeve and jacket, stretching as much as possible. This makes it easier to turn seam allowances into sleeve.

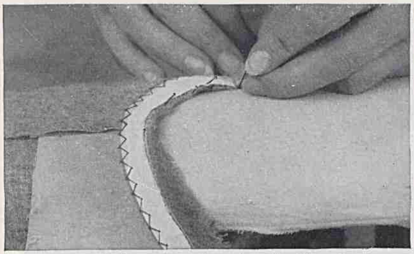


Figure 42.—Pull sleeve over sleeve board, with underarm seam of jacket on top of board. Turn lower armhole seam allowances into sleeve, pin in place, and press.

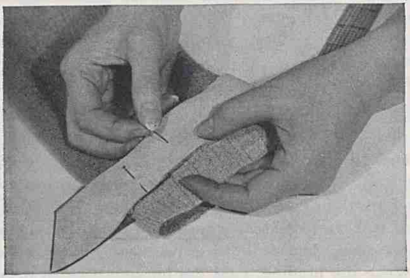


Figure 43.—Stay bottom of sleeve by basting a 2-inch bias strip of hair canvas along the hem line of the sleeve. Cross-stitch lightly to sleeve (see cross-stitch, fig. 20).

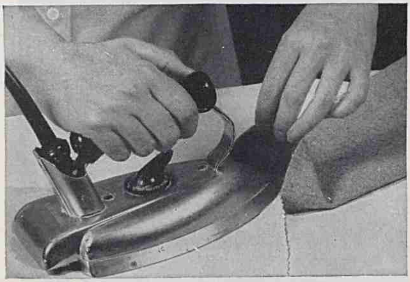


Figure 44.—To press lower edge of sleeve, slip corner of the press cloth into the sleeve, a little beyond the hem, dampen, and press.

The tops of sleeves can be pressed to give either a square or rounded shoulder line.

If a square shoulder line is fashionable, press the armhole seams open to about 4 inches below the shoulder seam on each side.

For a rounded sleeve top, turn the armhole seam allowance into the sleeve. If there is a great deal of fullness in the sleeve top, snip off wedges in the sleeve-seam allowance, so the seam edge will press smooth against the sleeve, without leaving any ridges or press marks on the right side. Then fold a narrow strip of cotton wadding or flannel, about 5 inches long and 1½ inches wide, in the middle lengthwise. Insert it between the sleeve seam allowances and the top of the sleeve, and sew by hand.

Always turn the lower part of the armhole seam into the sleeve. But first stretch the seam allowance as much as possible by pressing so it will lie flat (fig. 41).

Then slip the sleeve over the sleeve board, turn the lower armhole seam allowance back into the sleeve right at the seam line, and pin the armhole curve to the sleeve board (fig. 42). Press. This folds the seam edges down so they won't make the lower armhole feel bulky.

Stay the lower edge of the sleeve to give more body at the wrist. To do this, cut a bias strip of hair canvas or muslin 2 inches wide. Pin and baste the lower edge against the hem line of the sleeve (fig. 43). Cross-stitch both edges lightly to the sleeve. Turn the sleeve hem up over the bias piece, baste, and cross-stitch.

When you press the bottom of the sleeve, turn it right side out, slip a corner of the press cloth up into the sleeve over the top of the hem, dampen, and press (fig. 44). This shrinks out any fullness and makes the inside of the sleeve hem a little smaller than the outside.

For a final pressing, slip the sleeve over the sleeve press pad, and press on the right side with a press cloth, taking care that the material does not get shiny. When making a gabardine suit, omit pressing on the right side.

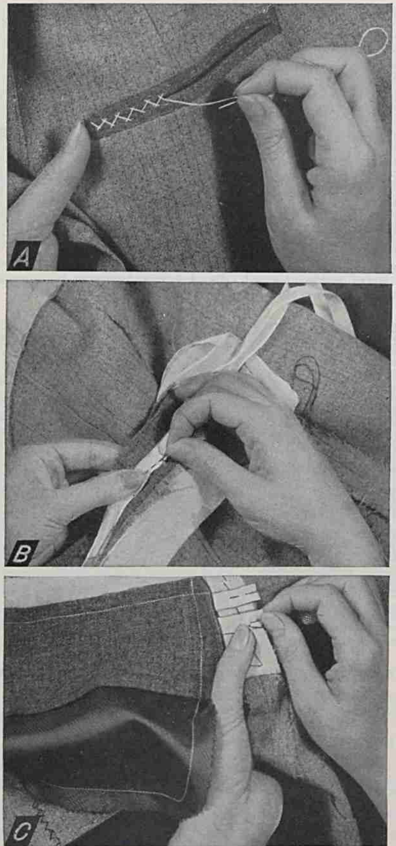


Figure 45.—Steps in making tailored or bound pocket.

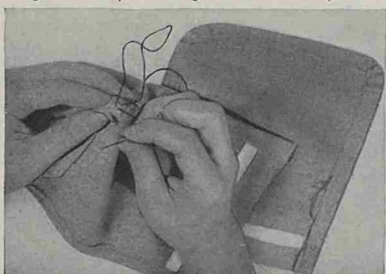


Figure 46.—Making patch pocket.

Pockets

Most tailored suits have a welt breast pocket and either patch or tailored pockets below the waist. Follow the directions in your pattern construction chart carefully when making pockets.

Be sure all stitching lines are straight and even. If the pattern perforations are not exactly in line, draw new stitching lines with a ruler. Make all square corners sharp and exact. For curved corners, cut a good curve out of paper and use it to draw stitching lines.

If the suiting is lightweight, baste a straight strip of muslin or wigan on the under side of the pocket opening to reinforce it. Make the strip about 2 inches wide and long enough to fasten the ends to the nearest seam or loose jacket edge. Leave the sides unstitched.

For either welt or bound pockets, make back section of the pocket lining from suiting, so it will not be noticeable when the pocket is open.

Tailored or bound pockets.—Stitch the pocket patch to right side of the jacket, following the stitching lines. Slash down the center to $\frac{1}{4}$ inch of each end, and diagonally to each corner. Press the seams open, then pull the patch to the wrong side to make the binding. Fold the binding back so it is exactly the same width on each side of the pocket opening, and the folded edges meet in the middle.

Pull the patch back tight against the ends of the pocket. Pin and baste. Cross-stitch folded edges of the binding together (fig. 45 *A*). Press lightly with dampened press cloth.

Remove the cross-stitching, and baste a strip of tape along the inside of the fold of the binding (fig. 45 *B*). This tape keeps the binding from stretching when the pocket is used.

Then fold the jacket back and stitch along each side of the pocket on the wrong side, catching in the pocket patch, tape, and reinforcement. Stitch straight across each end. Fasten the ends of the tape to the side seams and front facing (fig. 45 *C*).

Patch pockets.—Tape the upper edge of a patch pocket with preshrunk tape to prevent stretching. Place the upper edge of the tape against the hem line of the pocket. Cross-stitch both edges lightly to the pocket.

As a guideline for turning the pocket edges under evenly, stitch around the sides and lower edge, a little less than a seam's width from the edge. Turn the seam allowance to the wrong side, just inside the line of stitching, and baste. Cut out extra folds at the corners and overhand raw edges together (fig. 46). Press.

Sew the hem down with cross-stitching, then press. Slip-stitch the lining to the pocket.

Pin the pockets in place while you have the jacket on so they will curve smoothly against the jacket. Patch pockets seem too tight if pinned flat to the jacket.

Welt pockets.—First draw lines with chalk on the jacket through the pocket marks. These lines mark the bottom stitching line and the upper edge and ends of the pocket (fig. 47 *A*).

Pin a strip of the suiting, about 3 inches wide, over these lines, right side up, with the grain of material exactly matching. Draw lines on the pocket piece exactly in line with those on the jacket.

Pin the welt pattern on this piece, with the top seam perforations or fold line along the upper line, and the lower seam perforations against the bottom line (fig. 47 *B*).

Cut out the welt and face it, either with self material or the lining fabric. Or make the welt double with a fold at the top, taped along the inside fold to prevent stretching. Make the finished welt the same length as the pocket opening.

Mark the top stitching line at the pocket opening about $\frac{1}{4}$ inch above the bottom line, so the seam won't show when the pocket opens.

Lay the finished welt, carefully pressed, face down, with the bottom seam line exactly over lower stitching line on jacket. Pin and baste (fig. 47 *C*).

Baste the inside pocket pieces in place (fig. 47 *D*) and sew exactly on the two marked stitching lines.

Cut as in bound pocket. Turn the pocket to the inside. Baste the welt flat against the jacket at the seam line, turning the seam edges down into the pocket.

To reinforce the pocket corners, pull back the jacket tight against the pocket ends on the under side, and machine-stitch straight across the ends of pocket pieces.

On the right side, baste and fell the ends of welt to jacket, fastening upper corners securely on the wrong side. Be careful not to let the stitches show (fig. 47 *E*). See felling stitch, fig. 22.

Sew a strip of preshrunk tape with small hemming stitches against the top seam of the pocket on the wrong side to prevent stretching. Fasten one end of the tape into the armhole seam, the other to the front facing edge.

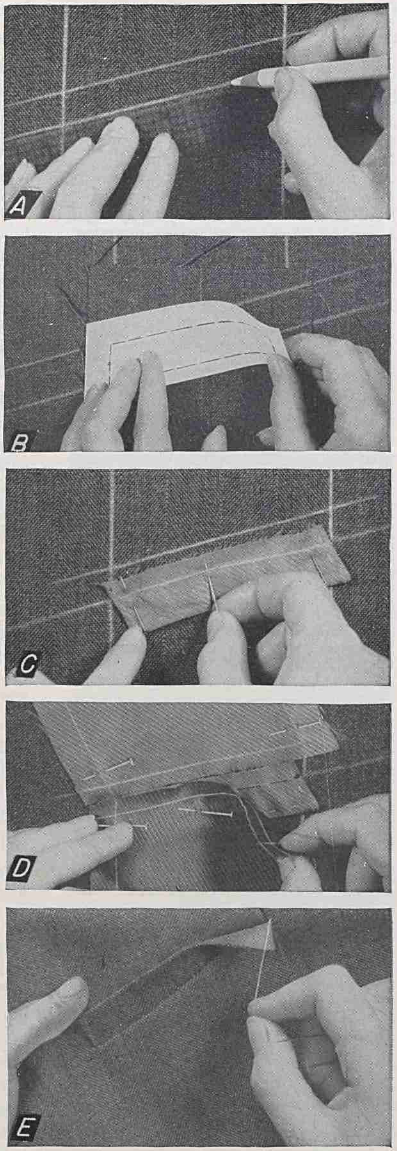


Figure 47.—Steps in making welt pocket.

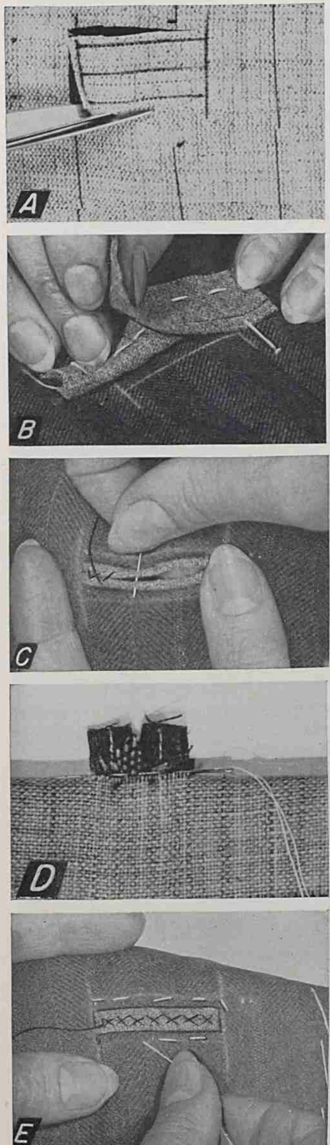


Figure 48.—Steps in making two-piece buttonhole.

Buttonholes

You may use worked, bound, or two-piece buttonholes. To find out which looks best, make sample buttonholes on a scrap of the suiting before you make them on your suit.

Make two-piece buttonholes or bound buttonholes before the front facing is sewed on; make worked buttonholes after the facing has been put on and cross-stitched to jacket front.

Unless buttonholes are carefully and accurately made, they can spoil the whole appearance of your suit and stamp it as home-made. They should be cut exactly along a yarn of the material, and just long enough for the buttons to go through easily—usually about 1/8 inch longer than the button. They should be strong at the ends, and narrow as you can make them, without danger of fraying.

If you are not expert at making buttonholes, it adds little to the cost of your suit to have them made by a tailor.

Mark the buttonholes.—Mark the places for the buttonholes with pins on the right jacket front. Space the buttons an equal distance apart and an equal distance from the front edge of jacket.

Mark the cutting lines along a yarn of the material with chalk, colored pencil, or basting thread. Extend the cutting line about 1/8 inch out from the center front so the button will be exactly on the center front line when the jacket is buttoned.

Two-piece buttonholes.—After marking the buttonhole cutting line and ends, draw guide lines 1/4 inch from each side of the cutting line. Cut away the hair canvas interfacing under the buttonhole, just past these lines (fig. 48 *A*).

Cut two buttonhole pieces for each buttonhole. Make the pieces 1 inch longer than the cutting line and about 1 inch wide. Fold each piece in the middle, lengthwise with the right side out. Press, and machine-stitch slightly more than 1/8 inch from the fold.

Place the folded edge of each buttonhole patch against one of the outside lines. Pin and baste firmly in place (fig. 48 *B*).

Machine-stitch just a little closer to folded edge than the first row of machine stitching. Stitch just between the marks for buttonhole ends, do not stitch across the corners.

Cut along the cutting line to within 1/8 inch of each end. Clip diagonally up to the stitching.

Pull the buttonhole pieces through to the wrong side, so only the binding shows on the right side.

Catch the edges of binding together so they just meet in the center of the buttonhole (fig. 48 *C*).

To strengthen the ends of the buttonhole and make them straight, fold the jacket material back tight against the buttonhole ends on the under side. Baste and stitch as close to the jacket as possible (fig. 48 *D*).

Baste around the buttonhole seams to hold the binding in place and press (fig. 48 *E*).

Finish the wrong side of the buttonhole after the front facing is put on. Baste around each buttonhole to keep the facing from slipping. Then from the right side mark with pins the exact ends of the buttonhole line, and draw a line on the facing between these pins. Cut on this line; turn each side under as far as the stitching line on the buttonhole binding. Fell to the stitching, curving down to a point at each end of the buttonhole.

Or if you want the buttonhole to look just the same on both sides, cut the facing just to 1/8 inch of each end and diagonally up as far as each corner. Turn under evenly at sides and ends. Fell to buttonhole binding.

To make worked or tailored buttonholes.—Baste around each buttonhole to keep the jacket, interfacing, and front facing in place.

As a guide in cutting the buttonhole straight and to keep the ends of yarn from sticking out through the buttonhole stitches, machine-stitch close to each side of the cutting line, leaving a space between just wide enough to cut. As a guide in making buttonhole stitches, you can stitch again, about 1/8 inch from each side of the cutting line. This also makes it easier to work buttonholes in soft materials.

Cut along the buttonhole line. For eyelet buttonholes, cut an eyelet about 1/16 inch in diameter at the outside end of the buttonhole. Use a paper or leather punch or scissors. The end of the buttonhole line should go through the center and just to the outside edge of the eyelet (fig. 49 *A*).

Overcast the buttonhole edges with rayon, silk, or fine mercerized or 6-cord cotton thread (fig. 49 *B*). Do not use buttonhole twist for overcasting.

For a firm buttonhole, strengthen the edges with gimp or two strands of machine thread waxed and pressed together. To do this, thread a large needle with the gimp or waxed thread and knot the thread. Insert the needle from the right side of the jacket, about an inch from the inside end of the buttonhole. Slide the needle between facing and front and bring up on the right side, just at the inside end of the buttonhole (fig. 49 *C*).

Lay the gimp along the buttonhole edge, fasten firmly with a pin at the outside end of buttonhole. Then buttonhole firmly over the gimp with buttonhole twist (fig. 49 *D*). Be sure to press out the kinks in the buttonhole twist before you use it. Make the stitches as close together as you can without making the buttonhole lumpy. Keep the purls smooth along the buttonhole opening.

If you stitched by machine around the buttonhole, use this stitching as a guide for the depth of your stitches. Keep the stitches around the eyelet the same depth as at the sides.

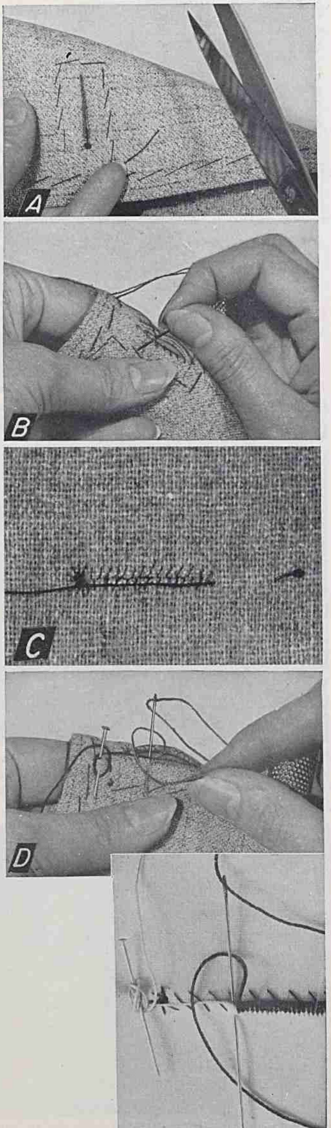


Figure 49.—Steps in making worked buttonhole.

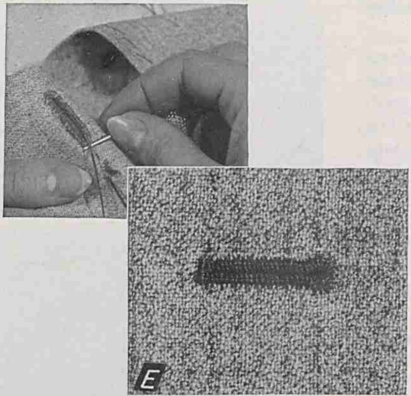


Figure 49—continued.—The final step in making a worked buttonhole is to strengthen inside end with plain stitches, then overhand over these stitches.

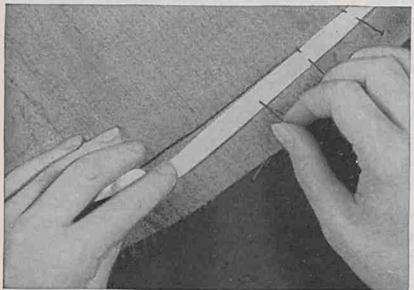


Figure 50.—Tape the lower edge of the jacket to prevent stretching. Shrink the tape, curving it slightly. Pin smoothly along hem line, and tack to hem. Turn hem up on jacket, baste, press, and slip-stitch.

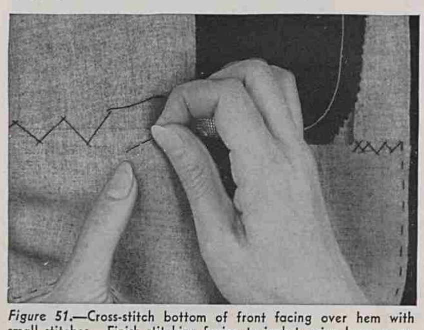


Figure 51.—Cross-stitch bottom of front facing over hem with small stitches. Finish stitching facing to jacket, using large cross-stitches.

To strengthen the inside end of the buttonhole, make a bar by taking two or three plain stitches the width of the buttonhole stitches, then overhand solidly over these stitches (see fig. 49 *E*). Finish off the thread on the under side.

To end the gimp, rethread the large needle. Push the needle down through the suiting at the end of the buttonhole, draw along between jacket front and facing, then pull it through on the wrong side about an inch away from the buttonhole end and cut it off (fig. 49 *E*). Pull up the knot at the other end of the gimp and cut it off.

Bound buttonholes. — Follow directions for bound pockets on page 16. Bound buttonholes are made the same way except you omit the tape inside the binding. Finish the under side after the facing is put on as for two-piece buttonholes (see p. 18).

Jacket Hem

Try on the jacket to be sure it is even around the bottom. If it looks uneven measure from the floor. Mark the bottom line of the hem on the wrong side with chalk.

Turn up the hem and cut out wedges of the seam allowance at the hem line so the hem will lie smoothly.

Curve a piece of preshrunk tape and pin it along the hem line (fig. 50). Tack lightly, making sure the stitches won't show on the right side. Pin the hem in place, baste, and press to shrink in any fullness. To make an invisible hem, slip-stitch $\frac{1}{8}$ inch under the hem edge, catching just one yarn at a time. Fasten down with small cross-stitches the section of the front facing which lays over the hem. Then finish cross-stitching the front facing to bottom of jacket, using large cross-stitches (fig. 51).

Press the jacket thoroughly before you start to put in the lining. Then try on the jacket and pin the shoulder pads in place, so the sleeves and shoulders fit smoothly. Fasten pads securely to armhole and shoulder seams.

Lining

Before you remove the pattern from the lining for jacket back, mark the new seam line along the center back of pattern from the neck to the waistline (fig. 52). Machine-stitch on the new seam line. This extra width from neck to waistline will be worked into a back pleat.

To make the pleat, fold over the material right side up on the original seam line. Baste along the fold and press. Cross-stitch for about 2 inches at neck and waistline to hold pleat in place. Use matching silk thread or buttonhole twist.

Baste dart tucks instead of shoulder darts in front lining, press, and catch-stitch for about 3 inches.

The easiest way to put the lining in the jacket is to first seam the lining at the sides by machine, press the seams open, and then tack in place to the side seam. Turn under and baste the seam allowance down the front, and pin and baste along the inside seam line of the front facing (fig. 53). Slip-stitch. Smooth the front shoulder up over the jacket, pin, and baste over the shoulder seam line. Then turn under the neck and shoulder seam allowance of the back and slip-stitch in place over the front lining (fig. 54). Baste around the armholes.

Turn under the hem at the bottom of lining and baste to the jacket ½ inch above the fold. Then turn back the lining at this basting line, and slip-stitch to the jacket (fig. 55). This allows ½ inch extra length in the lining so it won't draw up.

Stitch the sleeve seams. Gather the top of sleeve lining by machine, turn under seam allowance, pin over the armhole seam line of the jacket, and fell, using double thread or silk thread, for extra strength. Finish the bottom edge of lining like the jacket hem, leaving ½ inch extra length (fig. 55).

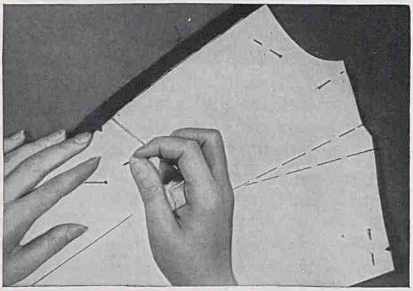


Figure 52.—For a center back pleat, baste and stitch back lining along the pattern edge from neck to waist. Fold along original seam line, cross-stitch at neck and waist.

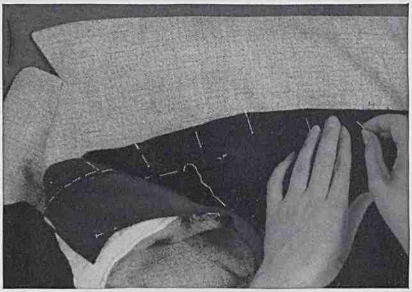


Figure 53.—Tack side seams of lining to side seams of jacket. Then turn under seam allowance on front edge of lining, pin along inside seam line of front facing.

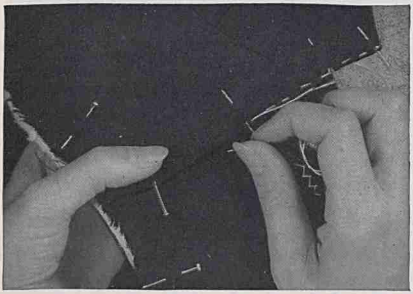


Figure 54.—Turn under shoulder and neck seam allowances of back lining, pin in place over shoulder and back neck line, and baste.

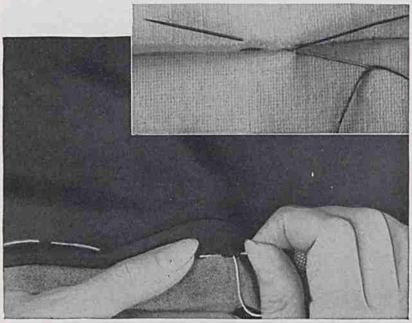


Figure 55.—Turn under lining hem, baste to jacket ½ inch above fold. Turn hem back on basting line, and slip-stitch to jacket. See detail of slip-stitch above.

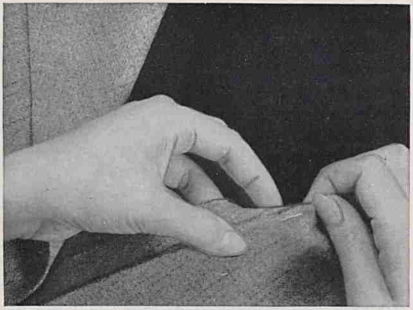


Figure 56.—After basting placket edges together along seam line, mark back placket line ⅛ inch beyond the basting. Remove basting stitches, fold on marked line, baste and press.

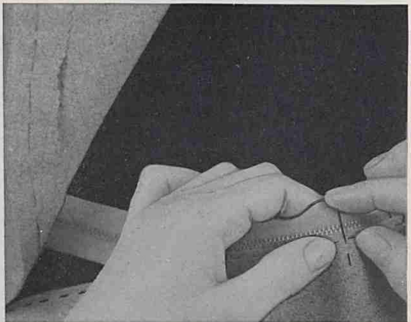


Figure 57.—Pin back fold of placket close to one edge of the closed slide fastener. Baste and sew on the fold by hand, or if you have a zipper foot attachment, you can sew it on quickly by machine.

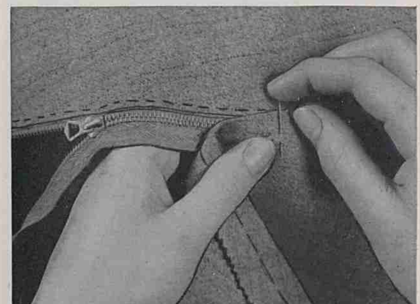


Figure 58.—Pin front fold of placket over slide fastener, so the fold of the placket is exactly over the seam line and covers the fastener. Stitch.

• MAKING THE SKIRT •

Be sure the skirt fits smoothly around the hips. A slight flare below the hips in back will keep the skirt from bagging.

If the skirt style you have chosen is rather straight, you can help keep its shape by making a shield for the back of the skirt. Cut the shield from the lining material, using the skirt back pattern. Make it long enough to extend 3 or 4 inches below the hips. Sew the shield in with the side seams of the skirt and fasten it to the waistline before finishing the top of the skirt. Let the shield hang loose at the lower edge.

Placket

A placket finished with a slide fastener is one of the easiest to make and is more secure than one fastened with snaps or buttons.

To get the placket ready for the slide fastener, baste placket edges together by hand or machine along the seam line. Turn the placket edges to the front of the skirt and press. Mark the back placket line on the skirt with chalk or basting ⅛ inch beyond the stitching line on the wrong side. Remove basting that closed the placket.

Baste along the front fold of the placket. If the suiting is one that is likely to stretch, tape the front edge of the placket on the under side. Machine-stitch along each edge of the tape. At the bottom of the placket, clip the seam allowance of the back placket just in to the stitching, so the seam will lie flat after the placket is finished.

Turn under the back placket edge on the line that was marked before the basting was removed (fig. 56). Baste and press. Pin and baste close to one edge of the slide fastener (fig. 57).

Pin and baste the front edge of the placket over the slide fastener so the placket edge lies exactly on the seam line and the slide fastener doesn't show (fig. 58). Machine-stitch (see fig. 59) or sew by hand with small back stitches. A fastener sewed in by hand is more pliable, more invisible, and easier to put in straight, than one sewed in by machine.

Belt

The quickest and easiest way is to finish the top of your skirt with a belt of the same material, about 1 inch wide when finished.

Make the belt about 1½ inches longer than your waist measure so the front end of the belt can button over the back. Fold the belt in the center, lengthwise, with the wrong side out. Stitch both ends. The front end will look more professional if it is finished with a point instead of a straight edge (fig. 59). Turn the belt to the right side and press.

Place one end of the belt exactly in line with the back placket edge. Then baste and stitch one edge of the belt to the right side of the skirt. Trim the seam allowance to $\frac{1}{4}$ inch and press the seam edges up into the belt. Turn under the other edge of the belt and fell over the waist seam.

If the suiting is rather thick, the inside edge of the belt can be pinked and turned down flat into the skirt. Then machine-stitch along the bottom edge of the belt on the right side.

If your suiting is lightweight, machine-stitching around all the edges of the belt helps to stiffen it.

Hem

Try on the skirt and have the hem measured an even distance from the floor. Turn the hem up on this line, even out any irregularities between markings, and baste. Then try on the skirt again with the jacket, to be sure the skirt is even around the bottom and a becoming length. Press the lower edge of the hem to make a sharp fold. Then trim the hem to an even width, between 1 and 2 inches (fig. 60).

If the skirt is flared there will be fullness in the top of the hem. To take this out, stitch around the top edge of the hem with a large machine-stitch. Pull up the underneath thread as for gathering, until the top of the hem lies back evenly against the skirt. Match seam lines in the hem with seam lines in the skirt (fig. 61).

Lay a piece of plain paper between the hem and the skirt, then shrink in as much of the fullness as you can, using a damp press cloth.

Baste the hem in place and finish shrinking in any fullness. Shape seam binding to fit the curve of the hem. Baste and stitch it to the hem (fig. 62). Cross-stitch or slip-stitch.

Press the hem thoroughly on the wrong side, taking care to shrink in any ripples. Press lightly on the right side, if necessary, to flatten any ripples or folds on the right side. Don't use much pressure over the seams at the hem line, or they may look shiny on the right side.

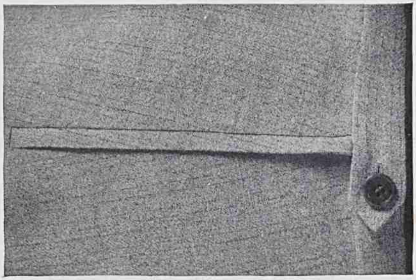


Figure 59.—Finish top of the skirt with a belt of the same material. Fasten with buttons or hooks and eyes.

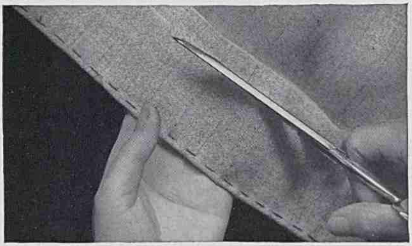


Figure 60.—Turn back hem of skirt. Mark and trim hem width an even distance from bottom, from 1 to 2 inches.

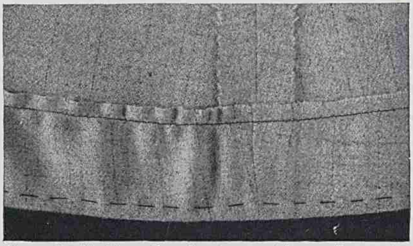


Figure 61.—Machine-gather close to top of hem, pull up underneath threads until top of hem lies flat against skirt. Shrink in extra fullness.

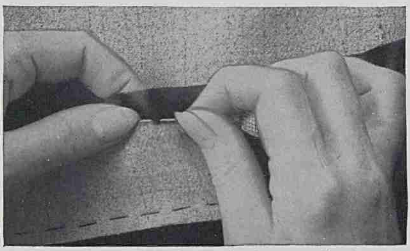


Figure 62.—Baste and stitch seam binding smoothly along top edge of hem. Cross-stitch to skirt.

Figure 63.—Sleeve press pad.

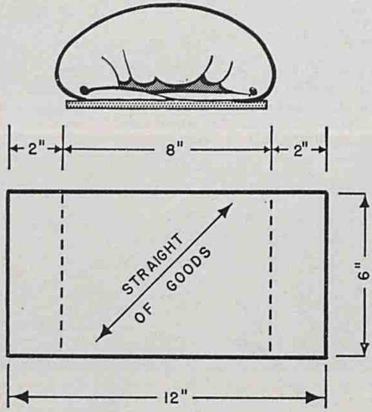


Figure 64.—Collar press pad.

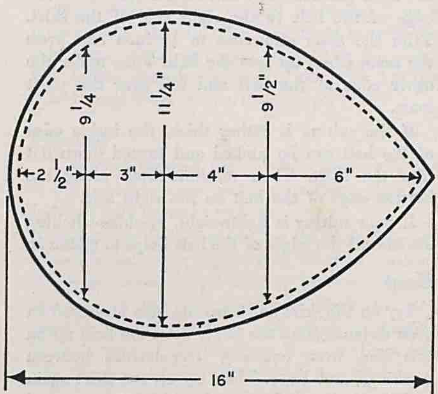


Figure 65.—Tailor's ham.

• PRESSING AIDS •

Sleeve press pad.—Use the pattern for the jacket undersleeve of your suit to cut this pad. Make it about 4 inches longer than the hem line at bottom of your sleeve. Add a curve at the top, about 4 inches high from the middle of the underarm edge, using the upper sleeve pattern as a guide (fig. 63).

Widen the pattern about ½ inch at the top and narrow it about 1 inch at each side of the lower edge.

Cut a foundation of firm cardboard from this pattern—then pad it smoothly on each side with wool and heavy cotton material, just as you would an ironing board. It should be ¼ inch to ½ inch thick when finished. Cover with muslin or other heavy white cotton material.

Collar press pad.—Cut a bias piece of very heavy cotton duck or twill according to the measurements in figure 64. Fold this piece lengthwise and stitch ¼ inch from the edge.

Stuff tightly with scraps of wool or cotton cloth, leaving about 2 inches free at each end. Lap the two ends together and sew firmly by hand with heavy thread. This shapes the pad into a tight roll. To keep it upright and easy to use, tack at each corner to a piece of heavy cardboard or plywood, 2 inches by 4½ inches.

Tailor's ham.—Cut two pieces of firm muslin or sheeting, according to measurements in figure 65. Stitch the pieces together, around the edge, leaving about a 4-inch opening at the top. Turn inside out and stuff firmly with dry sawdust or clean sand. If the ham gets limp with use, open it and put in more filling.

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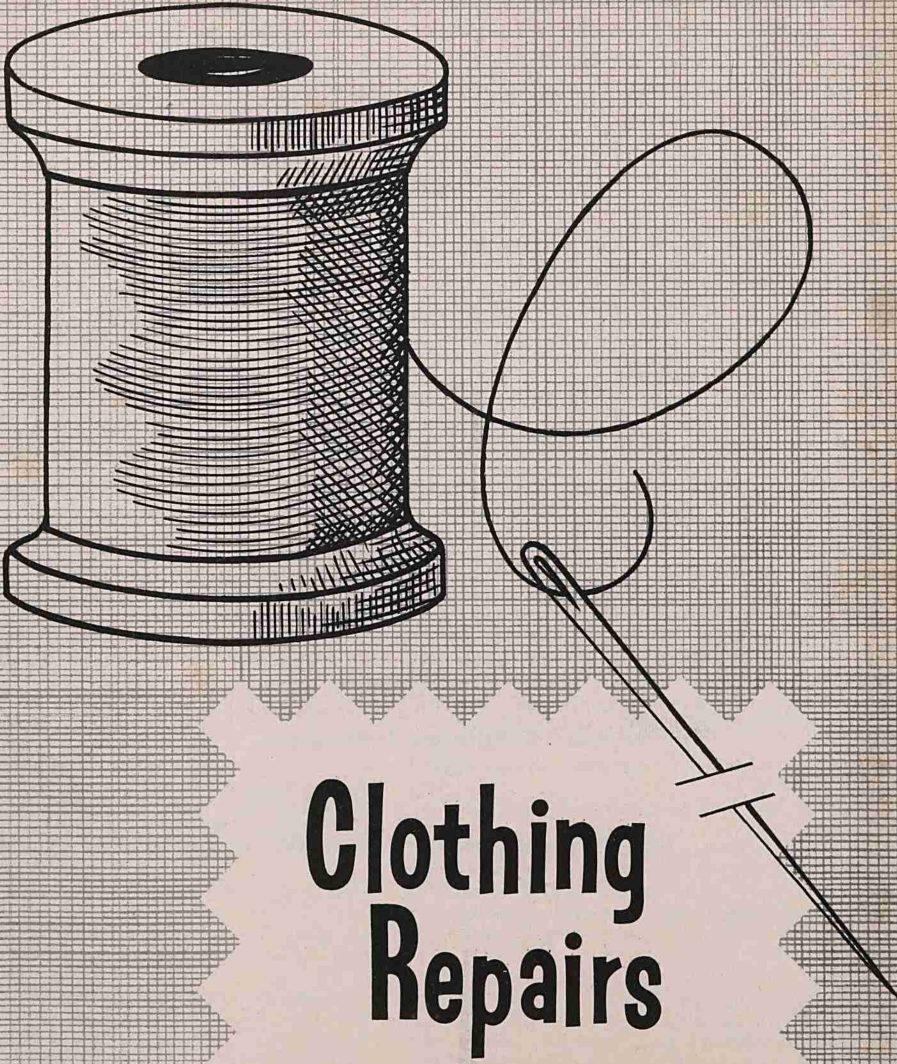

Clothing Repairs

HOME AND GARDEN BULLETIN NO.107 · U.S. DEPARTMENT OF AGRICULTURE

CONTENTS

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Agricultural Research Service

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- - - CLOTHING REPAIRS - - -

You may not enjoy repairing clothes, but it does pay off in better appearance and savings for the whole family. Now as always, the stitch-in-time means fewer clothing replacements and more money for other needs.

Using up-to-date methods can help cut the size of your mending pile and extend the life of your family's wardrobe. If family members learn respect for their wearables and something about the high cost of rips and tears, that helps, too!

Although sewing machines and mending aids save time and energy, handwork is an important part of repairing clothes.

In this publication you'll find information on—

- Mending equipment and aids.
- Basic repair stitches and their uses.
- Reinforcement of garments before they are worn.
- Patches and darns.
- Mends for damage commonly found in family clothing.

EQUIPMENT AND AIDS

You are more apt to mend promptly and efficiently if you work in a convenient place with equipment and supplies assembled for action. Strong, diffused light is essential for any kind of sewing.

A basket, box, or large drawer can hold your mending and supplies. In it you can keep scraps of fabric left from making clothes or altering readymades, and usable parts of discarded garments—material for patches, buttons, zippers, and other fastenings.

Look over the list of mending equipment and aids given below. Select those items that will help you with your kind of mending. You may want to add others as you find a need for them or learn to use them.

Here is the list:

Sewing machine. Reverse and zigzag stitchings are helpful, but any workable machine can be used.

Iron, pressboard, press cloths, and sponge for dampening as you press. Pressing is essential for a good start and a good finish on a mend.

Scissors. See that points are sharp for precise clipping and trimming.

Pinking shears. Use to finish the edges of fabrics that do not fray badly.

Magnifying glass. Helps with close work.

Ruler. A transparent ruler, 6 inches long, is convenient to use.

Flexible tape measure. It is economical to buy one of good quality.

Pins. Buy dressmaker type. Keep in a pin cushion or suitable container.

Thimble. Use one that fits the big finger comfortably and resists needle punctures.

Needles. Get crewel type (with long eyes) in sizes for fine and heavy work. A blunt or round-end needle (tapestry) is best for mending sweaters.

Needle threader. Saves time and helps prevent eyestrain.

Bodkin. Handy for replacing elastics or tapes in casings.

Embroidery hoops. These hold materials taut for hand or machine mending. Embroidery supply shops stock many shapes and sizes of hoops.

Ripping aids. These can save time only if used carefully. Otherwise, rippers can make more mending necessary.

Small stilletto or thread pick.

Crochet hook. This is useful in pulling snagged yarns to the inside of a garment, for making new belt loops, installing reweave patches, and replacing French tacks that hold lining and coat hems together.

Hooks and eyes. Keep replacements on hand.

Snap fasteners. The sew-on kind are used for dress clothes; the pound-in kind for utility wear.

Buttons. Save the extras to avoid buying a whole set in case one is lost or broken.

Threads. Several kinds of thread belong in your mending basket—

Cotton—for general use in colors that prevail in your family's clothing.

Silk—helpful in mending best dresses, coats, and suits.

Linen—for sewing buttons on coats that get hard wear.

Elastic—useful in restoring the stretch in wristlets and neckbands.

Beeswax. Rub on thread to protect against abrasive wear when you sew by hand.

Buttonhole twist. Rework buttonholes on coats and suits with this sturdy thread.

Darning cottons and wool yarns. Keep a supply on hand that matches the family's socks and stockings.

Darning egg. Use one if it makes your darning easier. Many women prefer to darn a sock when it is pulled over the left hand.

Tapes. You need several kinds—twill, bias, and straight—for reinforcement and finishing.

Net fabric. This is helpful in repairing lace and as a base for some darns.

Press-on interfacing as backing for machine darns; **iron-on patches** for emergency repairs on play and work clothes or socks.

Plastic mending tape. Sometimes this can be used to prolong the life of plastic raincoats or garment bags.

Pencils. A white chalk pencil and lead pencil are helpful in making guidelines as you repair clothes.

Small pencil sharpener and sandpaper pad. Use them to keep fine points on pencils.

Buy Carefully, Mend Less

One way to help keep repair of clothing at a minimum is to check garments carefully before you buy them. When you shop, follow these suggestions:

- Pick types of garments best suited to your family's needs and to the kind of care these clothes will get.
- Check sizes and fit. Getting just the right fit avoids many strains that cause damaging rips and tears later.
- Study style features and trimmings to see if they will hold up in use. Some, although satisfactory in dress clothes, are not practical in garments for work or play.
- Examine the workmanship of a garment, outside and inside, to make sure it is appropriate and serviceable for the material, style, and cut of garment, as well as for the use and care it will get. Look for flaws.
- Take time to pick the best garment, whether clothes are piled in a stack or hanging from a rack. Don't hurry. All clothes of a kind, or even a size, are not equally good buys. While one choice seems as good as another, clothes are made by individuals, some of whom are more skillful and exacting than others.

BASIC REPAIR STITCHES AND THEIR USES

Even if you do some family mending on the sewing machine, you still need to know the basic hand repair stitches shown here. Handwork is often necessary to prepare the damaged area for the machine work.

With certain of these stitches, you can pull damaged areas into shape before darning or applying a patch, fix places not easily reached by machine, and disguise the seam lines of insets or patches. When a mend needs to be practically invisible, soft, and flexible, nothing takes the place of handwork.

All the stitches shown here are helpful in some kind of mending. There are no hard-and-fast rules for using them. Simply choose and adapt them to the problem at hand; keep in mind that the main idea is to make the mend look as much like the original material as possible. In so doing you greatly extend the usefulness of the damaged garment.

Hemming stitches

The running stitch (fig. 1) is especially good if you need spaced stitches. A whipping or slanted stitch (fig. 2) works best if you want close stitches. Notice that the thread in the running stitch is under the hem fold, but is on top in the whipping stitch. For protection against abrasive wear on skirts and the like, a slip stitch (fig. 3) is best. Between stitches, the thread runs inside the fold of the hem. Many times it is desirable to machine stitch this fold before hemming (fig. 4).

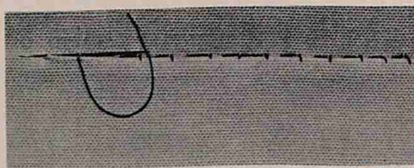

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Figure 1

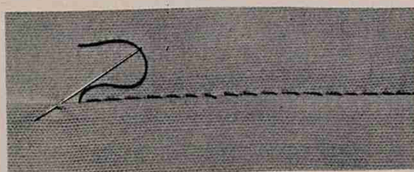

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Figure 2

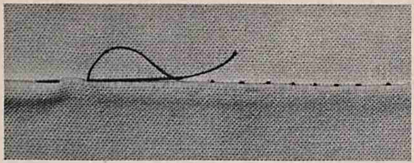

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Figure 3

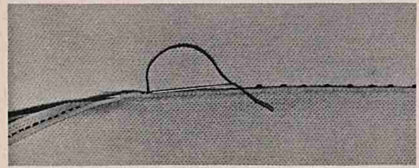

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Figure 4

Overcasting stitch

Overcasting (fig. 5) makes a good seam finish to protect cut edges against ordinary, but not excessive, frayage.

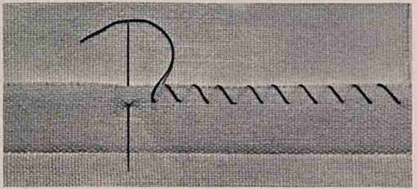

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Figure 5

Back stitch

For places hard to reach by machine—underarm seams, gussets, and plackets—the back stitch (fig. 6) gives the appearance of machine stitching. The underneath stitch is twice the length of the top stitch. Top stitching looks like machine stitching because each top stitch meets the next stitch.

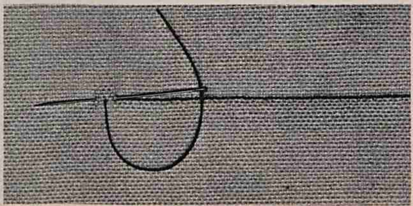

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Figure 6

Seed stitch

This variation of the back stitch, in which only tiny stitches show on the right side (fig. 7), is strong, but practically invisible. It can be used to repair zippers put in by hand, and in other places where appearance matters. A long underneath stitch permits a space between small top stitches.

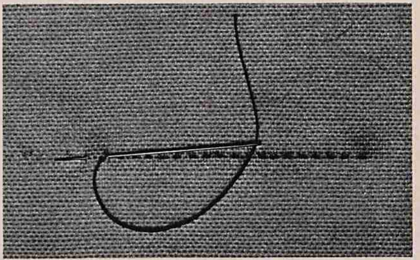

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Figure 7

Padding stitch

The padding stitch (fig. 8) is helpful for tacking and holding two layers of fabric in place before machine darning. It also reinforces a darn and protects against inside wear.

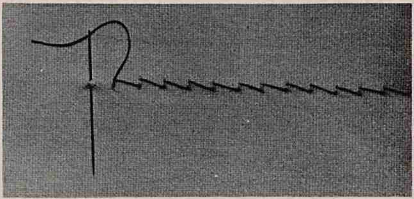

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Figure 8

Blanket stitch

The size of the blanket stitch depends on its use. Make it large for edge finishing as in figure 9, very tiny for strengthening weak corners.

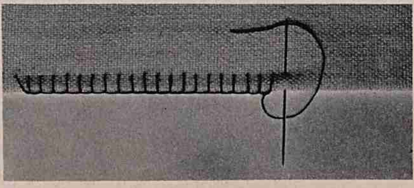

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Figure 9

Rantering stitch

This technique is used in disguising unwanted seam lines—and is especially helpful in heavy, thick fabrics where the stitches can be buried. To do the rantering stitch (fig. 10), pinch the seam line between thumb and forefinger and stitch back and forth over it in V direction. Pickup only one yarn on each side of seam line. Pull thread up close.

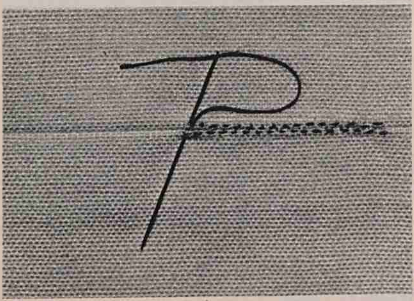

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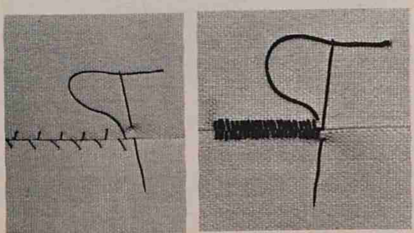
Figure 10

Lacing stitch

This one can be used spaced (fig. 11, *A*) or very close (fig. 11, *B*) for pulling two cut edges together temporarily or permanently. Spaced stitches are often helpful in restoring the shape of a damaged area before darning or applying a reinforcing patch.



PN1232 PN1233

A B

Figure 11

Catch stitch

Use it on the underside of a garment to hold the cut edges of one fabric against another. The depth and spacing of the stitch depends on the material and kind of repair. Figure 12 shows how the stitch is made. Labels in coats and suits are often held in place with catch stitch.

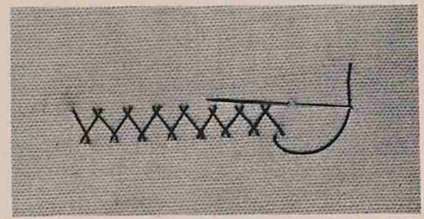


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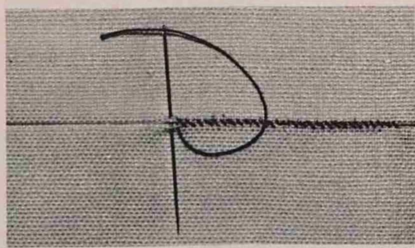
Figure 12

Overhand stitch

If you want to join two folded edges, the overhand stitch (fig. 13) may be used. Take stitches in the very edge of the folds as you hold the two edges together.



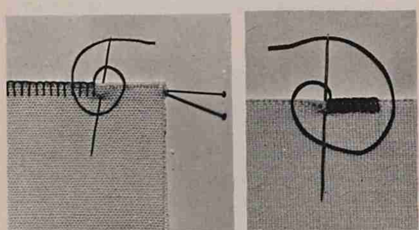
PN1235

Figure 13

Buttonhole stitch

Often the edge finish of a worn handworked buttonhole can be reworked as shown in figure 14, *A*. The buttonhole stitch can also be used to improve the appearance and prolong the wear of machine buttonholes (fig. 14, *B*).

This is a good stitch for sewing on snaps and hooks and eyes because it gives long wear and an attractive finish.



PN1236 PN1237

A B

Figure 14

Before you or a member of your family wears a new garment, check it over. Strengthen any weak spots and correct any manufacturing errors that might cause trouble later. Often there are faults that catch your attention at once; other weaknesses may not be so obvious.

A few well-placed stitches and repairs at this time will help you get the best possible service from your purchases. It will be worthwhile to check the points listed here.

Dangling threads

Fasten off thread wherever stitching ends. Pull these threads to the inside and tie securely. Or if threads are long enough, run them through a needle and fasten with a few stitches—or pull the threads inside a hem or fold.

Stitching

Rip out and restitch any broken, knotty, drawn, or crooked stitching. If this repair is inside a garment, let replacement stitches overlap at each end of the space you have ripped out. If repair is on the outside, pick out enough stitches so you can pull thread ends to the inside and tie them. Replacement stitches on the outside should just meet, not overlap.

If the spot is difficult to stitch by machine, back stitch by hand (p. 3) to replace the machine stitching.

Seams

Seams that are too narrow can sometimes be stitched a little deeper to make them hold. If the material is fraying—but not badly—simple overcasting of the raw edges will make a seam secure. If the material frays readily, it's better to run a row of machine stitching near the cut edges—then overcast (p. 3) or finish with zigzag machine stitching.

A good way to guard against broken stitching when seams are curved or bias is to stitch them again, using a short stitch, about one-sixteenth inch beyond the seam line.

Hems

In readymade dresses, hems are often loosely put in with a stitch that ravels. This kind of hemming is a convenience if the dress length must be changed, but in use it is hazardous.

Stitching that ravels and pulls out can easily result in a sagging hem that tends to catch on shoe heels. Better pull out such stitching and rehem with secure stitches between hem and dress (p. 2). Use silk thread for extra strength.

Bindings

To save a big mending job later, make sure that all bound edges are securely stitched. If binding is sewed too close to the edge, rip the binding open, ease the binding in a little deeper, then restitch.

Stretchy edges

If the outer edges of necklines, collars, plackets, armholes, and pockets are cut on a curve or a slight bias—rather than on the straight of the goods—they sometimes stretch, then tear.

To prevent such stretching and tearing, stay the outer edges on the underside with straight (twill) or bias tape. Or rip open the facing, and sew tape next to the edge, then restitch facing.

Vents, V- and U-necklines

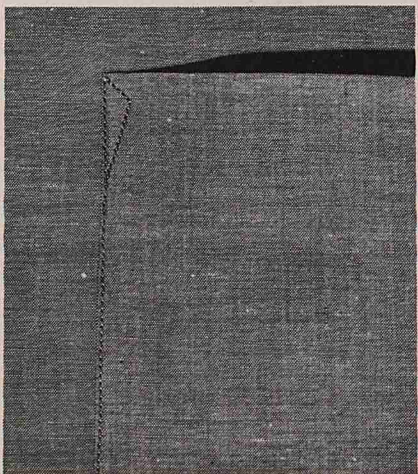
Narrow twill tape laid next to the seam lines or folds, crossed at the corners, and firmly stitched will strengthen these openings without adding bulk.

Belt loops

In readymade clothes the ends of belt loops are simply pulled to the inside and knotted. These knots frequently come untied and pull out. To fix them, draw the loose end to the inside of the dress with the help of a crochet hook. There the loops should, if possible, be securely attached to a side seam with a few strong stitches.

Pocket corners

Before strain on pockets tears a garment, reinforce the pockets at the corners. For a pocket on a blouse, a sloping bar of stitching, as shown in figure 15, may be enough.



PN1238

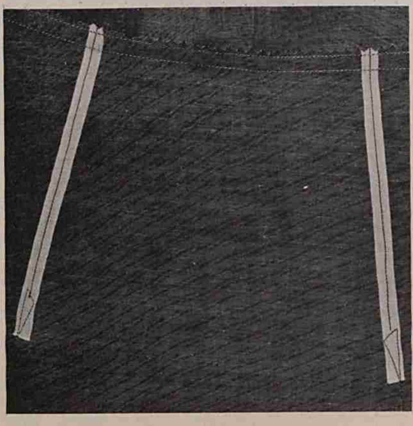
Figure 15

Skirt pockets need more protection. On a gored skirt, lay a piece of tape on the underside in line with the pocket top and stitch it in at the corners (inner stitching), and, if possible, extend the tape to nearby seams as shown in figure 16.

PN1239

Figure 16

In a flared or circular skirt, reinforce pocket corners with a tape supported at the waistline (fig. 17).



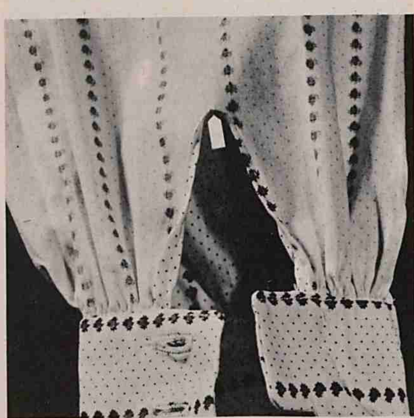
PN1240

Figure 17

Plackets

Plackets of all kinds get considerable strain in wear and ironing. Extra stitches and tape across the ends on the underside may prevent serious damage.

For a placket that is merely hemmed and tapers to nothing at the end, reinforce with a small pleat and bar tack as shown in figure 18, *A* (before) and figure 18, *B* (after).



PN1242

A

PN1243

B

Figure 18

A thread tack at the turn of a continuous placket eases strain that in time damages a garment (fig. 19). The tack does not show when the sleeve is buttoned.

PN1241

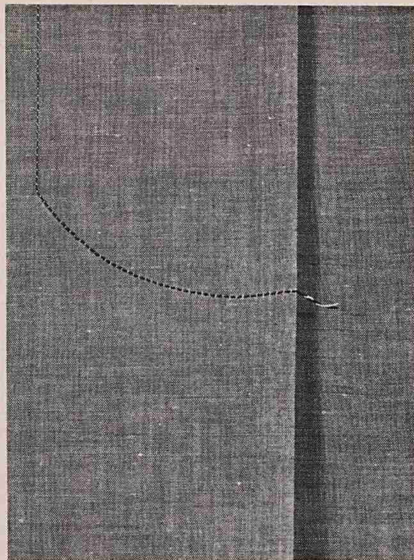
Figure 19

Kick pleats

In a slim skirt, the stitching tends to break at the top of the kick pleat. To prevent this, take these simple measures.

When pleat hangs full length of the skirt, turn the skirt to the inside and stitch a curved line down from the top of the pleat opening to the folded pleat edge (fig. 20). This shifts strain from the point where the skirt ordinarily rips.

If pleat is short and does not hang from the waistband, tape the end of the seam line inside the skirt. Then, on the outside, stitch the top of pleat in place with a bar of stitching, as in figure 21. Note that the topline of stitching is slightly longer than the lower one. Sloping the ends of the stitching in this way eases strain.



PN1244

Figure 20

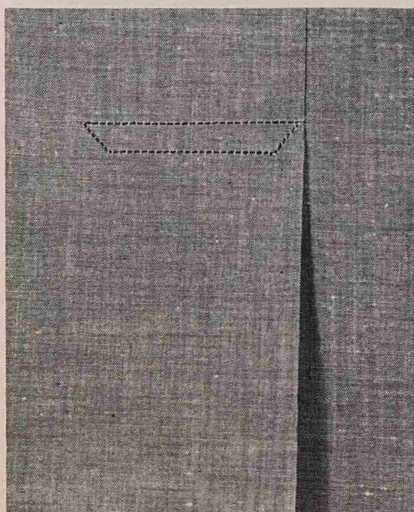


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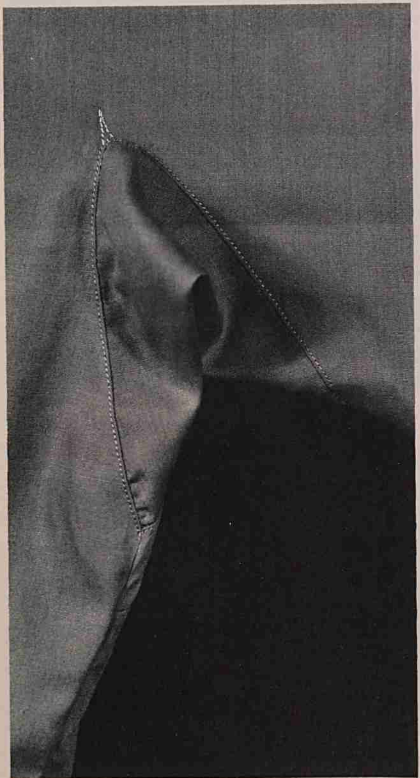
Figure 21

Underarm gussets

The underarm gussets in a bodice front and back often pull out at the points. To avoid this, edge stitch around the gussets on the outside of garment, with seams pressed toward the bodice. Make a $\frac{1}{4}$-inch V over each point as shown in figure 22.



PN1246

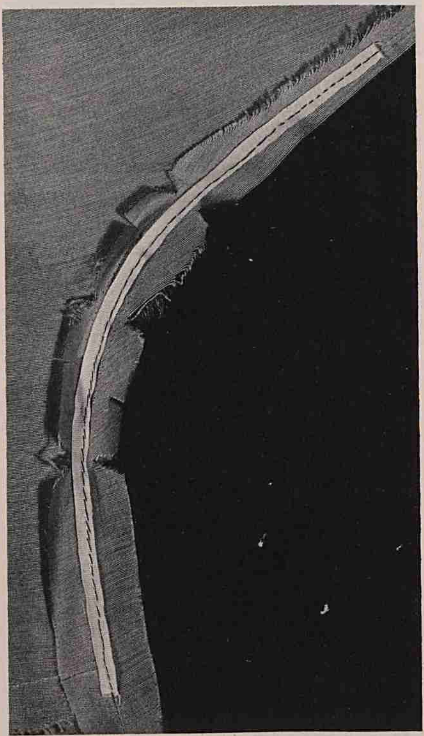
Figure 22

Kimono sleeves

To prevent this type of sleeve from tearing under the arm, turn to inside, press open the underarm seam, and baste firm, narrow tape about three-sixteenth inch wide over the center of the seam (fig. 23).

In a utility garment, stitch by machine on the seam line, and at each side of the seam line. Keep the last two rows of stitching very close to the seam line. All stitching is done on the outside of the garment.

If you are making this repair on a good dress or blouse, stitch the tape on by hand with invisible seed stitches (p. 3) over the center of the underarm seam. This may be enough protection unless the wearer is particularly hard on clothes. If you want an extra safeguard against underarm tears, you can add a line of seed stitching on either side of the underarm seam.



PN1247

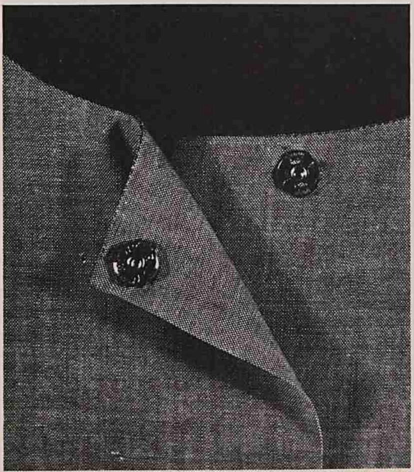
Figure 23

Buttonholes and fastenings

Rework raveled or weak buttonholes with buttonhole (p. 4) or blanket stitch (p. 3). If the buttonhole is completely raveled, machine stitch close to the cut edges of the hole. Then work the buttonhole by hand. If neglected, weak buttonholes may end up as serious tears.

Check thread loops used instead of metal eyes at neckline and elsewhere. These are frequently pulled out. Rework a new loop using a single crochet stitch or the blanket stitch (p. 3).

Resew snaps (fig. 24, *A*) and hooks and eyes (fig. 24, *B*) neatly and securely (the buttonhole stitch is recommended). Use strong, but not heavy thread.



PN1248

A

PN1249

B

Figure 24

To reinforce snap fasteners (the pound-in type) run a row of machine stitching at each side of the metal parts (fig. 25).

Resew loose buttons, and any buttons put on with a stitch that ravels, with strong thread. A post or shank of thread lets the buttonhole set under the button without strain. The extra thread needed to make the post is provided by laying two pins (criss-crossed), a darning needle,

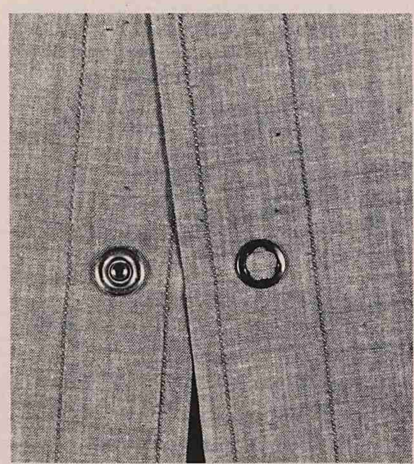


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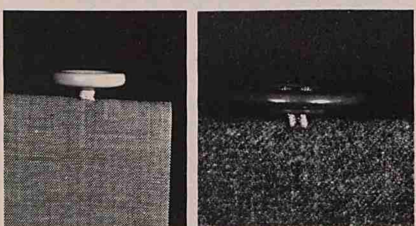
Figure 25

a matchstick, or a round toothpick across the top of the button before sewing it on. After sewing on the button, remove the object and lift the button. Underneath the button, wind the thread closely to form the post, and then fasten off securely. If you are sewing a button on a coat, weave around and in between the threads. This makes a sturdy post with little bulk. Illustrated are two buttons with posts—figure 26, *A* on a dress, and figure 26, *B* on a coat.



A PN1251 B PN1252

Figure 26

If buttons and buttonholes receive severe strain as they do at the lower edge of a coat or a shirtwaist dress, cotton twill tape can be used as a reinforcement. First remove the bottom three or four buttons. On the underside, stitch a strip of ½- or ⅝-inch twill tape down the center of the button line as pictured in figure 27, then resew the buttons.

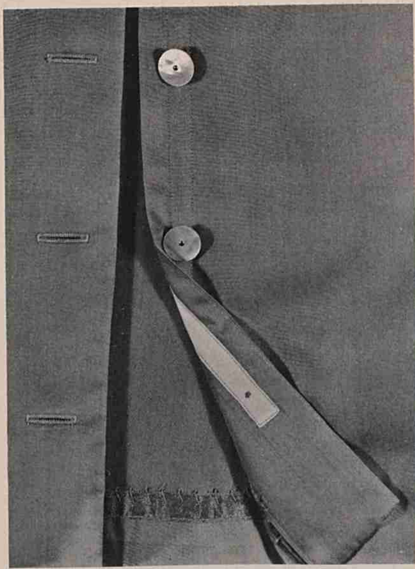


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Figure 27

Pointers on Patching

- When a damaged garment is a bit shrunken and faded, patch it, whenever possible, with similarly shrunken and faded material. This helps hide the mend.
- If new fabric must be used to patch a washed and shrunken garment, shrink the patch piece. Otherwise, the finished patch may not lie flat after laundering.
- On a readymade garment, patch material can usually be taken from a facing, hem, pocket, or sash.
- If fabric has a design, slide patch material beneath the hole until the pattern matches. In a fabric like corduroy that has an up-and-down pile, match the direction of the pile. Careful matching helps disguise a patch.
- Cut a patch with the grain of the goods, making sure that lengthwise and crosswise yarns match those in the material you are repairing.

PATCHES AND PATCHING

Hemmed Patch

This sturdy patch, made by hand, is appropriately used on most washable fabrics, including cotton dresses, blouses, and some work clothes.

To make a hemmed patch, follow these steps:

- Mark smallest possible square or rectangle that will remove damaged area.
- Cut along lengthwise and crosswise yarns.
- Clip each corner of the hole diagonally about one-fourth inch deep (fig. 28, *A*).
- Turn under slightly beyond ends of these clips. Crease sharply or press. Take care not to stretch the material if you crease instead of press.
- Slide patch under hole until pattern matches. Pin in place, then cut patch about one inch larger than the hole on all four sides.
- Baste patch in place. On outside, hem with fine running hem stitches (p. 2 and fig. 28, *A*). Stitch closely at the corners. Let stitches catch in very edge of the opening.
- Turn edges of patch under about one-fourth inch on the inside of garments made of lightweight and washable materials. Snip out bulk. Baste and hem invisibly (p. 2) to garment (fig. 28, *B*). In thick materials, catch stitch (p. 4) edges of patch to garment or pink edges of patch, and seed stitch (p. 3) in place. Choose the stitch that best suits your material, but make stitching as inconspicuous as possible on the right side.

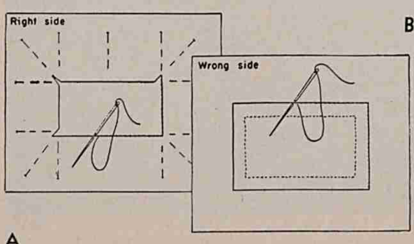


Figure 28

Inset Patch

If you want a durable patch that is almost invisible, the inset patch is a good choice. It is suitable, however, only on firmly woven materials where the patch can be matched to design. Inset may be put in by hand or machine stitching.

Here are specific directions for making an inset patch:

- Cut out damaged place on grain of goods to form rectangle or square as required.

- Clip corners diagonally—about one-fourth inch deep. Turn edges under just a little beyond the ends of clips and with grain of goods. Press.

- Match patch piece to hole and pin or baste to hold patch in place.

- With white silk thread, slip stitch (p. 2) folded edges of the hole to patch piece, catching very edge of folds with stitches about one-half inch apart. Then slip stitch at each corner.

- Turn garment inside out. Stitch patch in by hand with overhand stitches (fig. 29, *A*) or stitch by machine, following the fold lines and the white thread of slip stitches. (For overhand stitch, see p. 4.) Begin machine stitching midway on one side, stop at each corner; with needle down in fabric raise presser foot, turn, and continue around the patch. Then remove white thread.

In clothes that receive light wear, the seams of this patch may be pressed open to be less noticeable. Overcast edges to prevent fraying (fig. 29, *B*). (For overcast stitch, see p. 3.) In utility clothes in which service is important, press seam edges toward the garment, then top stitch on right side. This holds seam edges flat inside the garment.

In thick fabrics—corduroy or heavy suiting—cut the patch piece just to fit the hole. Back it with a piece of lightweight press-on interfacing fabric that is about one-half inch longer on all sides of the opening; then machine stitch back and forth over the cut edges and, in the case of corduroy, between the ribs.

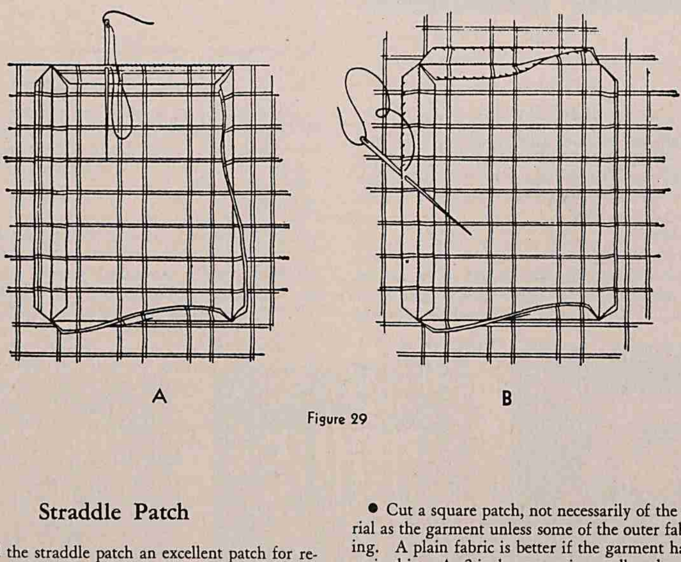


Figure 29

Straddle Patch

You'll find the straddle patch an excellent patch for repairing damage at the base of vents, continuous plackets, and slashed, V, or square necklines. Watch such places and apply this patch as soon as signs of strain appear.

Here is the way to make a straddle patch:

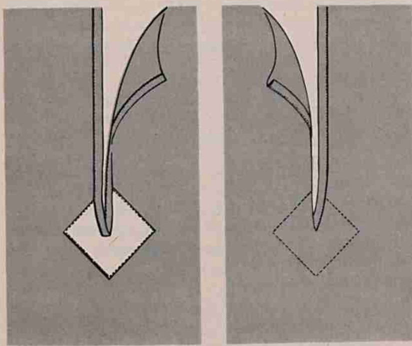
- Dart any tear that may have occurred and finish edges securely.

- Cut a square patch, not necessarily of the same material as the garment unless some of the outer fabric is missing. A plain fabric is better if the garment has a pattern or is thin. A 2-inch square is usually adequate, unless damage is extensive.
- Turn and crease the four sides of patch.
- Remove binding from placket point.
- Close the placket. On the inside of the garment, center this patch astride the end of the placket. Because the patch is set on biaswise, it will give and not tear.

● Machine or hand hem patch in place on its four sides.

● Slash patch to placket end and restitch binding in place. Figure 30, *A* shows finished patch on wrong side; and figure 30, *B*, patch on right side.

If this patch is used on a square or V-shape neckline, a section of the straddle patch will have to be removed for smooth fit.



A B

Figure 30

Lapped Patch

Choose this patch if sturdiness is more important than appearance, if fabric is bulky, or if a spot of the material is missing and needs to be replaced. It is not recommended for a mend that must not show, but as a serviceable patch for work and play clothes.

Follow these steps:

● Trim away any rough edges.

● Place matched patch underneath hole. Let it extend under any weak or thin area that surrounds the damage.

● With slightly darker thread, stitch back and forth by machine until the patch is securely installed (fig. 31). This mend shows less when stitching lines are of uneven length. If a fabric is twill weave or ribbed, follow these lines in stitching. This helps disguise the mend.

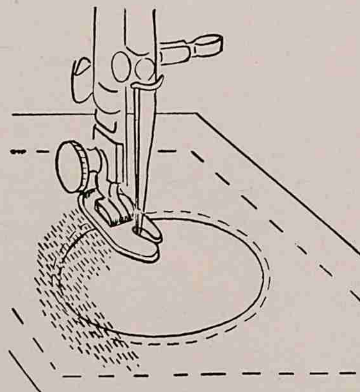


Figure 31

Knit Stitch Patch

This patch is used on plain knit garments to duplicate the original stitch. It is almost invisible and stretches in use. Sweaters are often mended with this patch.

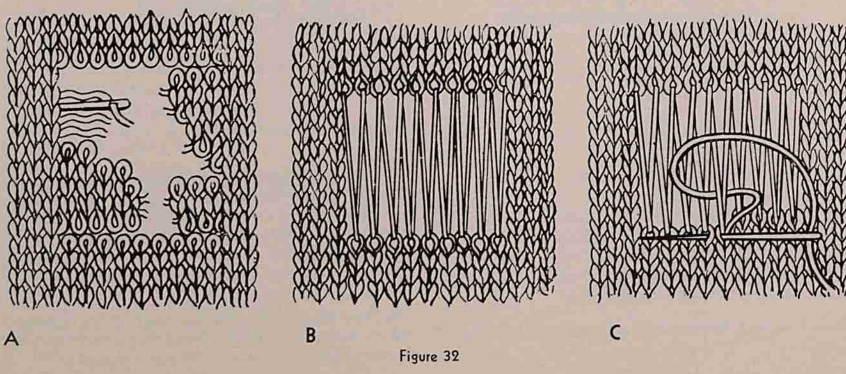
Follow these directions in making a knit stitch patch:

● Make two horizontal cuts—one above the hole and one below.

● Ravel knit to ends of these cuts. A thread may be run through the loops as a guard against further raveling.

● With a needle, thread loose ends of yarns at sides of patch and pull ends back into underside of knit (fig. 32, *A*).

● Follow drawings 32, *B* and 32, *C* to make patch.



A B C

Figure 32

Blanket Stitch Patch

Use the blanket stitch patch for small mends on knit garments in places where the fabric does not need to stretch in use. The blanket stitch patch is easier to do than the knit stitch patch, but is more noticeable. This is a good patch for a hole in the heel of a sock.

Here is the way to make a blanket stitch patch:

- Follow the first three directions under knit stitch patch.
- Pull crosswise yarn across opening and work back over it with loose blanket stitches (p. 3), taking one stitch in each loop of the knit.
- Continue back and forth across the hole with blanket stitches, as pictured (fig. 33), until the opening is filled.
- When making the last row, catch each stitch through a loop at the bottom of the hole.

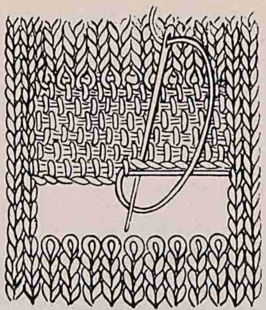


Figure 33

DARNS AND DARNING

Tips on Darning

- Study the weave of the original fabric, and reproduce it in your darn as closely as possible.
- Work under the best light available.
- Use a fine needle and short thread. Long thread pulled back and forth across a torn place, or a worn hole, may pull and stretch damaged area out of shape.
- Darn on the right side of material, and blend the darn inconspicuously into fabric around hole.
- Work for flatness. If yarns are pulled tight, the finished darn puckers and looks drawn. Too loose stitching gives a darn a puffy look.
- Draw mending yarn or thread through yarns in the cloth itself, rather than in and out of the material, whenever you can. Take small stitches. Be especially careful not to draw the thread taut when you make a turn. Run the stitching unevenly into the cloth surrounding darn. This prevents a hard and heavy line around darn.
- Pull ends of darning yarns to underside of garment and cut off, but not too closely. Work in such a way that all raw edges of a hole or tear are on the underside.
- Steam press finished darn from wrong side. If material is wool or napped, brush darn to lift nap.

Plain Hand Darn

A plain weave hand darn is the best way to mend small moth-eaten or burned holes, and most other small holes. Large holes are better repaired with a patch.

Here are guides in making a plain hand darn:

- Snip away ragged edges of holes.
- Choose darning yarn or thread that matches the fab ric closely in color, weight, and luster. Too heavy yarr strains the surrounding fabric and makes the darn notice able. Mercerized cotton thread usually blends into fabri around a hole better than yarns from original fabric.
- Work back and forth, lengthwise, across the hole anc far enough into the fabric to strengthen the thin or worr area that may surround a hole. If there is no thin area anc stitches can be run into the underside of a woven fabric— not pulled through to the outside—the darn will be les noticeable.
- Weave crosswise, over and under the lengthwis yarns, and again into the surrounding fabric (fig. 34).

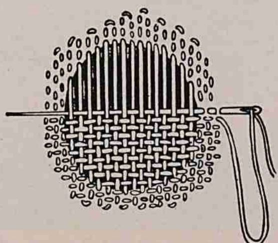


Figure 34

Pattern Darn

Use the pattern darn to repair small holes in suitings or dress fabrics with distinct weaves.

Before making a pattern darn, study the weave carefully to see how lengthwise and crosswise yarns are interwoven. A magnifying glass will be helpful at this point. As you darn, reproduce this weave as closely as possible, using matched thread or yarns to best suit your fabric (fig. 35).

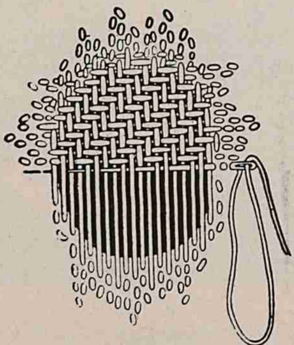


Figure 35

Machine Darn

A machine darn is a quick way to repair straight, three-corner, or jagged tears, diagonal cuts, and similar damage. Follow this procedure for a neat machine darn:

- Place damaged spot right side up over an ironing board, sleeveboard, or other flat surface. Straighten and trim any tangled and frayed yarns.

- Cut an underlay from lightweight press-on interfacing fabric. Make underlay no larger than necessary to reinforce and hold the cut or torn area in place.

- Slip reinforcing fabric underneath damaged area—adhesive side up. Hold it in place with pins. With yarns combed precisely in place, cover mend with a thin cloth to protect fabric, then press. If necessary, it may be pressed again from the inside.

- Use thread, either silk or fine cotton—whichever best matches the luster of your fabric—in a slightly darker shade than fabric. Machine or handstitch back and forth over the damage, usually with the grain of the fabric.

- Trim away any excess of the reinforcing fabric, unless the surrounding area needs it for strength.

- Then tack reinforcement invisibly to the back of the fabric with padding stitches (p. 3).

- If damage is a three-corner tear, a snag, or badly frayed, machine stitch both crosswise and lengthwise.

TWENTY-FIVE MENDS FOR COMMON CLOTHING DAMAGE

Specific mends for the everyday tears, rips, snags, and worn holes likely to occur in family clothing make up the remainder of this publication. Much of the damage looks familiar because it is the very kind of repair problem found in your mending pile. Sometimes the damage is slight, sometimes it is serious.

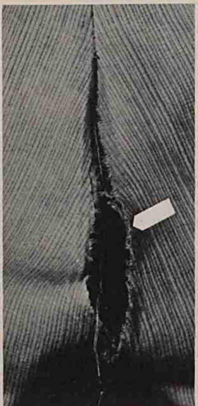
The ways in which these garments are mended show how basic stitches, patches, and darns can be adapted to meet a particular need. As you know, most good mends are a blend of stitches and techniques. Each of the 25 mends solves a typical mending problem. No two kinds of damage are exactly alike. Differences in fabric, type of clothes damaged, and location and extent of the damage call for different methods.

Although you may have to create mends to suit some of your damage problems, you'll find many of the mending ideas shown here useful and practical.

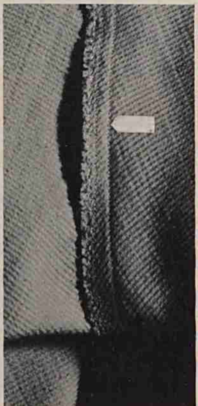
Mends in Wash Pants and Slacks

Damage.—Raveled machine stitching in wash pants (fig. 36, *A*).

Mend.—Pin seam together and restitch full length of the seam with short machine stitching and strong thread. To make seam extra strong, press edges of seam together, stitch a second time close to the edge, and finish with machine zigzag stitch (fig. 36, *B*). Hand overcasting (p. 3) can be used as an edge finish instead of the zigzag stitch.



A PN1254



B PN1255

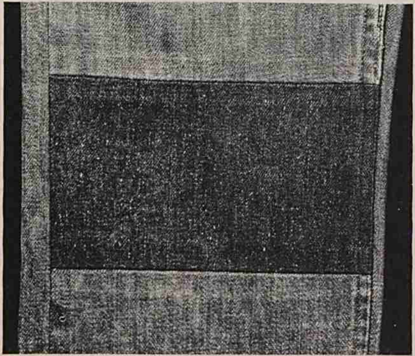
Figure 36

Damage.—Large knee hole in dungarees (fig. 37, *A*).

Mend.—Worn section is replaced with a strip salvaged from a good portion of discarded dungarees. To do this, mark part to be removed with chalklines. Open inseam and outseam one-half inch above the top chalkline and one-half inch below the lower line. Cut out the damaged portion along the chalklines. In its place, set in a new section 2 inches longer than the opening (this provides for two ½-inch seams and for the ½-inch increase above and the ½-inch increase below the chalklines). Stitch and press seams open. Then restitch inseam and outseam. See figure 37, *B*.

This makes a neat, strong patch that is easier to make and less noticeable than the usual patch with four sides. You can use the same repair on better trousers, in which case you disguise the seam with the rantering stitch (p. 4).

A PN1256



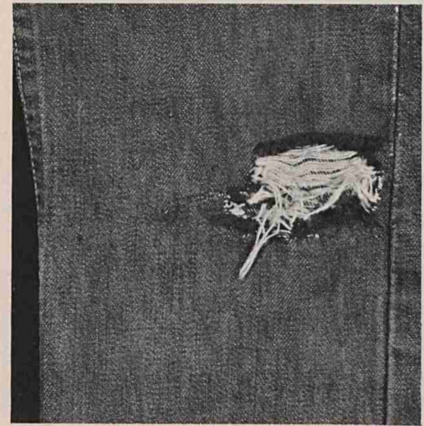
B PN1257

Figure 37

Damage.—Small hole in knee of dungarees (38, *A*).

Mend.—This technique can be used for small holes if leg length permits. First draw two chalklines, one above and one below the damaged area. Open leg seams from one-half inch above the topline to the lower edge of the leg. Remove damaged area by cutting along chalklines, then seam cut edges together. Press seam open. Restitch leg seams. Level and rehem lower edge of leg. Figure 38, *B* shows completed mend.

Seamed-out damage is less noticeable than a patch or inset. This repair may also be used on better trousers, and the seamline disguised by rantering (p. 4).



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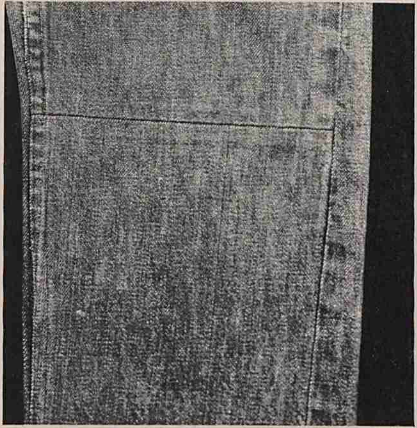
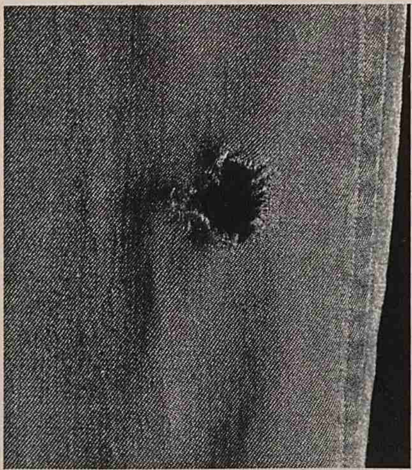


B PN1259

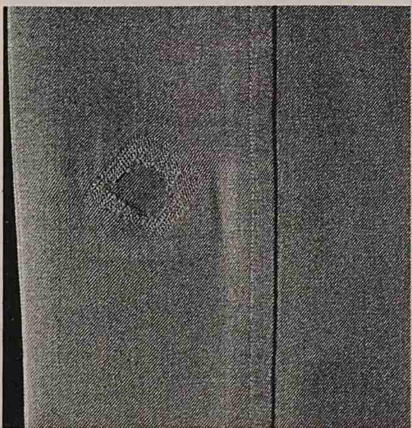
Figure 38

Damage.—Round hole in wool school slacks (fig. 39, *A*).

Mend.—Cut a patch piece from pocket facing and baste it under the hole. The hole left in pocket facing can be replaced with sturdy cotton fabric. With mercerized thread, slightly darker than fabric, machine stitch patch following the diagonal lines of the twill weave. This helps disguise patch and make a neat repair (fig. 39, *B*).



A PN1260

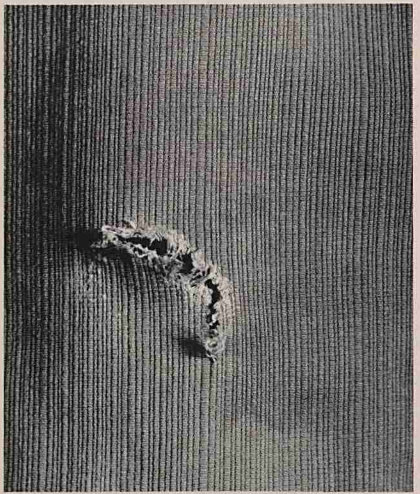


B PN1261

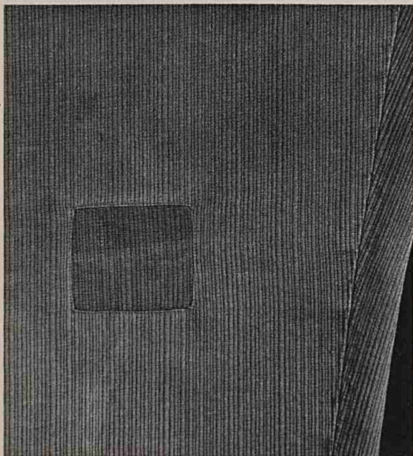
Figure 39

Damage.—Curved cut in knee of slacks (fig. 40, *A*).

Mend.—Cut out damaged portion and replace with an inset patch (p. 11). To make the patch extra strong, press seams of patch away from the patch, then top stitch from the right side as shown in figure 40, *B*.



A PN1262



B PN1263

Figure 40

Damage.—Tear in fly of work slacks (fig. 41, *A*). Because of a manufacturer's error the fly in these slacks was lapped past the underlay. This caused strain and a tear followed.

Mend.—Take out stitches in seam and bar just far enough to repair the hole and reset the placket end as it should have been in the first place. Apply press-on interfacing fabric to the underside of the hole. Machine darn over the tear following the twill to make it look more like the original fabric. Then reseam the front rise in its proper position and bar tack the end of the fly over the underlay as pictured (fig. 41, *B*).

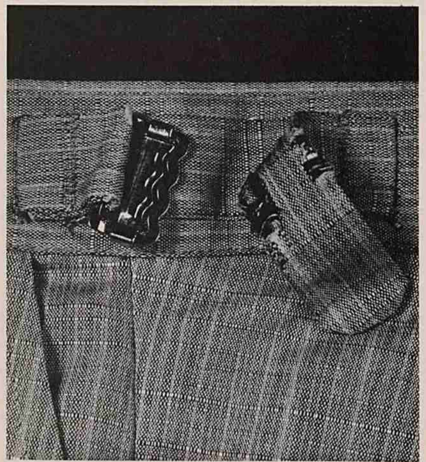
A PN1264

B PN1265

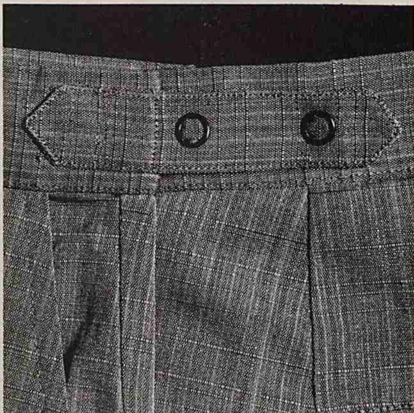
Figure 41

Damage.—Waistline adjusters on sport shorts cut and torn by metal prongs (fig. 42, *A*).

Mend.—Remove side tabs. From the good portions of the tabs cut two bands—one for each side of shorts. Finish the ends of bands as shown in figure 42, *B*. Stitch one end of band to waistband as pictured. In the other end and on the waistband beneath, install snap fasteners (pound-in type), following manufacturer's directions. Snap fasteners permit waistline adjustment.



A PN1266



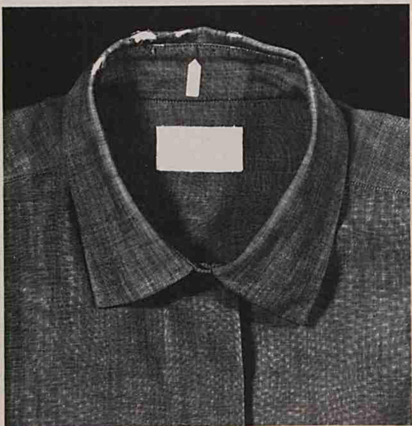
B PN1267

Figure 42

Mends in Shirts

Damage.—Worn collar and band on tailored shirt (fig. 43, *A*).

Mend.—Rip collar from the neckband. Machine darn worn top collar area to interfacing. The worn line at top of neckband is hidden from view by simply cutting down the height of the band. Reverse the collar to the neck side of the band (the darned portion of the collar is concealed on the underside). Press collar with the seam down inside the band. Join the inside neckband to the collar with top stitching. Finished mend is shown in figure 43, *B*.



A PN1268

B PN1269

Figure 43

Damage.—Torn placket in shirt sleeve (fig. 44, *A*). When a tailored placket rips open, a tear like the one shown here usually results.

Mend.—Repair the tear as a dart. Then button placket to help hold ends in position for restitching. Note that the ends of the bar are then stitched in slanting, rather than straight, lines. This distributes the strain of use and guards against another accidental tear. Figure 44, *B* shows the completed mend.

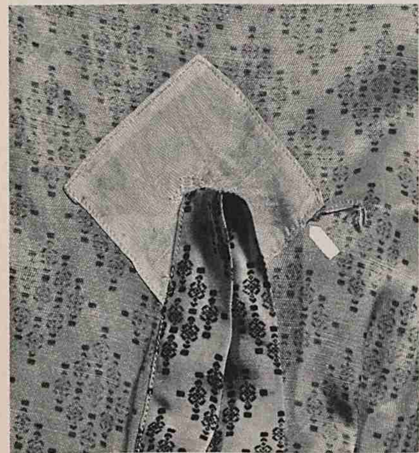
A PN1270

B PN1271

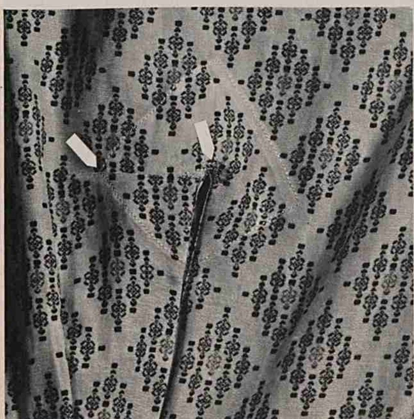
Figure 44

Damage.—Tear at turn of continuous placket in shirt sleeve. Plackets of this type put strain on the garment and result in tears.

Mend.—Seam the crosswise tear as a dart. Apply a straddle patch (p. 11) astride the turn of placket on underside. Figure 45, *A* shows how mend looks on underside of sleeve. On the right side, machine darn the small hole in the shirt to the patch. Figure 45, *B* shows the completed mend on the outside of sleeve.



A PN1272



B PN1273

Figure 45

Mends in Knitwear

Damage.—Ripped seams in child's knit shirt (fig. 46, *A*).

Mend.—Trim seams. Restitch seams with a short machine stitching about one-eighth inch from the edge, then stitch again along the edge. Stretch the material slightly as you stitch so the thread will not snap in use. In refinishing the seam edge, use a zigzag stitch if your machine has one, or overcast by hand.

Open the placket end, remove bulk, reinforce with tape on the underside, and restitch on top. See figure 46, *B*.

A PN1277

B PN1278

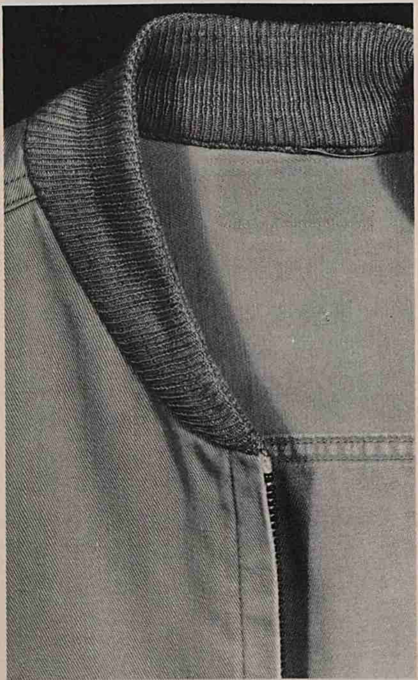
Figure 46

Damage.—Tears and rips in knit collar and cuffs (fig. 47, *A*).

Mend.—Rip open the inside neck edge of knit collar and top of cuffs. Fold edge inside out on collar and cuffs and seam out the worn edges. To hold shape of these stretchy edges, set in narrow elastic with the seam (fig. 47, *B*). Stretch material slightly as you stitch to keep stitching from breaking in use. Then turn collar and cuffs right side out, pluck out seamed edges and ease edges underneath slightly. Press. Finally hand hem bands into place with close stitches. Figure 47, *C* shows the collar after mend has restored it.

B PN1275

A PN1274



C PN1276

Figure 47

Mends in Dresses

Damage.—Waistline tear in back of girl's dress (fig. 48, *A*). Too short an opening results in strain and tear at waistline seam.

Mend.—Rip skirt and bodice apart. Remove elastic at waistline. Repair tear as a dart. To relieve strain on the too short opening, make a continuous placket that extends 4 inches into the skirt.

The material for finishing the extension is taken from the inside facing of the back bodice opening. Cut this piece 8 inches long. Finish extension with a continuous placket. Restitch waistline seam. Include new narrow elastic (if old elastic is not usable) as you restitch the waistline seam. Stretch the elastic a little as you stitch. Finally handstitch ends of placket to bodice back facing securely. Figure 48, *B* shows back of dress after repair.

A PN1279

B PN1280

Figure 48

Damage.—Deep frayage and pulled-out seams on a dress (fig. 49, *A*).

Mend.—Carefully open damaged seams and press them flat. With thin bias fabric as a backing, machine darn over the deeply frayed edges. Finish edges of the seam with a zigzag stitch, or overcast by hand. Then restitch all seams with fine stitching. Wherever the fit of the dress permits, make seams slightly deeper than they were originally. Resew zipper tape closely to the neck facing. See figure 49, *B*.

A PN1281

B PN1282

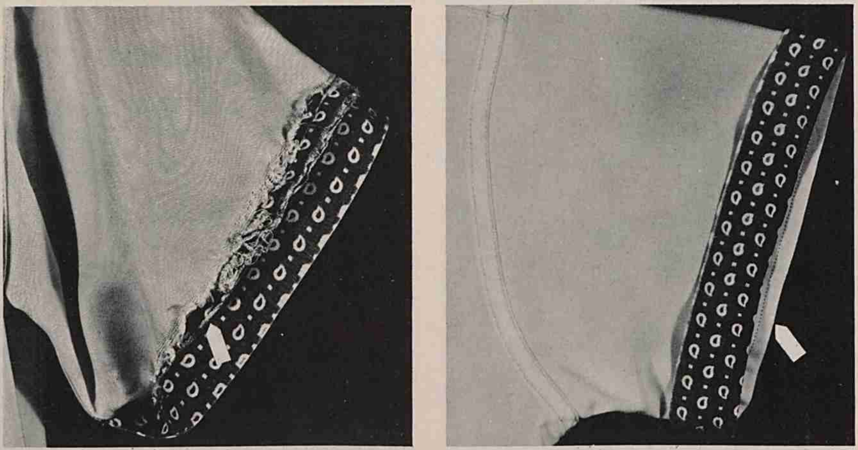
Figure 49

Damage.—Pulled-out cuffs on blouse sleeve (fig. 50, *A*). Here again damage was caused by deep frayage of the material.

Mend.—Remove the damaged cuff and trim off any tangled yarns. Reseam the cuff to the sleeve edge—with the right side of cuff next to the inside of the sleeve. Press the seam up and machine stitch again about one-fourth inch above the seamline (fig. 50, *B*). As further protection, you can stitch the top edge of the cuff to the sleeve about one-fourth inch above the turnup or one-fourth inch from its top edge.

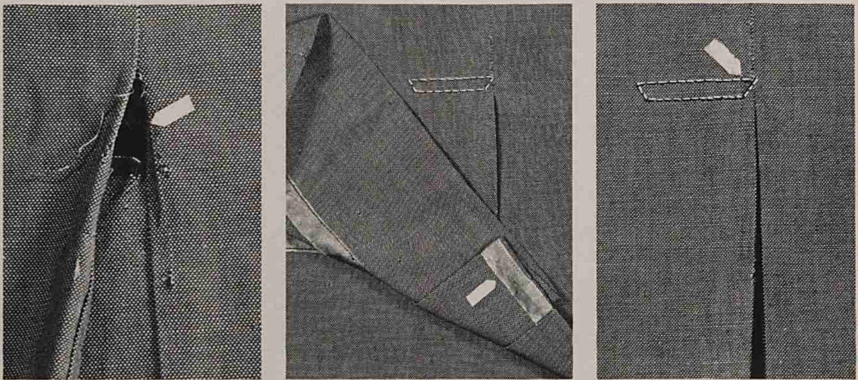
Damage.—Ripped kick pleat in back of dress (fig. 51, *A*).

Mend.—To repair the damage here and to prevent its tearing out again, open the hem below the pleat, take out the insert piece sewed in to form the pleat. Raise the pleat insert the width of the hem. Then face insert at hemline with ribbon binding (fig. 51, *B*). Open up the center back seam and seam in the lengthened insert. To support the pleat, machine stitch as shown in figure 51, *C*.



PN1283 A PN1284 B

Figure 50



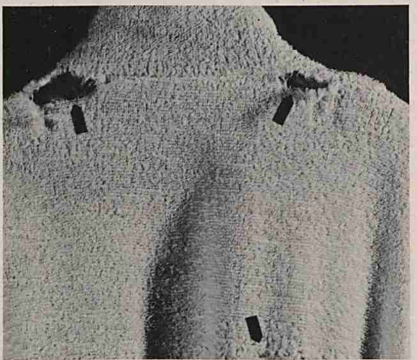
A PN1285 B PN1286 C PN1287

Figure 51

Mends in a Robe

Damage.—Holes and worn place in a terry robe (fig. 52, *A*). Terry cloth is a thick pile fabric and mends should try to reproduce appearance of pile.

Mend.—To get material to patch holes, take out wide facings from three-quarter sleeves, and hem sleeves. Set off each worn area with four pins to form a rectangle. Lift the loops within the rectangle with a tapestry needle, pulling gently until yarns are flat within the foundation fabric. Clip off yarns. Cut a terry patch to fit the rectangle. Baste patch to foundation fabric, and stitch around edges with zigzag or straight machine stitching. Then stitch the patch crosswise and lengthwise about three times. As you do this, push loops apart to avoid flattening fabric. Almost invisible mends result (fig. 52, *B*).



A PN1288

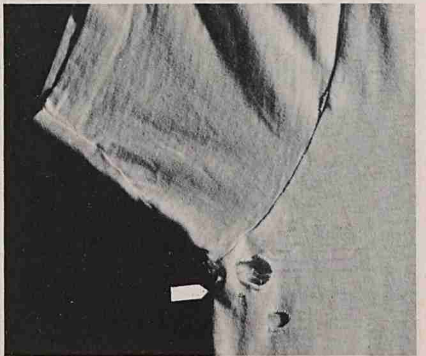
B PN1289

Figure 52

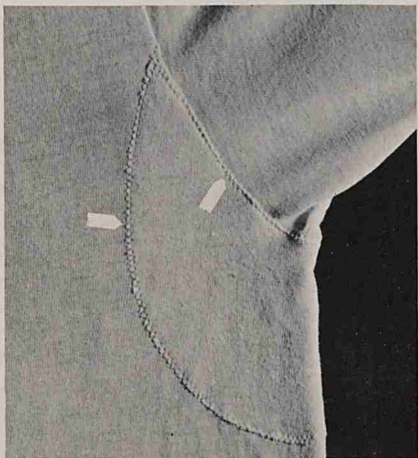
Mends in Underwear

Damage.—Underarm holes in a T-shirt (fig. 53, *A*).

Mend.—Lace small holes together with fine hand stitches. Slip shirt over an ironing board and press underarm areas. Cut shields to fit damaged area from good portion of a discarded T-shirt, and baste in position. Baste thin white paper to underside of shirt beneath shields. The paper helps to prevent puckering of knit material when it is machine stitched. Then stitch shields in place with a machine zigzag stitch, which stretches in use. After stitching, rip off paper. Figure 53, *B* shows completed mend.



A PN1290

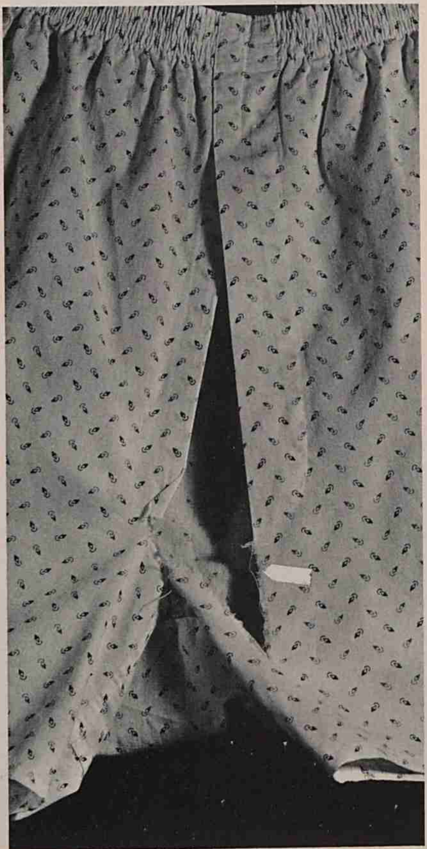


B PN1291

Figure 53

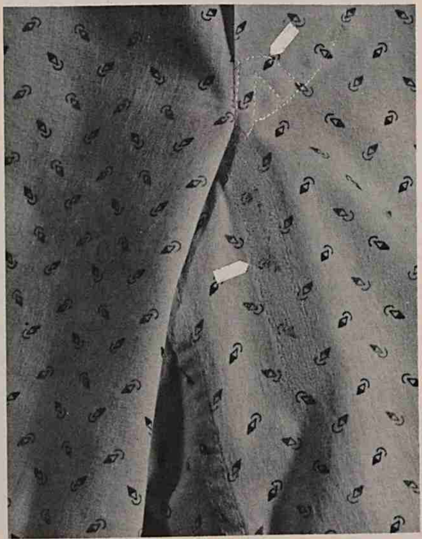
Damage.—Tear in fly placket of men's shorts (fig. 54, *A*).

Mend.—To properly repair this very common damage, pull the two edges of tear together over a piece of lightweight press-on interfacing, and darn by machine. Reseam crotch. Baste placket end in place. To reinforce against further damage, stitch ¼-inch twilled cotton tape back of the crotch seam and across end of fly packet. See figure 54, *B*. Note that strain is diverted from end of placket by stitching that slopes up slightly. Figure 54, *C* shows how the completed mend looks on the right side.



A PN1292

B PN1293



C PN1294

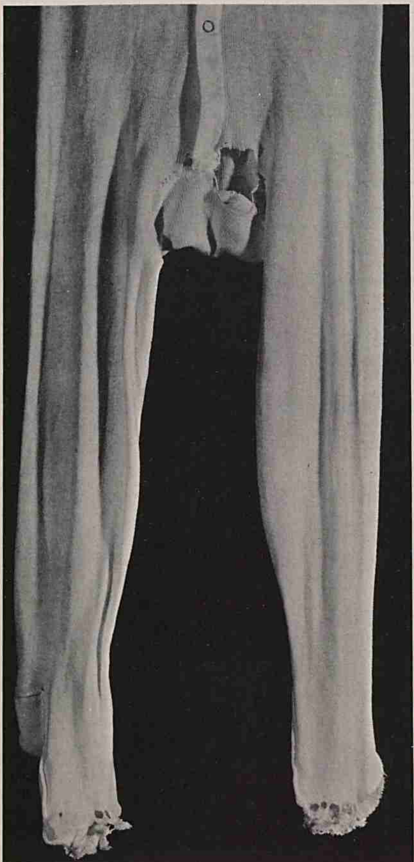
Figure 54

Damage.—Tears in crotch and feet of child's sleepers (fig. 55, *A*). As a child grows, sleepers with feet are often strained and are likely to break in toes and crotch.

Mend.—To repair, cut off the feet of sleepers and hem the legs. Unworn material from the soles of the feet may be salvaged to repair the crotch. Pull the holes in the crotch together with small stitches through loops at edges of holes. Baste mending pieces beneath this area. Finish mend by zigzag or hand stitching over and around all edges to keep them flat and secure. Mended garment (fig. 55, *B*) will give considerable additional wear.

Damage.—Worn webbing on a cotton half-slip (fig. 56, *A*).

Mend.—Remove webbing. Trim any frayage from top of the slip. Pull torn place together over a narrow strip of thin press-on interfacing, and press. Machine darn across worn portion. New ⅝-inch waistline webbing



A PN1295

B PN1296

Figure 55

(cut one-half inch longer than the waist measure) is then joined together by hand to form a circle. Make sure that the cut ends of webbing are folded in securely to prevent elastic in the webbing from slipping and losing its elasticity. Next divide both webbing and slip top into fourths; pin together at these points. Now apply the top edge of the webbing about one-fourth inch down into the slip top. Stitch by machine, stretching the elastic slightly to fit the slip top. Then turn webbing over to the right side of the slip, pin into place at the four points, and stitch along the other edge of the webbing, again stretching the elastic to fit slip top. Mended slip, with new webbing at top, is shown in figure 56, *B*.

Damage.—Loss of elasticity in webbing in tricot half-slip (fig. 57, *A*).

Mend.—Remove old webbing. Make a narrow casing at top of half-slip, leaving an opening through which new elastic is then drawn. This may shorten slip slightly. Turn in ends of elastic and seam together securely, then release elastic into casing. Take a few small hand stitches through elastic and casing at center back and front. This keeps elastic from rolling as slip is put on and taken off. Finally, close opening in casing with a few back stitches. Figure 57, *B* shows repaired half-slip.

A number of other women's and children's undergarments can be mended in the same way.

A PN1297

B PN1298

Figure 56

A PN1299

B PN1300

Figure 57

Damage.—Pulled-out and frayed seam in slip (fig. 58, *A*).

Mend.—Reseam completely. Finish edges of the seam with a machine zigzag stitch. Then press seam to one side and top stitch on the right side about one-eighth inch from the seamline. Finished mend is shown in figure 58, *B*.

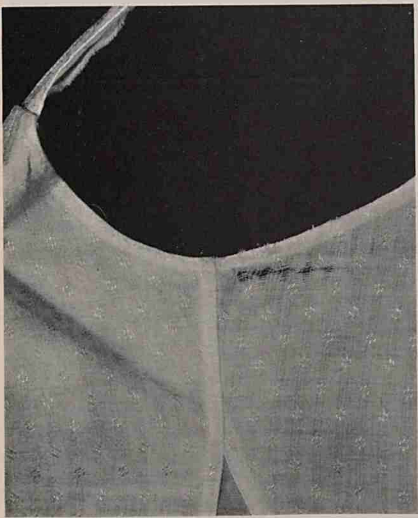
A PN1301

B PN1302

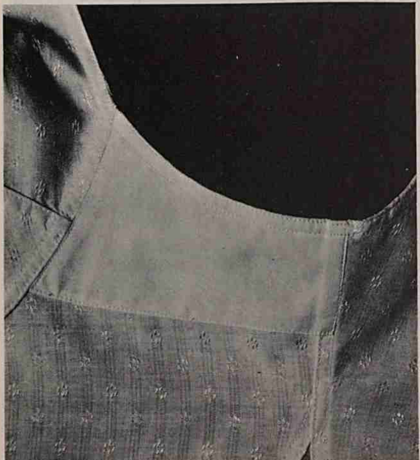
Figure 58

Damage.—Thin area in brassiere (fig. 59, *A*).

Mend.—A sturdy cotton patch can be easily and quickly applied over the thin or worn area to add wear to this garment. See figure 59, *B*.



A PN1303

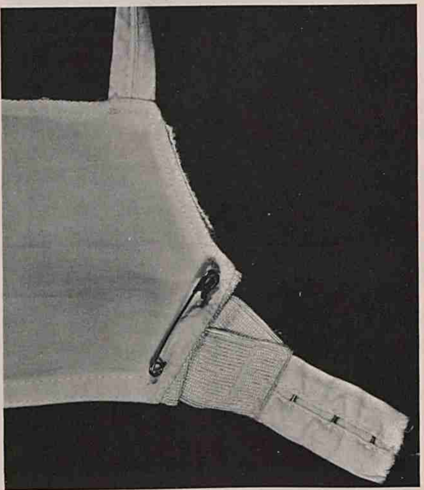


B PN1304

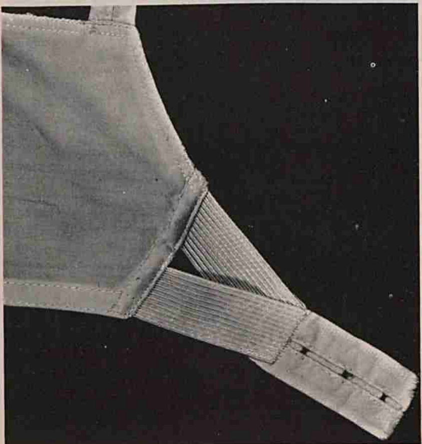
Figure 59

Damage.—Worn webbing in brassieres (fig. 60, *A*, and 61, *A*).

Mends.—For the brassiere in figure 60, *A*, get two pieces of webbing, each 1 inch wide and 4 inches long. Fold webbing in half and spread cut ends to fit the brassiere. Rip out worn webbing. Insert the new webbing and stitch as shown in figure 60, *B*.



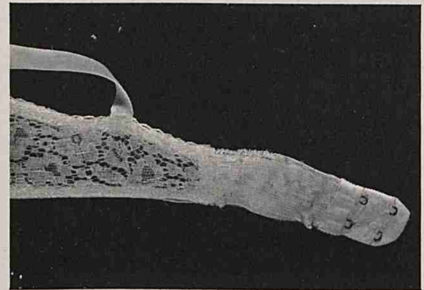
A PN1305



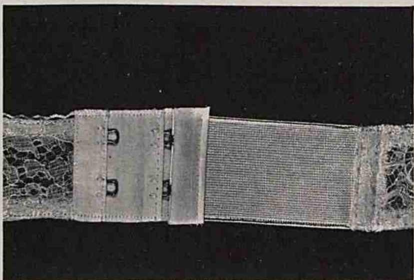
B PN1306

Figure 60

To mend the damage in figure 61, *A,* a replacement section of webbing is necessary. You can get it in notion departments. Rip out the worn section, and set in the new section exactly where the old one was. Stitch securely in place by machine (fig. 61, *B*).



A PN1307

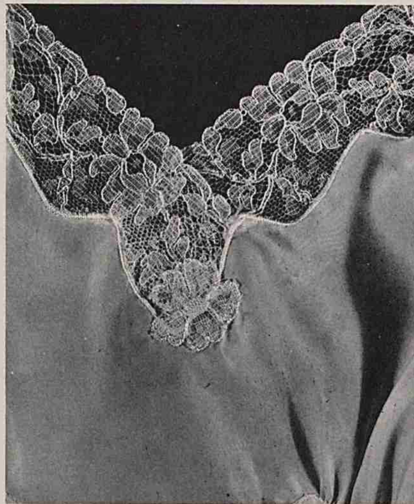


B PN1308

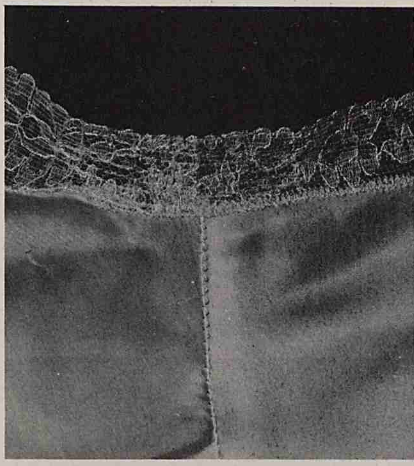
Figure 61

Damage.—Breaks in lace on slip include (1) lace trim worn at underarm and (2) lace and slip fabric pulled apart.

Mends.—(1) To repair, lay net fabric underneath worn lace. Machine stitch lace to net. The amount of stitching depends on the pattern of the lace and how much strengthening is needed. Figure 62, *A,* shows how neatly this method repairs damage. (2) To mend damage in which the lace and slip fabric have pulled apart, apply a small lace motif cut from a scrap of lace, using close overhand stitches (p. 4). This covers and reinforces the damaged spot. Figure 62, *B* shows completed mend.



A PN1309



B PN1310

Figure 62

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MORE INFORMATION

The U.S. Department of Agriculture has issued a number of publications on home sewing and home care of clothing. These include—

	Order No.
Fitting Coats and Suits	G 11
How To Tailor a Woman's Suit	G 20
Buying Your Home Sewing Machine	G 38
Removing Stains From Fabrics	G 62
How To Prevent and Remove Mildew . . . Home Methods	G 68
Sanitation in Home Laundering	G 97
Home Laundering . . . the Equipment and the Job	G 101
Pattern Alteration	F 1968

To obtain copies of publications, ask your extension home economist or send your request on a post card to U.S. Department of Agriculture, Washington, D.C. 20250.

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PATTERN ALTERATION:

A Guide for Leaders in Clothing Programs

Home Economics Research Report No. 32

Agricultural Research Service
UNITED STATES DEPARTMENT OF AGRICULTURE

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PATTERN ALTERATION:

A Guide for Leaders in Clothing Programs

Every woman who sews for herself or her family wants to make attractive, durable, well-fitting clothes. Garments that do not fit are a waste of time and materials because they are uncomfortable, do not withstand hard wear, and give no sense of pride or well-being. The first step toward excellent fit in clothes is a pattern that fits properly. If a style and size best suited to a woman's figure are chosen, the pattern may not need alteration. Most women, however, have some figure irregularity that requires change—either in the pattern or the garment.

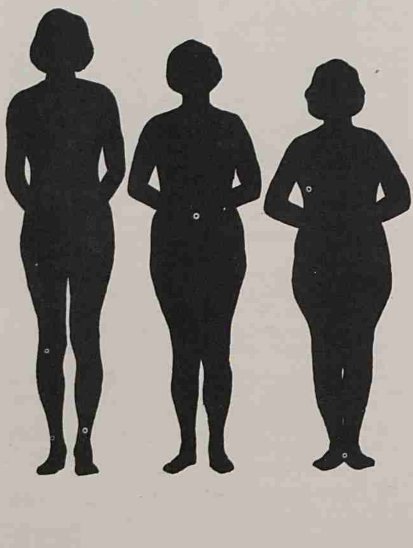
The three forms shown in figure 1, for instance, all measure 34 inches in the bust; yet each requires a different alteration to take care of individual problems. The tall figure needs extra length in the blouse, skirt, and sleeves. The length is right for the center figure, but the skirt needs to be enlarged through the hips. For the third figure, a half-size pattern—one proportioned for shorter women—may be the best choice.

This publication shows how today's patterns can be adjusted to take care of figure irregularities and thus assure trim fit.

BUY THE RIGHT SIZE PATTERN

Before buying a pattern, take bust, waist, and hip measurements, as well as back length from neck to waist. Then consult the size charts in counter pattern books to see which figure type corresponds most closely to these measurements. All pattern companies make patterns for different figure types, including (1) the short-waisted figure that is small through the waist and across the back (teens), (2) the figure with a high bust (junior or junior miss), and (3) the short, mature figure (half-size).

Figure 1



Buy the size designated by body measurements. Allowance for ease is provided in the pattern, and a larger size may be too big all over. The size ordinarily worn in readymade clothing is not necessarily the correct size in a pattern. For example, a person with a small frame, but with a large bust—38 inches—may get better fit from a smaller size pattern—a 36. In such cases, some women find that a "high chest" measure, taken under the arms and rounding up slightly in front, is a better size indicator for them than the regular bust measure. For a woman with broad shoulders and a rather large frame, it is better to buy by bust measure, in order to have a pattern that fits the shoulders and chest. Alterations at the chest and shoulders are difficult, but enlarging the bust measure of a pattern is fairly simple.

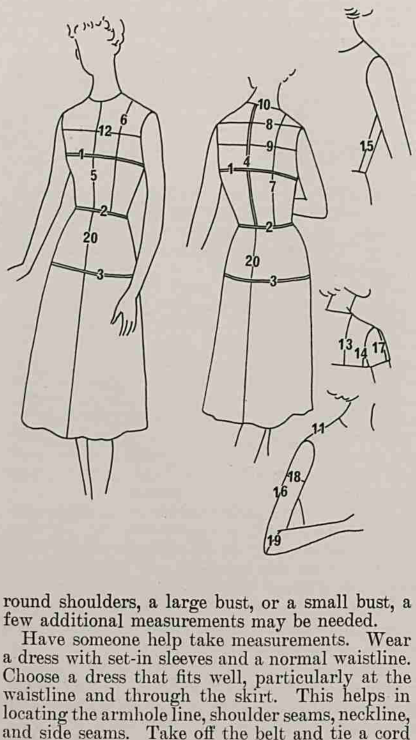
All pattern companies use the same sizing system for their basic measurements, but patterns vary a great deal in the amount allowed for ease. Patterns from one company may have narrower shoulders, a longer waist, or deeper armholes than those of another company. One make of a pattern may fit an individual better and require less alteration than any other make.

Some alterations can be avoided by choosing styles that minimize or adapt to certain figure problems. For example, a woman with narrow shoulders and chest should look for a style that does not fit closely in the shoulders and chest. At the same time she selects the pattern size that is right for her bust and hip measurements. Or she may choose a style that can be narrowed easily in the shoulder (one with shoulder tucks) or a style with a wide or cape collar that makes her shoulders look broader. A deep shoulder dart to the bust in a pattern is likely to accentuate the narrowness of shoulders and chest.

MEASUREMENTS NEEDED FOR CHECKING PATTERN

Figure 2 shows all body measurements that can be used to completely check a pattern. All of these measurements probably will not be needed; numbers 1, 2, 3, 4, 9, 11, 12, and 15 may be sufficient. For some figure irregularities, such as round shoulders, a large bust, or a small bust, a few additional measurements may be needed.

Figure 2



Have someone help take measurements. Wear a dress with set-in sleeves and a normal waistline. Choose a dress that fits well, particularly at the waistline and through the skirt. This helps in locating the armhole line, shoulder seams, neckline, and side seams. Take off the belt and tie a cord around the waist.

If you do not have a dress that fits satisfactorily, measurements can be taken over a slip. First, locate the neck base, armhole, shoulder seams, side seams, and waistline. Locate the neckline by tying a close-fitting chain or cord around the neck. Have the person who is helping tie a cord around each arm as a guide for marking armhole seams.

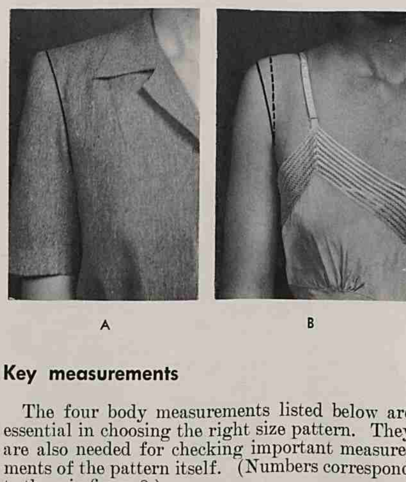
Study a current fashion magazine to see where the top of the armhole should be. Some seasons the normal armhole may be fashionable; in other years the shoulder may be extended and the armhole seam may come almost to the outer edge of the arm, or the armhole may be high and the shoulder very narrow. (See fig. 3, *A* and *B*.) Have your helper mark with a soft pencil or chalk the top, front, back, and bottom of armhole at a comfortable depth under the arm—usually about 1 or 2 inches below the armpit.

For the shoulder seam, draw a straight line from the bone at the top of the arm along the highest point of the shoulder muscle to the neckline.

Mark the underarm seam with a row of pins or a tape, about one-half inch back of the middle of the armhole, in line with the shoulder seam. Locate this line so it is hidden when the arm hangs straight at the sides.

Use a tape measure that doesn't stretch. Take snug, but not tight, measurements. Enter measurements on table 1, page 3, as they are taken, so they can be used in checking other patterns. For easy comparison, write in the corresponding pattern measurements.

Figure 3



A B

Key measurements

The four body measurements listed below are essential in choosing the right size pattern. They are also needed for checking important measurements of the pattern itself. (Numbers correspond to those in figure 2.)

1. Bust.—Measure fullest part of bust, keeping tape parallel to floor. Measure both front and back between side seams.
2. Waistline.—Measure snugly where the belt should be. Take both front and back measurements between side seams.
3. Hips.—Measure at widest part of hips,

Table 1.—*A Suggested Measurement Chart*

Item	Body measurement	Usual allowance for ease	Pattern measurement
	Inches	*Inches*	*Inches*
Bust:			
Front		2	
Back		2	
Chest width		¼ or ½	
Back neck seam			
Upper back width		½	
Width across shoulder blades		½ or 1	
Blouse length:			
Center front		½	
Center back		½	
Over bust		½	
Over shoulder blades		½	
Armhole depth			
Shoulder height			
Underarm length (or underarm seam)			
Shoulder length			
Sleeve length:			
Shoulder to wrist			
Elbow to wrist			
Sleeve-cap length		(See p. 6)	
Upper arm (or sleeve width)		3 or 4	
Elbow		1	
Waistline:			
Front			
Back			
Hips:			
Front		1	
Back		1	
Waistline to hips			
Skirt length:			
Center front			
Center back			
Left side			
Right side			

keeping tape parallel to floor. View figure from both front and sides to see whether the hips are larger at the hip or the thigh level. If in doubt, take both measurements. Use the larger one. Record distance of this measurement from the waistline. Usually it is 6 to 10 inches below the waist.

4. Blouse length, center back.—Measure from the collar bone at back of neck to waistline.

Additional measurements

It is unlikely that all of the following additional measurements will be needed unless there are some special fitting problems or the pattern is a brand not used before. Take only the measurements needed.

5. Blouse length, center front.—Measure from the base of neck straight down to the waistline.
6. Blouse length, over bust.—Measure from the middle of the shoulder seam over the bust, straight down to the waistline. Keep tape parallel to center front. This measurement is needed for the figure with a large bust—or for checking the length of a low-necked blouse when measurement number 5 does not apply.
7. Back blouse length, over shoulder blades.—Measure from middle of shoulder seam, over shoulder blades, to waistline. Keep tape parallel to center back.
8. Upper back width.—Measure straight across the back from top of one armhole seam to the other.

9. Width across shoulder blades.—At a point 7 inches down from shoulder seam at neckline, measure from armhole seam to armhole seam.
10. Back neck seam.—Measure along back neckline, from shoulder seam to shoulder seam. Stand tape on edge to measure a good curve.
11. Shoulder length.—Measure from base of neck to top of armhole line.
12. Chest width.—At a point 6 inches down from the shoulder seam at the neckline, measure from armhole seam to armhole seam.
13. Armhole depth.—Tie a cord around the chest, level with bottom of armhole. Measure from shoulder seam at neckline straight down to the cord. If one shoulder is higher than the other, measure the high one. This measurement may be needed by women who ordinarily have trouble with the underarm fit of their dresses.
14. Shoulder height.—Measure from shoulder seam at top of armhole, down the back to the cord tied around chest. This measurement is needed when altering for very square or sloping shoulders.
15. Underarm length.—From the cord tied around the chest, measure from armhole down to waistline. Or measure the underarm seam length if wearing a dress.
16. Sleeve length.—Measure from top of armhole, down over elbow with arm bent, to wristbone. Also measure distance from elbow to wristbone. This measurement would be needed only for long-sleeved garments.
17. Sleeve-cap length.—Tie a cord around the arm, level with bottom of armhole. Measure from top of armhole seam to this cord. This measurement would not be needed for kimono or raglan sleeves, or sleeveless styles.
18. Upper arm (or sleeve width).—Measure around fullest part of upper arm. This is usually at bottom of armhole. Also record distance of this measurement from the top of armhole seam. Women with full upper arms find this measurement important in checking the width of any sleeve.
19. Elbow.—Measure around elbow, with arm bent for fitted, long, or three-quarter sleeves.
20. Skirt length.—Measure from waistline to bottom of skirt or desired distance from floor.

COMPARE PATTERN MEASUREMENTS WITH YOURS

When using a new brand of pattern, or a new style, it is wise to try it out in muslin or some other inexpensive fabric and make any necessary alterations on this trial garment. If this is not possible, check the key pattern measurements with body measurements or with the measurements of a dress that fits nicely.

Waist length, front and back, bust, waist, and hip measurements are important measurements at this time. See figure 4. Shoulder length and chest width should be checked, particularly if the pattern has set-in sleeves. If arms are rather large, also take sleeve cap width and girth of the upper arm.

Before measuring the pattern, press all pieces—blouse front and back, skirt pieces, and sleeve—so they lie flat. If there are marks for darts, tucks, or pleats, pin these in and measure over them. *Measure between seam lines.* Seam lines are not shown on pattern pieces used for illustrations in this publication. However, the standard seam allowances have been taken into consideration when taking measurements. Most measurements are taken parallel or at right angles to straight-of-goods marks on pattern. Waist and hip measurements are the only ones taken on a curve.

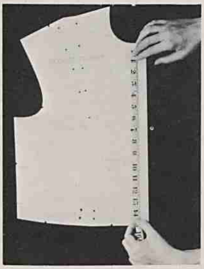
Remember that on most pattern pieces you are measuring just half the finished garment. For example, you measure half the blouse front and half the blouse back, so twice these measurements should correspond to the entire bust measurement, plus allowance for ease.

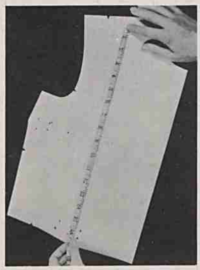
Allowance for ease.—The amount of fullness needed for ease depends on the kind of material and the style of the dress. Thin, sheer fabrics need more fullness than heavy tailored materials; soft, dressy styles more than straight slim lines. Patterns allow a certain amount for ease in some measurements, but it may not be as much as is needed for comfort. As a check, measure a comfortably fitting dress and compare these measurements with the body measurements to see how much has been allowed. Adjust the pattern if necessary. Body measurement plus ease should equal the pattern measurements.

Pattern allowances for ease.—All pattern companies do not allow exactly the same amount of ease, but generally the amounts listed here are allowed:

- Four inches through the bust—2 inches or more across the front and about 2 inches in back.
- About one-half inch in the chest width.
- From ½ to 1 inch in back width across the shoulder blades.
- At least one-half inch in all blouse length measurements.
- About 2 inches at hips for a plain skirt—1

Figure 4

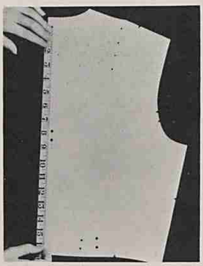




A B

A. *Blouse length, center front.*—Measure from neck seam line to waistline, along center-front line.

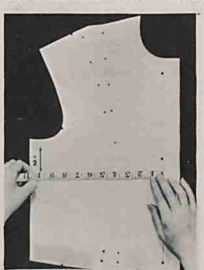
B. *Blouse length, over bust.*—Measure from middle of shoulder line seam straight down to waistline.

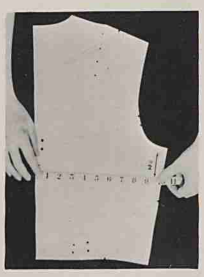


C D

C. *Blouse length, center back.*—Measure from neck seam line to waistline along center back.

D. *Blouse length, over shoulder blades.*—Measure from middle of shoulder seam line to waistline.

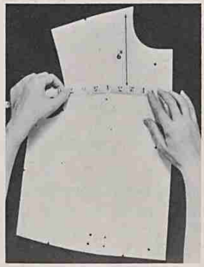


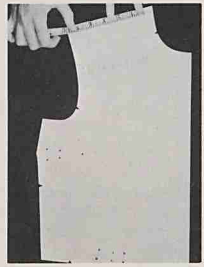


E F

E. *Bust front.*—Measure between center front and side-seam lines, 2 inches below armhole seam line.

F. *Bust back.*—Measure between center back and side-seam lines, 2 inches below armhole seam line.

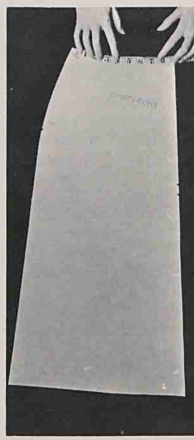




G H

G. *Chest width.*—Measure from armhole seam line to center front, 6 inches below shoulder seam at neckline.

H. *Shoulder length.*—Measure a plain or darted front between seam lines. If front is gathered, measure back shoulder line.



I J

I. *Waistline.*—Measure waistline of plain skirt, following waist curve and seam lines. Take front and back measurements.

If skirt is gathered, measure the belt pattern from center-front and center-back lines to side-seam line.

J. *Hips.*—Measure pattern at exactly the same distance used in taking your own hip measurement. Measure in a curved line at an even distance from the waistline.

inch in front, 1 inch in back. Some fullness can be fitted out later if there is too much.

- One-half to $\frac{3}{4}$ inch in sleeve-cap length to allow for shoulder pads, if pattern calls for them.
- Three to 4 inches in sleeve width at bottom of armhole.
- At least 1 inch at the elbow in a fitted sleeve.
- Patterns for slacks require less hip ease than skirts do. One-half to 1 inch is usually sufficient.

Other measurements that may need to be checked to make necessary alterations are included in the section on individual fitting problems, beginning on page 8.

Remember to double measurements—such as chest width and back width when you have measured only half the pattern—before you compare them with body measurements. A suggested measurement chart where you can record your measurements is shown in table 1, page 3.

If body measurements plus allowance for ease differ only slightly from the pattern measurements, the needed adjustments can probably be made after the garment is basted together. If there is considerable difference in the measurements, the pattern should be altered before the garment is cut out. After a dress is cut out, shoulders cannot be narrowed or widened satisfactorily without spoiling the armhole line—the bust cannot be enlarged more than the seam width permits, and considerable recutting will be necessary if the bust measurement is much too large.

HOW TO ALTER PATTERNS

General directions for altering patterns are given in this section. Illustrated step-by-step directions for altering patterns to solve individual fitting problems begin on page 8.

To alter a pattern, follow these procedures—

- Draw a straight line as a guide for cutting the pattern where the pattern needs to be altered. For most alterations, make the line parallel or at right angles to straight-of-goods marks.
- Cut along this line far enough into the pattern so it will spread out flat or so one piece can be lapped over the other without forming a pouch at the end of the slash (fig. 5). Do not cut entirely through pattern pieces, see that pieces are still joined at one edge.
- To lengthen or shorten an entire pattern piece the pattern has to be cut all the way across. Before cutting, draw two short lines a few inches apart, at right angles to and across the pattern. To keep the pieces in the correct position, match these lines when the pattern is spread or lapped.
- Spread or lap cut edges to make the pattern larger or smaller, as needed. After checking altered pattern measurements, carefully paste, pin, or tape pattern pieces in place. Then straighten pattern edges and cut. Figure 6 shows how the new center back line is made and figure 7 indicates the new cutting line. Remember that other pattern pieces may be affected by alterations of one piece. If the measurements of the bodice have been changed, collar, facings, and sleeve must be altered where they join the bodice.
- Bear in mind that more than one change may be needed in a pattern piece. For example, the blouse front may need to be lengthened and the bust widened. It is best to take care of each alteration separately; first lengthen the blouse, then widen the bust.

Figure 5

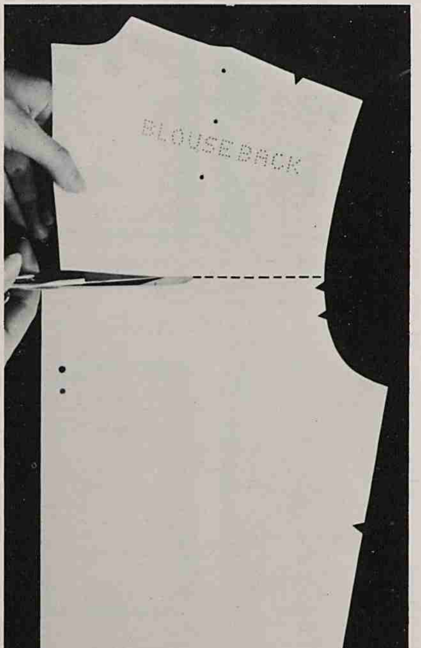


Figure 6

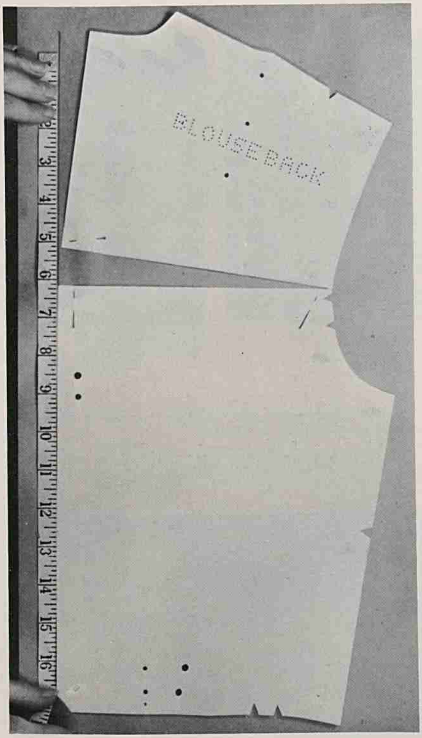
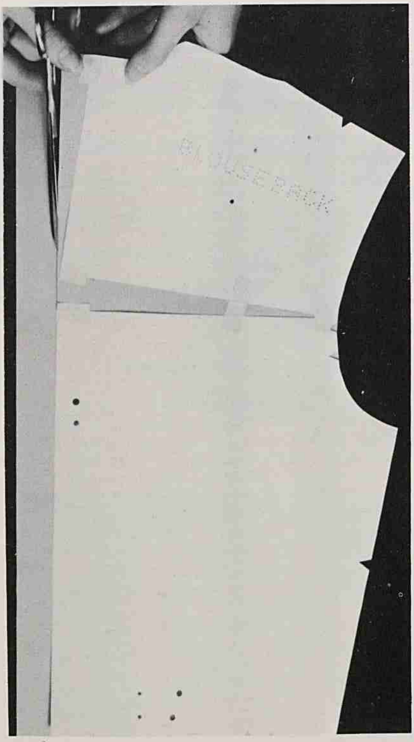


Figure 7



- Be careful to make alterations in a pattern only when needed. For instance, if the pattern is too small in the bust, but fits in the chest and shoulders, take care to widen only the bust. Try not to change the shape of armholes, neckline, or shoulders any more than necessary.
- If the alteration is a difficult one, try it out on a duplicate of the pattern made from newspaper or wrapping paper. Mark all construction lines and notches on the duplicate, and make the necessary corrections on it. It is a good idea to try out the altered pattern in a fabric like muslin to be sure of the fit. Then alter the pattern in the same way.

For women who usually need to make numerous changes in their patterns, a well-fitting basic pattern can be a helpful guide in altering patterns. It saves time because fewer measurements have to be taken.

For the basic pattern, select a simple shirtwaist style with a plain skirt—a six-gored one is easy to make and fit—or get a commercial basic pattern. All pattern companies offer basic designs. Make the basic pattern up in muslin or other inexpensive cloth, and alter it until it feels and looks just right. Slash or take tucks or pleats wherever needed. Then make the same changes in the paper pattern, making sure that the altered pattern pieces lie perfectly flat when finished. If many alterations have to be made, time may be saved by making a new paper pattern from the altered one, marking all notches or stitching lines as they are in the muslin garment.

This basic pattern can be used to compare shoulder lengths, armhole positions, bust size, waist length, and structural lines on other patterns as they are used. A new basic pattern may be needed every year or so to take care of figure changes and variations in style.

780-178 O—65——2

Skillful pattern alteration can solve many common fitting problems. Illustrated directions in this section suggest how to alter pattern pieces to fit some of the wide range of figure differences and irregularities that exist.

Here is a key to the markings in sketches in this section—

Broken lines inside the pattern piece are *cutting* lines.

White areas within the pattern piece show where pattern has been *enlarged*.

Broken lines outside the altered pattern show parts to be *trimmed off*.

Solid lines outline the altered pattern.

Dotted lines indicate where pattern pieces *overlap*.

Short waisted or long waisted

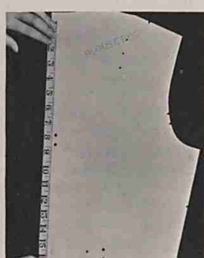
Women who are short waisted or long waisted or shorter or taller than average will probably need to shorten or lengthen some pattern pieces. Check length measurements 4, 5, 6, 16, and 20 (fig. 2, p. 2) against the corresponding pattern measurements (fig. 8, *A*, *B*, *C*, *D*, and *E*). Be sure to allow the necessary ease as indicated on page 4.

If a pattern has a low neck and the blouse length cannot be compared with body measurement, consult the size measurement chart on the pattern envelope or the construction chart to see what the blouse length is. If, for example, the blouse length is 16 inches, and the woman's center back measurement is 15 inches, the blouse front and back should be shortened 1 inch.

Most patterns now have crosswise lines to indicate where it is best to shorten or lengthen the

Figure 8

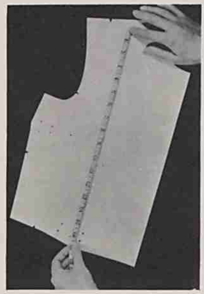
A



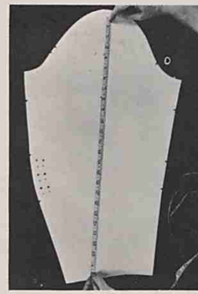
B

A. ***Blouse length, center front.***—Measure from neck seam line to waistline, along center-front line.

B. ***Blouse length, center back.***—Measure from neck seam line to waistline along center back.



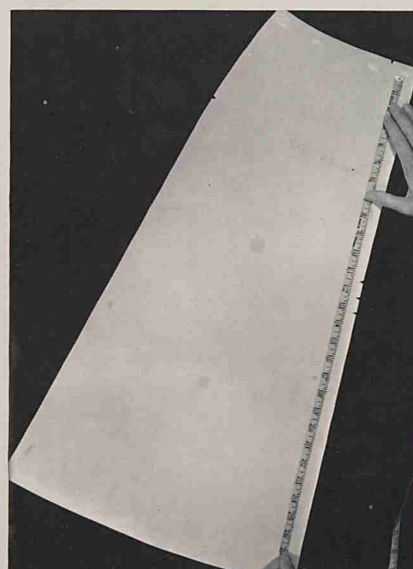
C



D

C. ***Blouse length, over bust.***—Measure from middle of shoulder seam line straight down to waistline.

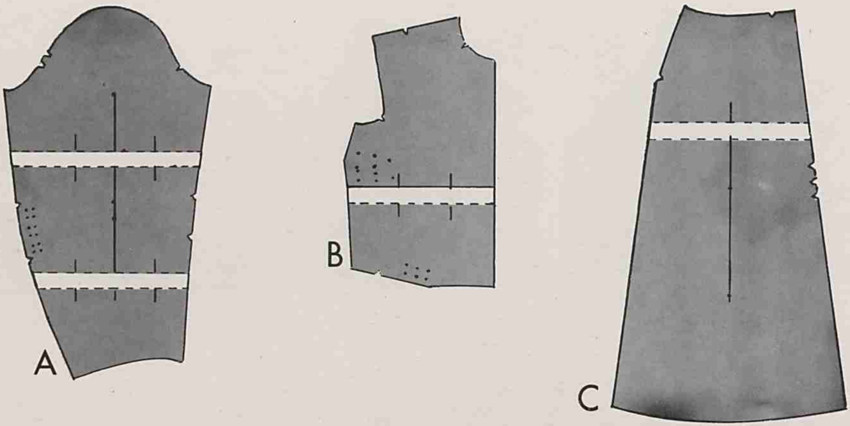
D. ***Sleeve length.***—Measure from top-of-shoulder mark to bottom of hem or seam line, following straight-of-goods mark.



E

E. ***Skirt length.***—Measure from waistline to hem at center front.

Figure 9

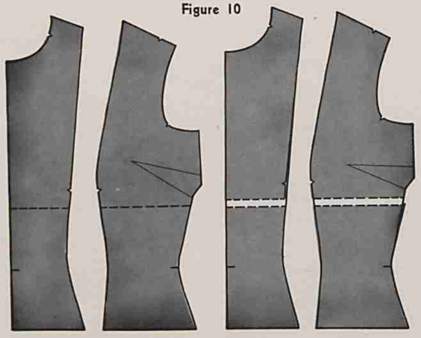


pattern. Short vertical lines drawn crosswise through these lines help make an accurate alteration.

Spread or lap the pattern sections to make desired length, matching the short vertical lines. Figure 9 shows the points for shortening or lengthening a sleeve, blouse, or skirt.

Princess styles or any one-piece fitted style should be carefully altered and fit. Changes in waist length need to be made on the pattern (fig. 10). Shaping at the waistline is difficult unless there is sufficient seam allowance for adjustment.

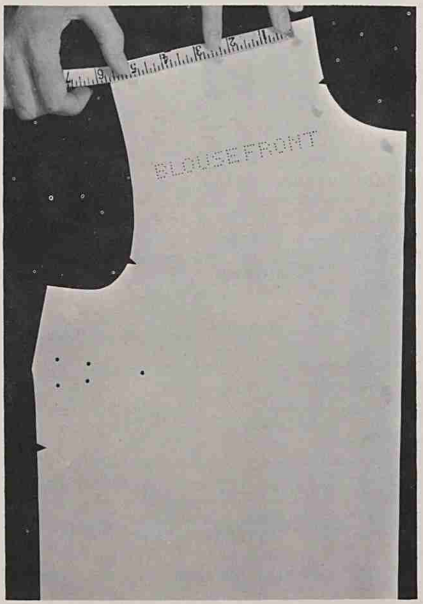
Figure 10



Broad or narrow shoulders

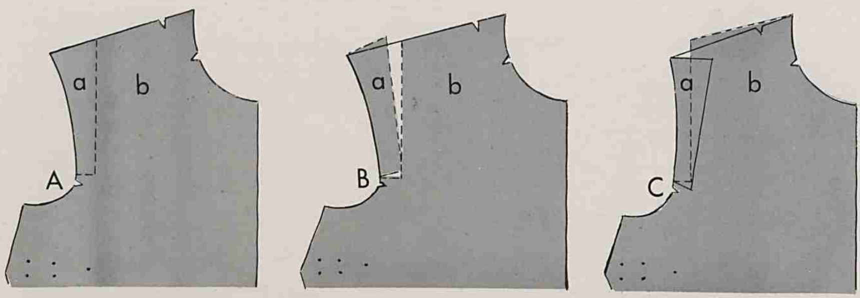
Narrow shoulders can often be made to look broader by using shoulder pads to extend the shoulders a little. If the shoulders of the pattern (fig. 11) are much wider than the shoulder measure

Figure 11



Shoulder length.—Measure a plain or darted front between seam lines. If front is gathered, measure back seam line.

Figure 12



number 11 (fig. 2, p. 2) they are likely to droop and should be narrowed. Be careful, however, not to make them too narrow. Broad shoulders make the hips look smaller and are generally more becoming than narrow shoulders.

If, on the other hand, the individual has broad shoulders and her sleeves feel tight at the top of her shoulders, the pattern may need to be widened at that point.

To alter the shoulder width, draw a line from the shoulder seam, about 3 inches in from the armhole, straight down to about 1½ inches above the level of the bottom of the armhole, then straight over to the armhole edge (fig. 12, *A*). Cut along these lines almost to the armhole edge. Cutting this far down the armhole helps to keep original shape. To widen the shoulder, spread section *a* away from *b* (fig. 12, *B*). To narrow the shoulder, lap section *a* over *b* (fig. 12, *C*). Make a new shoulder line, from the neckline or shoulder darts to the top of the armhole. This keeps the armhole depth the same, so no change need be made in the sleeve top.

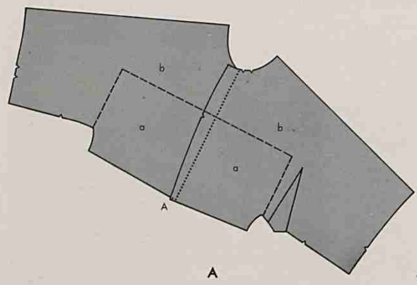
Alter front and back pattern pieces the same amount.

Shoulders of kimono, raglan, and epaulet sleeves can be narrowed or widened in the same way.

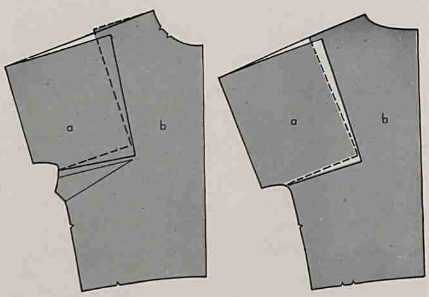
Pin the front to the back at shoulder line as in figure 13, *A*, and figure 14, *A*. On kimono and epaulet-sleeved patterns, draw the cutting line from the midshoulder point at right angles to the seam line, to a point slightly below the bottom of the armhole. Then draw another line straight across to the underarm edge, stopping just short of pattern edge. Spread to widen or lap to narrow section *a* and *b* (figs. 13, *B*, 14, *B*).

On raglan-sleeved patterns, draw the cutting line from the front to the back edge, and cut along this line just to the edge (fig. 15, *A*). Spread or lap sections *a* and *b* for alteration desired (fig. 15, *B*).

Figure 13

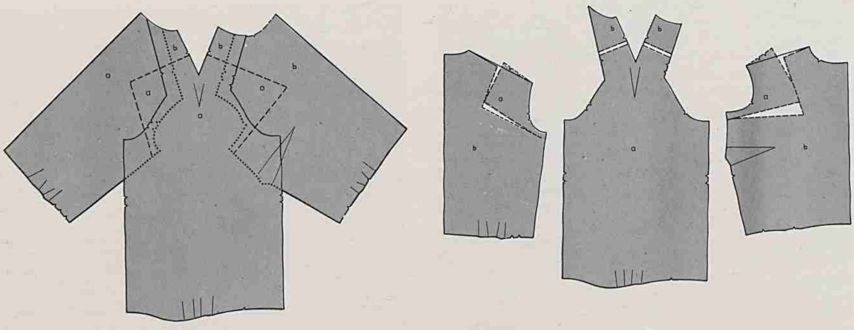


A



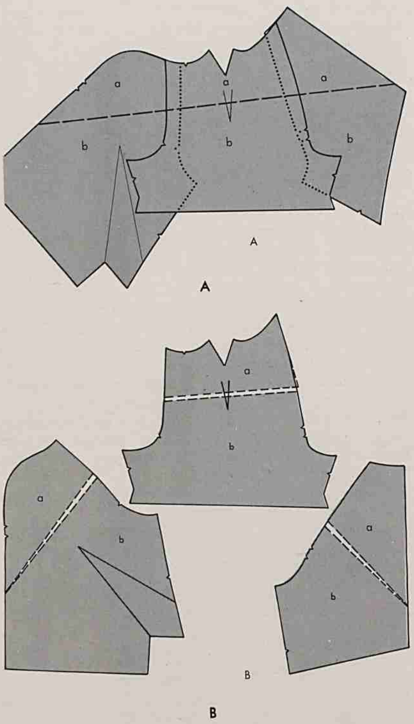
B

Figure 14



A B

Figure 15



A

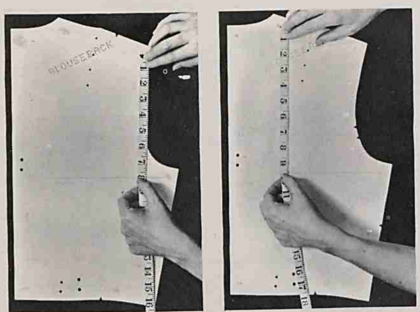
B

Square shoulders

If shoulders are square, the shoulder line of the pattern may slope too much. Check shoulder height (fig. 16, *A*) and armhole depth (fig. 16, *B*) of the pattern with body measurements, numbers 13 and 14 in figure 2, page 2.

The armhole may need to be lengthened to make the dress fit well. Draw a line from the back armhole seam, about 1 inch down from the shoulder, to the point directly below the neck point at the shoulder. Then draw a line from this point just to the shoulder edge, parallel to the center back

Figure 16



A B

A. *Shoulder height.*—Measure on blouse back from top to bottom of armhole seam line.

B. *Armhole depth.*—Measure on blouse back from shoulder seam line at neck to bottom of armhole seam line.

(fig. 17, *A*). Cut on these lines almost to the shoulder edge. Raise section *b* away from *a* to lengthen the armhole (fig. 17, *B*). Draw a new armhole line between sections *a* and *b*, cutting off the jog. Raise the front shoulder the same amount.

This alteration leaves the neckline unchanged. The sleeve cap will have to be lengthened about one-half inch more than the shoulder seam was raised, to allow ease for setting the sleeve into the armhole. (See p. 33.)

If the pattern has a shoulder yoke, pin the yoke pattern to the blouse-back pattern, matching seam allowance lines, and check the measurements (fig. 18, *A*). To alter the pattern, draw a cutting line along the shoulder line (fig. 18, *A*). Cut along this line, then spread section *b* away from *a* as in figure 18, *B*.

Figure 17

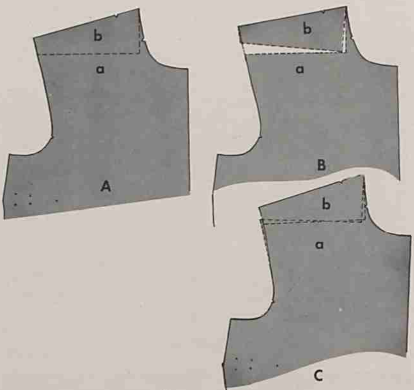
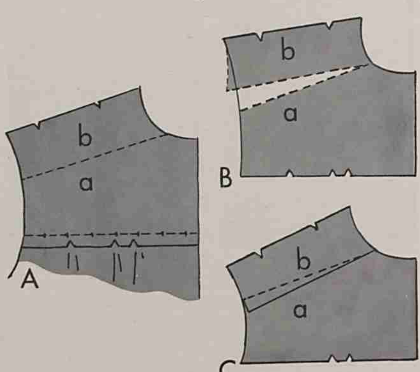


Figure 18



Sloping shoulders

If shoulders slope or the pattern calls for shoulder pads and pads are not to be used, the pattern will be too square, and there will be extra material at the top of the shoulder.

This extra material can be fitted out after the dress is basted, or the shoulders of the pattern can be altered.

To alter the pattern, cut it as in figure 17, *A*, and lap section *b* over section *a* as in figure 17, *C*. This alteration makes the armhole smaller, so the armhole may have to be trimmed a little at the underarm after the dress is basted and fitted. Also the sleeve pattern may be too wide at the top for the altered armhole, so check the width of the cap (about halfway between top of sleeve and bottom of armhole) with the cap of a good-fitting sleeve on some other garment. The sleeve cap is usually 1 inch wider than the arm. If necessary, narrow the sleeve cap of pattern slightly (see p. 32), or remove any extra width in the sleeve cap when you set in the sleeve by taking a deeper seam allowance in the sleeve, but not in the blouse.

To alter the shoulders of a pattern that has a yoke, cut the pattern as in figure 18, *A*, and lap section *b* over *a* as in figure 18, *C*.

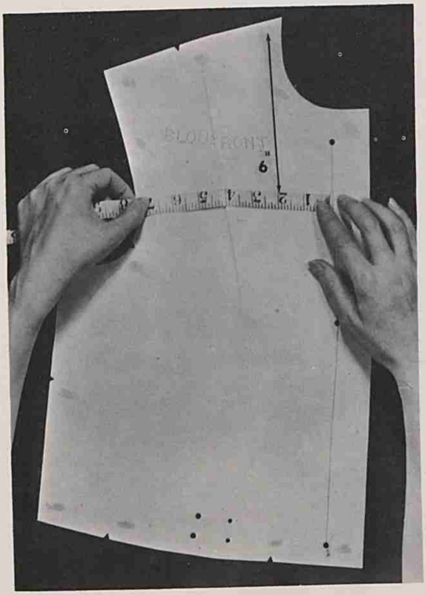
Narrow chest and shoulders

For women with round shoulders, the chest width (fig. 19, *A*) and front shoulder length (fig. 19, *B*) are probably narrower than those of the pattern. Check these pattern measurements (fig. 19, *A* and *B*) against corresponding body measurements, numbers 11 and 12 (fig. 2, p. 2).

To alter draw a line from a point on the shoulder seam, 3 inches from the top of the armhole to about 1½ inches below the level of bottom of armhole. Make this line parallel to center front. Then draw a line, at right angles to the first line, to underarm edge (fig. 20, *A*). Cut along these lines almost to the underarm edge. Lap section *b* over section *a* until the shoulders and chest are as near as possible to the person's measurements (fig. 20, *B*). Be careful not to change the bust measurement. Draw a new shoulder line from neck to top of armhole.

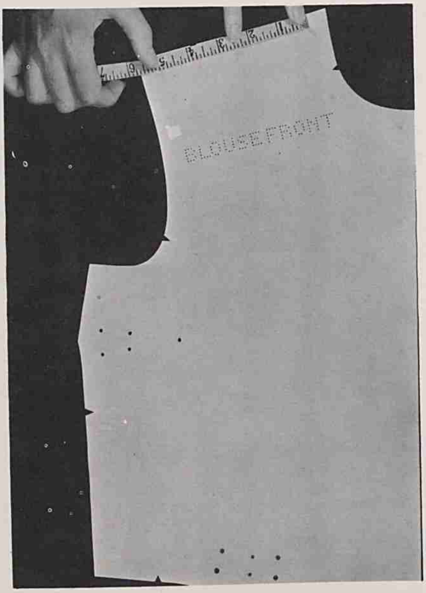
If the back shoulder seam of the pattern is now more than one-half inch longer than the front shoulder seam, you may need to narrow it in the same way as you did the front. For a round-shouldered person, the extra fullness can probably be worked into back shoulder darts, or eased onto the front shoulder when the dress is put together.

Figure 19



A

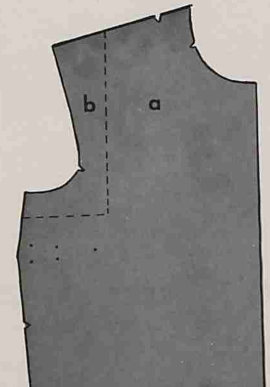
A. *Chest width.*—Measure from armhole seam line to center front, 6 inches below shoulder seam at neckline.



B

B. *Shoulder length.*—Measure a plain or darted front between seam lines. If front is gathered, measure back shoulder line.

Figure 20



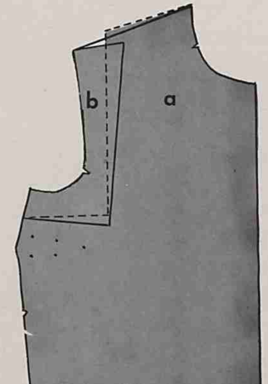
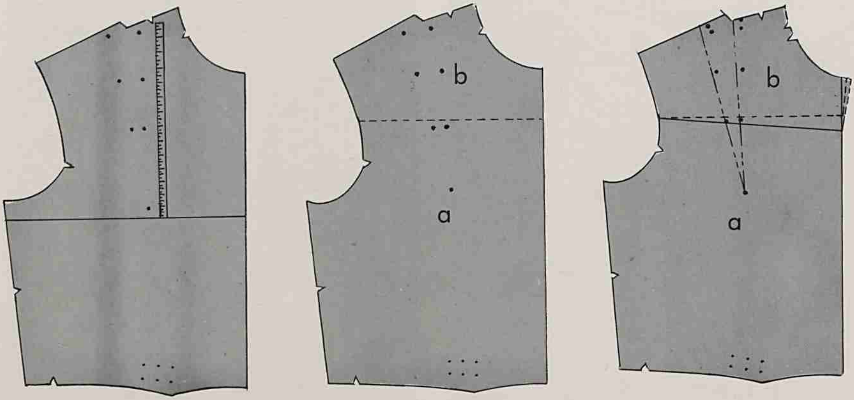


Figure 21



A B C

Flat chest

For the woman with a flat chest and slightly rounded shoulders, the pattern may need to be shortened between shoulder and bust to prevent blouse from sagging in that area.

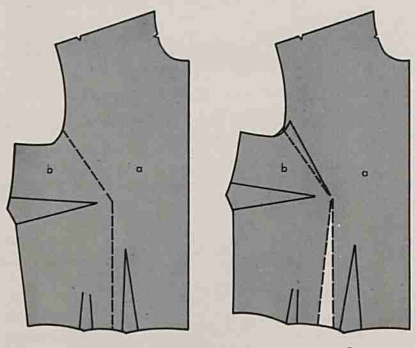
Measure the pattern from the shoulder seam at neckline to the bust line (about 2 inches below bottom of armhole line). See figure 21, *A*. Compare with same measurement taken on the person.

If the pattern needs to be shortened, draw a cutting line on the pattern about halfway between shoulder and bust line (fig. 21, *B*). Lap section *b* over *a* until the blouse is the right length. If the pattern has a shoulder dart, use the marks in section *a* as a guide for marking a new dart; disregard dart lines in section *b* (see fig. 21, *C*). Extend the front edge of section *a* up to the neckline and cut off the jog.

Thin chest

Thinness through the chest area may result in extra fullness in the blouse front at the armhole. This cannot be detected by measuring the pattern. The best thing to do is to make up the blouse in muslin, and pin out the extra fullness in the form of a dart. Then transfer this change to the pattern. To do this, slash the pattern from the lower front armhole toward the bust, then straight down to the waist, parallel to the center front (fig. 22). Lap section *b* over section *a*, the width of the dart. This spreads the waistline a little, but additional fullness can be worked into deeper darts, or eased into gathers at side front.

Figure 22



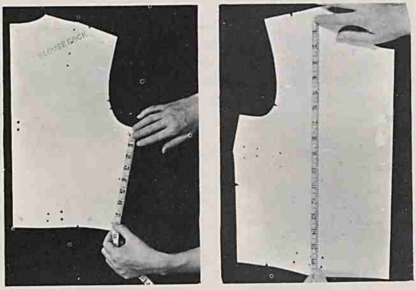
A B

Large bust in relation to figure

If the bust is large in relation to the rest of figure, the blouse front may be large enough through the bust and the right length at the underarm (fig. 23, *A*), but it may be too short from shoulder to waistline (fig. 23, *B*). Check measurements 6 and 15 in figure 2, page 2. The front may need to be lengthened.

To alter the pattern, it is best to lengthen the entire front blouse pattern and then take up the extra length at the underarm seam in an underarm dart when the dress is put together. Draw a cutting line from front edge to underarm edge just below the bust line. Draw lengthwise lines across the cutting line for matching (fig. 24, *A*). Cut the pattern; then move section *b* down from section *a* to lengthen the blouse front (fig. 24, *B*).

Figure 23

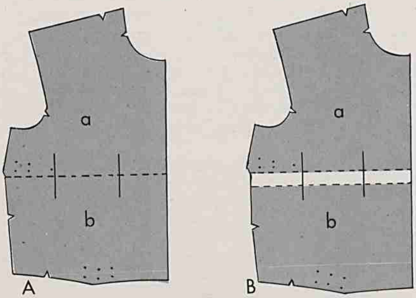


A B

A. *Underarm length.*—Measure on blouse back from armhole seam line to waistline.

B. *Blouse length, over bust.*—Measure from middle of shoulder seam line straight down to waistline.

Figure 24



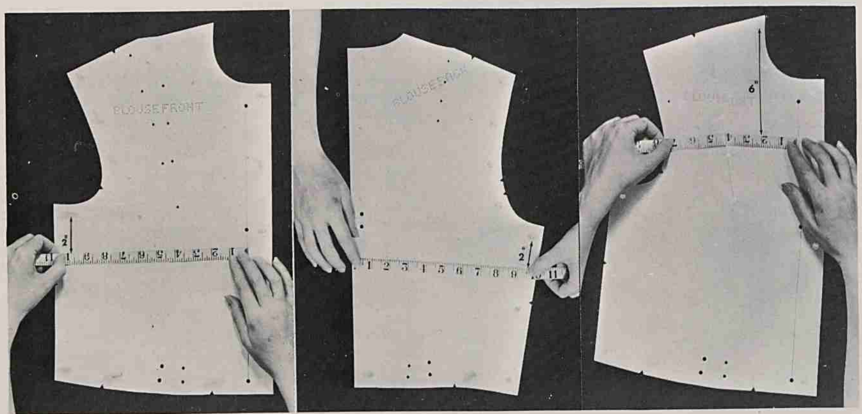
A B

Large bust, average shoulder width

If a woman has a large bust, or if she has bought a smaller size pattern to fit her shoulders, check pattern measurements (fig. 25, *A*, *B*, and *C*) against body measurements 1 and 12 (fig. 2, p. 2).

Be sure to include the amount needed for ease through the bust—2 inches in the back, at least 2 inches in the front. If only the front bust measurement needs to be enlarged draw a line from the waistline, parallel to center front, to a point about 1 inch above the level of the bottom of the armhole. From this point draw a line at right angles

Figure 25



A B C

A. *Bust front.*—Measure between center front and side-seam lines, 2 inches below armhole seam line.

B. *Bust back.*—Measure between center back and side-seam lines, 2 inches below armhole seam line.

C. *Chest width.*—Measure from armhole seam line to center front, 6 inches below shoulder seam at neckline.

to first line, over to armhole edge (fig. 26, *A*). Cut along these lines almost to armhole edge. Spread section *b* away from section *a* until the bust measures the width you want. (fig. 26, *B*). Draw in a new waistline, cutting off the jog. When putting the dress together, take up any extra fullness at the waist in gathers, tucks, or darts; or if this extra fullness is not wanted, trim off the extra material at the underarm seam below the bust level.

If the pattern has shoulder fullness, such as tucks or gathers, and is too small through the bust, draw a line from the middle of the shoulder, parallel to the center front, straight down to the waistline (fig. 27, *A*). Cut along this line. Spread section *b* away from *a*, from top to bottom, to widen the bust the needed amount (fig. 27, *B*). Make a new shoulder line and trim off the jog. Take up extra fullness at the shoulders in gathers or deeper tucks to fit the back shoulder seam. The surplus at the waistline can be worked into gathers or dart tucks.

Figure 26

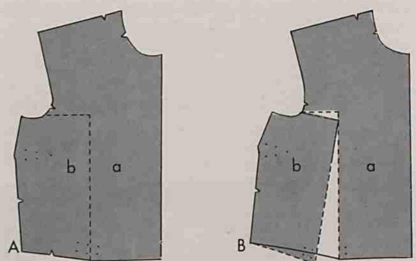
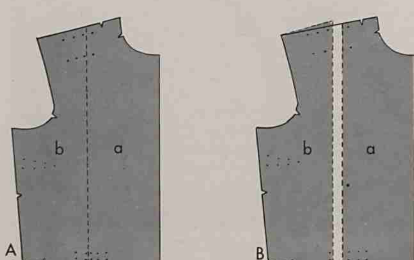


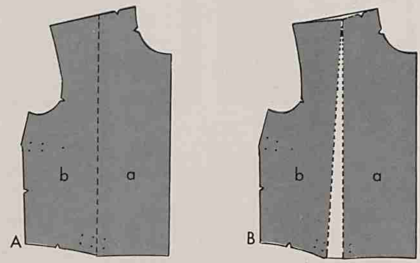
Figure 27



Large bust and full chest

For those who have a large bust and a full chest, the front blouse pattern will need to be enlarged through the chest as well as the bust. To do this, draw a line from waist to shoulder, parallel to the center front, about halfway between center front and side seam (fig. 28, *A*). Cut along this line, almost to shoulder edge. Spread section *b* away from *a*, until the chest and bust are wide enough. Make a new shoulder line between the neck and armhole, filling in the hollow made by the alteration (fig. 28, *B*). The surplus at the waistline can be worked into gathers or dart tucks.

Figure 28



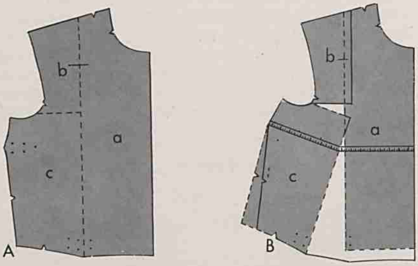
Large bust, narrow shoulders and chest

If shoulder and chest measurements of the pattern are larger than body measurements (table 1, p. 3), the pattern will need to be narrowed.

Draw a line on the pattern from shoulder seam to waistline. Over this line draw a crosswise line, for matching the pattern pieces after you have cut them apart. Draw another cutting line at right angles from the first line to the armhole edge, about one-half inch above the bottom of the armhole (fig. 29, *A*). Cut from waistline to shoulder, then along the crosswise cutting line almost to the armhole edge. Lap section *b* over *a* until the chest and shoulder measurements are narrow enough. Then spread section *c* away from *a* to widen the bust (fig. 29, *B*).

Check the new bust measurement as shown in figure 29, *B*, not straight across from front to side. Section *c* now extends below *a*, so lengthen the front by making a new waistline from the bottom of *c* to the center-front edge. Use the lower edge of section *a* as a guide. If the underarm seam

Figure 29



line slants too much, trim it off below the bust line as in figure 29, *B*.

If the front shoulder has been narrowed considerably, the back shoulder will probably have to be narrowed also. But be sure the back shoulder seam is at least one-half inch longer than the front.

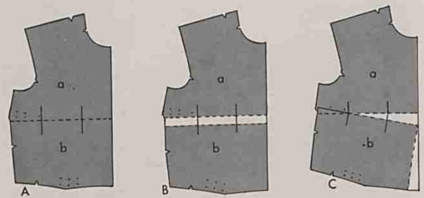
Large bust, short waist

If a woman has a large bust and is short-waisted, the blouse pattern may need to be lengthened in front, but shortened at underarm and across the back.

Draw a crosswise line just below the bust from front edge to underarm edge of the pattern, or use the line printed on the pattern for lengthening or shortening. Then draw short lengthwise lines for matching through the crosswise line. Cut on the crosswise line (fig. 30, *A*). Lower section *b* in the front (fig. 30, *B*); at the underarm, lap section *b* over *a* until the underarm seam is short enough (fig. 30, *C*). Be careful not to make it too short—if it is still a little long when the dress is fitted, any extra length can be trimmed off around the waistline. Extend the front edge of section *a*, and join it to the lower edge of section *b*.

The underarm seam in the blouse-back pattern needs to be shortened the same amount as the front underarm seam.

Figure 30



Small bust

When the bust measurement of the pattern is larger than the body measurements plus the desired amount of ease, the pattern can be made smaller in several ways. It can be slashed from waist to shoulder as in figure 31, and the pattern section *b* lapped over section *a*. This narrows the chest line as well as making the pattern smaller at the bust.

A number of waistline and underarm darts can make a blouse seem quite full through the bust. To take care of this excess fullness, remove some of the darts or make them smaller, and then recut the pattern piece.

To do this, slash the pattern through one of the waistline darts, parallel to the center front, then at right angles to within one-eighth inch of the underarm seam (fig. 32, *A*). Make this slash below the underarm dart. Lap section *b* over section *a* (fig. 32, *B*) to take out all or most of one

Figure 31

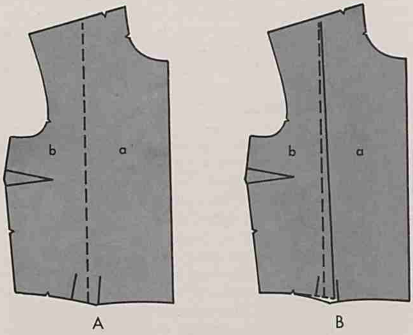
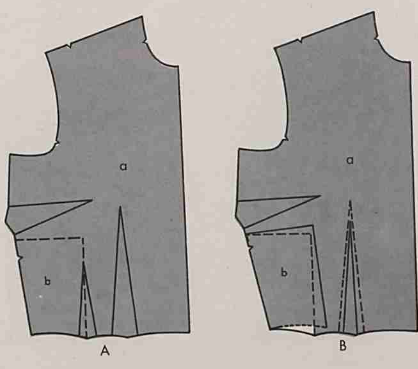


Figure 32



waistline dart. Then draw a new underarm seam, extending the old line just below the underarm dart, to the waistline. The remaining waistline dart can be made smaller, and leftover waistline fullness can be eased into gathers between the waistline dart and the underarm seam. Or the waistline dart can be released halfway to the point to make a pleat.

If the pattern has a French dart—one that extends diagonally from the underarm seam at the waistline to the bust—the dart can be made smaller (fig. 33, *A*). Fold the dart to the desired size; pin, then make a new underarm seam by drawing a straight line between the points where the armhole and the waist seams join the original side seam. Mark the new dart and unpin to flatten pattern piece before cutting out garment (fig. 33, *B*).

This alteration can take an inch off the bust measure. Be sure to check the new waist measure before cutting out dress, or test alteration on a muslin model.

If the blouse is a fitted one, the bust measurement can be reduced by taking a slightly deeper seam allowance. Or draw a new line on the pattern between the chest and waistline levels (fig. 34, *A*), then slash the pattern as in figure 34, *B*. Lap sections *a* and *b* over *c* as much as is needed.

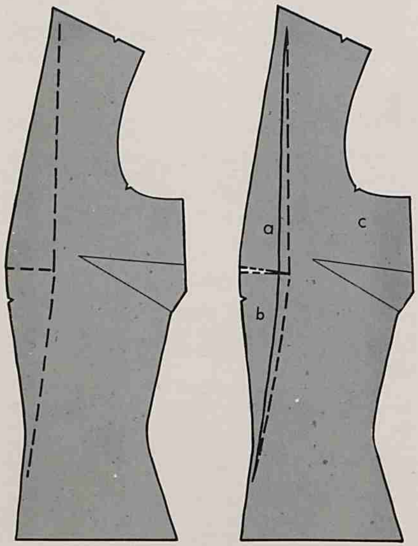
Low, small bust

If a person is round-shouldered, and has a low, small bust, the pattern may be too long between bust and waist. Measure the pattern from a line about 2 inches below the armhole, or from the tip of the shoulder dart, to the waist; then take a comparable measurement on the person.

If the person is too long between the bust and waist draw a crosswise line at bust line of pattern piece (fig. 35, *A*), and cut along this line. Lap section *b* over *a* to shorten the front (fig. 35, *B*). To keep the altered pattern the same size as the original one around the waist, extend the front edge of section *a* down to the bottom of section *b*, cutting off the corner, and extend the underarm line of section *a* down to the waistline.

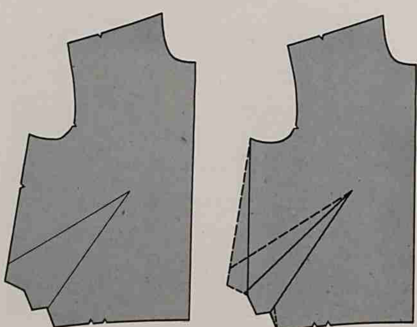
The need for an alteration of this type is hard to detect by measuring. For this reason, it is a good idea to make a plain shirtwaist dress of muslin, alter it to fit, and use as a guide in changing other patterns.

Figure 34



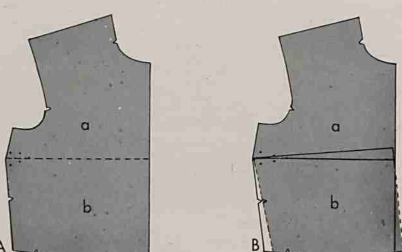
A B

Figure 33



A B

Figure 35



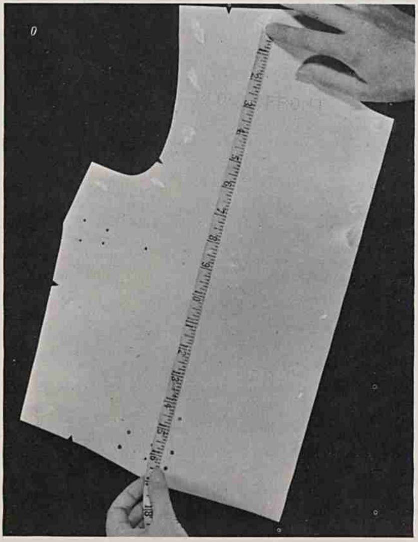
A B

Large abdomen (bodice alteration)

A woman with a large abdomen will probably find that the blouse pattern needs to be larger below the bust and around the waist. Also more length may be needed in the blouse front than the pattern allows.

Check the pattern measurements—front waistline and length of blouse over the bust (fig. 36, *A* and 36, *B*)—with the body measurements 2 and 6 (fig. 2, p. 2) plus the desired amount of ease.

Figure 36



A

A. ***Blouse length, over bust.***—**Measure from middle of shoulder seam line straight down to waistline.**

B

B. ***Waistline.***—**Measure waistline of plain skirt, following waist curve and seam lines. Take front and back measurements.**

If skirt is gathered, measure the belt pattern from center front and center back to side seam.

If the skirt is plain across the front measure the waistline to check the amount the blouse pattern must be altered. If the blouse front is a plain darted one, measure that waistline instead of the waistline of the skirt.

If the pattern needs to be just a little larger, draw a cutting line across the bust line, as in figure 37, *A*. Cut along this line almost to the underarm edge; then move section *b* down at center front until pattern is wide enough and long enough. Extend the center-front line from section *a* and join it to the lower edge of section *b* (fig. 37, *B*).

When the pattern is much too small, draw cutting lines as in figure 38, *A*. Cut along these lines. Spread section *b* away from *a* and *c* until the bust is wide enough. Then drop section *c* an even distance below *a* to lengthen the waist (fig. 38, *B*). Be sure to keep the center-front line straight.

Remember that when the blouse front is widened to take care of a large abdomen, the skirt front must also be widened. (See p. 20.)

Figure 37

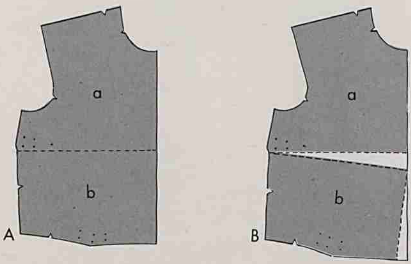
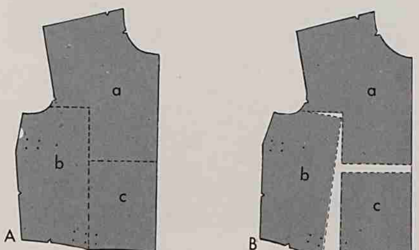


Figure 38



Large abdomen (skirt alteration)

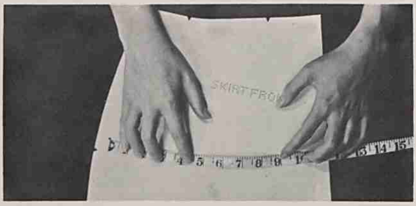
A woman with a large abdomen will probably find the skirt pattern too small in the front (see p. 19 for corresponding blouse front alteration). One way to alter the pattern is to widen each skirt front section from waistline to hem.

First, compare the front waistline and hip measurements of the pattern (fig. 39, *A* and *B*), with body measurements taken from side seam to side seam, numbers 2 and 3 (fig. 2, p. 2) to see how much the pattern should be changed.

Draw a cutting line up the center of each front skirt piece from hem to waist parallel to straight-of-goods marks (fig. 40, *A* and *B*). Cut and spread sections *a* and *b* apart evenly. Make new straight-of-goods marks in center of slash (fig. 40, *C* and *D*).

Figure 39

A



B

A. *Waistline.*—Measure waistline of plain skirt, following waist curve and seam line. Take front and back measurements.

If skirt is gathered, measure the belt pattern from center front and center back to side seam.

B. *Hips.*—Measure pattern at exactly the same distance from waistline that your own hip measurement was taken. Measure in a curved line, an even distance from the waistline.

Figure 40

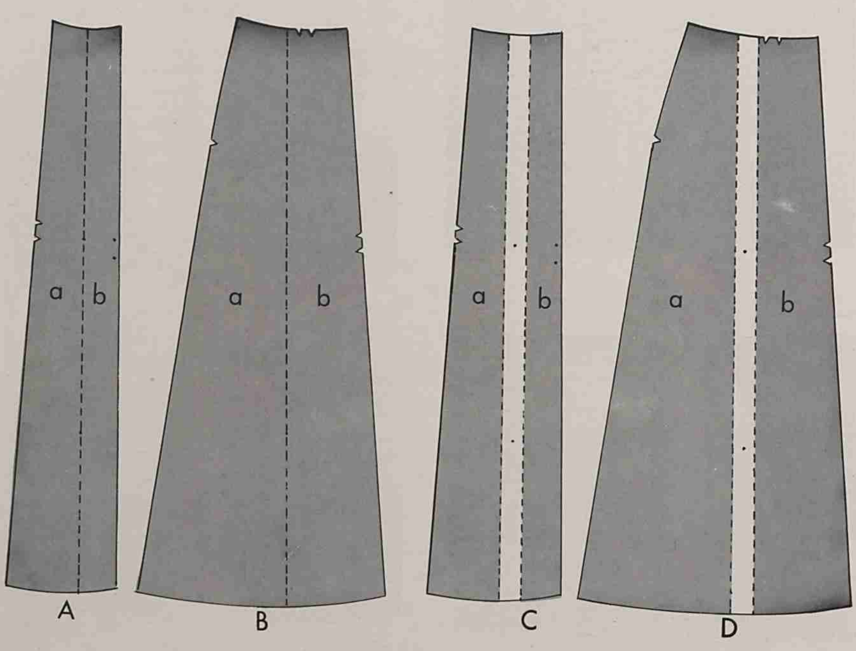
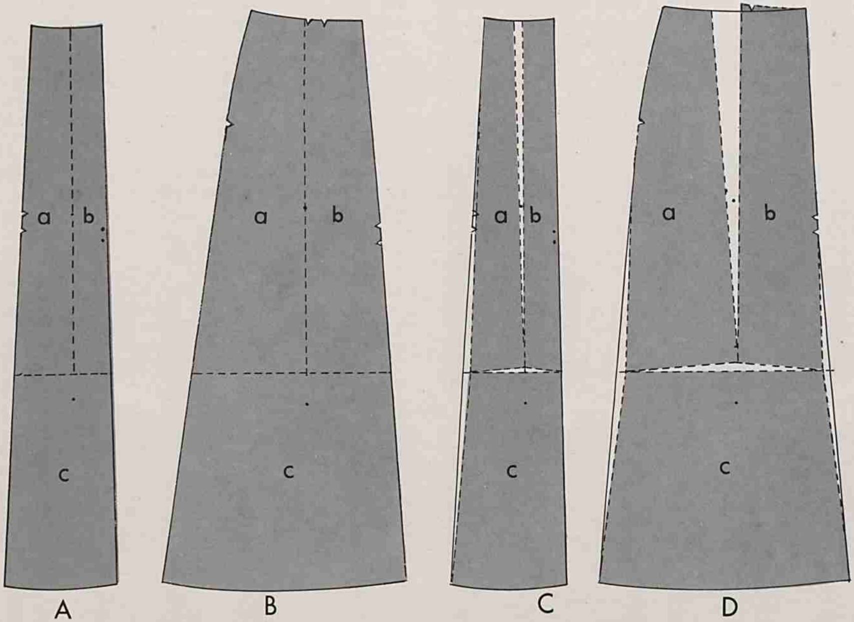


Figure 41



Another way to make this alteration is to widen the skirt from the waist to 8 or 10 inches below the hip line. Draw a line, parallel to the straight-of-goods marks, down the center of each skirt front piece to 7 or 8 inches below the hip line. Then draw a crosswise line at right angles to the first line (fig. 41, *A* and *B*). Cut along the lengthwise line, then along the crosswise line almost to pattern edges. On the center piece, move *a* away from *b* (fig. 41, *C*) and on the side piece, spread sections *a* and *b* apart (fig. 41, *D*) until the waist and hip measurements are right. Connect waistline edges of *a* and *b;* straighten seam lines from waist to hem.

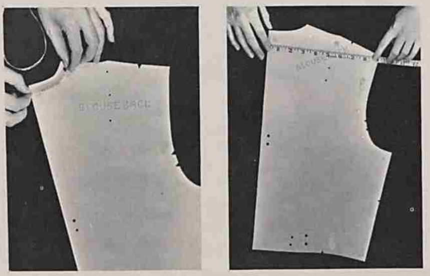
Full neck

If a woman has a full neck, a dress may be tight across the upper back. Diagonal wrinkles may form from the neck to the underarm.

To correct this trouble, check carefully the back neck seam and the upper back width measurements of the pattern (figs. 42, *A* and *B*). Check these measurements against body measurements numbers 8 and 10 (fig. 2, p. 2).

The neck seam on the pattern should not be more than one-fourth inch smaller than the neck meas-

Figure 42



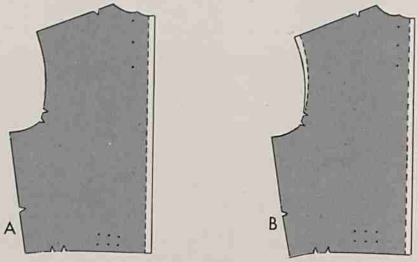
A B

A. *Back neck seam.*—Measure along neck seam line, using edge of tape for a good curve.

B. *Upper back width.*—Measure from center back straight across to top of armhole seam line.

urement. If it is, add the needed amount to center back (fig. 43, *A*). Or if there is much difference in the measurements, it may be better to add half the amount to the center back and the rest to the upper part of the armhole line. Taper this off to nothing at bottom of armhole curve (fig. 43, *B*).

Figure 43



Dowager's hump

If there is a pad of fat at the back of the neck, the pattern will probably need to be lengthened and widened there. Check the back neck seam, the upper back width, and length of blouse center back (fig. 44, *A*, *B*, and *C*), with body measurements 10, 8, and 4 (fig. 2, p. 2).

One way to widen the back is to leave unstitched any darts at the back of the dress neck, but a better way is to alter the pattern. Draw a line from center back to armhole line, about 1 inch below the top of the armhole (fig. 45, *A*). Cut along this line, almost to the armhole edge. Raise section *a* at center back until pattern is long enough (fig. 45, *B*). Extend center-back line of section *b* to neckline. This gives extra length and width just below the back of the neck, where it is needed. If the neck is too wide when the dress is fitted, take up any extra fullness in tucks or shirring.

Figure 45

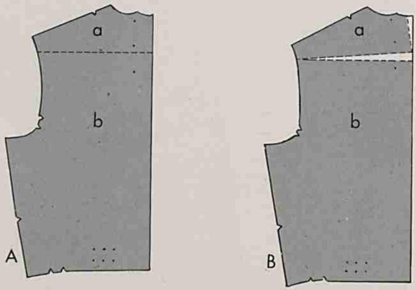
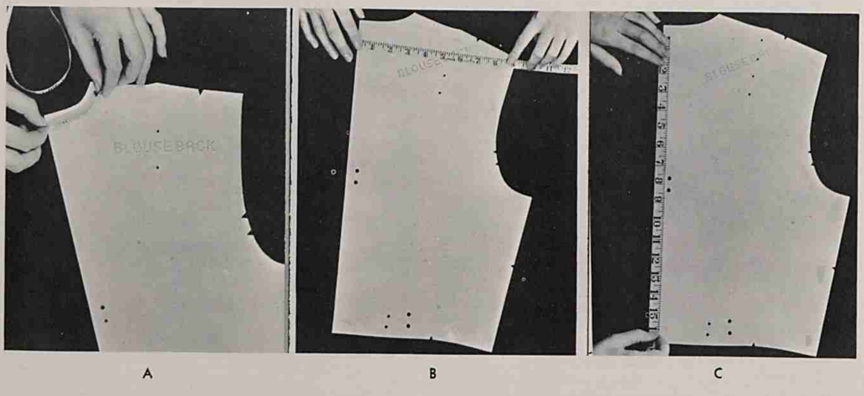


Figure 44



A. ***Back neck seam.***—**Measure along neck seam line, using edge of tape for a good curve.**

B. ***Upper back width.***—**Measure from center back straight across to top of armhole seam line.**

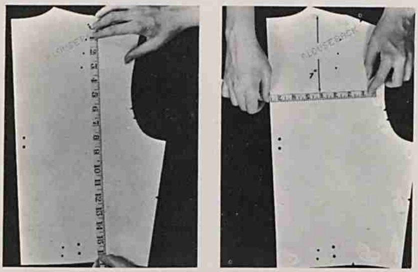
C. ***Blouse length, center back.***—**Measure from neck seam line to waistline along center back.**

Round shoulders

A round-shouldered woman may need to add more length and width in the upper back of her blouse so it won't pull up at the center back. Check the upper back blouse length and width over the shoulder blades (fig. 46, *A* and *B*) against body measurements 7 and 9 (fig. 2, p. 2).

To alter the pattern, draw a cutting line from center back to armhole line about 2 inches above the bottom of the armhole (fig. 47, *A*). Cut along this line almost to the armhole edge. Raise section *a* at center back until the pattern is long enough from the middle of the shoulder to waistline (fig. 47, *B*). Extend center-back line of section *b* to neckline. Draw a new neckline at the higher neck level, using the original neck pattern as a guide. Make a new shoulder line from the neckline to the top of armhole. This makes the back shoulder longer. Ease extra length to front shoulder or take up fullness in shoulder darts.

Figure 46

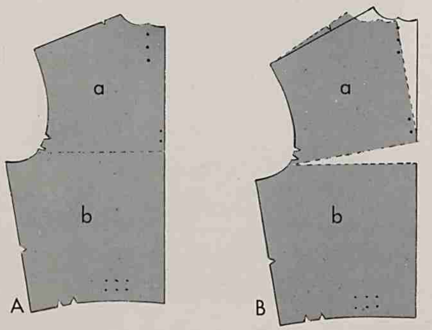


A B

A. ***Blouse length, over shoulder blades.***—Measure from middle of shoulder seam line to waistline.

B. ***Width across shoulder blades.***—Measure from center back to armhole seam line, 7 inches below shoulder seam at neckline.

Figure 47

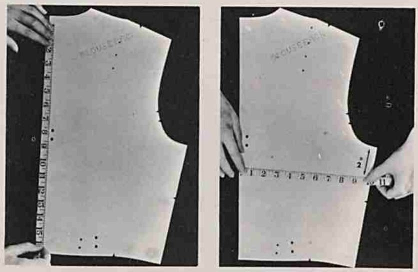


Round back

If the back rounds below the shoulder blades, extra length and width may need to be added to the back blouse pattern between the bottom of the armhole and the waistline. Check the center back length (fig. 48, *A*) and the back width at bust level (fig. 48, *B*) against body measurements 1 and 4 (fig. 2, p. 2).

To alter, first draw the cutting line from center back almost to the armhole, about 2 inches above the bottom of the armhole. Cut on this line to, but not through, the armhole seam allowance. See figure 49, *A*. Then lower section *b* to lengthen blouse at center back. Extend the center-back line from section *a* straight down to the waistline (fig. 49, *B*). Use the underarm section just as it is to widen the lower back. Take up extra fullness at waistline with pleats or tucks when you put the dress together.

Figure 48

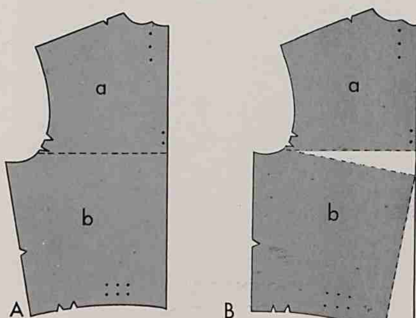


A B

A. ***Blouse length, center back.***—Measure from neck seam line to waistline along center back.

B. ***Bust back.***—Measure between centerback and side-seam lines, 2 inches below armhole seam line.

Figure 49

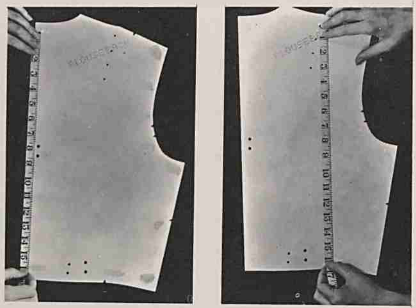


Overerect or swayback

A woman who has a very straight back or a swayback may find a blouse pattern is the right length at the underarm seam, but too long across the back. Check the pattern lengths at center back and over the shoulder blades (fig. 50, *A* and *B*), with body measurements 4 and 7 in figure 2, page 2.

To shorten the back, draw a crosswise line from the center back to the underarm edge of pattern about 1 inch below bottom of armhole (fig. 51, *A*). Cut along this line almost to the underarm edge. Lap section *b* over *a* to shorten the center back (fig. 51, *B*). Extend the original center-back line from section *a* to the waistline and trim off the jog. Extend the underarm seam of section *a* to waistline.

Figure 50



A B

A. *Blouse length, center back.*—Measure from neck seam line to waistline along center back.

B. *Blouse length, over shoulder blades.*—Measure from neck seam line to waistline along center back.

Figure 51

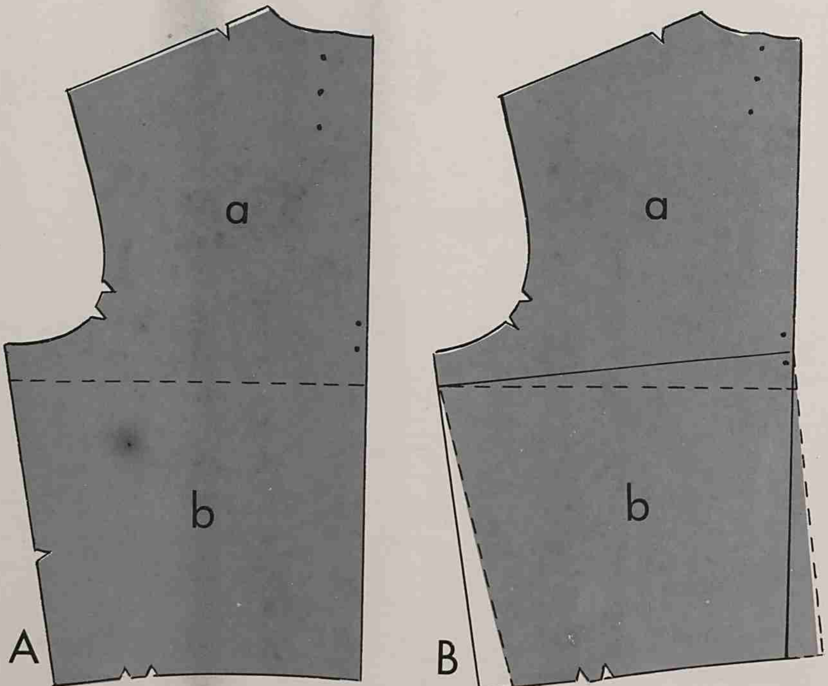
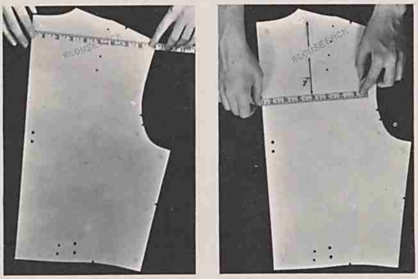


Figure 52

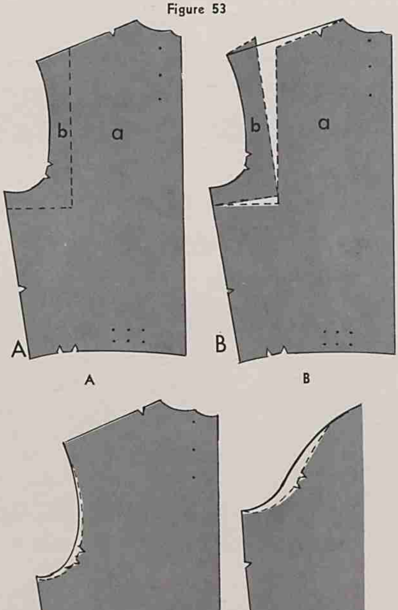


A B

A. *Upper back width.*—Measure from center back straight across to top of armhole seam line.

B. *Width across shoulder blades.*—Measure from center back to armhole seam line, 7 inches below shoulder seam at neckline.

Figure 53



A B

C D

Wide upper back

If there is a large muscle in the back near the shoulder blade, the pattern may be too tight across the upper back. Check the width of the upper back and the width across the shoulder blades (fig. 52, *A* and *B*) and compare these measurements with body measurements 8 and 9 in figure 2, page 2.

If the pattern needs widening, draw a cutting line from a point on the shoulder about 2 inches in from the top of the armhole to a point about 2 inches below the level of the bottom of the armhole (fig. 53, *A*). Cut along this line. Then spread section *b* away from *a* to widen the back (fig. 53, *B*). This makes a longer shoulder line, but extra material can be eased onto the front shoulder seam or taken up in a shoulder dart. Make a new shoulder line from neck to top of armhole.

Another way to enlarge the pattern is to draw a new armhole line, taking out the deep back curve as in figure 53, *C*. In both cases, it would be wise to add extra width to the back of the sleeve cap, as in figure 53, *D*.

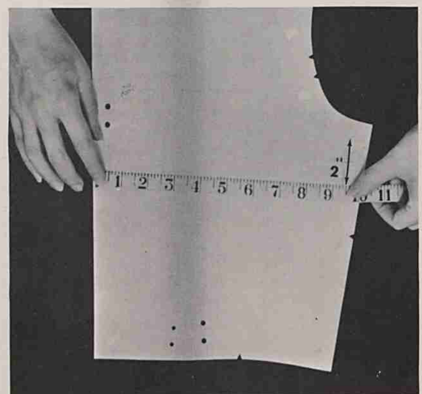
A dress with gathers or pleats set in below a shallow back shoulder yoke is good for this type of figure because it has more fullness than could possibly be added to a plain back.

Back large below armholes

Some blouse backs may be uncomfortably tight on a person whose back is rather large below the armholes. Compare back measurement at bust level with that of the pattern (fig. 54).

If more width is needed, draw a line from the waistline to about the middle of the shoulder seam

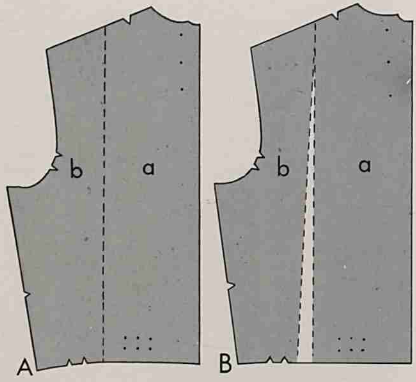
Figure 54



Bust back.—Measure between center-back and side-seam marks, 2 inches below armhole seam line.

(fig. 55, *A*). Cut along this line, almost to the shoulder edge. Move section *b* away from *a* until the back, just below the armhole, is the width needed (fig. 55, *B*). The extra material at waistline can be made into small pleats or darts when waist and skirt are joined.

Figure 55



Narrow back

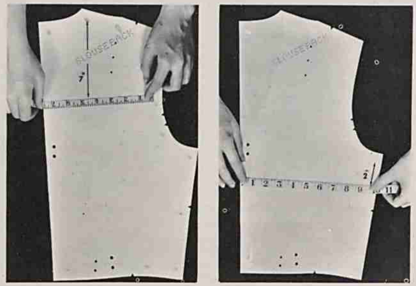
If a woman has a narrow back and the shoulders of the pattern have been made narrower in the front, it is necessary to narrow the back blouse pattern from top to bottom.

Check the back width measurements 9 and 1 in figure 2 on page 2, with those of the back blouse pattern, figure 56, *A* and *B*.

Draw a cutting line as in figure 57, *A*. Cut along this line, separating section *a* from *b*. Then lap section *b* over *a* the same amount from top to bottom until the back is narrow enough. Then make a new shoulder line from neck to top of armhole (fig. 57, *B*).

If the person's back width is small in proportion to her bust, it may be necessary to enlarge the pattern in the front and make it smaller across the back to keep side seams in the right position. Compare back measurements at bust level with those of the pattern. If the pattern is too wide below the armhole but fits at the shoulder, draw a cutting line from about the middle of shoulder seam to waistline (fig. 57, *A*). Cut along this line from waistline almost to shoulder edge. Lap section *b* over *a* until the back is narrow enough below the armhole (fig. 57, *C*). Check the upper back measurements to make sure the pattern is not too narrow there.

Figure 56

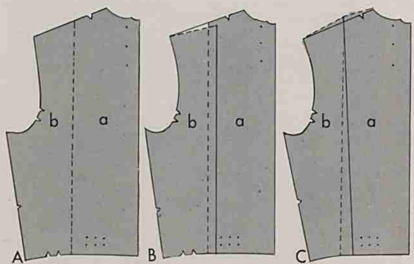


A B

A. ***Width across shoulder blades.***—Measure from center back to armhole seam line, 7 inches below shoulder seam at neckline.

B. ***Bust back.***—Measure between center back and side-seam line, 2 inches below armhole seam line.

Figure 57

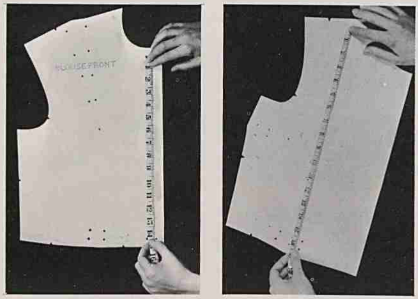


High or low armhole line

If the armhole usually feels tight when arms are raised, the armhole line maybe too high, or the armhole of the dress may be too deep.

To alter the pattern, first check the length measurements of the blouse, front and back (fig. 58, *A*, *B*, *C*, and *D*). Compare these four measurements with body measurements 5, 6, 4, and 7 (fig. 2, p. 2). Compare the underarm length on pattern (fig. 58, *E*) with body measurement 15 (fig. 2, p. 2).

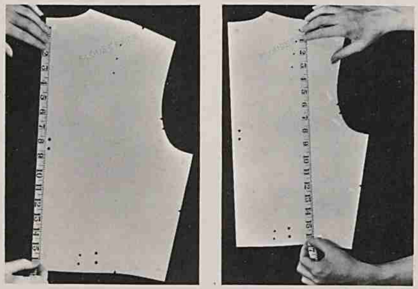
Figure 58



A B

A. ***Blouse length, center front.***—Measure from neck seam line to waistline along center front.

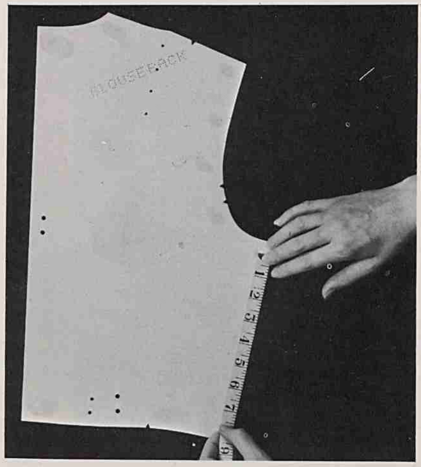
B. ***Blouse length, over bust.***—Measure from middle of shoulder seam line straight down to waistline.



C D

C. ***Blouse length, center back.***—Measure from neck seam line to waistline along center back.

D. ***Blouse length, over shoulder blades.***—Measure from middle of shoulder seam line to waistline.



E

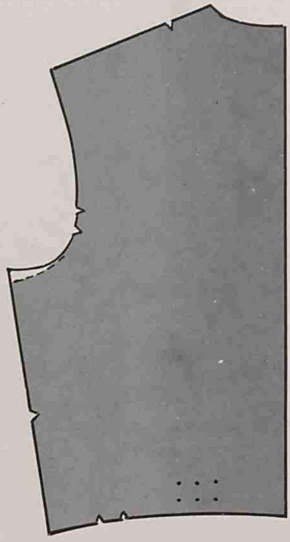
E. ***Underarm length.***—Measure on blouse back from armhole seam line to waistline.

Then build up the armhole the needed amount. First alter the blouse-back pattern. Lay a strip of paper under the armhole line and draw a higher armhole curve, using the back armhole line as a guide (fig. 59). Raise the front armhole the same amount, using the front pattern as a guide. If this makes the sleeve cap a little large for armhole, alter the sleeve pattern as directed on page 29, or take a little deeper underarm seam in the sleeve (but not in the blouse) when the dress is basted. Sometimes the extra width, if there is not much of it, can be eased into the armhole.

If, on the other hand, sleeves and underarms bunch up under the arms, the armhole of the pattern probably needs to be lengthened, and the underarm shortened. Check the measurements used for the too-low armhole, page 27.

To lower the armhole, mark the needed length on the pattern plus one-half inch for ease. Then draw a new lower armhole line, using the original pattern as a guide. The sleeve cap may also need to be lengthened. See page 33.

Figure 59



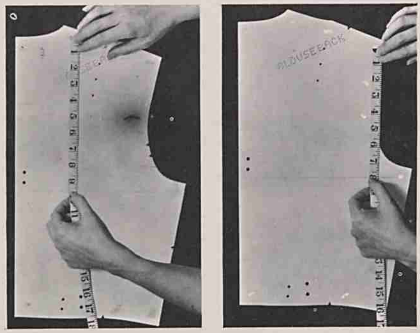
This alteration should be tried out in muslin before changing the pattern.

Prominent shoulder blades

If shoulder blades are prominent and the person is long from shoulder to underarm, the back of the blouse may be too short from shoulder to bottom of armhole. This may cause the blouse to ride back on the shoulders. Check the armhole depth and shoulder height of pattern (fig. 60, *A*, and *B*) with body measurements 13 and 14 (fig. 2, p. 2).

To lengthen the armhole, draw a crosswise line from center back to armhole, making short lengthwise lines for matching (fig. 61, *A*). Cut along the crosswise line. Lower section *b* until the armhole depth corresponds to body measurement (fig. 61, *B*). Check the sleeve-cap length; it may have to be lengthened the same amount. See page 33. If this alteration makes the back of the blouse too long, shorten it below the armhole. See page 24.

Figure 60

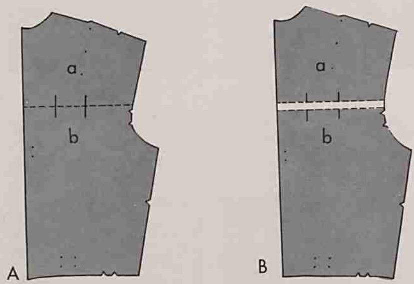


A B

A. *Armhole depth.*—Measure on blouse back from shoulder seam line at neck to bottom of armhole seam line.

B. *Shoulder height.*—Measure on blouse back from top to bottom of armhole seam line.

Figure 61



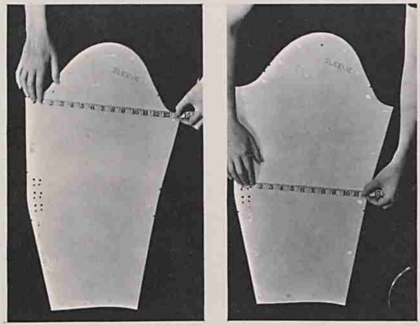
Large arm

Long fitted sleeves may be uncomfortably tight if arms are large, and patterns for such sleeves should be made larger. To see how much fullness needs to be added, compare pattern sleeve measurements, figure 62, *A* and *B* with body measurements 18 and 19 (fig. 2, p. 2).

To widen the pattern from top to bottom, draw a line from top-of-shoulder marks to bottom edge, parallel to the straight-of-goods line (fig. 63, *A*). Cut along this line. Spread sections *a* and *b* an equal distance apart from top to bottom.

If the wrist measurement of the pattern is right but the pattern is too narrow above the wrist, cut just to the bottom edge of the pattern. Spread sections *a* and *b* apart the same amount. Then make new top-of-shoulder marks and straight-of-goods marks in the center of the slash (fig. 63, *B*).

Figure 62

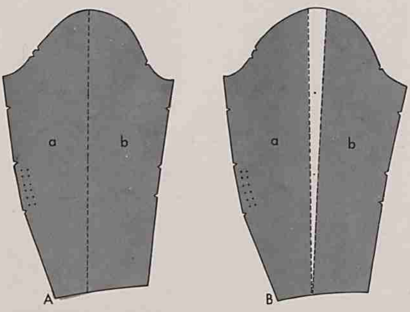


A B

A. ***Sleeve width.*—Measure between underarm seam lines of sleeve at same distance from top of armhole as upper arm measurement was taken (see fig. 2, p. 2).**

B. ***Elbow.*—Measure from middle of elbow fullness to a point halfway between matching notches on opposite seam line.**

Figure 63



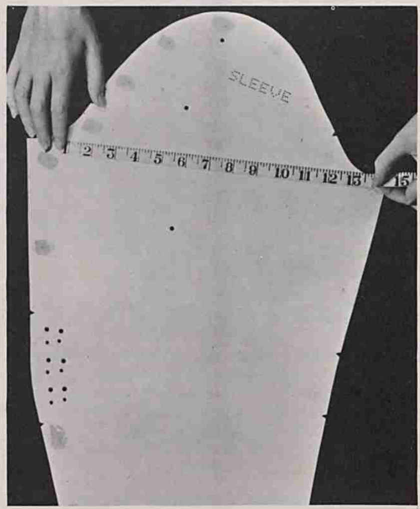
Large upper arm

If the upper arm is large, it is a good idea to choose a loosely styled sleeve, even though the sleeves sometimes have to be altered. To see how much extra width is needed, compare the sleeve width, figure 64 with body measurement 18 (fig. 2, p. 2). Allow at least 3 to 4 inches for ease.

To alter a long sleeve, draw a crosswise line just above the elbow. Then draw another line parallel to the straight-of-goods marks, from the top-of-shoulder marks to the crosswise line (fig. 65, *A*). Cut down to the crosswise line, then across almost to each edge. Spread sections *a* and *b* apart (fig. 65, *B*) until the sleeve width at cap p. 2). Allow at least 3 to 4 inches for ease.

If a short sleeve pattern is too small, draw a

Figure 64



***Sleeve width.*—Measure between underarm seam line of sleeve at same distance from top of armhole as upper arm measurement was taken (see fig. 2, p. 2).**

Figure 65

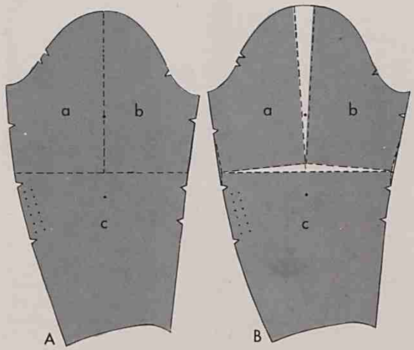
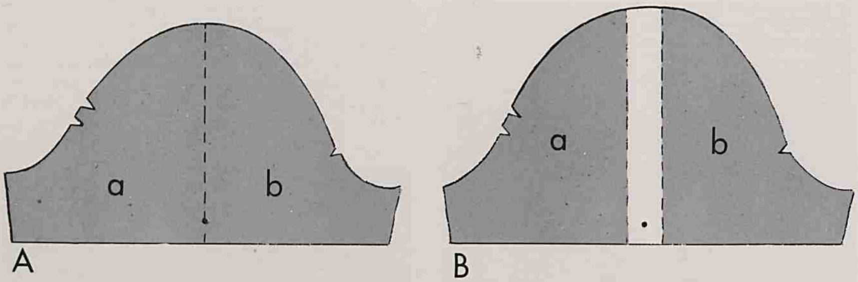


Figure 66

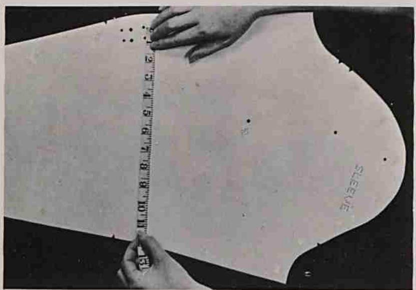


line from top-of-shoulder marks to bottom edge, parallel to the straight-of-goods line (fig. 66, *A*). Cut along this line. Separate sections *a* and *b* until the pattern is as wide as the body measurement plus allowance for ease (fig. 66, *B*). Then increase size of armhole to correspond with enlargement on sleeve.

Large elbow

If the elbow is large, you may have to widen the pattern at the elbow and a little above and a little below it. Measure the pattern at the elbow (fig. 67). Compare that measurement with the elbow girth measurement 19 (fig. 2, p. 2).

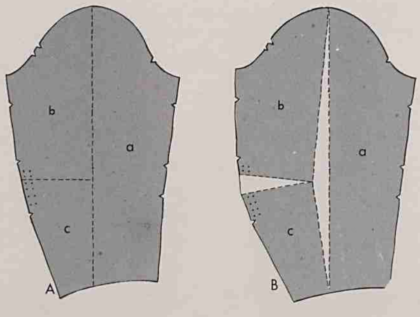
Figure 67



Elbow.—Measure from middle of elbow fullness to a point halfway between matching notches on opposite seam line.

The pattern should be at least 1 inch larger than body measurement at the elbow. To widen it, draw a cutting line from the top-of-shoulder mark to the bottom of sleeve, parallel to the straight-of-goods marks. Then at elbow level, draw another line at right angles to the first (fig. 68, *A*). Cut along the crosswise line, then along the lengthwise line almost to top and bottom edges of sleeve. Spread section *b* and *c* apart as in figure 68, *B*, until the elbow measurement allows at least an inch for fullness. Draw in a good elbow curve, as in the original pattern.

Figure 68

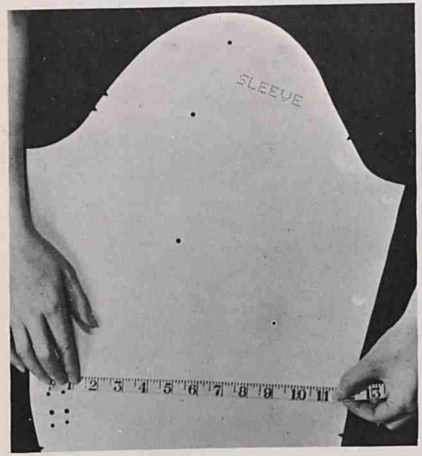


Large forearm

If arms are large below elbow and cause strain in long fitted sleeves, the pattern should be widened. Measure the elbow width of the pattern (fig. 69) as well as the width about 2 inches below. Compare these measurements with elbow measurement 19 (fig. 2, p. 2) and the measurement taken at the fullest part of the lower arm, with the arm bent. Allow about 1 inch for ease.

To alter the pattern, draw a crosswise line just above the elbow level to center of sleeve and another from this point to lower edge (fig. 70, *A*).

Figure 69



Elbow.—Measure from middle of elbow fullness to a point halfway between matching notches on opposite seam line.

Cut along these lines, but just to the lower edge of pattern. Spread section *b* away from *a* until the measurements at elbow and fullest part of lower arm allow at least 1 inch for ease. Draw in a good elbow curve, as in original pattern (fig. 70, *B*).

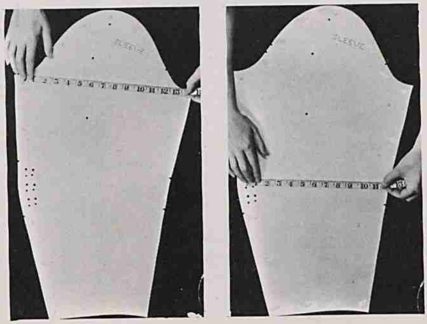
Thin arm

If arms are quite thin, the sleeve pattern may need to be narrowed to do away with excess fullness.

Compare the widths of the sleeve pattern (fig. 71, *A* and *B*) with body measurements 18 and 19 (fig. 2, p. 2).

To alter the pattern, and retain a well-shaped

Figure 71



A B

A. *Sleeve width.*—Measure between underarm seam lines of sleeve at same distance from top of armhole as upper arm measurement was taken (see fig. 2, p. 2).

B. *Elbow.*—Measure from middle of elbow fullness to a point halfway between matching notches on opposite seam line.

Figure 70

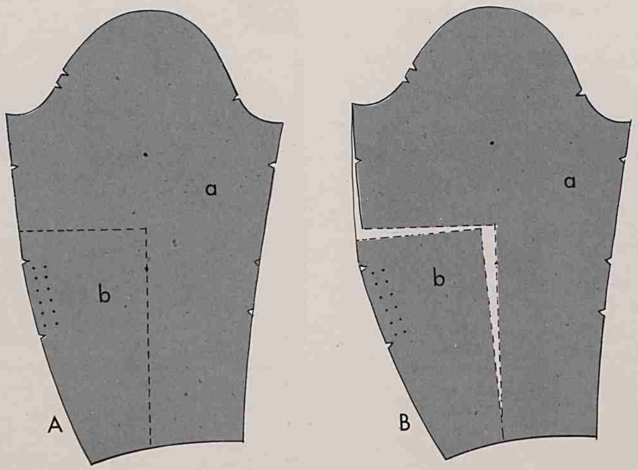
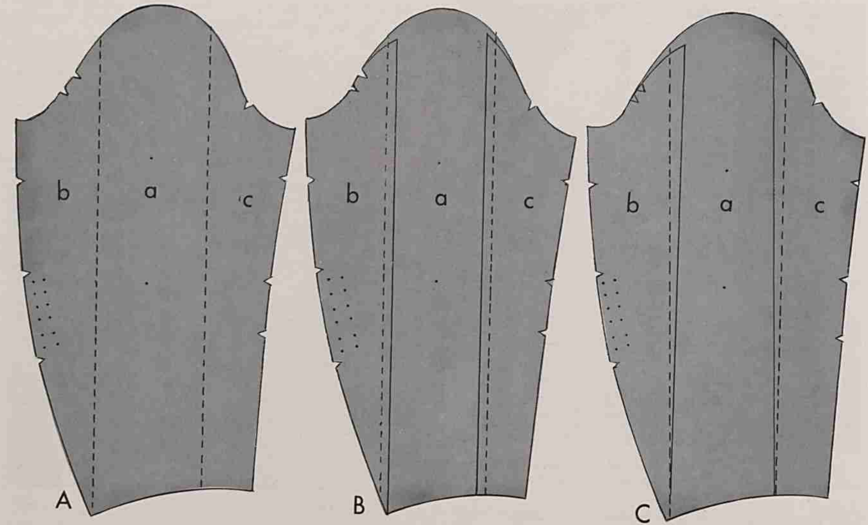


Figure 72



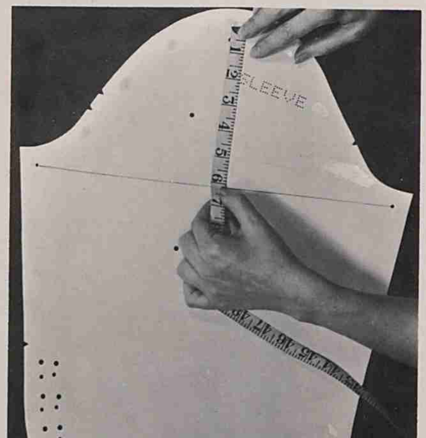
sleeve cap, draw two lines from top to bottom of sleeve, parallel to straight-of-goods line, about 1½ inches on each side of top-of-shoulder mark (fig. 72, *A*). Cut along these lines. Lap sections *b* and *c* over section *a*—the same amount from top to bottom—until the sleeve is narrow enough (fig. 72, *B*). Be careful not to make sleeve too narrow. The armhole seam of a plain-topped sleeve should usually be 1½ or 2 inches larger than the armhole of the blouse. Draw in a new top-of-sleeve line.

If the wrist measurement of the pattern is right but the pattern is to wide at elbow and above, cut almost to the bottom edge of the pattern. Then lap sections *b* and *c* over section *a* (fig. 72, *C*).

Fleshy upper arm

If the upper arm is fleshy, set-in sleeves frequently form wrinkles from the underarm to the top of sleeve. The sleeve cap is too short and needs lengthening. Compare pattern measurement, figure 73, with body measurement 17 (fig. 2, p. 2).

Figure 73

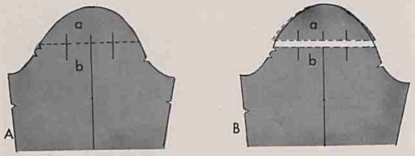


Sleeve-cap length.—Measure from top-of-shoulder mark straight down to bottom of armhole seam.

The pattern should measure about one-half inch more than the body measurement. To lengthen sleeve cap, draw a line across the top of the pattern at right angles to the straight-of-goods marks (fig. 74 *A*). Draw lines for matching, and cut. Raise section *a* (fig. 74, *B*)—until the sleeve cap is about one-half inch longer than the body measurement, to allow plenty of ease for setting in the sleeve. (If the sleeve cap is a little too long when the sleeves are basted in the dress, fit out the extra length by taking a deeper seam in sleeve cap than in armhole of blouse.) Smooth the sleeve-cap edge of pattern by extending outside edges of section *b* to *a*.

If the sleeve cap is too long, shorten it by lapping section *b* over *a*.

Figure 74

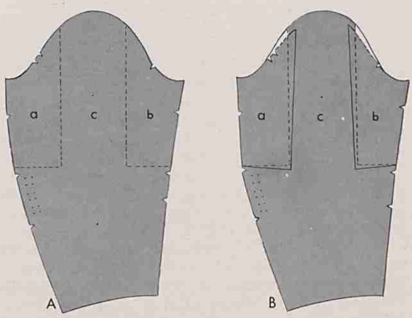


Cap of sleeve pattern too wide

If armhole of blouse front and back has been made smaller, the sleeve cap may be too large. Measure across the arm from armhole seam to armhole seam, halfway between top of sleeve and bottom of armhole. Compare this measurement with the same measurement on the pattern. The pattern of a sleeve with shoulder pads should be about 2 inches larger than the arm to allow for ease.

To narrow the sleeve cap, draw cutting lines on pattern at each side of sleeve from armhole to an inch or more above the elbow; then straight over to each edge at right angles to the first line (fig. 75, *A*). Cut along these lines, but just to the edge at underarm seam line. Lap sections *a* and *b* over section *c* until the sleeve-cap width is right (fig. 75, *B*). Draw in a good curve around the armhole. Narrowing the sleeve cap on both sides, rather than in the center, makes a well-shaped sleeve.

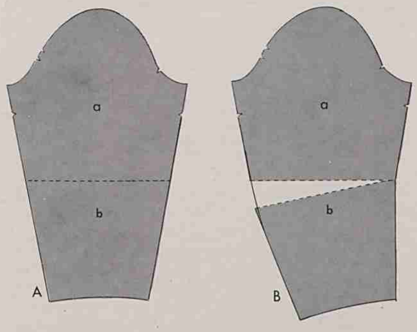
Figure 75



Long-sleeve pattern with no elbow fullness

Long sleeves generally need elbow fullness for comfort and to prevent strain on seams. To add extra fullness for a dart or gathers at the elbow, lengthen the back seam line of the pattern. Draw a line straight across the pattern at elbow level (fig. 76, *A*), and cut along this line almost to the front edge. Without moving the top of the sleeve, lower section *b* so there is at least a 1-inch space between the two sections at the back seam line (fig. 76, *B*). Draw in a new elbow line. When putting the dress together, work this fullness into one or more unpressed pleats, or ease it into gathers on each side of the elbow.

Figure 76



Hip size

If the skirt is too small or too large through the hip area, it will not hang correctly or be comfortable to wear. Two inches of ease over body measurement is needed for easy movement.

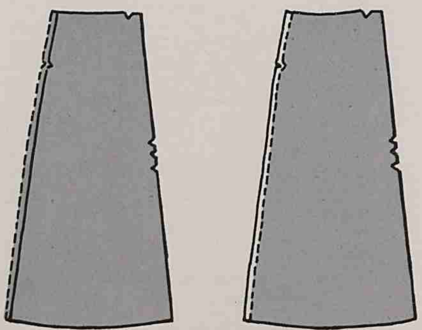
To decrease the hipline, take an equal amount from each side seam (fig. 77, *A*) until hip measure of the pattern (fig. 78) is about 2 inches larger than body measurements at this point.

To increase the hipline, add an equal amount to each side seam (fig. 77, *B*) until hip measure of pattern (fig. 78) is about 2 inches larger than body measurements (fig. 2, p. 2).

In either case, if waistline is to remain the same, taper the seam allowance from waist to hip. Then carry alteration on seam line to the hem.

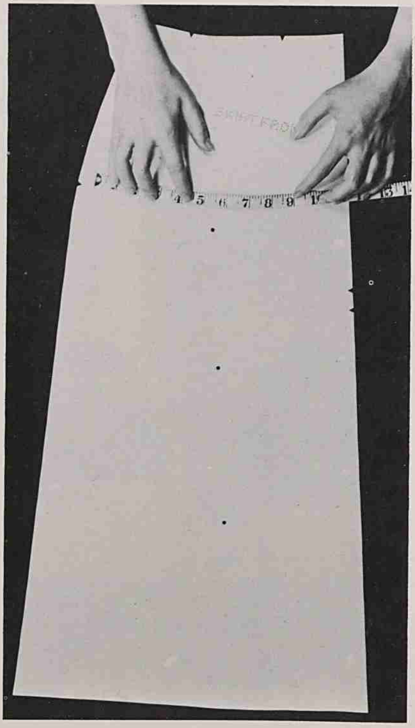
Check dart placement after making hip alteration to make sure the darts end at fullest part of the hip.

Figure 77



A B

Figure 78



Hips.—Measure pattern at exactly the same distance from waistline as your own hip measurement was taken for the body measurement chart (table I, p. 3). Measure in a curved line at an even distance from the waistline.

One hip larger than the other

If one hip is much larger than the other, skirt seams swing to the larger side, particularly if the skirt is rather tight. The problem is not so evident if the skirt has a slight flare.

To make the skirt hang correctly, one side of the pattern should be made longer through the hip area. Both front and back side seams should be altered.

To determine how much to lengthen the pattern, tie a cord evenly around the hips, parallel with the floor. Tie another cord around the waist. Then measure, at each side seam, the distance from the cord at the hips to the cord at the waistline. The difference between the two sides will be the amount the skirt section should be lengthened.

To alter, draw a crosswise line about 6 inches below the waistline, as in figure 79, *A*. Cut along this line. Raise section *a* at the side seam until the skirt length is the same as the body measurement (fig. 79, *B*). Make this alteration on both front and back side seam.

Large derriere

If the derriere is large, the skirt probably needs to be lengthened in the back to keep it from drawing up at that point. Measure the distance from the waistline to the floor at side seams and center back. The difference between these two measurements is the amount the center back needs to be lengthened.

Figure 79

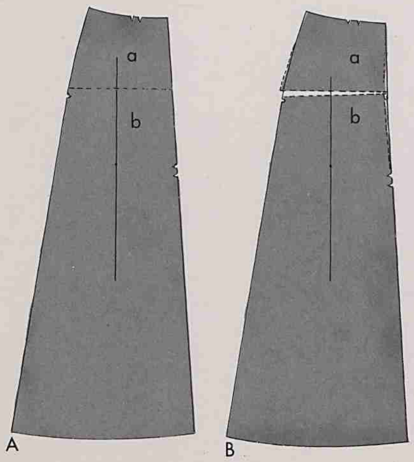
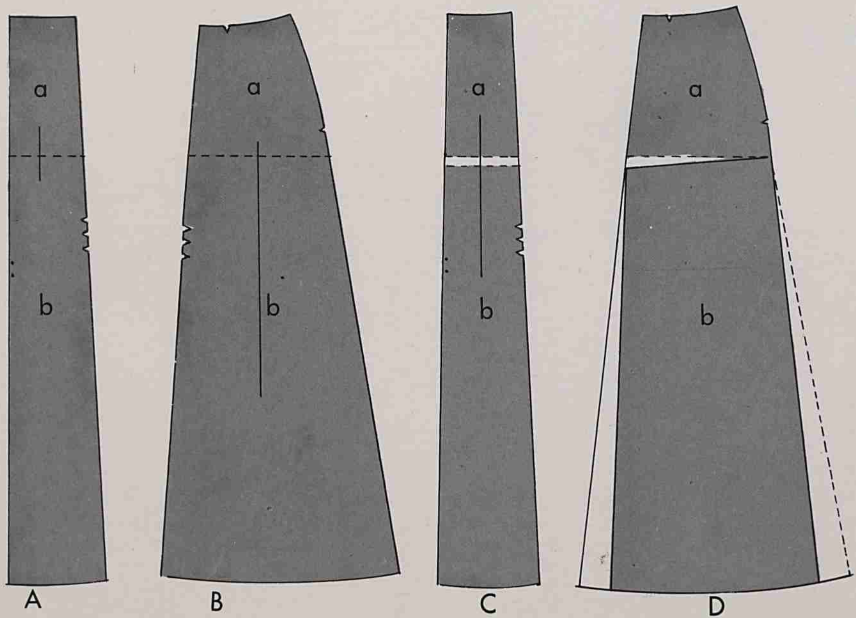


Figure 80 shows how to alter a six-gored skirt. On each back-skirt section, draw a crosswise line at hip level, at right angles to the straight-of-goods marks (fig. 80, *A* and *B*). Cut along these lines. Drop section *b* at center back enough to make the skirt hang evenly (fig. 80, *C*). Then lower the side-back seam line of the side-back pattern piece the same amount (fig. 80, *D*). Make new side and side-back seam lines by extending these lines on section *a* to the hem line (fig. 80, *D*). Make a new bottom curve between the new side and side-back seams. This alteration supplies the needed length in the back and adds a little extra width at the bottom of the skirt.

Skirt pattern too short and narrow at bottom

A tall woman may need to lengthen the skirt pattern, and, at the same time, add a little extra width around the bottom of the skirt for a nice flare. Add the length to the bottom of the pattern rather than just below the hips. Pin or paste a strip of paper to the bottom edge of the pattern;

Figure 80

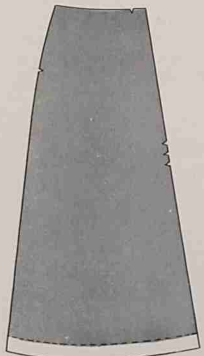


then mark the needed amount evenly around the lower edge, using the bottom of skirt as a guide. Extend the seam lines (fig. 81).

Skirt pattern too straight at sides

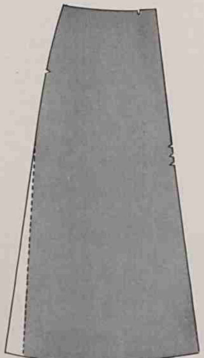
Side seams of some skirts hang straight, with little flare, from hips to hem line. If a flared skirt is more becoming, a flare may be added to the pattern. Pin or paste a strip of paper to the side seam line of pattern. Then draw a line from the widest part of the hip curve down to the hem line, adding a little more width to the bottom of the skirt (fig. 82). Change both front and back side seams the same amount.

Figure 81



A

Figure 82



B

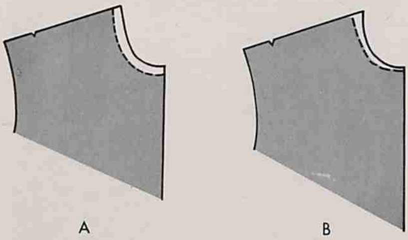
Neckline of pattern too large

If necklines are generally too large or too wide at the shoulder, it saves trouble to make the neckline smaller. Pin or paste a strip of paper flat to the neck of the pattern in front and back. Then draw the new neckline on the paper an even distance above the pattern edge (fig. 83, *A*).

The neck may have to be made smaller all around, or, perhaps, only at the side as in figure 83, *B*. When the dress is cut out, mark the original seam line to use as a guide when fitting and finishing the neck. Make the facings smaller by the same amount, or shorten the collar to fit the new neckline.

If a neckline is to high at center front, it is better to change it after the dress is ready for a fitting, not before. In this case, do not cut out the collar or the neck facings until you have corrected the neckline. The collar or facings will probably need to be lengthened.

Figure 83



A B

Collar pattern too short or too long

If the neckline of the pattern has been enlarged, the collar also must be made longer. Cut out a trial collar in muslin and try it on the dress. If the back neckline of the dress has been widened, a straight collar may be lengthened (fig. 84, *A*) between the shoulder-seam lines and the center back by adding a piece to the center-back edge of pattern (fig. 84, *B*). If the neckline has been enlarged across the front, add the extra length to front edge of pattern (fig. 84, *C*).

If the collar is one that lies flat and the neckline has been enlarged at the back, slash the collar halfway between the center-back and shoulder-seam marks (fig. 85, *A*). Spread the pieces apart the needed amount (fig. 85, *B*). If the dress neckline has been widened in front, slash the collar between shoulder and front edge, and spread the pieces apart the needed amount (fig. 85, *C*). Or if the neck alteration has been slight, take a smaller seam at front edge of collar.

To make the collar shorter, lap the collar sections the needed amount instead of spreading them apart.

Collar pattern too long around outer edge

Try out the collar pattern in muslin. If the collar protrudes in the back, pin a fold in the center back of the muslin; or cut muslin in a few places from the outer edge almost to the neck edge (fig. 86, *A*). Lap the edges to make collar smaller at the outer edge (fig. 86, *B*). When the collar is altered to the right size, make a new paper pattern.

Collar pattern too short around outer edge

If the trial muslin collar rolls too high on the neck, adding more neck curve and more length around outside edge will make it lie flat. To add more width to the outer edge, slash the muslin as in figure 86, *A*, and spread the sections apart (fig. 86, *C*) until the collar has the curve you want.

Figure 84

Figure 85

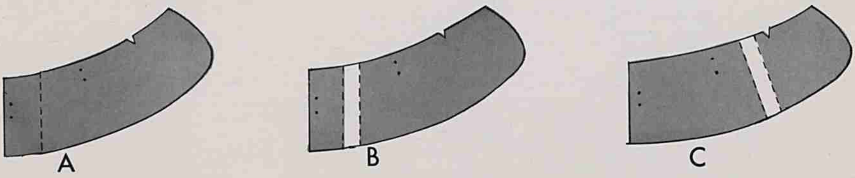
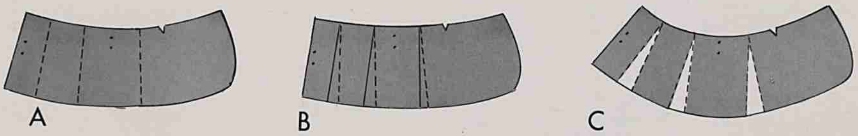


Figure 86



ALTERATIONS IN SLACKS

Slacks and related garments, such as shorts and pedal pushers, have become increasingly popular in recent years. They are worn for housework, gardening, and during leisure hours.

Patterns for slacks differ widely in their lines and proportions. For this reason, patterns for these garments should be tried out in muslin or other inexpensive fabric before making them up. When buying a pattern for slacks look for one in which the crotch is relatively short in the front and relatively long in the back (fig. 87, *A* and *B*). (The pattern pieces are generally sketched on the pattern envelope or in the counter pattern book.) A pattern cut this way usually fits better than those in which front and back crotch lines are more nearly the same.

A slacks pattern is usually sold by waist and hip measurement. If a blouse or jacket is part of the pattern, it is sold by bust measurement. Patterns for slacks are also available in proportioned sizes. The latter vary principally in length.

In general, the total crotch length of a pattern for shorts or slacks should be about 2 inches longer than the crotch length. This measurement is taken from the center back waist through the crotch to the center front waist. Take this measurement rather loosely.

If the pattern is too short in the crotch, it can be lengthened easily. Draw a cutting line from side seams to center front and back, about 9 inches below the waist; draw crosswise lines across each cutting line. Spread the pieces apart evenly, matching the crosswise lines, until the crotch measurement is 2 inches longer than the body measurement. See figure 88, *A* and *B*. Be sure, however, to try the altered pattern in muslin before cutting. Sit, stand, and walk in the slacks to make certain they fit comfortably.

Some specific alterations for individual fitting problems follow.

Flat derriere

Fullness in the seat of slacks may be decreased in these ways: (1) decrease size of dart and then take out this amount at side seams; (2) stitch side seams slightly wider; and (3) take a wider seam at inside of leg. Do not decrease seam allowance on front inseam.

Large derriere

Increase seat fullness by making darts slightly deeper. This places more fullness where it is needed. Add to side seams to adjust for amount taken in by deeper darts. For additional fullness, add to the back seam at inside of leg. Do not change front inseam.

Sway back, pronounced hip bone, and large abdomen

These fitting problems in slacks are handled in much the same way as are skirt pattern adjustments. Refer to skirt alterations on page 34. To achieve the desired fit, test slack alterations in muslin or inexpensive fabric. Keep in mind that the side seams of slacks, like those in a skirt, should hang perpendicularly to the floor, not pull to the front or back.

Figure 87

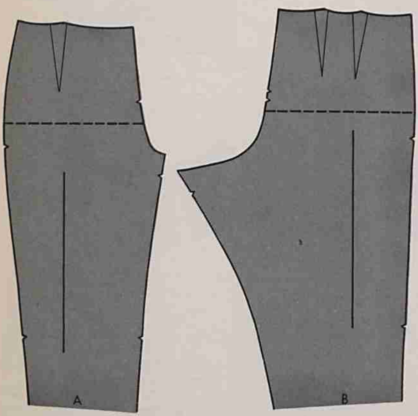
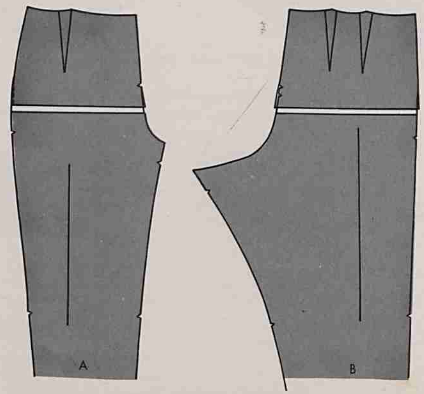


Figure 88



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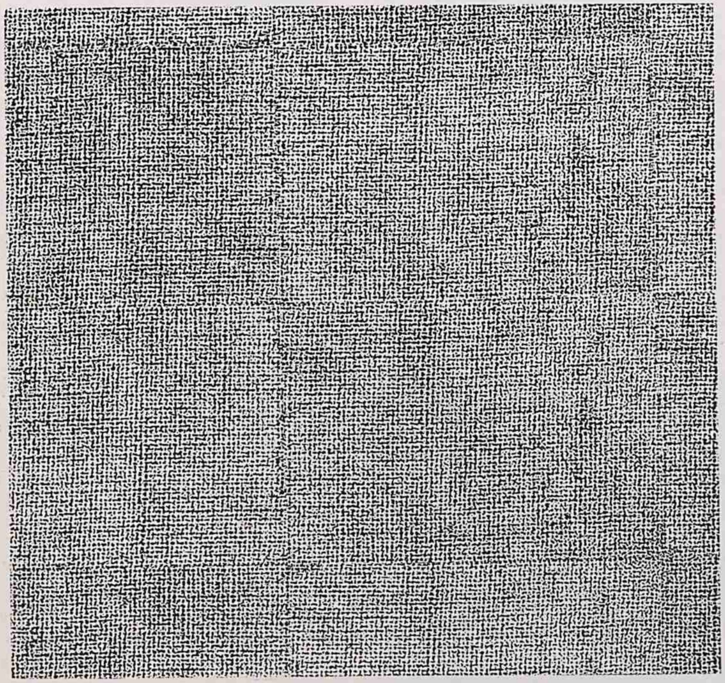
CLOTHING FABRICS

facts for consumer education



Home Economics Research Report No. 1

UNITED STATES DEPARTMENT OF AGRICULTURE

Contents

Prepared by

Margaret Smith, clothing specialist

Clothing and Housing Research Division

Institute of Home Economics

Agricultural Research Service

This publication contains information comparable to that formerly given in Farmers' Bulletin 1831, Judging Fabric Quality.

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CLOTHING FABRICS . . .

facts for consumer education

Quality in a fabric depends on many things. The kind and grade of fiber used, the processes by which the fibers were made into yarns, the construction of the material, the fastness of the dye, and the types of finishes applied all affect the quality of a fabric and the satisfaction it will give in use. Though many fabric properties can be determined accurately only by laboratory analyses, some general knowledge of fibers and fabrics can serve as a guide in selecting clothing materials. Facts on present-day fibers and fabric construction and finishes are brought together here to provide a background to help the average purchaser in judging a fabric for its general wearing quality and its suitability for specific purposes.

Many different fibers are used in fabrics for clothing, and each one has particular qualities that make it desirable for certain purposes. A fabric may be made entirely of one fiber, or two or more fibers may be combined to give a desired quality, as wrinkle resistance, to produce an unusual texture or to make a fabric in a popular price range.

The natural fibers, which come from plants or animals, and man made fibers, produced by the action of chemicals on natural products or from chemicals alone, are all used extensively in present-day clothing fabrics.

Fabrics from natural fibers

Cotton

Cotton, the soft hairy fiber that grows on the seeds of the cotton plant, is the most widely used of all textile fibers.

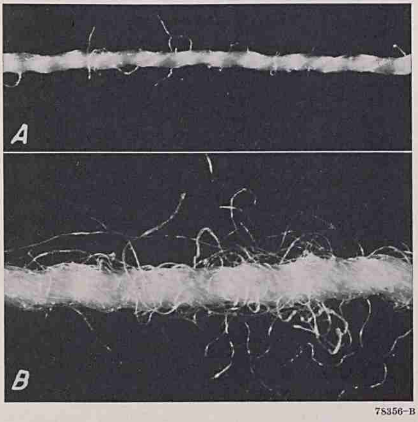
The quality of cotton depends on the length and fineness of the fiber, or "staple." Long-staple cottons are generally the finest. "Pima," a name sometimes found on fabric labels, is an outstanding variety of long-staple cotton.

Before cotton is spun into yarn, the fibers are cleaned and straightened by carding. In addition to being carded, long-staple cottons are combed to make the fibers lie parallel, and to produce smoother yarn. These yarns are used to make high-quality fabrics, and are referred to as combed cottons.

Many high-quality cottons are mercerized. The mercerization treatment, applied either to the yarns or to the fabric, adds luster and makes materials more absorbent and therefore more comfortable to wear than unmercerized cottons. As the mercerized yarns (fig. 1, *A*) are rounder and smoother than unmercerized yarns (fig. 1, *B*), the finished fabrics do not pick up soil so readily and are easier to iron.

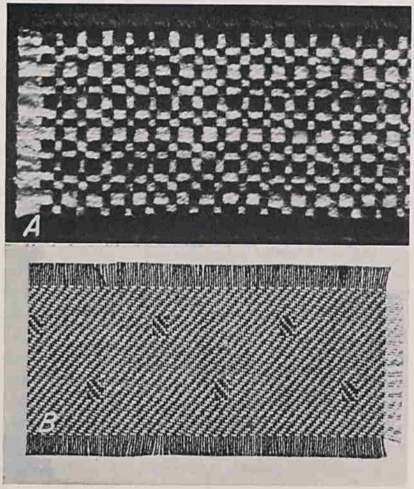
Clothing fabrics made of cotton cover a wide range of weights—sturdy, heavy-duty denims and chambrays for men's work clothes; firm, medium-weight materials such as percale, seersucker, and gingham for housedresses and school and play clothes; and delicate sheer fabrics like batiste and voile.

In light weights and open weaves, cotton is one of the coolest fabrics, ideal for summer wear. With a close weave, pile construction, or napped finish, cotton fabrics have considerable warmth. Corduroys, chenilles, and flannels are examples. A recent development is the so-called winter



78356-B

FIGURE 1.—Cotton yarn: *A*, Mercerized; *B*, unmercerized (both magnified).



78357-B, 78358-B

FIGURE 2.—Cotton tweeds.

cottons, woven to resemble wool in coloring and effect (fig. 2). Though not so warm as wool, these fabrics are often used for winter wear in mild climates.

Facts about cotton fabrics

Cotton fabrics generally are washable, can stand frequent hard laundering, and can be ironed with a hot iron. White cottons can be sterilized and bleached safely, unless they have been treated with a special finish that yellows with bleaching. Such materials are usually so labeled.

Cottons are available in a wide range of colors that are usually fast to light, washing, and perspiration.

Because cotton absorbs moisture readily, it feels relatively cool next to the skin in hot, humid weather. However, cottons are subject to mildew unless specially treated.

The fiber has little elasticity, or resilience; therefore cotton fabrics are likely to crush and wrinkle.

Various special finishes can be applied to cottons to increase their wearability—among them, wrinkle-resistant, water-repellant, shrinkage-resistant, flame-resistant, and glazed finishes. These finishes are described under "Special Finishes," page 20.

Cotton is a relatively inexpensive fiber. However, the cost of cotton fabrics may be increased considerably by the use of very fine or novelty yarns, variations in weave, unusual patterns, or special finishes.

Linen

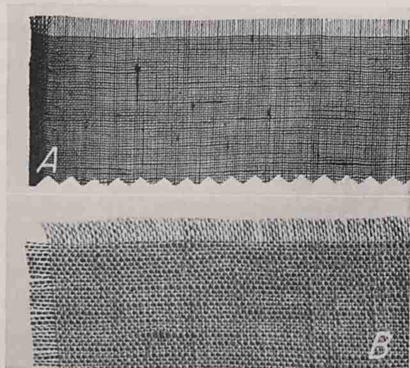
Linen is made from the fibrous material in the stem of the flax plant. The fibers are smooth and strong and vary considerably in size. Yarns made from them range from very fine to coarse, producing fabrics in a variety of weights—sheer handkerchief linens, often used for blouses and dresses; sheer dress linens (fig. 3, *A*); the usual dress linens of medium weight (fig. 3, *B*); and heavier linens used for summer suits for men and for women's summer coats.

Most linens are made in a plain weave with a combination of thick and thin yarns, which gives them the texture commonly associated with linen fabrics. Novelty linens such as herringbones, tweeds, and shantungs are also available.

Labeling of linen

According to the Trade Practice Rules issued by the Federal Trade Commission, no fabric may be labeled "linen," "pure linen," or "pure flax," or carry a name implying that it is linen, unless it is made entirely of linen. If a fabric contains both linen and other fibers, the percentage of each fiber must be stated or the content disclosed in the order of predominance by weight.

Fibers other than linen, treated or woven to make materials that resemble linen in appearance,



78359-B, 78360-B

FIGURE 3.—Linen: *A*, Sheer; *B*, dress weight.

are sometimes labeled "rayon linen," "silk linen," or "nylon linen." A better description would be "linen-weave" or "linen-type" rayon, silk, or nylon. A fabric name containing the syllable "lin," "lynn," or the like may be considered mislabeling. It implies that the fabric is at least part linen, whereas in reality it may be entirely of a different fiber.

Facts about linen fabrics

Good-quality linens are durable because the fiber is very strong. Linen fabrics are pliable so that they drape well. Usually, they have a soft luster.

Linen is naturally absorbent, comfortable for wear in warm dry climates. It wrinkles easily, but wrinkle-resistant finishes have greatly increased its wearability. However, a wrinkle-resistant or other special finish may lessen the absorbency of a linen fabric.

Most linens are washable and can be ironed with a hot iron. Wrinkle-resistant linens sometimes shrink when laundered, but the garment can usually be restored to its original size if ironed while damp.

Good-quality linens are available in colors fast to light, washing, and perspiration; many are labeled "vat-dyed" (see p. 20). Some of the dark colors, however, tend to crock or rub off.

Linens are usually high priced. Most of the flax from which linen fabrics for clothing are made is imported, and production of the cloth is expensive.

Wool

Though wool is commonly understood to be the fiber from the fleece of the sheep or lamb, other animal fibers, often called specialty fibers, are also classified as wool. They include camel's hair, vicuna, alpaca, llama, cashmere, and mohair. Most of the wool used in clothing is sheep's wool.

Wool fabrics have a wide variety of clothing uses. Among the very lightweight wools are challis and albatross—sheer, delicate, and washable. At the other extreme are the thick, heavy, sturdy materials used in winter overcoats. In between are a wide assortment of fabrics—crepes, gabardines, serges, coverts, flannels, tweeds—for suits, coats, dresses, and blouses.

One of the newer developments in the wool fabric field is the blending of wool with other natural fibers. Wool and silk are combined in soft, resilient tweeds. Linen is blended with wool for special lustrous effects. Cotton, long used with wool to make a washable flannel, is now blended with wool to produce fabrics of unusual texture.

Wool fabrics must be labeled

Because the world supply of virgin, or new, wool is not sufficient to meet all the requirements for clothing and other fabrics commonly made of wool, the use of only all-virgin wool would make these materials prohibitive in cost. For this reason, and to extend the use of all available wool, fibers reclaimed from various sources are often used in clothing fabrics, either alone or in combination with virgin wool or other fibers.

78361-B

FIGURE 4.—Wools must be labeled.

To protect producers, manufacturers, distributors, and consumers from the unrevealed presence of substitutes and mixtures in manufactured wool products, the Wool Products Labeling Act was enacted by Congress. It provides that wool products, except upholsteries and floor coverings, must be labeled as to the amount of wool and other fibers present, the kind of wool—that is, whether it is reprocessed or reused—and the manufacturer's name or registered number (fig. 4).

"Wool" is defined in the Act as "the fiber from the fleece of the sheep or lamb or hair of the Angora or Cashmere goat (and may include the so-called specialty fibers from the hair of the camel, alpaca, llama, and vicuna) which has never been reclaimed from any woven or felted wool products."

"Reprocessed wool" is the resulting fiber reclaimed from woven or felted wool products which have never been worn or used in any way by the ultimate consumer.

"Reused wool" is fiber which has been reclaimed from any type of wool product which has been worn or used in any way by the ultimate consumer.

The term "virgin" or "new" may be applied only to wool fibers taken directly from the fleece of the sheep. Fibers in this category must not have been reclaimed in any manner.

Reclaimed wool fibers, either reprocessed or reused, are shorter than the new wool fibers of which the original product was made. A fabric made from good-quality reclaimed fibers can be more desirable than one of a poor-quality virgin wool. Good-quality virgin wools, however, are usually stronger and more resilient.

The Act provides, too, that when a fabric is made of one of the specialty fibers which are classified as wool, or a blend of the fibers with wool, the name of the fiber may be used on the label, provided the percentage of each fiber is given. If the fibers fall within the classification of reprocessed or reused wool, such information must also be stated on the label.

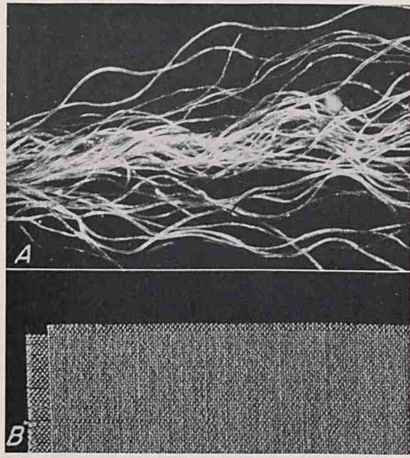


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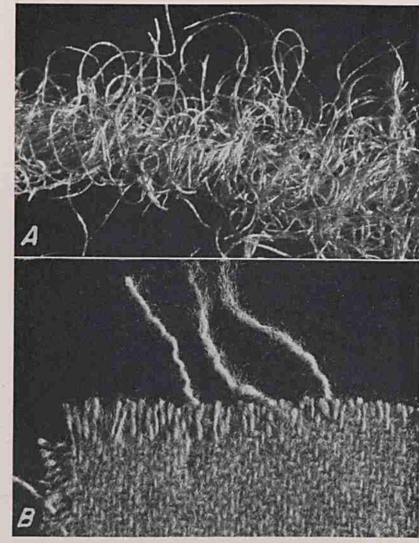
FIGURE 5.—Worsted: *A*, Yarn (magnified); *B*, fabric.



78429-B, 78364-B

FIGURE 6.—Woolens: *A*, Yarns (magnified); *B*, fabric.

Worsteds and woolens

Wool fabrics are classified as worsteds or woolens, depending on the quality of the fibers and the processes used in making them into yarns.

Worsteds.—Long fibers are used in making worsted yarns. The fibers are put through a combing process which removes the short ones and makes the remaining long fibers lie parallel (fig. 5, *A*). Worsted yarns are smooth, hard, even, and compact.

Good-quality worsted fabrics are usually lightweight. They have a distinct, clear-finished weave that is not blurred by short fiber ends (fig. 5, *B*). Worsted fabrics tailor well and have good draping qualities. They resist wrinkling, will take a sharp crease. Worsteds usually wear well, though such fabrics as serges and gabardines tend to become shiny.

Woolens.—In making woolens, shorter fibers than those in worsteds are used (fig. 6, *A*). The fibers are not combed to lie parallel and so go in all directions in the yarn. The yarns are loosely twisted, soft, and not so even as worsted yarns.

The weave of woolen fabrics is not so distinct as that of most worsteds. Some woolen fabrics are napped; others have a soft, slightly matted appearance (fig. 6, *B*). Good-quality woolens are generally soft, but such fabrics as tweeds and homespuns, even though soft, sometimes feel scratchy against the skin. Woolen fabrics do not hold so sharp a crease as worsteds, but since they are softer they do not hold hard wrinkles and do not get shiny.

Facts about wool fabrics

Fabrics of good-quality sheep's wool, whether they are worsteds or woolens, have a soft, springy feel because the fiber is soft, firm, and elastic. These qualities help wools to resist wrinkling and recover quickly from wrinkles.

Wool is good for cold weather wear because the structure of the fiber helps in making fabrics that retain body heat. The fabrics also give protection against sudden changes in skin temperatures. Wool fabrics absorb moisture without feeling cold or clammy or sticking to the skin. Perspiration, however, is sometimes difficult to remove completely from wool garments without wet cleaning or washing.

Wool fabrics give with the body's movements; they are more comfortable to wear than less resilient materials. They can be shrunk into shape with steam pressing and so tailor well. Pressing at too high a temperature, however, damages wool fibers, making the fabric feel harsh; consequently a moderate iron and a press cloth or a steam iron should be used.

Wools can be dyed so that they will be reasonably fast to light, cleaning, and perspiration.

Because the wool fiber is flexible and tough, durable fabrics can be made of it.

Wool fabrics are flame-resistant. However, they are subject to moth damage unless they are specially treated.

Some wool materials—homespuns and jerseys, for example—tend to pill; that is, small balls of fiber form on the surface of the fabric. However, the pills usually come off with continued wear and cleaning.

Facts about the specialty fibers

Camel's hair.—Camel's hair comes from the Bactrian camel of Asia. The fine silky fibers of the underdown, called camel's hair wool, make fabrics that are soft, warm, lustrous. The wiry, tough outer hair is used for less expensive fabrics which are harsher and coarser than the luxury type camel's hair.

Cashmere.—Most of the genuine cashmere comes from the Cashmere goat of China and India. It is a costly fiber, available in limited quantities. Fabrics of cashmere are fine, soft, silky, and resilient; hard wear should not be expected of them. Few woven fabrics are made entirely of new cashmere. Most of the fiber is used in blends with other specialty fibers, with wool, or with the manmade fibers.

Mohair.—Mohair is the hair of the Angora goat. The fibers are wiry, lustrous, strong, and easy to dye. Mohair is usually blended with other fibers to add strength, luster, and a crisp quality to a fabric. Some of the suitings containing mohair are so wiry that they are hard to press adequately with home equipment.

Alpaca.—Alpaca is from a kind of llama domesticated in South America. Alpaca is a fine, very lustrous, strong fiber. It is usually blended with other fibers to make suiting fabrics with wrinkle resistance, strength, and luster. It is also used to make fleeces which are warm and durable.

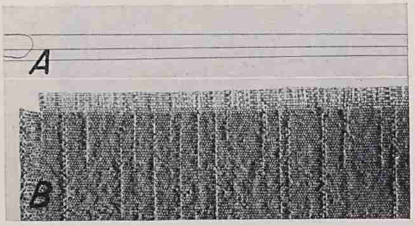
Vicuna.—Vicuna is from a wild llama in the Andes of South America. Vicuna is the softest and finest fiber used in the manufacture of wool-type textiles. Fabrics, usually fleeces, made of this fiber are very soft and lightweight. The best qualities of vicuna come in the natural beige or light cinnamon color. Vicuna is one of the most expensive textile fibers.

Silk

Silk, another of the natural fibers, comes from the cocoon of the silkworm in the form of very long filaments. It is imported from Japan, China, and parts of Europe.

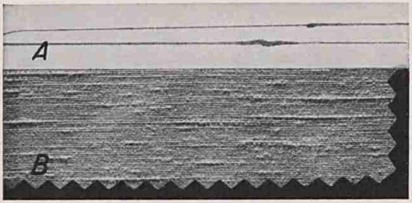
Four kinds of silk fibers are used to make a wide variety of clothing fabrics.

Cultivated silk comes from the domesticated silkworm. The filaments are usually fine and even in size (fig. 7, *A*). The fineness of the yarns is indicated by denier, which is a measure of the weight of filament yarns. Cultivated silk is used mostly for fine dress silks, such as crepes, taffetas, satins, and sheers.



78365-B, 78366-B

FIGURE 7.—Silk: *A*, Yarns (magnified); *B*, crash.



78367-B, 78368-B

FIGURE 8.—Douppioni silk: *A*, Yarns (magnified); *B*, shantung.

Wild or tussah silk comes from the wild silkworm. The filaments are coarser, more wiry, and not so even as those from the domesticated silkworm; therefore fabrics made from them are not so smooth and soft. Wild silk is used in making some of the heavier linen-weave types of fabrics (fig. 7, *B*).

Douppioni silk is the filament from two or more cocoons that have grown together so that the fibers are joined at intervals. Yarns made from such filaments are characterized by thick, uneven nubs (fig. 8, *A*). They are used to advantage in the production of good-quality shantungs (fig. 8, *B*).

Waste silk is composed of the short filaments that come from damaged cocoons or the outside of cocoons and are not strong or even enough to be used with the better cultivated silk filaments.

78369-B

FIGURE 9.—Label for pure silk fabric.

The fiber is often made into spun silk yarn with irregular slubs, similar to douppioni, which is used in crashes and other rough textured silks, including the less expensive shantungs as well as in some pile fabrics. "Silk noils," a descriptive term sometimes found on labels on silk fabrics, are fibers obtained from waste silk.

Labeling of silks

Fabrics may be labeled "pure dye," "pure dye silk," or "silk," or "all silk," if they contain no fiber other than silk, contain no metallic weighting and no loading or adulterating materials or other substances except dyeing and finishing materials necessary to produce color and finish (fig. 9). Such dyeing or finishing materials shall not exceed 10 percent in the aggregate, except black which shall not exceed 15 percent in the aggregate. If a silk fabric contains metallic weighting, the percentage of such weighting shall be disclosed.

Points about silks

Silks have excellent sewing and draping qualities, versatility, and luxurious feel and texture. Relatively expensive, they are usually considered luxury materials.

Heavily weighted silks, particularly taffetas, are likely to crack or split even with very little wear. To avoid this problem, be sure such fabrics are labeled to indicate that they are pure silk.

Many silks have a somewhat slippery surface with few short fiber ends, so they do not soil readily. Silks do not wrinkle easily, because the fibers are naturally resilient. Fabrics such as taffetas that have a stiffening finish may wrinkle with wear, but wrinkles tend to drop out with hanging.

Silks are usually moisture absorbent, so do not feel clammy next to the skin.

Some silk fabrics are hand washable, but most silks retain their original appearance best when dry cleaned by a reliable cleaner. Shantungs, silk organdies, paper taffetas, and similar materials may lose some of their body in cleaning, but this can usually be restored by the cleaner.

Silks are damaged by heat; in pressing, a moderately warm iron and a press cloth should be used.

White silks tend to become yellow with age or from improper laundering.

Many silks have excellent fastness to light and cleaning; some washable silks are guaranteed colorfast. Others, particularly in the strong dark colors, may fade with the first cleaning. So when buying silk garments or fabrics, ask about colorfastness, especially if the garment will be used for general wear and require frequent cleaning.

Fabrics from manmade fibers

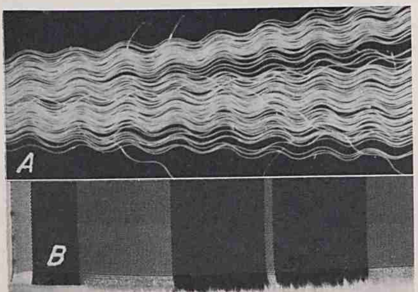
The term "manmade fibers" refers to all fibers that are manufactured, whether made from cotton linters, wood pulp, corn protein, or from chemicals. They include the older fibers—rayon and acetate—as well as the newer ones—Dynel, Vicara, nylon, Dacron, Orlon, Acrilan, and others, many of which are still in the experimental stage.

Manmade fibers are produced from solutions made by various chemical processes. The solution is forced through many small holes of a machine known as a spinneret and solidified, forming long threads, or filaments. The filaments may be twisted together to form *filament yarns* (fig. 10, *A*) or cut into short lengths and spun to make staple or *spun yarns* (fig. 11, *A*), which are usually softer and thicker than filament yarns.

Fabrics made from filament yarns are usually smooth and lustrous, such as satin and taffeta (fig. 10, *B*). Fabrics from spun yarns are generally duller, not so smooth, and more bulky (fig. 11, *B*). Spun yarns are used to make fabrics that resemble cotton, linen, or wool in appearance.

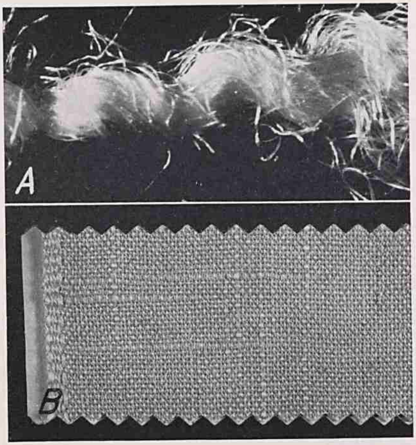
"Multifilament," a term sometimes used in connection with manmade fibers, means many very fine filaments twisted together to form a single yarn.

As in silk, denier is a measure of the weight of yarn and to the consumer it indicates the fineness of the yarn. A fine yarn, 15 or 20 denier, is used in making very sheer nylon hosiery; coarser yarns, 50 and 100 denier, in apparel fabrics.



78370-B, 78372-B

FIGURE 10.—Filament rayon: *A*, Yarns (magnified); *B*, taffeta.



78371-B, 9930-D

FIGURE 11.—Spun rayon: *A*, Yarn (magnified); *B*, fabric.

Rayon and acetate

Rayon and acetate are fibers produced from cellulose in the form of cotton linters or wood pulp. There are two types of rayon—one made by the viscose process, the other by the cuprammonium process. Both are similar in their characteristics. Acetate, made by the cellulose acetate process, resembles rayon in appearance but has different physical and chemical properties.

For years the term "rayon" was used to designate all fibers made from cellulose. Under the Federal Trade Commission's Trade Practice Rules of 1951, however, only the fiber produced by the viscose or cuprammonium process should be labeled "rayon;" that made by the cellulose acetate process, "acetate."

The rules also state that if a fabric contains both rayon and acetate, or rayon or acetate with any other fiber, the label should designate the fibers in the order of the predominance by weight or the percentage present.

Most of the fabrics labeled "rayon" are made by the viscose process. "Cuprammonium" is a term seldom found on labels. More commonly used is the name "Bemberg," the product of a firm that produces practically all the rayon made by the cuprammonium process in the United

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States. Much of this type of rayon is found in sheer and semisheer fabrics that are used for lingerie, blouses, and summer dresses. It is used, also, for coat linings and is found occasionally in other types of fabrics—surahs, shantungs, and velvets.

Points about rayons

Although similar to acetates in appearance, rayon fabrics have the following qualities:

Absorbent and so can be made into cool fabrics for summer wear; also into warm fabrics similar to wool in appearance.

Usually washable, but preshrunk fabrics in smooth flat weaves are weak when wet and therefore require careful handling. Can be pressed with a fairly hot iron.

Wrinkles badly with wear, so that wrinkle-resistant finishes are of special value on washable rayons and suitings. Shrinkage-resistant and water-repellent finishes also increase the usefulness of rayons.

Colorfast to sun, washing, dry cleaning, and perspiration.

Are not subject to moth damage.

If napped, are highly flammable unless specially treated for flame resistance.

Facts about acetates

Acetate fabrics have the following qualities:

Do not absorb moisture readily and so dry rather quickly.

Many acetate fabrics feel silky and drape well.

Most are washable, but must be pressed with the iron set at low heat to prevent melting or fusing of the fabric, particularly at thick places. Some newer forms of acetate will stand much higher ironing temperatures.

Resists wrinkling more than rayons, although with wear or washing some of the fabrics, especially taffeta, show hard wrinkles that are difficult to press out.

Can be dyed in deep brilliant colors, but are subject to fume or gas fading—color change caused by atmospheric conditions. However, new processes of dyeing have been developed to overcome this problem.

Unless specially treated, acetates tend to accumulate static electricity—the quality that makes a fabric cling to the body or clothing, particularly in cold, dry weather.

Fabrics of rayon or acetate

Many types of fabrics formerly made only of silk are now also made of rayon or acetate. Among them are twills, satins, taffetas, crepes, chiffons, and velvets. Rayon and acetate fabrics are usually much lower in cost than the corresponding materials in silk, so are used extensively for medium- and low-priced clothing.

Some of the very fine fabrics of acetate or rayon are hard to distinguish from silk, but most viscose rayon or acetate fabrics feel heavier when worn than the same type of fabric made of silk.

Though some good-quality rayon crepes resemble silk in wrinkle-resistant properties, rayons generally require a special finish to keep them from wrinkling badly with wear, and even with a wrinkle-resistant finish they sometimes tend to fall into heavy folds while hanging.

Spun rayon and acetate yarns are widely used in clothing fabrics. They may be woven to look like linen or have a texture resembling such wools as flannel, challis, or tweed. The linen-type materials, which are usually rayon, are practical for sport, business, and school clothing. They are inexpensive and can be obtained with wrinkle-resistant and shrinkage-resistant finishes and in colors that are fast to laundering.

The suiting types may resemble wool flannels and worsteds in appearance and thickness and have some warmth. Even with special finishes they may not be permanently wrinkle-resistant, but they tailor reasonably well and are practical, attractive, and comparatively low in price.

Vicara

Vicara, one of the newer manmade fibers, is manufactured from corn protein.

Because it is not a strong fiber, Vicara is usually blended with other fibers to make clothing fabrics. It tends to add the following qualities to a fabric:

Softness, resembling cashmere in this respect.

Elasticity, giving wrinkle resistance to fabrics that are less elastic, such as rayon.

Absorbency, which is particularly important in combinations with fibers that do not absorb moisture, such as acetate or some of the chemical fibers.

Ability to be dyed in a wide range of colors that are fast to light, perspiration, washing, and dry cleaning.

Dimensional stability, since Vicara itself does not shrink.

Nylon, Dacron, Orlon, Acrilan, Dynel

Most of the newcomers in the fiber field—nylon, Dacron, Orlon, Acrilan, and Dynel—are chemical in origin. Materials containing these fibers are usually so labeled. In buying, look for labels that state the amount of the fiber present. Small percentages usually add little to the quality of the material but may increase the cost.

Fabrics made from different chemical fibers have special qualities of their own, but all have the following qualities in common:

Strong but lightweight.

Resistant to moths and mildew.

Fairly fast to color.

Washable and quick to dry, for they do not absorb water.

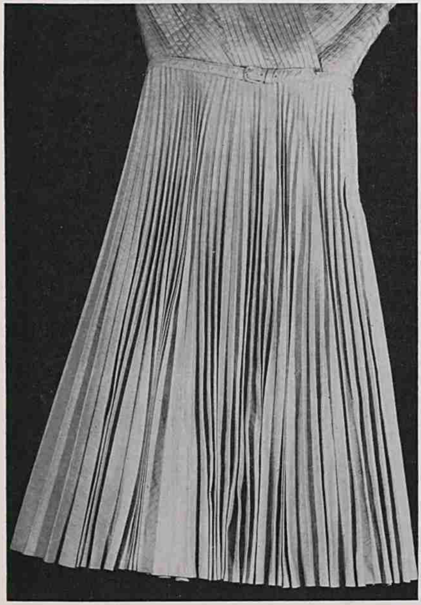
Sensitive to heat, and therefore the fabrics require careful pressing with a rather cool iron; some may need steam pressing.

Resistant to nonoily stains, but body oils and perspiration are likely to penetrate the fiber and be difficult to remove. Attract soil when dry cleaned or laundered with more soiled materials.

Resist shrinking and stretching, have little "give." Because of this property, most tailored garments of these fabrics need special styling to make them comfortable to wear.

Take heat-set pleats that, if properly put in, will last through wear and washing or dry cleaning (fig. 12).

With friction, accumulate static in cold weather, so that the fabrics cling to other fabrics or to the skin.



9931-D

FIGURE 12.—Pleated orlon dress after 30 washings, no pressing.

Nylon

Nylon, the first of the chemical fibers to be used in making fabrics for clothing, is now used extensively both alone and in blends with natural fibers or other manmade fibers. It can be made into extremely fine filaments. Nylon is the strongest of all the fibers used for clothing fabrics.

The term "virgin nylon," which is sometimes found on labels though not widely used, indicates that the nylon yarn has not been used previously in any form.

Some nylon fabrics, such as plisses, seersuckers, and tricots, resist wrinkling and shed wrinkles readily; they require little pressing after washing. Others, such as linen-weave types, require a special finish to prevent wrinkles.

Some plain-weave, firm nylon fabrics—flat crepes, taffetas, and shantungs, for example—are hard to sew smoothly and need special adjustment of the sewing machine.

Stiffened nylon sheers—nets and marquisettes—used for evening wear and in coarse qualities for petticoats, are strong, wear well, and keep their stiffness.

Spun nylons tend to pill. The pills are hard, collect soil, and often do not come off in cleaning.

Nylon adds strength and luster to cotton, but in plain-weave fabrics such as chambray and broadcloth, it increases sewing, wrinkling, and pressing problems.

Nylon and silk in a puckered fabric is a good combination, because the silk adds softness to the material while nylon contributes strength and shrinkage resistance, making the fabric washable. Such a material usually presents few sewing problems.

In combination with wool, nylon also adds strength and shrinkage resistance. However, lightweight suitings of nylon and wool may not have enough body for good tailoring.

Dacron

Fabrics of all-Dacron—suitings, shirtings, shantungs, sheers, and tricots—are particularly resistant to wrinkling. Pleats and sharp creases stay in well if they are properly set by steam pressing. Because extra fullness cannot be shrunk out, the styling of all-Dacron garments needs special attention.

If worn in the rain, garments of all-Dacron fabrics are likely to feel cold to the skin because of the "wicking" action which pulls moisture through the material.

Spun Dacron is blended with wool to make suitings for both men's and women's wear. These fabrics resemble tropical worsteds in appearance. Good qualities tailor well, resist deep wrinkles and recover quickly from wrinkling, stay fairly smooth even when damp, and require little pressing. Many of them wash well.

Spun Dacron is used also in socks and other knitted articles. Some of the knit fabrics are soft; others feel harsh and stiff. Knitted Dacrons tend to form hard pills which do not come off in cleaning.

Dacron in combination with rayon makes suitings that are less expensive than those of all-Dacron or of Dacron-wool blends. They accumulate less static electricity and so are less likely to cling.

A lingerie crepe of Dacron and nylon is less transparent than an all-nylon crepe of the same weight and is more comfortable to wear.

A batiste made of Dacron and cotton is used for men's shirts, women's dresses, blouses, and lingerie. It is lightweight, fairly cool, and quick drying. It can be ironed dry.

Orlon

In addition to the qualities common to all the chemical fibers, Orlon has these special properties:

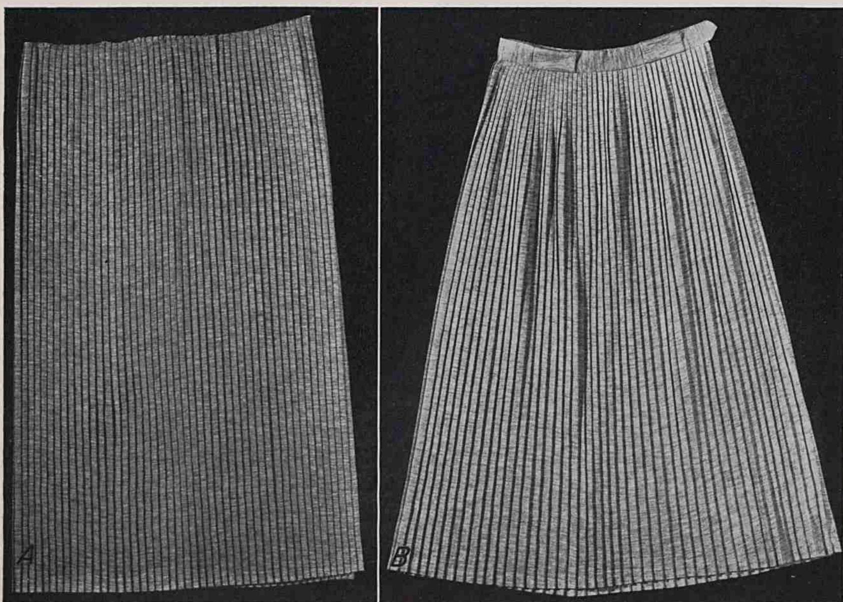
> It resists weakening by sunlight, weathering, and industrial fumes.
>
> It resists damage by acids and many other chemicals and therefore is adapted to certain kinds of work clothing.
>
> It has high bulking power, so adds body and springiness to fabrics.

All-Orlon is used to make fleeces and zibelines for coatings that are lightweight, washable, and need little pressing. It is used also in plain-weave lightweight dress fabrics that are warm and washable. Seams and hems in garments of all-Orlon fabrics should be steam-pressed as they are being made, with a warm iron and a press cloth.

Combined with nylon, Orlon makes a seersucker that is comfortable to wear in hot weather and needs no pressing. Orlon adds softness and wrinkle-resistance to the nylon.

Orlon-and-cotton chambray is firm, crisp, and lustrous. It does not wrinkle badly, resists soiling, and can be ironed dry with a fairly hot iron.

In blends with wool, Orlon makes washable, wrinkle-resistant fabrics—flannels and other suitings that tailor well and jerseys that retain pleats



78373-B, 78374-B

FIGURE 13.—Orlon-and-wool jersey pleated skirting: *A*, Before wearing; *B*, after three seasons' wear and three washings.

reasonably well through wear and cleaning (fig. 13). The blends should be steam-pressed like all-wool fabrics.

Orlon is blended with cashmere to add strength without loss of the luxurious softness of all-cashmere fabrics. It is also blended with Dynel in fleece coatings that are lightweight, and resemble furs in appearance.

Combined with silk, Orlon makes shantungs that are washable and lustrous. Like most of the Orlon-blend fabrics, these shantungs require some pressing after cleaning.

Acrilan

Acrilan is used alone in fabrics of the challis type. These fabrics are soft, warm, lightweight, washable, and wrinkle-resistant.

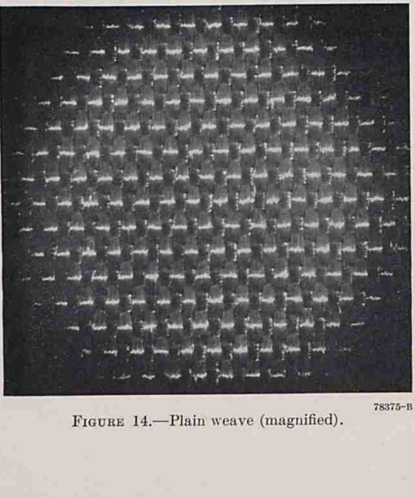
Combined with wool in a jersey fabric, Acrilan contributes softness and washability. A wool and Acrilan jersey requires little pressing after washing.

Acrilan used with rayon makes a suiting fabric that will keep its crease marks through washing but may require slight pressing after it has been washed.

Dynel

Dynel is resistant to many chemicals and so is used for some types of work and industrial clothing.

Because Dynel is particularly sensitive to ironing heat, it is used mainly in napped or pile fabrics that require little pressing or in blends with other fabrics.



78375-B

FIGURE 14.—Plain weave (magnified).

Fleece-type coatings in spring and summer weights are made of Dynel. Resembling fine wool or cashmere fleeces in appearance, they are lightweight, warm, and wrinkle-resistant. They can be washed and need no pressing. When making a coat of Dynel fleece, press seams and hems with a cool iron, on a press pad designed for pile fabrics.

Fabric construction

Woven fabrics

The fabrics most commonly used for clothing are woven—that is, they are made by an interlacing of warp (lengthwise) and filling (crosswise) yarns. The kind and quality of the weave have much to do not only with a fabric's appearance but also with its wearing qualities and warmth.

Types of weaves

There are three basic weaves—plain, twill, and satin.

Plain weave.—In plain weave the warp and filling yarns pass alternately over and under each other (fig. 14). The simplest of the weaves, plain weave is widely used for dress goods.

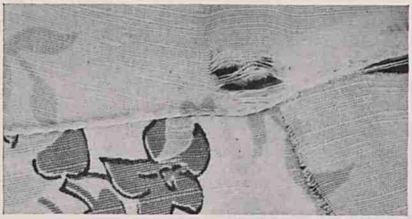
As a variation, two or more yarns may be picked up at a time instead of only one. The weave can be varied also by the addition of designs by means of special attachments on the loom and by use of novelty or highly twisted yarns.

The term "balanced" describes a plain weave in which the number of yarns to the inch is about the same lengthwise and crosswise. A balanced construction usually makes a fabric that is more durable than one in which the yarns in one direction greatly outnumber those in the other.

In many plain-weave fabrics one set of yarns is heavier than the other. Shantung, for instance, has heavy, uneven yarns in one direction, usually the filling, and finer yarns in the other direction. With this kind of construction, the finer yarns are likely to break and cause the material to split (fig. 15). Many of the materials with heavy crosswise yarns, like bengaline and some of the cotton and silk blends, have a stiff crosswise feel and do not drape well; they are best adapted to rather stiff or bouffant styles.

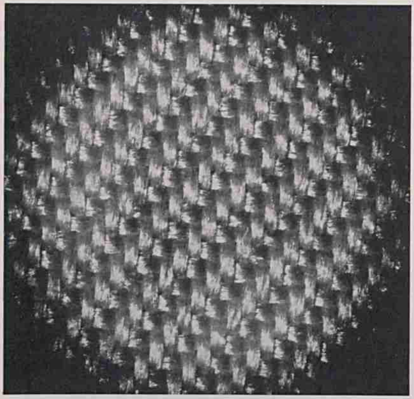
Twill weave.—Twill weave is identified by pronounced diagonal lines which form an angle with the crosswise yarns (fig. 16).

Many wool suitings are made in twill weave. It is particularly well adapted to the making of napped fabrics, such as velours, suede cloths, and



78376-B

FIGURE 15.—Fine warp yarns may break along heavy filling yarns.



78377-B

FIGURE 16.—Twill weave (magnified).

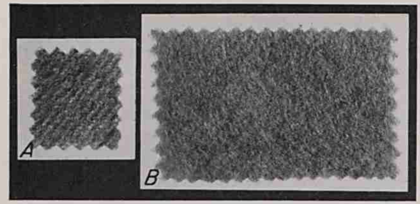


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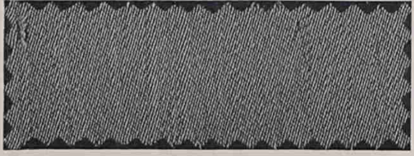
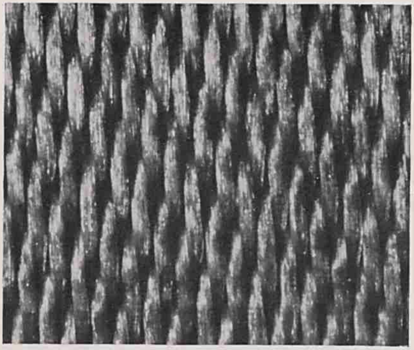
FIGURE 17.—Twill weave: *A*, Before napping; *B*, after napping.



78380-B

FIGURE 18.—Gabardine.



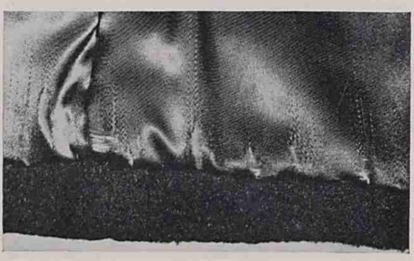
78381-B

FIGURE 19.—Satin weave (magnified).

fleeces in which the fibers are raised after the cloth is woven (fig. 17). It is also the weave used in making sturdy fabrics, such as denims, serges, and gabardines (fig. 18). Twill weave produces pliable fabrics that are usually warmer and drape better than plain-weave materials of the same weight.

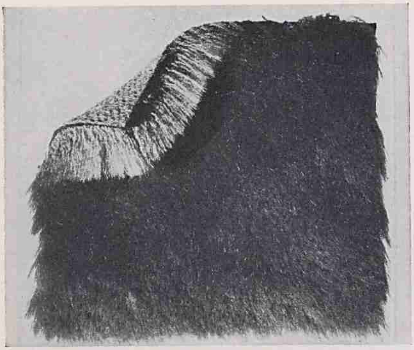
Satin weave.—Satin weave produces fabrics with long, loose yarns, called floats, on the right side (fig. 19). The floats add luster to the material and give it a smooth feel in the direction in which they lie. In silk, rayon, and nylon, and sometimes in cotton satins, the floats are lengthwise. Usually a cotton fabric in satin weave has crosswise floats and is called sateen. Satin-weave fabrics are widely used for clothing because of their good draping qualities as well as their lustrous appearance.

As the floats are caught into the fabric only at rather wide intervals, a satin-weave material generally does not wear so well on the face side as fabrics made in either plain or twill weave. The



78382-B

FIGURE 20.—Wear on satin coat lining.



78383-B

FIGURE 21.—Pile fabric.

floats are likely to fuzz up and wear out quickly (fig. 20).

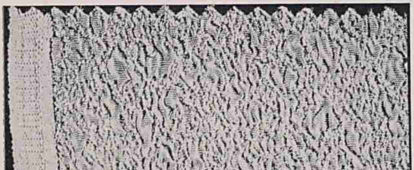
Novelty weaves.—Many variations of the basic weaves are used to produce unusual fabric surfaces.

Velvets and other pile fabrics are made by weaving extra yarns on a ground fabric so that they make an upstanding pile (fig. 21). Most of these fabrics have a cut pile. Density or closeness of pile is a mark of quality.

Matelasses, which are most often of silk or man-made fibers, are produced by using crepe and plain yarns in such a way that the crepe yarns are shrunk, causing the areas of plain yarns to pucker and produce an effect that resembles quilting (fig. 22). This effect is sometimes lost with wear.

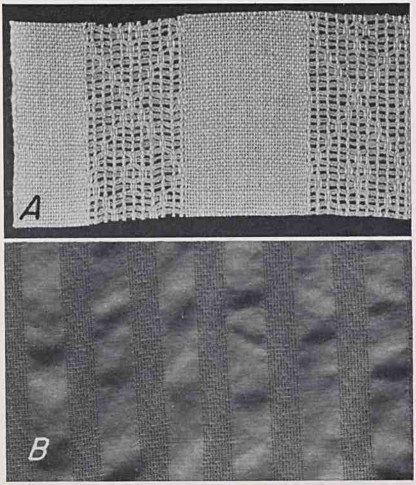
Some sheer novelty-weave fabrics, such as net and marquisette, are woven so that the warp and filling yarns are twisted around each other to keep them from slipping.

Another type of novelty fabric combines bands of openwork with plain weave. In such fabrics uneven shrinkage may cause the plain-weave sections to pucker so that they cannot be ironed smooth (fig. 23).



78384-B

FIGURE 22.—Matelasse.



78385-B, 9932-D

FIGURE 23.—Open weave stripe: *A*, New; *B*, open stripe shrunken, causing the plain stripe to pucker.

Quality of weave

Whatever the weave, its quality depends largely on whether it is firm or loose. A fabric that is firmly woven (fig. 24, *A*) is usually more durable and keeps its shape better than a loosely woven material (fig. 24, *B*), because the yarns are less

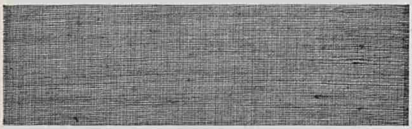
78386-B, 78387-B

FIGURE 24.—Percale: *A*, Good quality; *B*, sleazy.

easily shifted. Loosely woven fabrics need secure seam finishing to keep them from fraying with wear and cleaning.

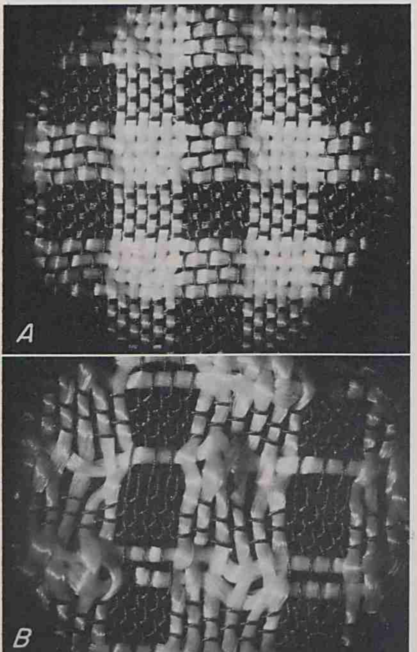
In materials of loose weave, sizing may be used to fill the space between yarns and make the fabric look more closely woven than it really is. Coarsely woven sheer fabrics such as dotted swisses and dimities may have an unusually stiff finish to give body. Some of these finishes come out with washing.

Firmness or closeness of weave is not always the quality most desired in a fabric; for various reasons



78388-B

FIGURE 25.—Sheer cotton chambray.

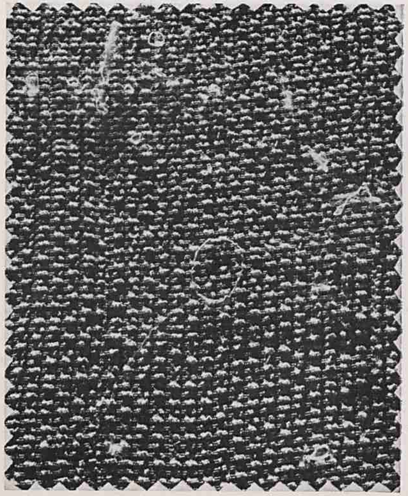


A

B

78390-B, 78389-B

FIGURE 26.—Orlon-and-nylon seersucker: *A*, Firmly woven; *B*, sleazy (both magnified).



78391-B

FIGURE 27.—Sleazy orlon-and-nylon seersucker snagged in two wearings.

an open weave may be preferred. With such manmade fibers as Orlon and Dacron an open weave may be necessary to make a fabric cool enough for hot-weather comfort. Sheer cotton chambrays (fig. 25) and tissue ginghams also are made with an open weave for the greatest possible coolness.

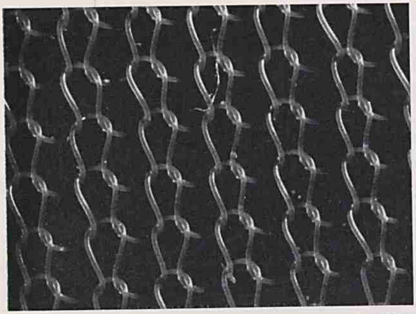
In such fabrics heavier yarns are used to increase durability. Wool voile is another example of a loose-weave material; it is designed as a sheer transparent fabric and not for hard wear.

To produce a puckered effect, rather thick yarns are sometimes woven loosely into a fabric, especially those of some of the stronger manmade fibers. In good-quality materials of this type the yarns are held securely in place (fig. 26, *A*); in poorer qualities they may snag badly with wear (fig. 26, *B*; fig. 27).

Knitted fabrics

Knitted fabrics are made from one continuous yarn or set of yarns held in place by the formation of loops instead of by the interlacing of yarns as in woven fabrics. They are produced on either circular or flat machines and may be filling knit or warp knit.

In filling knit, the yarns go crosswise (fig. 28).



78392–B

FIGURE 28.—Filling knit (magnified).

Because of its construction, filling knit is likely to run and so is not used for cut goods. It is the type of knit found in hosiery and in a great deal of underwear.

In warp knit, the yarns go lengthwise (fig. 29). The fabrics are generally more closely knit, flatter and less elastic than the filling knits. Because they are firmer, they are used for cut-and-sewn garments.

Knitted fabrics usually stretch more than woven ones, respond more readily to body movements. For this reason they are good for hosiery, underclothing, and children's garments. The yarns are more loosely twisted in knitted than in woven fabrics, making materials that are more absorbent and softer.

A warp-knit fabric of wool is known as wool jersey; one of silk or a manmade fiber is generally labeled "tricot."

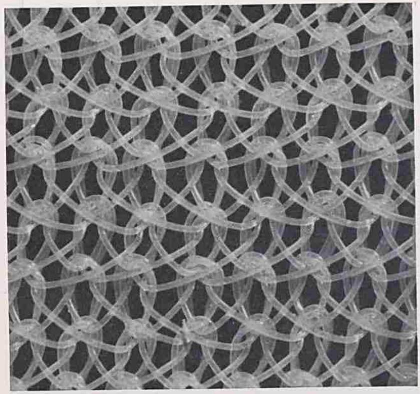
Some winter coatings are warp knit; in them the right side usually is napped, so that the knitting loops can be seen only on the wrong side.

Knitted fabrics, particularly those of wool or cotton, may stretch and sag with wear and shrink in cleaning. However, many are now especially finished to overcome this disadvantage.

Nonwoven fabrics

Of the fabrics classified as nonwoven, those used for clothing are *felt*, which is made of short fibers matted together, and *bonded fabrics*, which are made of short fibers held together by a bonding agent.

Felt is made of all-wool or wool mixed with a manmade fiber, frequently rayon. In thick qualities, felt is used for skirts and jumpers and occasionally for dresses. Felted materials are not so strong as woven fabrics and are likely to shrink in



78393–B

FIGURE 29.—Warp knit (magnified).

tailoring and cleaning; they therefore need careful handling.

The *bonded fabrics*, usually of cotton mixed with manmade fibers, are generally used for interfacings where considerable body is needed. In good qualities they do not shrink noticeably in dry cleaning; with repeated laundering, however, they may shrink and lose some of their body. Interfacings of bonded fabrics are less pliable than conventional hair canvas of wool and goat hair and do not mold so well.

Patterns

Patterns in fabrics are produced by weaving, printing, embossing, or embroidering.

Woven patterns

Several different kinds of patterns can be produced in fabrics in the process of weaving.

By using yarns of different colors, plaids (fig. 30, *A*), checks, and stripes can be produced. In these patterns the design and depth of color are the same on both sides of the material.

Another type of woven pattern is made by means of a special attachment on the loom. Such patterns and the fabrics on which they appear are often called dobbies. The patterns may be made of the warp or filling yarns and look like embroidered figures (fig. 30, *B*).

In the woven or dobby patterns there are no loose ends on the wrong side of the fabric and if the patterns are small, as they usually are, there are no long floats on the right side. Such patterns

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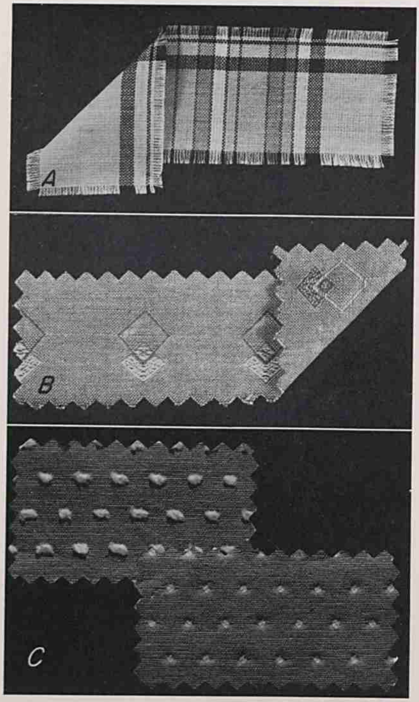


78394-B, 78395-B, 78396-B, 78397-B

FIGURE 30.—Woven patterns: *A*, Plaid; *B*, dobby; *C*, dotted swiss, wrong side top left and right side bottom right of C.

wear well. Madras is an example of a fabric produced in this way.

Weaving in extra warp or filling yarns of various fibers or colors is another way of producing patterned fabrics. The yarns may be carried along on the underside of the material as in brocades and jacquards, or they may be cut off so that the short ends are left on the wrong side as in dotted swisses (fig. 30, *C*). Long floats in the jacquards may pull in wear, cleaning, and pressing (fig. 31, *A*); short ones are less likely to snag (fig. 31, *B*). The loose ends sometimes work out of the fabric with wear and laundering. Fabrics with such designs in all-over patterns are likely to be quite wrinkle-resistant; they are also rather thick and warm.

Woven patterns can be produced, too, by reversing the direction of the weave in specified areas (fig. 32, *A*) or in alternate sections over the entire fabric as in herringbones (fig. 32, *B*). Such patterns are permanent.

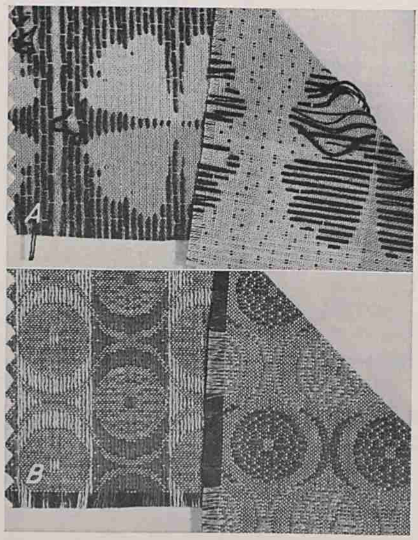
Fabrics with colored woven designs, since they are yarn- or stock-dyed (see p. 20), are likely to have better color fastness than printed ones, in which the dye is chiefly on the surface.

Printed patterns

Printing can be used on both woven and knitted fabrics and makes possible a much greater variety of designs than does weaving.

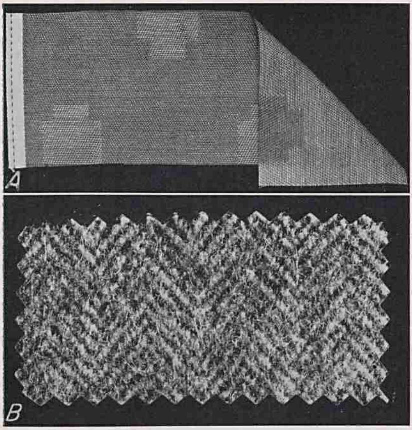
Roller printing.—Most printed patterns are produced by roller printing. The design is engraved on large rollers and the cloth is passed over the rollers; the design is produced on the cloth by different methods.

Many fabrics that have a colored pattern on a white ground are printed by the *direct method;* that is, the dye is applied to the cloth directly from the rollers. A separate roller is used for each color in the design. With this type of printing, color and design are usually much less distinct on the wrong side of the fabric than on the right.



78398-B, 78399-B

FIGURE 31.—Jacquard weave patterns: *A*, Long floats snag; *B*, short floats are less likely to snag.



78400-B, 78401-B

FIGURE 32.—Woven patterns: *A*, Reverse weave; *B*, herringbone tweed (reverse twill).

When plaids, checks, and stripes are printed in this way rather than woven, they may not be straight with the warp and filling yarns (fig. 33), and it may be impossible to match the design when making a garment.

The *discharge method* of printing is often used for fabrics having a light figure on a dark ground. The cloth is first dyed, then the pattern is produced by removing the color from the design areas by means of chemicals. Sometimes the chemicals weaken the fabric, causing the design area to drop out.

Another way of producing light patterns on colored grounds is by the *resist method.* Here the design is printed on the fabric with a substance that resists dye. The fabric is then dyed, after which the dye-resisting substance is removed.

In *overprinting,* a variation of roller printing, color-carrying resins are made to adhere to the fabric with a bonding agent. This is the usual method of producing metallic or overtone prints (fig. 34, *A*). These prints sometimes can be washed satisfactorily if a mild soap is used. Some may dissolve in dry-cleaning solutions; some may rub off with wear; some give off a disagreeable odor. On some fabrics the design is made of a lacquered adhesive paste, which may discolor, chip, or crack with wear, or dissolve with dry cleaning.

9933-D

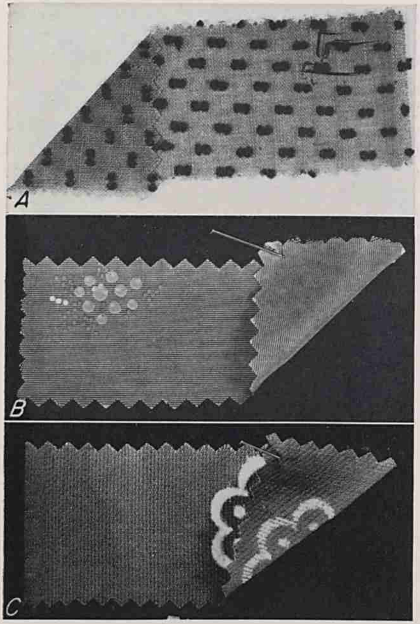
FIGURE 33.—Printed patterns, check.

Another variation of roller printing is *pigment printing,* in which the pattern is printed with insoluble pigments that do not penetrate the yarns but remain on the surface of the fabric. To prevent the pigment from being washed off readily, an adhesive is sometimes used to hold it to the fabric. An example of a pigment print is a white pattern on white organdie, often called shadow-print organdie (fig. 34, *B*). In such a print the pattern sometimes becomes less distinct with wear, laundering, and dry cleaning.

Flock printing is a process by which dots or other figures are first printed on the fabric with an adhesive base and then very short cotton or manmade fibers are applied by force. A flock-print material may resemble a dotted swiss (fig. 35, *A*), a polka-dotted fabric (fig. 35, *B*), or a printed material (fig. 35, *C*). The designs usually withstand wear and washing fairly well, particularly if the background material is firmly woven. However, the designs may be badly damaged by harsh washing methods (fig. 36). If acetate fibers are used in the design, ironing may remove some of them.

78402-B, 78403-B

FIGURE 34.—Printed patterns: *A*, Metallic or overtone; *B*, pigment (shadow-print organdy).



78404-B, 78405-B, 78406-B

FIGURE 35.—Printed patterns: Flock print may resemble: *A*, dotted swiss; *B*, a polka-dotted material; and *C*, a printed material.

78407-B

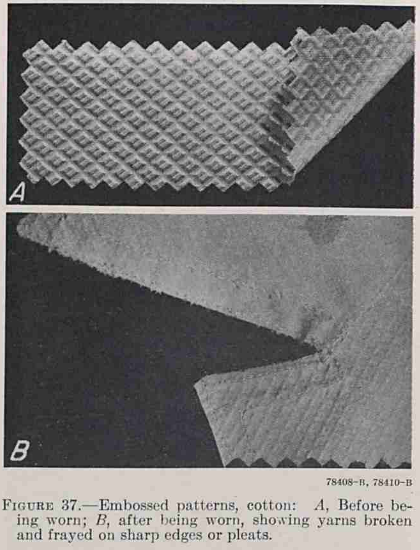
FIGURE 36.—Printed patterns, flock print: *A*, Before machine washing; *B*, after machine washing.

Screen printing.—Screen printing is a method of applying colors to fabrics through a series of silk or wire screens, one for each color in the design. It is a hand process; consequently screen-printed fabrics are likely to be more expensive than other types of prints.

Very large or widely spaced patterns can be made by screen printing. In roller printing, the size of the design and its spacing are limited by the size of the roller. Screen printing is also used when the yardages needed are so small that roller printing would not be profitable.

Embossed patterns

To produce embossed fabrics, patterns of various types are transferred by rollers onto fabrics of cotton, silk, or manmade fibers by a process involving the use of resins (fig. 37, *A*). A high satiny luster can be produced in much the same way.



78408-B, 78410-B

FIGURE 37.—Embossed patterns, cotton: *A*, Before being worn; *B*, after being worn, showing yarns broken and frayed on sharp edges or pleats.

Embossed designs include some that appear flat, such as moire, ribs, and dots, as well as those that have a definitely raised effect. The flat designs usually last longer than the raised ones, which tend to flatten. Embossed designs are permanent on fabrics of acetate or nylon because of the heat-setting qualities of these manmade fibers. On fabrics of other fibers, the pattern often becomes less prominent with wear and laundering (fig. 38). Some of the embossed cottons, however, need little ironing. Some are labeled "never iron," which means the pattern may be damaged if it is ironed.

Some embossed fabrics, particularly those of firm cotton, occasionally are too warm to be comfortable in hot weather.

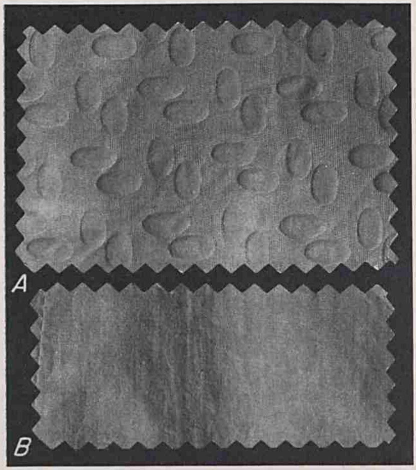
Garments made of embossed materials should not be pleated because yarns are likely to break and fray where sharp creases are pressed in. Collar, sleeve, and hem edges also may fray (fig. 37, *B*).

To preserve the original appearance of an embossed material may require special care. Ordinary home bleaches, for instance, may yellow a white embossed fabric. So when you buy materials with embossed patterns, get all the information you can about how to take care of them.

Embroidered patterns

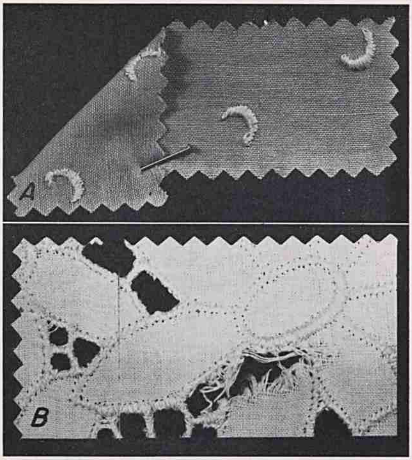
In embroidered materials the design is added to the woven cloth by means of a special machine. Good qualities wear well—the background material is made of fine yarns, firmly woven; the stitches are short and fine, resembling handwork; and the thread ends on the wrong side are trimmed off (fig. 39, *A*).

For best wear, choose embroidered fabrics with small open areas. They are easier to iron than materials with large open areas connected by narrow embroidered bands, which are easily broken by the point of the iron (fig. 39, *B*).



78409-B

Figure 38.—Embossed patterns on cotton: *A*, Before being worn; *B*, flattened with wear.



78411-B, 9934-D

Figure 39.—Embroidered patterns: *A*, Solid; *B*, open, showing pattern broken in ironing.

Colorfastness

Colorfastness is one of the important qualities of a fabric, but unless it is guaranteed by the manufacturer or retailer to be colorfast (fig. 40) there is no sure way to tell how satisfactory the color may be.

There are different kinds of colorfastness—to light, to perspiration, to washing, to dry cleaning, to crocking (rubbing off of color when the fabric is dry). The type needed depends on the kind of wear to be given the material. Fastness to light is important for all outer clothing. Fastness to perspiration is particularly important for work and play clothes and garments for warm weather wear.

Method of dyeing

Whether the dye was applied to the fiber, the yarn, or the cloth determines to some extent the

78369-B

FIGURE 40.—Label indicating colorfastness.

colorfastness of a fabric. Sometimes by examining the material carefully you can tell what method of dyeing was used.

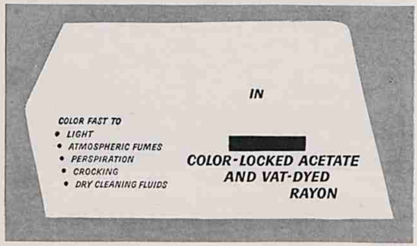
Fabrics with colored woven designs or plain materials woven with different colored yarns are generally either "stock-dyed" or "yarn-dyed." Stock-dyed means that the fibers were dyed before they were made into yarn; yarn-dyed, that the yarns were dyed before being woven into cloth. Fabrics that are dyed after weaving are "piece-dyed."

Dye usually penetrates the fiber or yarn better than it does the woven fabric and, therefore, colors are likely to be more permanent in stock- or yarn-dyed material than in piece-dyed goods. If torn ends of a solid-color material have a white or light appearance, it indicates that the material is piece-dyed and that the dye did not penetrate well.

"Spun-dyed" is a term sometimes used on labels of fabrics of manmade fibers. It means that the filaments were spun from a solution to which the dye was added. Spun-dyed fabrics are sometimes termed "color locked." They are usually fairly fast to light, perspiration, washing, and dry cleaning. When buying spun-dyed fabrics, be sure they are labeled "preshrunk;" they are likely to shrink with washing or dry cleaning unless specially treated.

Kind of dye

The kind of dye also influences the colorfastness of a fabric. Vat dyes, if properly applied, are among those with the best fastness to light, perspiration, washing, dry cleaning, and crocking. They can be applied successfully to cotton, linen, rayon, and some wool. However, "vat-dyed" on a label does not always assure complete color-



78412-B

FIGURE 41.—Label indicating resistance to fume fading.

fastness; you also need information on the kind of colorfastness. Not all vat colors are equally fast. Some are fast to light but not to washing; some may not be fast to crocking.

Fluorescent dyes are very brilliant and are not affected by washing or dry cleaning, but they are not especially fast to light.

Some of the newer manmade fibers are difficult to dye so that they will be fast to light and cleaning. For them, special dyes and new methods of dyeing have had to be developed. Complete ranges of fast colors are not yet available for all these fibers, but continued research is increasing the number obtainable.

Some materials of manmade fibers—acetates, for example—are subject to gas fading because of the types of dyes that must be used on these fibers. However, special finishes and new methods of dyeing minimize the problem (fig. 41).

Special finishes

To add a property that a fiber lacks or to counteract an undesirable property, various special finishes have been developed which have greatly increased the wearability of many fabrics. Materials treated with these finishes usually are labeled to indicate their special properties.

A finish may give more than one property to a fabric. A water-repellent finish, for example, may also make a fabric resistant to wrinkling and to nonoily stains. Another finish may add resistance to shrinking and mildew damage as well as to wrinkling.

Some finishes hold the yarns so firmly in place that washing and steam pressing may be needed to straighten the material for cutting.

When buying a fabric that has a special finish be sure the finish is guaranteed to last through laundering or dry cleaning or can be renewed by the cleaner. Otherwise, the extra cost may not be worthwhile. Get information, too, on any special care that is needed in washing or dry cleaning the material.

The most commonly used special finishes are as follows:

Anti-curl finish.—Used on cotton organdies to keep corners from rolling.

Flame-resistant finish.—Prevents fabrics from burning readily. Especially important for fabrics with a napped or fleecy surface, such as brushed rayon, cotton or rayon chenille, and cotton flannel, which catch fire easily from open flames or cigarette sparks. A Federal law, the Flammable Fabrics Act of 1954, provides that no article of wearing apparel subject to the Act may be sold if it is so highly flammable, according to prescribed tests, as to be dangerous when being worn.

Fume-fading-resistant finish.—Retards fume fading, which is caused by the action of certain atmospheric gases on some dyes, particularly those applied to acetates. Unless treated with such a finish, or dyed by a special method that develops resistance to fume fading, acetates sometimes change color completely even before dry cleaning.

Glazed finish.—Used to give a shiny appearance to fabrics of cotton, rayon, acetate, or nylon. Some of these finishes come off with the first washing; others last for some time. To be sure that a glazed finish will give satisfactory service, look for one labeled "permanent" and follow carefully any laundering directions given on the label.

Insulated or reflective finish.—Coating of a metallic substance, such as aluminum, applied to one side of a fabric. Used for coat linings, fabrics with insulated finish are usually warmer than untreated fabrics. If not properly applied, the finish may come off in cleaning.

Mildew-resistant finish.—Applied to fabrics, especially cotton, rayon, and linen, which are subject to damage by mildew when exposed to warmth and moisture. A mildew-resistant finish is important for fabrics to be used in warm, humid climates.

Minimum-care finish.—Applied to cottons and rayons to help them dry smoothly after washing so they will need a minimum of ironing.

Moth-resistant finish.—Helps make wool resistant to attack by moths. It is of special importance because of the large amount of damage done annually to wool garments and fabrics by moths and the expenditures of consumers for moth repellents. When you buy wool materials or clothing with a moth-resistant finish, find out how long the finish should last and what special care should be given the fabric.

Permanent finish.—A term used for various treatments given to fabrics so that they will retain their original finish or acquire new characteristics. The so-called permanent finishes are usually applied to fine cottons and rayons and are used most often to give crispness to sheer fabrics such as lawn and organdie. Some of the finishes are satisfactory; others lose their effectiveness with washing or dry cleaning.

Permanent-pleating finish.—Used on fabrics, such as cotton, which do not retain pleats without special treatment. Even with these finishes, such fabrics do not hold pleats so well as do fabrics of the manmade fibers that can be permanently set by heat. Much of the finish may be lost with wear and laundering (fig. 42).

Perspiration-resistant finish.—Applied to cotton, rayon, and wool to make the fabric and color resistant to the deteriorating effects of perspiration.

Shrinkage-resistant finish.—Reduces shrinkage in a finished fabric to a minimum—about 1 or 2 percent. It can be applied to cotton, rayon, and wool. Though a garment with a shrinkage-resistant finish may still shrink slightly with washing or wet cleaning, it should not shrink out of fit.

Slip-resistant finish.—Developed to keep the yarns of a fabric in place so that they will not slip and spoil the appearance of the material. A slip-resistant finish can be applied to fabrics made of any fiber.

78413-B, 78414-B

FIGURE 42.—"Permanently" pleated cotton skirt: *A*, Before being worn; *B*, after being worn and washed once.

Spot- and stain-resistant finish.—Prevents stains from penetrating a fabric readily. It does not completely eliminate the problem, but a fabric with such a finish will not spot or stain so readily as an untreated material.

Static-elimination finish.—Applied chiefly to fabrics or fibers which normally tend to accumulate static electricity, to keep them from clinging to other garments or to the skin. Most of the static-elimination finishes as yet available are not permanent.

Water-repellent finish.—Applied to fabrics of cotton, rayon, wool, nylon, and silk to make them resistant to rain, though not waterproof. A water-repellent finish allows passage of air, water vapor, and perspiration through the material, making a "breathing" fabric which is more comfortable to wear than a waterproof one, which has the open spaces completely sealed.

When buying garments or fabrics with a water-repellent finish, look for the manufacturer's guarantee on the label. Many of the finishes last through several washings or dry cleanings; some are removed with one cleaning. One brand is renewable; that is, it is removed by dry cleaning but can be renewed by the dry cleaner.

Wrinkle-resistant finish.—Applied to cottons, linens, rayons, and nylons to make them resistant to wrinkling and help them recover rapidly from wrinkling. Some of the finishes are more resistant than others and some fabrics respond better to the treatment than others. Voile and gingham, for instance, can be treated so that they will show very little wrinkling. Most rayons, on the other hand, will show some wrinkles; good-quality linens, too, may wrinkle to some extent but will not have a rumpled look.

Fabrics treated with an effective wrinkle-resistant finish often are easier to iron than untreated materials; they also soil less readily.

Occasionally a wrinkle-resistant finish makes a fabric so resistant to wrinkles that it will not take an adequate press and, consequently, seams, hem lines, and collar edges look puffy instead of smooth and flat. Sometimes the finish tends to weaken the fabric somewhat.

You can test the effectiveness of the finish by crushing the material in your hand to see whether it wrinkles and whether the folds disappear. Be sure that the finish is labeled "permanent."

Some staple fabrics

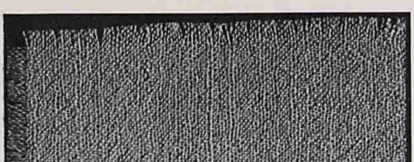
Some types of fabrics have been used for clothing for many years and are usually available on the market. These staple fabrics may have been varied by the use of special patterns, new kinds of yarns, or unusual finishes so that they look very different from the original materials of the same name. Moreover, they may be made in different qualities. Price is sometimes an indication of certain qualities but not necessarily of durability—qualities, such as fineness of yarn, novelty weave, unusual design or color, that add to the cost of production may make a fabric more desirable for certain purposes, but may not make it wear better. In the descriptions given here no attempt has been made to include all the variations in staple fabrics or all the different qualities.

Albatross.—A plain-weave, lightweight wool fabric with a crepy surface (fig. 43), usually hand washable and easy to iron. Because it frays easily, it requires secure, ample seams. Used for robes, infants' clothing.

Alpaca.—1. A wiry, plain-weave, lustrous fabric made from alpaca hair and cotton. A hard-wearing fabric but difficult to press smooth. Generally used for suits and dresses.

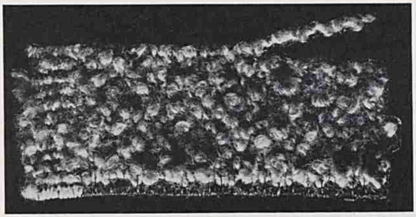
2. A fabric of rayon, similar in appearance to that of alpaca hair and cotton, used for dresses.

3. A warm fleece coating with alpaca face and cotton back. Much used for sports coats and for trim on heavy cold-weather coats.



78415-B

Figure 43.—Albatross.



78416-B

Figure 44.—Boucle.

Batiste.—1. A soft, sheer, plain-weave fabric of combed cotton that has a lengthwise streaked appearance. In good qualities it is usually highly mercerized. Used for blouses and infants', women's, and children's dresses.

2. A fabric termed "nylon batiste" has a crosswise streaked effect and is usually crisp rather than soft.

3. When made of wool, batiste is a sheer, smooth fabric of fine worsted yarns.

4. A new type of batiste made of Dacron and cotton resembles the cotton fabric in appearance but is heavier. See page 10.

Boucle.—Fabric made with yarns that have occasional curls or loops (boucle yarn), giving a rough nubby appearance (fig. 44). May be made of cotton, rayon, silk, nylon, worsted, or mixtures. Wool boucles are generally used for dresses, suits, sweaters. The material is likely to get fuzzy with wear, especially in wool coatings if the loops are rather long.

Broadcloth.—1. Wool broadcloth is a smooth, lustrous, twill-weave fabric with a pronounced nap or "up and down." In good qualities, it has a soft velvety feel. Used for luxury coats, suits, dresses. In very expensive broadcloths, fur fibers are often combined with wool to give a soft, light feel to the fabric.

2. Cotton broadcloth is a plain-weave fabric with a fine crosswise rib made by using filling yarns that are heavier than the warp yarns. In good qualities, fine yarns and high mercerization give a silky appearance. Used for men's shirts and for dresses and blouses for women and children.

3. Broadcloth of manmade fibers has the ribbed appearance of the cotton fabric.

Brocade.—A fabric with slightly raised woven-in figures on a plain- or satin-weave ground, sometimes referred to as a jacquard. Made of silk, wool, cotton, or one of the manmade fibers. On

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the wrong side the yarns are carried along from one pattern to the next (see p. 16). The material is used for such garments as dresses and coats. If metallic yarns are used in the design, be sure that they are tarnish resistant.

Challis.—A soft, lightweight, plain-weave fabric usually made of wool (fig. 45), manmade fibers,

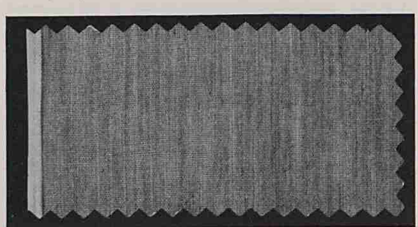
78417-B

Figure 45.—Wool challis.

or blends. The yarns are fine and woven close together. Challis resembles albatross in appearance and weight, but has a smooth rather than a crepy look. Generally washable. May be solid color or printed. Used for dresses, blouses, children's and infants' clothing.

Chambray.—A plain-weave cotton fabric usually with dark warp and white or light-colored filling yarns, or the reverse. It is made in several weights:

1. Heavyweight—rather loosely woven of coarse yarns; used for men's work clothes.
2. Medium or dress weight (fig. 46)—in good qualities is closely woven of fine yarns and has a mercerized finish; poorer qualities are of coarser yarns, more loosely woven.
3. Sheer—has an open weave for coolness and is usually mercerized; used for summer dresses and blouses.



78418-B

Figure 46.—Mediumweight chambray.

Chenille.—True chenilles are made from chenille yarns, which have a fuzzy pile protruding from all sides. The fabric now commonly called chenille is muslin tufted with soft, coarse cotton yarns (fig. 47). Good for winter bathrobes because it is soft, warm, and washable.

Chiffon.—A very sheer, soft, plain-weave fabric with a slightly creped appearance. It is made of silk, rayon, or nylon and used for blouses, scarves, and evening dresses.

China silk.—A soft, thin, plain-weave fabric of silk, made in China and Japan. Not very durable. Often used for dress linings and dress protectors; heavier weights are used also for blouses.

Chintz.—A lightweight, plain-weave cotton fabric with a highly glazed finish. Often used for aprons and dresses, although originally intended for household uses. Sometimes the glazed appearance is lost with the first washing, so when buying chintz be sure that the finish is labeled "permanent."

Corduroy.—A fabric of cotton, rayon, or nylon with a cut pile in lengthwise rows or cords. A good-quality corduroy has a firm background and a dense pile. Corduroys are warm and washable. Heavyweight corduroy, a rather stiff cotton fabric

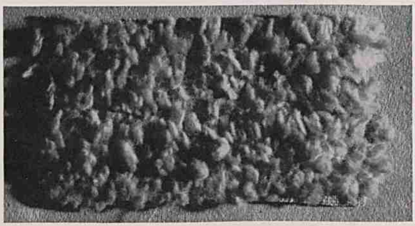


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Figure 47.—Chenille fabric.

with a very short pile, is generally hard-wearing, much used for men's and boys' slacks and jackets. Medium and light weights are used for women's and children's winter dresses, skirts, and jackets.

Covert.—A fabric with a rather coarse, steep twill, usually made of wool, cotton, or manmade fibers, with a flecked or mottled color effect. Usually wears well. Wool covert, which has a soft nap, is used for topcoats; cotton or rayon covert, for slacks and uniforms.

Crepe.—A fabric made from yarns that have been highly twisted (fig. 48). The twist, which produces the characteristic crinkled surface of a crepe, generally increases the strength of the yarn, which in turn adds strength to the fabric. Crepes can be made from cotton, silk, wool, or the manmade fibers and are used for lingerie, blouses, dresses, coats, and suits.

Flat crepes, used mainly for lingerie and blouses, are generally washable. Crepes with a more pronounced crepy texture are likely to shrink with washing and so should be dry cleaned unless they are labeled "washable."

Damask.—A satin-weave fabric; that used for clothing is patterned. The figures may have floats in the filling direction; the background floats may be in the direction of the warp. Cotton damasks are used for blouses and dresses. Because of the floats the fabrics are likely to become fuzzy and soil easily and are sometimes hard to iron when damp.

Denim.—A twill-weave fabric, usually with colored warp yarns and white or light-colored filling yarns. Generally made entirely of cotton but may have one set of yarns of a manmade fiber for a more lustrous effect or additional strength. Good-quality denims are closely woven, contain no sizing, and are preshrunk and colorfast.

All-cotton denim in heavy weights, made from very coarse yarns, has long been an important fabric for men's work clothes. Mediumweight denims, of finer yarns and often mercerized, are used for such garments as shirts and girls' dresses and suits.

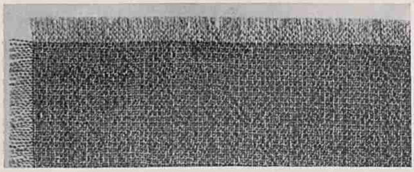

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FIGURE 48.—Wool crepe.

Dimity.—A plain-weave sheer cotton fabric with heavier lengthwise cords which help give it stiffness. Dimity usually wears out first along these cords. Used for children's and women's dresses and blouses.

Dotted swiss.—A cotton fabric in plain, open weave with dots woven in at intervals by means of a special attachment to the loom. The ends of the yarns forming the dots may be clipped on the underside or "hand tied." Dots with clipped ends sometimes come out with wear and laundering (see p. 16).

Faille, bengaline, ottoman.—These fabrics all have crosswise ribs and are similar in construction.

Faille has flat ribs (fig. 49). It may be made of silk, wool, or a manmade fiber. For a crepe faille, crepe yarns are used in one direction. Faille is used for dresses, suits, and blouses.

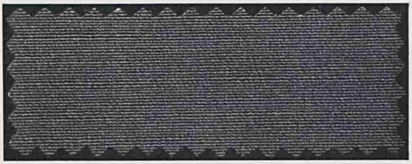

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FIGURE 49.—Faille.

Bengaline has heavier ribs than failles (fig. 50). In **ottoman** the ribs are heavier and rounder than in bengaline and are sometimes spaced farther apart. Bengaline and ottoman may be made of silk, rayon, acetate, or nylon, usually with ribs of cotton or rayon. They are used for dresses, suits, and coats.

In wear and cleaning, the warp yarns of these ribbed fabrics, particularly those made of some of the manmade fibers, are likely to slip and wear off, so that the filling or rib yarns show. The fabrics, especially in dark colors, tend to get shiny with wear and pressing. For satisfactory service from rayon failles and bengalines, which are likely to shrink in cleaning, buy fabrics that are labeled "preshrunk."

Flannel.—A twill- or plain-weave fabric usually made of wool, rayon, acetate, cotton, or blends of two or more fibers.

1. Worsted flannels have a fairly clear weave with a slight nap; some have a polished surface. Woolen flannels have a soft, napped surface which hides the weave. Wool flannels tailor easily and are used for men's and women's suits, coats, and shirts and for dresses and blouses for women and children. Wool is combined with cotton to make a washable flannel for infants' wear and for dresses and blouses.

2. Flannel of rayon or of rayon and acetate, usually washable, is used for men's suits and women's and children's suits and dresses. It is not so warm as wool flannel of similar construction,

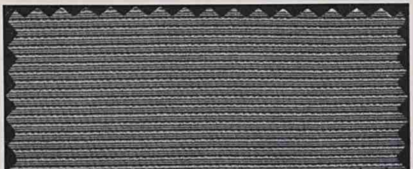

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FIGURE 50.—Bengaline.

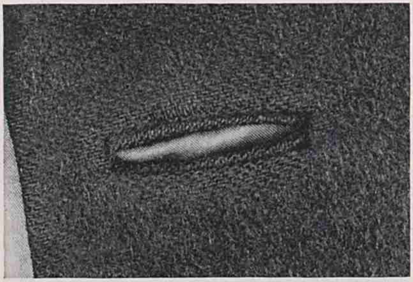

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FIGURE 51.—Wool fleece, showing wear around buttonhole.

so is good for between-seasons' wear. It usually requires a special finish to make it resistant to wrinkling.

3. Canton flannel is made of cotton, usually in a twill weave, and has a thick, fleecy nap on one side. It is used for interlinings. Outing flannel, also of cotton, is napped on both sides and is used for sleeping garments and the like.

Fleece, zibeline.—**Fleece** is a thickly napped fabric of twill weave or knitted construction, made of wool, manmade fiber, or one of the specialty fibers, such as cashmere or vicuna, or a blend of any of these. Wool fleeces and the heavier ones of manmade fibers are used chiefly for coats. Robes and sleeping garments are made from some of the lighter weight fleeces of manmade fibers.

The short fibers of all fleece coatings are likely to shed, and are sometimes objectionable when they show on garments of other colors. Fleeces are generally not hard wearing. The nap is likely to wear off in time, particularly on pocket, sleeve, and front edges (fig. 51).

Wool fleeces with a very long, hairy nap pressed flat to give a lustrous appearance are called **zibelines** (fig. 52). Some zibelines have a very soft and satiny luster and retain their original appearance well; others, made of coarser fibers, usually look shaggy after wear and cleaning.

Foulard.—See Surah.

Gabardine.—A twill-weave fabric of worsted, cotton, or manmade fibers. The twill is usually fine, close, and steep and shows only on the right side.

Good-quality worsted gabardine is usually lustrous and firm, yet rather soft. Extreme care in pressing is required to prevent it from becoming shiny. Because of the methods used in dyeing, the colors in wool gabardines occasionally are not fast to dry cleaning.

Gingham.—A plain-weave, yarn-dyed cotton. Different colored yarns are used to produce checks, stripes, or plaids, but ginghams are also made in plain colors or novelty effects. There are many qualities and weights, from heavy, coarse, unmercerized ginghams to the soft, lightweight, mercerized fabrics made of fine combed yarns and used for good-quality dresses and blouses. Good-quality gingham often has a wrinkle-resistant finish.

Homespun.—A plain- or twill-weave fabric usually made of rather thick, bulky woolen yarns to give a rough appearance. Generally a hard-wearing fabric that resists wrinkles and shine. Soft homespuns sometimes pill; the pills come off in cleaning.

Jersey.—A knitted fabric made of wool or cotton; or when made of one of the manmade fibers, usually called tricot. Used for dresses, blouses, and millinery and gives fairly good service (see pp. 14–15).

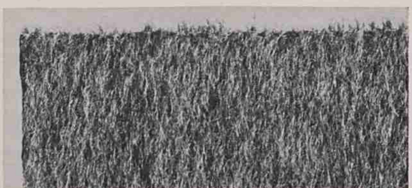
Jerseys are often finished crooked in the mill and may need to be straightened before being cut. Wool, silk, and cotton jerseys are easy to straighten; those of nylon or acetate are often very difficult.

Lawn.—A lightweight, plain-weave cotton made of fine yarns. Lawn usually has a crisp, starched finish and is used for dresses and blouses.

Longcloth.—A firm, plain-weave cotton with a soft, dull texture and rather close weave. It is heavier than lawn and nainsook and is often printed. Used for lingerie and dresses.

Madras.—A plain-weave, lightweight cotton fabric with small woven figures or stripes (see pp. 16–17). Usually mercerized. Used for dresses, blouses, and men's shirts.

Moire.—A plain-weave, firm-ribbed fabric of silk, rayon, acetate, or nylon with a flattened design produced by engraved rollers, heat, and



78423-B

FIGURE 52.—Zibeline.

pressure (see p. 18). The design is permanent on acetate or nylon, but not on silk or rayon.

Muslin.—A plain-weave, firm cotton fabric usually heavier than longcloth. It may be bleached or unbleached. Used for lingerie.

Nainsook.—A soft, plain-weave cotton with more luster than longcloth and heavier than batiste. Used for lingerie, blouses, and infants' and children's clothing.

Organdie.—A sheer, lightweight, plain-weave fabric of cotton, silk, or manmade fiber with a rather stiff, wiry feel. The yarns are fine, the weave fairly open. Some finishes applied to cotton organdies are fairly permanent; silk organdies, however, are likely to lose their finish in dry or wet cleaning.

To produce *crinkled organdie*, cotton organdie is given a plisse finish. In good-quality fabrics, the finish is fairly durable to wear and washing. The material is used for dresses, blouses, negligees.

As raw edges of organdies irritate the skin, all seams should be closed on garments of these fabrics.

Oxford cloth.—A plain-weave fabric in which two or more yarns are used as one in weaving. Good-quality oxford cloth is durable. It is used for men's soft shirts.

Percale.—A plain-weave cotton fabric. Good qualities are of rather fine yarns, firmly woven, with about the same number in the warp and filling. Poorer qualities are more loosely woven with coarser yarns and may contain considerable sizing (see p. 13). Percale comes in plain colors and prints and is used for dresses, shirts, and aprons.

Pique.—A plain-weave cotton with lengthwise or crosswise ribs or cords on the right side and rather long floats on the wrong side (fig. 53). Made also in a waffle-type weave. Fairly durable, but difficult to wash clean. Used for dresses, blouses, and suitings, and lingerie trim.

Plisse.—See Seersucker.

Pongee.—See Shantung.

Poplin.—A plain-weave fabric, usually of cotton, similar to broadcloth, but with heavier, crosswise ribs. Used for nurses' uniforms, men's shirts, children's clothes. Worsted poplin is a fabric used for coats and suits. It is durable but may get shiny with wear.

Satin, sateen.—Soft, lustrous fabrics in satin weave (see p. 12). Used for dresses, blouses, lingerie.

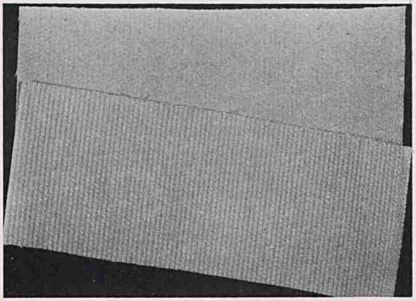


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FIGURE 53.—Pique (wrong and right side).

Crepe-back satins or satin crepes are satin-weave fabrics of silk or rayon made with high-twist yarns in one direction. Because this construction strengthens the fabrics, they will generally stand harder wear than smooth-backed satins.

Seersucker, plisse.—Crinkled fabrics made of cotton, rayon, nylon, Orlon, or combinations of these fibers. Both are used for dresses, play clothes, and lingerie. Seersucker is used also for warm-weather suits.

Seersucker has woven-in, crinkled, lengthwise stripes (fig. 54). To produce the puckered effect, groups of coarse yarns in the warp are held loosely in the loom during weaving and adjacent groups of fine yarns are held firm.

Plisse is a plain-weave fabric with crinkled stripes or other designs (fig. 55) produced by shrinking part of the material with caustic soda. Patterns made in this way are not so permanent as the woven pattern in seersucker, but the fabric is softer and lighter in weight.

Serge.—A twill-weave, worsted fabric with a hard finish. The twill is not so steep as that of

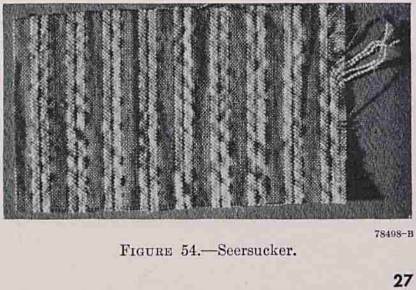

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FIGURE 54.—Seersucker.

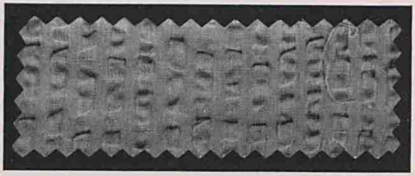

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Figure 55.—Plisse.

gabardine and it shows on both sides. The ribs may be fine and close together or they may be coarse; in poor qualities, the fabric feels flimsy. Good-quality serges are durable but show shine with wear, especially in navy blue or black.

Silk serge resembles surah in appearance but is usually heavier.

Shantung, pongee.—Plain-weave fabrics with lengthwise or crosswise yarns of uneven thickness that produce a slub effect.

Shantung, made originally of silk, comes also in cotton, rayon, acetate, and nylon. It is not a very hard-wearing fabric (see p. 11), but often a high-style material. Silk or rayon shantungs are likely to lose body in cleaning; so should be cleaned by a reliable cleaner who can apply a special finish to restore the body.

Silk **pongee,** made of wild silk, is similar to shantung but is lighter in weight and has fewer uneven yarns. Formerly a rather thin material, pongee is now made with a firmer, closer weave and is used for suits, summer coats, and dresses. It is usually in neutral color but available also in solid colors and prints. Pongee is made also of cotton and some of the manmade fibers.

Sharkskin.—A rather soft twill-weave suiting of worsted with both light and dark yarns in the warp and filling. Usually gives good service. A fabric made of acetate in a plain weave and used for lightweight suits is also called sharkskin.

Surah, foulard.—Soft, pliable, twill-weave fabrics of silk, rayon, acetate, or nylon (fig. 56).

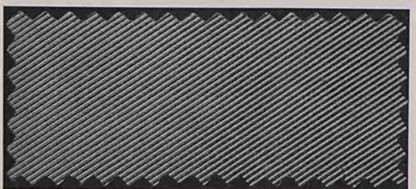

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Figure 56.—Surah.

They are firmly woven; the twills may be close together or rather far apart. Surah is sometimes called tie silk. Foulard is lighter in weight than surah and has a more lustrous surface. Both fabrics are usually printed. They are used for dresses, robes, blouses, and ties.

Taffeta.—A firm, plain-weave fabric of silk, rayon, acetate, or nylon, usually with a fine, crosswise rib and a rather stiff finish. For good service the finish should be permanent. Silk taffetas are likely to crack if they are not pure silk (see p. 6). Rayon and loom-finished acetate taffetas may shrink badly in cleaning unless preshrunk. Acetate taffetas require special dyeing or finishing treatment to prevent gas fading. The "paper" taffetas are likely to lose their finish and shrink in cleaning.

Terry cloth.—A cotton fabric with loops on one or both sides. For best wear the background fabric should be firm and the loops close together. The material is warm and absorbent. It is used for robes and beachwear.

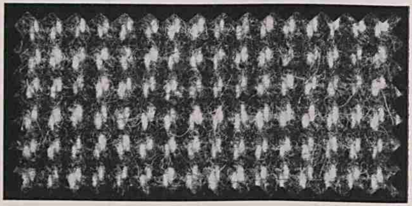

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Figure 57.—Wool tweed.

Tricot.—See Jersey.

Tweed.—Usually a twill-weave, woolen fabric, generally rather bulky but fairly pliable (fig. 57). It is most often made with yarns of two or more colors in a mottled effect or stripes or other patterns but it may be in solid color. Used for coats and suits.

Plain- or twill-weave novelty fabrics of various fibers—cotton, rayon, linen, silk—with a mottled, two-color effect are often called tweed. They are used for between-season clothing.

Velour.—A plain- or twill-weave fabric with a short, dense pile. It is usually made of wool. The material is rather fragile, particularly in soft, fine qualities as the pile tends to wear off. In dark colors velour is difficult to keep free of lint. Used for coats.

Velvet, velveteen.—Pile fabrics, similar in appearance and construction, with a plain- or twill-weave background and a short pile.

Velvet is made of silk, rayon, acetate, or nylon. The pile is formed by extra warp yarns and may be left upright or pressed flat in one direction. Velvet with a dense pile is a firm, heavy fabric that is used for coats and trim on coats. Dress-weight velvets are made with a rather scanty pile for better draping qualities.

Velveteen is a cotton fabric with the pile made of filling yarns. A warm fabric, it is used for coats, dresses, and suits for cold weather.

Voile.—A sheer, rather crisp cotton fabric with an open plain weave. Good qualities are made of fine yarns, twisted for extra strength, and often treated with a wrinkle-resistant finish. Cotton voile is used for summer dresses and blouses.

Voiles are also made of wool and silk. Wool voile is a sheer, smooth, wiry dress fabric of worsted yarn. Silk voile usually has a special finish to stiffen it somewhat.

Because voiles are loosely woven, seams require secure finishing to keep them from fraying.

Zibeline.—See Fleece.

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