THE FUR BOOK

A Practical Guide to Fur Garment Making, Maintenance, Repairing and Remodeling

BY

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general, he will be disappointed in the design and operation of the fur operating machine. No vital advance has been made in the design of this machine in the past 25 years. There are many fur operators (themselves perhaps a bit antiquated) who swear by their old Osann* heads in spite of the fact that none has been manufactured for at least 10 years.

The proper operation of the fur machine requires a high degree of manual dexterity. After acquainting himself with the important parts of the fur machine, the beginner can start to master its operation through a series of graded exercises. The routine described below has proved successful in practice.

A. Position at Machine. Sit with the chair placed at a diagonal so that the machine, head of machine and the right-hand rear corner of the table form one straight line. The left elbow or forearm

Fig. 9.—Position of operator's hands at machine, fine work.

should rest on the edge of the table. The right should be free at the right side. The eyes look down over the front of the machine, just to the right of the spot where the two "jaw" wheels touch.

B. Pedal Control. Practice control of the right and left pedals in turn. Try running the machine at an even pace, both slow and fast.

*Absorbed by Singer Sewing Machine Company.

INTRODUCTION

If a "blockbuster" exploded at the intersection of Twenty-ninth Street and Seventh Avenue in New York City, most of the world's wholesale fur garment manufacturing industry would be obliterated. Within a quarter-mile radius of this corner are compactly clustered the machinery and the know-how that produce about eight of every ten fur garments made in the United States; seven out of ten made in the entire world.

In this small area will be found the skin dealers who receive shipments from all over the world, the dressers and dyers who prepare the raw pelts, the manufacturers who process these pelts into garments. Here, too, are the scores of allied supply houses, matchers, machinery makers, buyers' offices and skilled workers.

This last group comprises the "market" of sidewalk crowds that gives out-of-towners so much trouble when they try to push by the fur-center corner. The furriers' market is no mere social gathering. A carry-over from European custom, it is at once the fur workers' exchange, hiring hall, news source and political forum. The location of the market is not static. It usually marks the geographical center of the industry's factories.

It is little wonder that an industry so closely knit as fur garment manufacturing assumes clannish aspects. Culturally, two groups are outstanding. The large majority of workers and employers are Central-European-born Jews and their American-born descendants. The other large segment is composed of the Greeks who brought their plate-making ability with them to this country. The skin dealers follow the pattern to a lesser extent since many have brought their businesses into New York from other sections, and many are natives of the countries which send us skins.

The employers are organized into several large associations on the basis of their special products. The organized workers, however, are all members of some local of the International Fur and Leather Workers Union of the United States and Canada. It is of interest to note that all segments of the industry contribute to the Fur Chest Foundation charity.

Working methods: Extremely pliable fur. In natural form (or blended) may be worked full-skin, zigzag, let-out or split up into sections, each worked as a unit. Also, as Hudson seal, worked in sheared, dyed and plucked form, in zigzags.

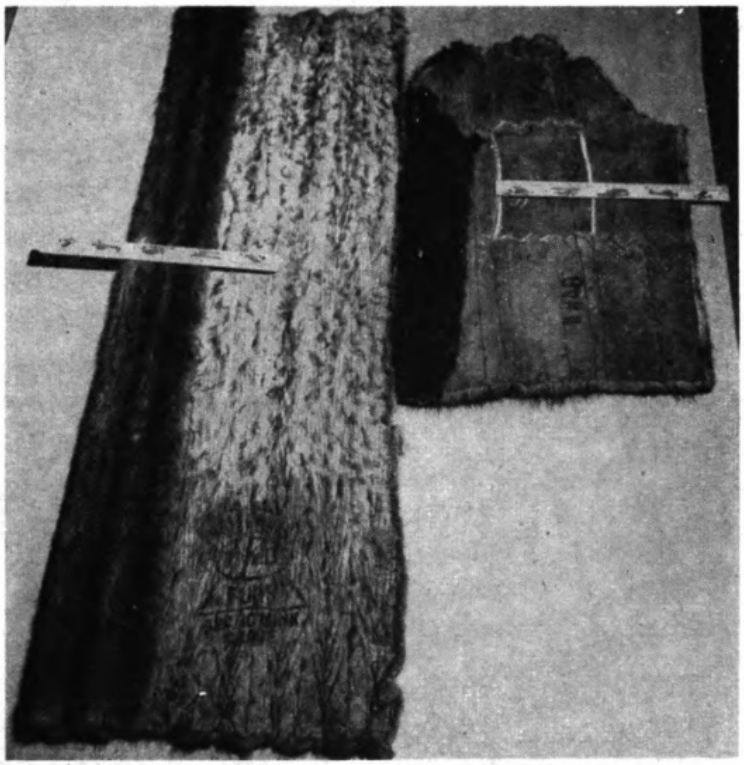

Fig. 185.—Muskrat. Left section let-out, right section skin-on-skin zigzag.

Cleaning: All forms respond very well to drum cleaning. Older natural muskrat requires bag protection. Use comparatively little solvent as pelt is dryish.

Glazing: Lightly heated iron and kraft paper, alternated with hair reversal, will help. Low, light steam ironing effective if done with care. In all cases where dyed or blended use little heat. Overnight hair reversal very effective for all forms.

Repair: Normal zigzagging effective if hair and stripe (if any) are carefully matched and aligned. Old dried-out muskrats difficult to handle.

attempting to get as many sewable cuts into the half pelt as is practical. The number of cuts should be twice as many as would normally be required to let out the same half pelt to the given length on single split-skin work. For instance, a 14-inch skin being reset and let out would need 32, not 16 let-out cuts at 1 inch each.

The operator, while finishing the cuts, counts the number of cuts made. Subtracting the number of spaces required to make the top and bottom of the new strip, he calculates the missing length, divides the number of cuts by two, and figures how much each cut must be let out to produce two full-length skins in the measurements desired.

Adjusting and joining the quarter skins follows the same principles previously developed with similar work such as plain reset.

J. Let-out with Separate Sides. There is an entire group of furs in which the flanks or sides are so manifestly different from the rest of the pelt as to make it absolutely impossible to let these skins out as a unit. If this were done, the differently colored sides and skin backs would impinge on each other in a most unsatisfactory manner. Good examples of this class of furs are some of the foxes, such as red, cross and silver foxes, and natural raccoon.

These furs can be and are manipulated in all the ways possible with other furs, provided the flanks are first carefully separated from the pelts. If, for instance, a chinchilla rabbit is to be let out, the pelt is prepared in the usual manner except that as little as possible of the beautiful white flanks is trimmed away. These sides

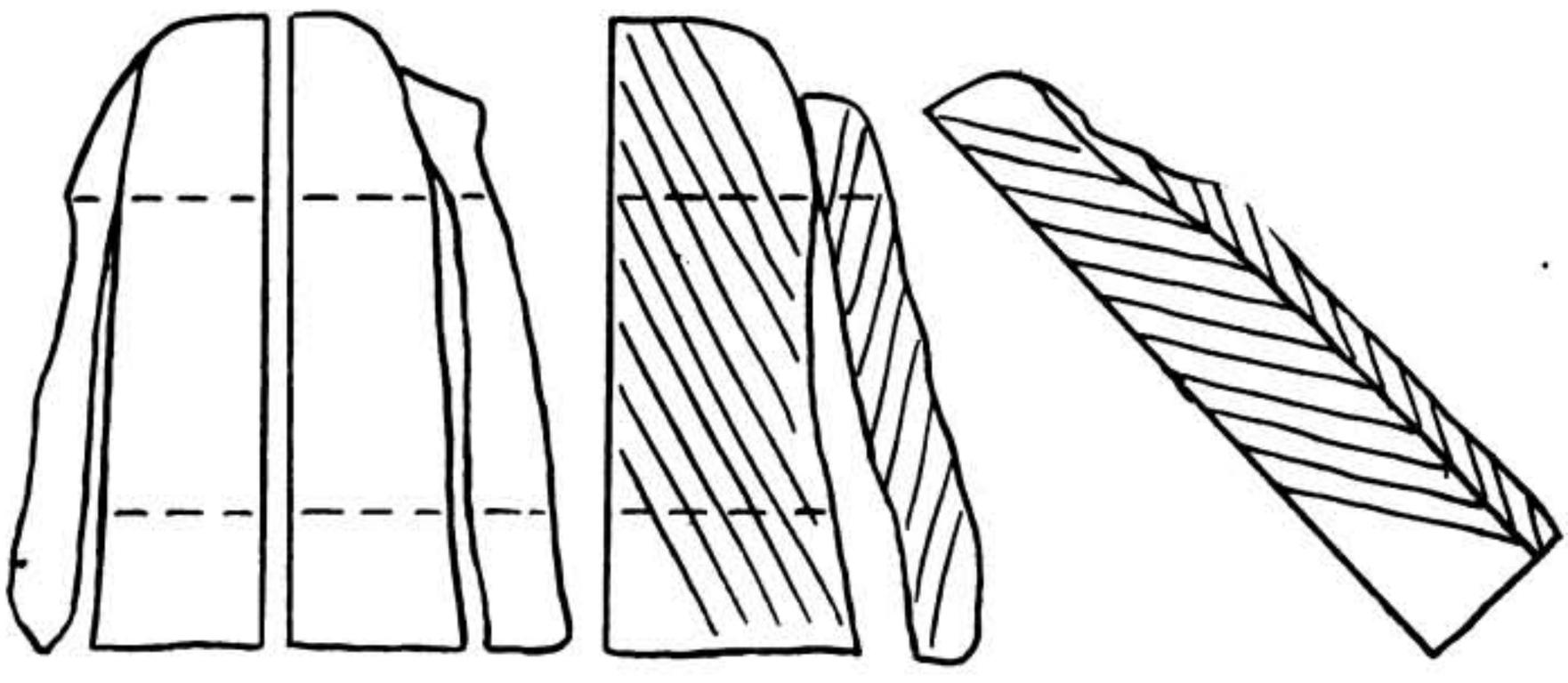

Fig. 125.—Let-out with separate sides.

Remodel: Hudson seal effectively remodeled. Natural forms not easily manipulated; cannot be renailed when old.

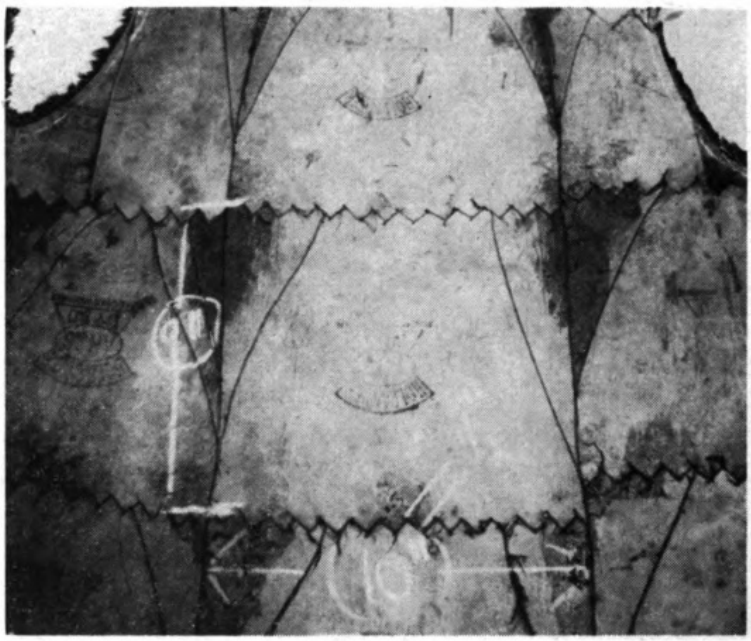

Fig. 186.—Hudson seal, leather side.

Appearance in use: Versatile fur, especially as imitator. In natural form—skin-on-skin, split and sectioned ("belly" or flank coats). Blended—mink, sable, fisher, mutation shades. Dyed—mink, sable. Dyed, plucked and sheared—Hudson seal, black and midnight blue.

Durability: Varies with form; Hudson seal very durable. Will give 8 to 20 years of wear. Natural forms less durable. Flanks (bellies) rather perishable.

Imitations: Rabbit and coney.

Substitutes: Viscacha, wallaby, susliki.

PERSIAN LAMB—BLACK

Sections: Vast range of qualities and regions. Best from Russia, Afghanistan and Southwest Africa, poorer from Bessarabia, Persia and other sections. Latter areas grow half-Persian (crossbred) sheep.

are then cut away from the rest of the pelt so that they hang by a half inch of fur at the front shoulder.

The body of this pelt is split and cut "out to the side"; that is, the cuts run down to the rump and out to the flanks. When the body has been worked out to the length desired by means of let-out work, the sides are themselves cut up for let-out, usually in a direction opposite to that of the adjacent half skin. The operator sees that these narrow sides are perfectly even in width and of the same length as the body of the skin before rejoining it to the let-out pelt. When this is carefully done, each pelt will have a beautiful edging of white fur.

In the years immediately preceding the writing of this material, jackets and capes with scalloped sweeps have been popular. This scalloped effect is especially effective on these very pelts which have sides of contrasting color. When a silver fox is reset for a scalloped jacket, the rump edge of each pelt section is rounded off and the slightly lengthened reset side brought down around the rump of the skin to produce a most effective contrasting scalloped effect.

K. Leather and Let-outs. A generation ago the insertion of leather into a full-fibered fox as it was being let out was common. The

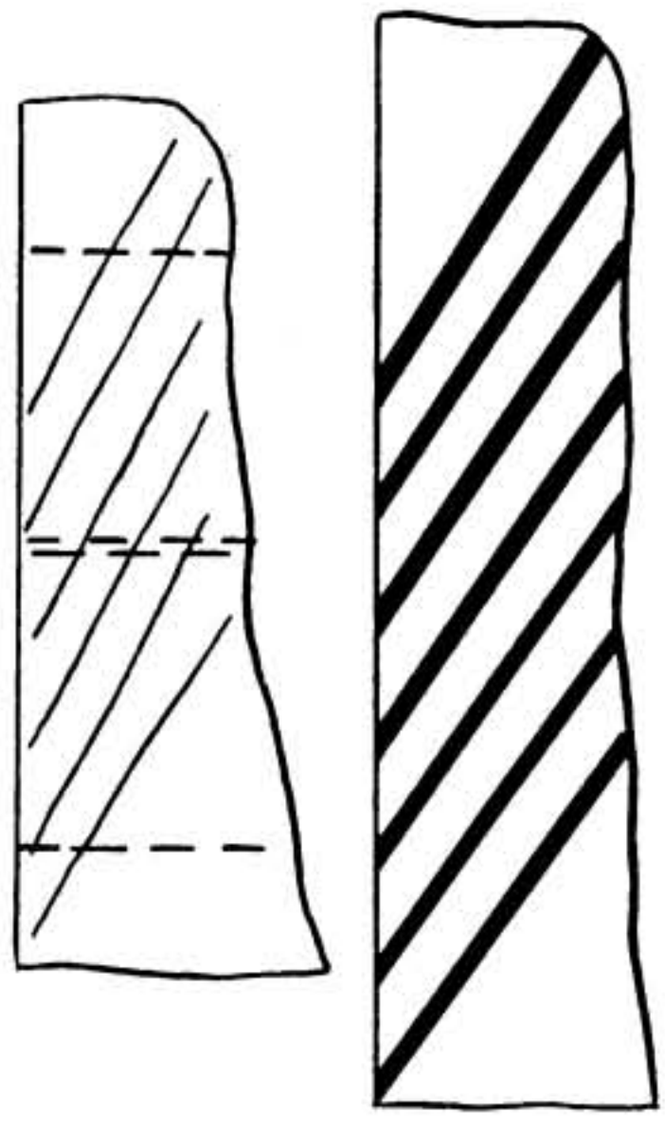

Fig. 126.—Leather and let-out.

Fig. 187.—Black Persian lamb.

Appearance of skin: Commercial skin bright black or blue, with blue-black leather. Size 13 to 24 inches long, up to 14 inches wide. Flat oblong paws and triangular tail characteristic. Pattern ranges from even "clothy" curl (large or small, open or tight) to wavy patterned skins.

Uses: Coats, jackets, trimmings, millinery, muffs.

Working methods: Concealed-seam technique. Lines of 2, 2½ or 3 skins set up, split and joined. Leather side shows full-length strips, 12 to 18 to garment, each 5 to 7 inches wide, joined by some form of concealed seam.

Cleaning: Drum cleaning in thin bag against which impregnated sawdust hits, or directly with any smooth-ground carrier (nutshells).

Glazing: Limited to mist-blowing with prepared "gloss" preparations, followed by vacuuming with hand vacuum equipped with camel's hair brush.

Repair and remodel: Almost any kind of repair or remodel possible so long as fur has not begun to flake or leather to crack. In most cases new fur can be added without spoiling match.

assumption was that time would be saved by combining the operation. It was usually possible to maintain the original width of the pelt while lengthening it considerably.

This method has deservedly fallen into disrepute; first, because it sets leather into the pelt diagonally, which is least desirable for camouflage purposes, and secondly, because the process was clumsy and time-consuming. Today the same results are produced by leathering the pelts vertically as needed after they have been let out to the length desired.

L. Setting Up Pelts for Increased Let-out Area. Frequently one or more pelts of a unit which has been laid out for a let-out job are found to be smaller in area than their assigned place on the pattern. This may be because the pelt is a little smaller than the average. More often, however, a special part or design of a let-out pattern may necessitate a much greater length than that of the rest of the garment. This situation might be found on the outside skin pattern on a rounded-front garment where the end pelt traverses the full length of the garment and then turns to run around the full half sweep to the back.

An especially large skin is usually unsuitable for this extra length, because its hair height and fullness make it a poor match for the rest of the skins. Nor can a normal skin be extended to this extra length, since too many let-out cuts for the limited area would be required. Moreover, the resulting let-out strip would be narrower than the others, giving a most undesirable effect.

The solution lies in increasing the working area of the pelt by adding part of another pelt or even, when needed, another full skin or more. The method is basically the same as that used in combining two or more Persian lamb skins into a line (see page 93) but the details of technique are different.

The simpler phases of setting up require the assortment of pairs of skins, similar in nature, one flat and the other full, so that the hair height of the rump of the flat skin will equal the hair height of the head of the full skin. Usually a notched joining is utilized.

A variation of this method might involve three skins, each cut in half across by straight or notched cut. The three head sections are joined, flat to heavy in order, and the three rump sections in the same order.

Appearance in use: Whether patterned or even-curled, good Persian lamb garments should not show skin joinings.

Durability: Variable. Good Persian usable up to 15 years, three to four years before repair; poor Persian one to two years.

Imitations and substitutes: Many substitutes in half-bred local sheep such as American Persian lamb. American broadtail an imitation of broadtail-type Persian. Pieced Persian and Persian paw are actually other forms of Persian lamb.

PERSIAN LAMB—GRAY

Sections: About the same as black, except that fewer regions produce grays.

Appearance of skin: Small, tight curl in gray found only in dull, poor grade of skin. Best have large, rather open curl; shiny. Color ranges from pale pearl gray to dark gray tinged with black.

Uses: Coats, jackets and some trimmings.

Fig. 188.—Gray Persian lamb.

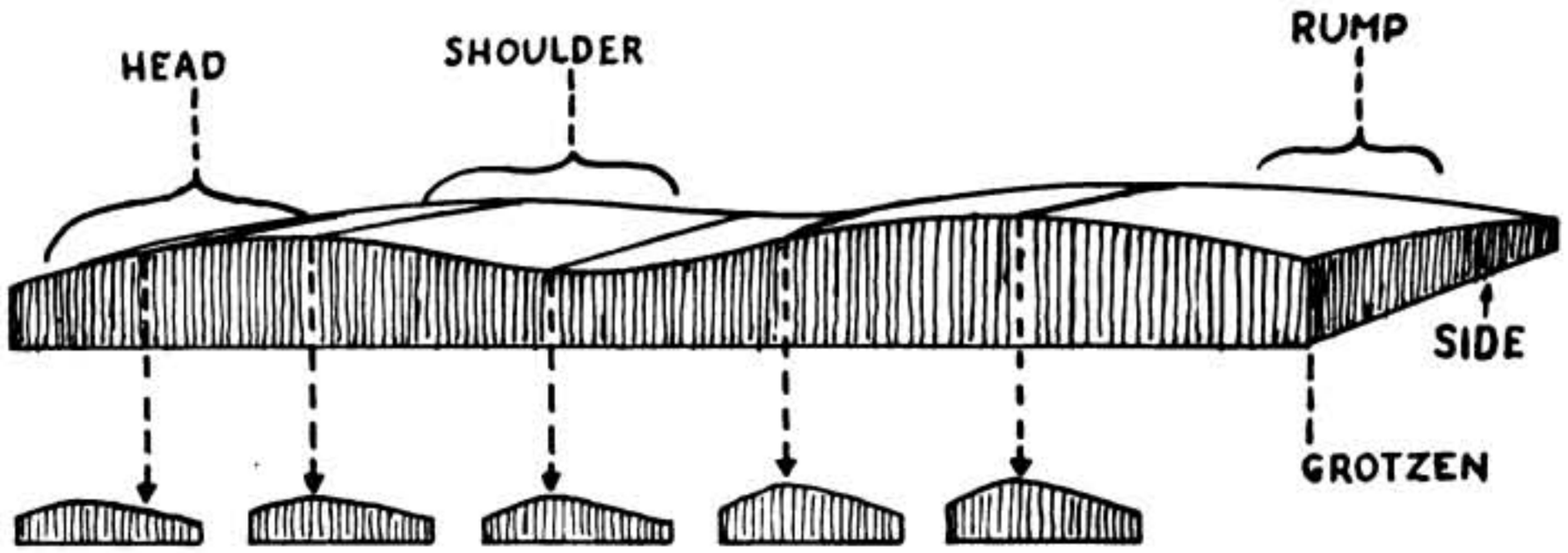

Fig. 129.—Cross-section length of mink skin along grotzen.

rises to its greatest height just before it dips again at the rump. Nor does the hair slope regularly out to the flank. Even here the flow is irregular; the grotzen is flat, the side grotzen is highest, then the hair height dips sharply out to the flank.

MATCHING LET-OUT WORK

Discussion of matching a bundle of skins to a let-out job has deliberately been left until last because a proper approach to this problem presupposes a complete knowledge of the amount of material required to produce a given stripe in a given section and type of pelt.

The sectional method of aligning the body of a fur coat can be used here to advantage. From experience, or by estimating the average area of the type of pelt used, the cutter arrives at an estimate (always generous) of the number of let-out strips to be used for the full back, each front and the underarm.

In determining the amount of skins required by any section of the garment, the area calculation system is again most useful.

A normal 40-inch-size pattern, when marked off into back, underarm and front sections, may be found to have a back section which is 14½ inches across the back and 21 inches at the sweep. A pelt with 100 square inches of usable fur will therefore be 2½ inches wide on the average if let out to 40 inches.

But a 40-inch strip, 2½ inches wide all over, will not taper as the back does. To find the proper proportions, a simple ratio formula is used. The proportion of the back is 14½ to 21, or roughly 2 to 3, and all let-out skins in the back must conform to that proportion. In this instance, the let-out strip is made 2 inches wide at the neck

Working methods: Let-out, split-skin, cut out to side or into grotzen.
Cleaning: Same as black.
Glazing: Same as black.
Repair and remodel: Because skin is let out, repair and remodel tremendously complicated. Matching and adjustment more difficult. Can be reblended to restore "gray."
Appearance in use: Skins in full-length stripes, 18 to 28 for garment, depending on length, size and sweep.
Durability: About the same as black except that tipped or blended types turn yellow through oxidization. Even natural skins lose brightness after some years of wear.
Imitations and substitutes: Bombay lamb, Tingona lamb, processed lamb. Stripe sprayed on. Gray caracul, although curl is wavy, may be confused with gray Persian lamb.

RABBIT

Sections: Australia, New Zealand, Europe (Belgium, France), Japan.
Appearance of skin: Never used in natural form except as cloth-coat lining, or in white or novelty shades. Dyed and sheared into many shades and heights. Long-haired called coney, sheared types sealine, lapin, beaverette, etc.

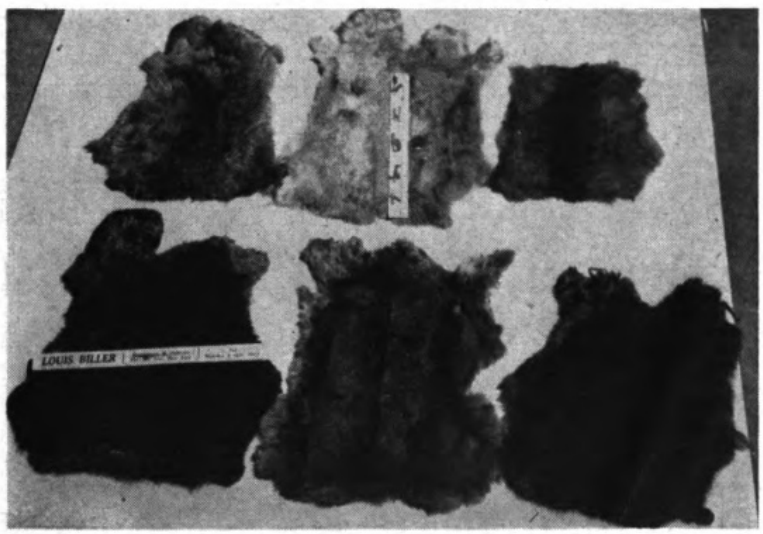

Fig. 189.—Some types of processed rabbit skins.

and 3 inches wide at the rump, thus maintaining the 2½-inch average width.

Assuming that the full back will require seven skins, the cutter matches the seven best of the larger pelts for this unit, arranging six pelts in descending order around the center back pelt. In making the arrangement he is guided by his selection of one of the three possible ways of assembling the skins, a choice we will discuss in detail below. The front, he has found, will require eight pelts each or 16 for both. The best pelts are placed over the bust area and the remainder matched in descending order from both sides to the front and to the underarm. Four poorer, smaller pelts will be used to make up the underarms. The sleeves are to be made from nine smaller skins each, or 18 in all.

Assembling Systems for Let-out Work

There are three alternative methods of assembling a given set of matched skins for a fur-garment unit. These three methods—prepared full skins, interchanged split skins, and the self-side system—find their most efficient use in let-out patterns.

A. Prepared Full Skins. The full-skin system is used on skunk and opossum among others. The matching here is in pairs. The success of the individual garment depends upon the ability of the cutter to set up pairs of skins which are nearly identical in size, color and height of hair. These pairs are matched to the half pattern, thus setting up the complete garment; the underlayer of paired skins makes up the other half of the garment or the sleeve as the case may be. This method is theoretically the simplest of the three, but it depends for its success on an initially large lot of pelts from which closely assorted skins can be assembled for individual garments and bundles.

B. Interchanged Split Skins. A great deal of let-out work, including mink, is matched by the cutter in much the same way as a Persian lamb garment is assembled; that is, interchanged split skins. This method has the advantage of assuring a perfectly symmetrical garment no matter how difficult or forced the match of the bundle. The right and left side of the garment will always be in perfect alignment so far as color and height of hair, size and other characteristics of the fur are concerned.

The matching system is exactly the same as above with the paired

Fig. 190.—Natural raccoon, let-out and skin-on-skin.

Appearance in use: In natural form, long dark gray stripes, 17, 19 to 23 to body of garment. Also blended, bleached and dyed to imitate fisher and silver fox. In sheared form, brown underfiber resembles nutria and beaver. All types tipped and blended.

Durability: One of most durable furs in natural color. Blended and dyed forms oxidize. Sheared forms mat and become dull, are somewhat less durable.

Imitations and substitutes: Used to imitate other forms in late years. Japanese raccoon—longer haired, naturally reddish. American opossum—longer, silver, less dense hair, which sheds easily.

SKUNK

Sections: Best from Minnesota and neighboring states.

Appearance of skin: Pelt 14 to 22 inches long, up to 8 inches wide. In use, very dark brown. Long, shiny guard hair with purplish-brown fiber. Uncut skin has characteristic white stripe which is removed before use.

skins interchanged; that is, the right half of one of the pair joined to the left half of the other. Each assembled skin is used on a half of the garment. Interchanging of this type is possible because it has been found that grotzens are comparatively easier to match than the sides of skins. The right and left sections of the garment (body or sleeves) will be perfectly symmetrical in size and appearance, since each contains opposite halves of the same pelt.

When the value of the pelt warrants a very accurate pairing, the trimmed and repaired skins to be paired are split down the grotzen so that they hang together by an inch of fur at the head. Thus split, opposite halves of skins being matched can be set side by side

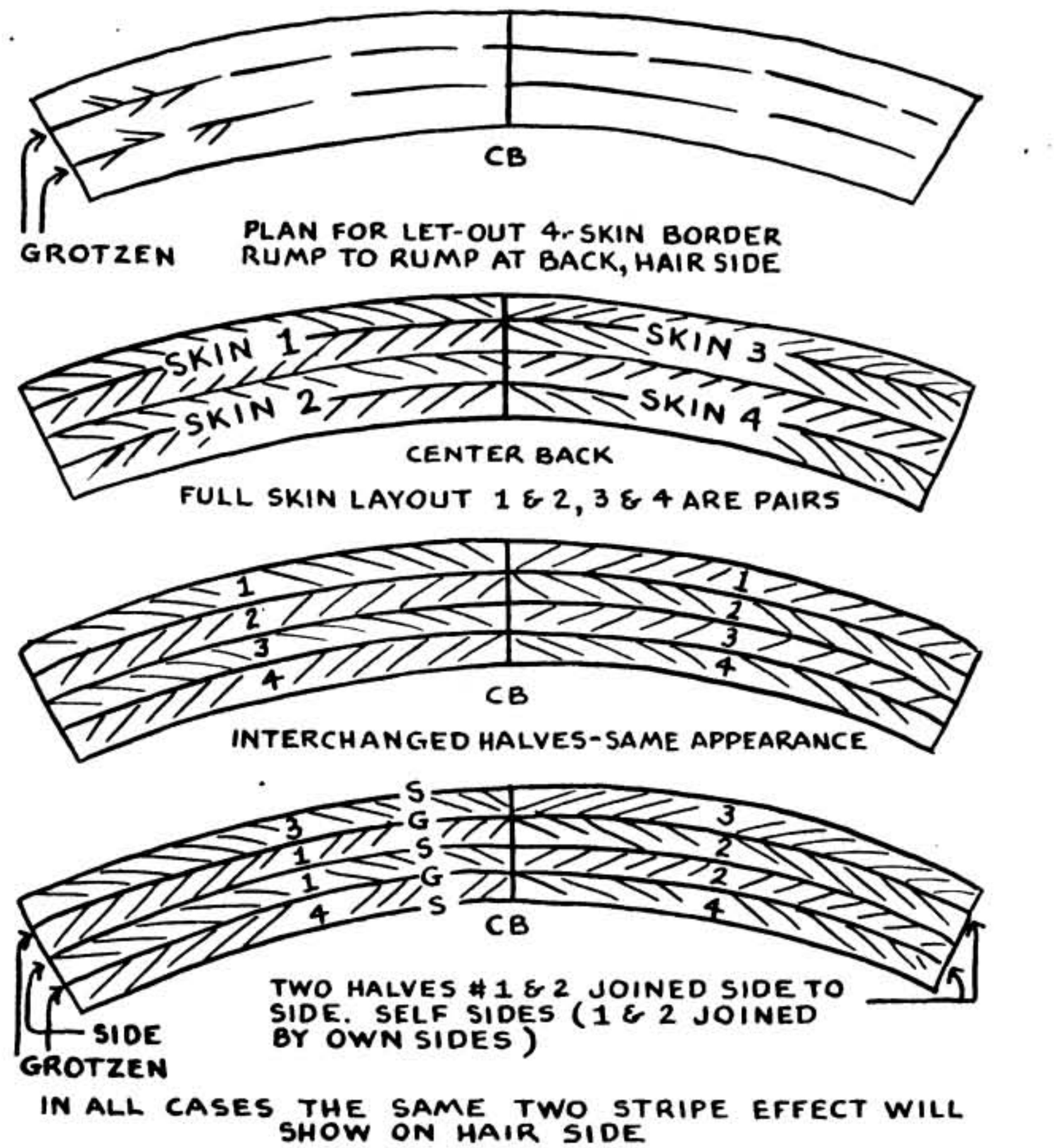

Fig. 131.—Three assembling systems for let-out work.

Uses: Coats, jackets, cloth-coat trimmings.
Working methods: Split-skin let-out.
Cleaning: Normal cleaning methods satisfactory.
Glazing: Will respond to ironing (wax paper), steaming. (High-pressure steam gun gives fine finish.)
Repair: Repair difficult when fur must be added, because of match.
Remodel: Same as repair. Fur very difficult to match when old.

Fig. 191.—Sable-dyed skunk.

Appearance in use: Dyed to many shades in last 20 years: from very dark "sable" to "baum marten," "blue fox," "silver blue" and other beige tones, requiring bleaching as preliminary.
Durability: In natural color skunk is very durable. Dyed shades oxidize.
Imitations and substitutes: Civet cat ("little spotted skunk")—pelt half size, thin leather. Dyed long-haired rabbits.

SQUIRREL

Sections: Best from Siberia and Russia, also Scandinavia, Alaska. Canadians usable when dyed, also Swedish. Others, like U. S., too coarse for use.

on a smooth, flat matching table and compared with great care. This procedure is expensive and not required except on the luxury furs.

C. The Self-Side System. In making up garments by the two systems outlined above, it is often found that the sides of the two skins being joined do not match because of dissimilar color or hair height of the flanks. An attempt to improve the match is often impossible or at least impractical. Instead, the garments which present this difficulty, notably let-out muskrat, are worked with "self-side" joining. When the halves of the pelts have been let out, they are rejoined side to side, with or without leather in between. The separate pelts are joined to each other along their grotzens since that is an easier matching problem. The major departure in matching in this particular system is the fact that all the skins are paired except the last or facing skin. Half of this skin goes onto each front to finish the garment off with the sides so that the pelts will look normal.

Each of the three systems has the same full-skinned appearance on the hair side. Each is peculiarly adapted to certain types of skins and bundles. The full-skin system is the simplest and can be used with dyed furs where the bundle appears regular. The interchanged-half layout is superior where the bundle has a comparatively wide range of over-all color and where the bundle does not match out into good similar pairs. The self-side layout solves the problem of joining varicolored sides. Figure 131 shows how these methods are used to produce a four-skin border.

It cannot be emphasized too strongly that the matching of any garment in the higher-priced brackets represents the most important step in the entire production of the garment. From experience it has been found that beginners are prone to rush through this particular phase of production. They seem to feel that it is merely a preliminary step and not nearly so important as the cutting of the garment.

As a matter of fact, the exact opposite is true. To gain a true picture of the relative importance of the calculating, setting up and matching phases of let-out work as against the actual slicing, it should be understood that the "preliminary" steps may occupy 50 to 90 percent of the time given over to the cutting of a good let-out coat. In many large let-out plants the actual cutting of the let-out

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cuts has been relegated to a comparatively inexperienced cutter who is called a "slicer."

Mechanical ability required to cut even the most difficult let-out work, the handling of the knife, the placing of the cut, are techniques which can be learned by any intelligent person within a year. However, the ability to assemble a set of skins, taking advantage of the best so that they will enhance the appearance of the entire garment, making it attractive, symmetrical and in all respects wearable, is the real art of the fur cutter. Only after painstaking determination of every possibility by actually rearranging, matching and rematching each of the skins of a garment, only when every pelt's characteristics have been memorized and can be recalled, can a cutter really begin to call himself a good matcher.

The proper approach to the production of a fur garment will depend upon the technician's ability to realize that he must devote a great deal of time and energy in eye-straining work to this one step of matching.

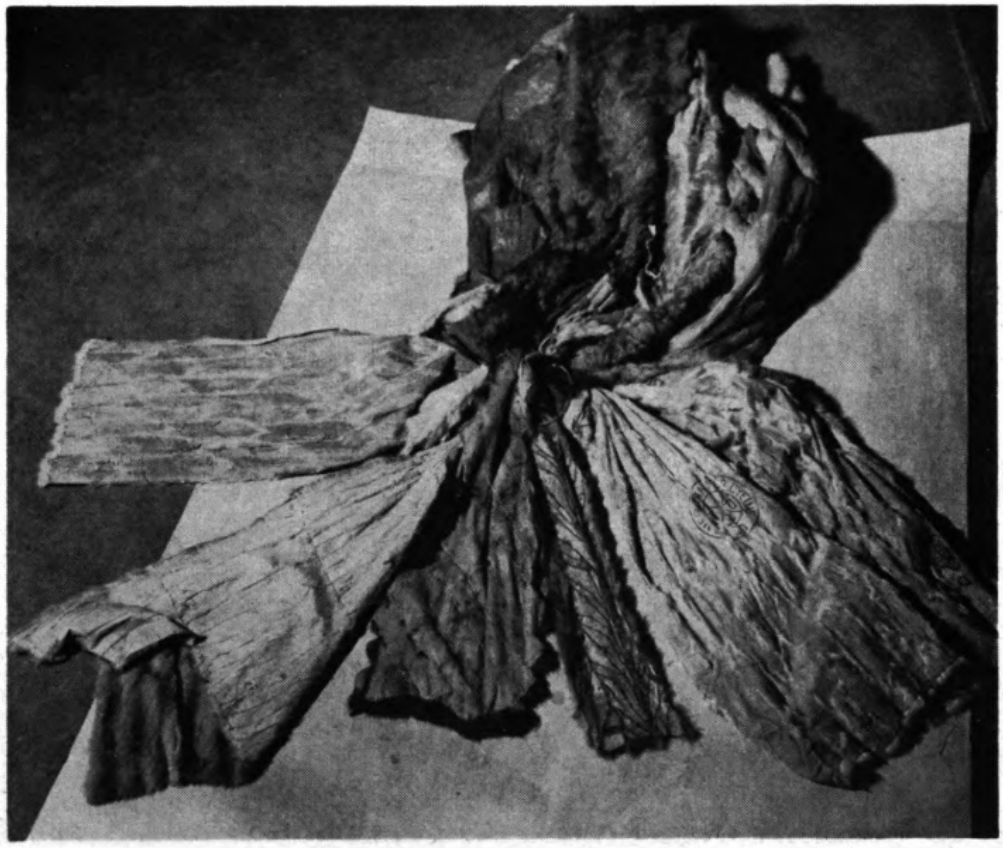

Fig. 192.—Types of squirrel pieced plates.

Appearance of skin:	Best are clear gray with bluish cast; others pale gray. Less desirable red-streaked. Skin 8 to 12 inches long with white flanks, blue-black grotzen. Fiber soft and very full.
Uses:	Coats, jackets, cloth-coat trimmings.
Working methods:	Skin-on-skin, full-skin. Joining V or rounded head and rump to match. Feet and skin can be dropped out, lengthening skin.
Cleaning:	Delicate leather demands care in cleaning. Bag cleaning prevents strain.
Glazing:	Water-and-stick glazing is effective. Light steaming helpful.
Repair:	Garment not difficult to repair if leather is not rotted. Match important.
Remodel:	Not especially difficult.
Appearance in use:	In natural form, skin-on-skin formation shows. In dyed form, with stripes, joining almost invisible.

Chapter 6

OTHER PROCESSING TECHNIQUES

The matching, layout, cutting, operating, nailing, squaring, closing and finishing techniques which have previously been described are basic to the manufacture of a fur coat. Many fur garments are being made today with few or no other processes than these.

There are, however, a multitude of processing techniques, ranging from simple combing to highly technical and skilled dyeing and blending, all intended to improve the appearance of the fur garment. These range in difficulty from simple processes which any handy person can perform to highly skilled techniques requiring considerable knowledge and much experience.

FINAL CONDITIONING

A. Filling Out Seams. In spite of the care taken by the operator in sewing or in closing a fur garment, he will sometimes sew hair or fiber into the fur seam. This defective seam appears as a break or damage in the fur on the hair side. When it occurs on a completed garment, it is not practical to reopen the lining and resew the seam, nor is it necessary. In many instances, it will suffice to insert a fine-pointed needle into the fold of the fiber that has been sewed into the seam and use it gently as a sort of lever to pull that fiber out of the seam. On the sturdier furs a steel comb can be used for this purpose, although it may be too strong and tear the fur.

B. Trimming Thread Ends. Any normally sewed fur garment will show many ends of thread through the fur side when examined. It should be noted that these threads should be cut free, not pulled out of the fur. Pulling may start the entire seam unraveling.

C. Combing. The use of what is known as a furrier's steel or aluminum comb was at one time far more popular than it is now. Such steel combs have a limited use in improving the appearance of individual skins before they are joined into the garment. The recent advance of other techniques has relegated the use of the steel comb to a minor position in the trade.

Fig. 193.—Dyed squirrel jacket.

Durability: Not a durable fur. Fiber wears away from edges in two to three years.

Imitations: Lapin and coney—with grooves.

It is questionable whether much combing is worth while on most furs, with the exception perhaps of local areas which have become matted because of water or some other substance getting into the hair. Combing is still useful on straight-haired and long-haired furs but of course it should not be used on any fur with a pattern, such as lamb. Large-scale processors of popular-priced furs make use of a mechanical comber and ironer.

D. Wire Brushing. Far more useful than the steel comb and less dangerous in most instances is the wire brush. These brushes are similar to those used in currying animals. They are used in the fur trade in two sizes, a large and a small, both usually with a metal back.

These steel brushes or cards are most useful on almost all furs, except the lamb family, for separating and fluffing out the hair. Any fur which does not shed excessively can be improved by a wire brushing.

However, if the wire brush meets too much resistance as it is pulled through the fur or if an inordinate amount of fiber and hair is pulled out of the skin, it should not be used. Nor should the wire brush be used on such furs as pony and kidskin where the leather or the hair is not strong enough to stand such treatment. In general the wire brush is useful on full-fibered furs to a limited extent, in conjunction with other cleaning and fluffing techniques.

E. Beating. Since time immemorial bamboo or rattan sticks have been used to fluff out and improve the appearance of fur skins. The visitor to the fine fur dressing establishment will find that one of the many techniques used in perfecting the appearance of a fine fox or wolf may be the hand-rattaning of the pelt by the dresser. In the fur factory the beating of fur garments is a common procedure. This rattan beating, sometimes done by hand but usually by a rattan beating machine where a large volume is handled, accomplishes two main purposes. In the first place, it separates and fluffs out the individual fibers. Secondly, it loosens any dirt so that subsequently it can easily be shaken out or vacuumed out of the pelt. There is, however, some evidence to support the suspicion that vigorous beating breaks guard hairs.

The rattaning of fur garments must be limited to those which have a comparatively strong leather. Rattaning is not advisable

Then open and close the jaw of the machine, being careful to let the jaw back slowly. Quick release of the jaw pedal will slam the two wheels together and may crack them. Finish by performing the regular operating sequence: open the jaw, close the jaw, run the machine for about one second and then stop it.

C. Paper Exercises for Control. Using thin folded paper, run the fold through the machine in simulation of fur. The paper should be controlled so that the folded edge is exactly even with the top of the needle guide set plate. This exercise is first done using both

Fig. 10.—Doing paper exercises to learn control.

hands, then with the left hand only. The "seam" is finished off without stopping the machine, by pressing the last inch of paper (or fur) against the underside of the outside wheel with the forefinger of the left hand. In this manner the material is controlled down to the end of the seam. If this exercise is performed correctly, the folded sheet when opened on the paper will look like this:

If the paper is allowed to go through the machine too high or too low, this will be the result:

For the next step, paper strips 10 to 12 inches long and about 1 inch wide are prepared and used in pairs. The edges of a pair are

The health problem peculiar to the fur garment manufacturing industry has been the subject of much idle talk and opinion. It is a fact that the insurance companies regard fur workers as no worse risks than persons engaged in any other process involving fiber. Naturally, a worker who is asthmatic or who has a fiber allergy will be limited in his or her opportunities in the fur industry. In one case an allergic worker was able to remain in the industry by shifting from an establishment which specialized in the full-fibered foxes to a kidskin house. Since kidskin contains no fiber, as distinguished from hair, the cause of irritation was avoided.

In the windows of the skin dealers along West 30th Street can be seen bundles of pelts from every continent and most large countries of the world. Squirrels and sables from Siberia, opossum from Australia, ocelots from Argentina, foxes from Canada's Prince Edward Island, leopards from Abyssinia vie with our own mink, silver fox and skunk. Romantic? The importer who recently brought his goods out of China at the point of a gun was a descendant in spirit though not in blood of the *courriers du bois* who nearly made North America a French province in their efforts to find furs. It is not too much to say that our early history was written in furs.

More than a half billion dollars were spent for new fur garments in 1946. Adding the business done in storing, cleaning, remodeling, repairing and other work on fur garments, the total volume may be well over a billion dollars.

In this cluster of fur factories, large and small, is produced every type of fur item from toys and slippers to hats, scarves, mufflers, gloves, coats, jackets, capes, wraps, stoles and many other articles. The processes by which skins are assembled into these finished products make up the subject matter of this book.

on the lamb family any more than is combing or brushing. It is most useful on sheared and long-haired fur.

In recent years mechanical devices which revolve leather thongs in place of rattan have been used with some success in the popular-priced field instead of the cumbersome and strength-consuming hand method.

F. Vacuuming. For cleaning out the hair side of a fur garment, hand-vacuuming by means of a small portable machine or the nozzle of a large tube-type vacuum is most useful. The hair is loosened, dirt removed, and in general the appearance of the fur improved. It must be pointed out, however, that vacuuming should not be the final finishing process on any garment because it tends to leave the hair too flat and grooved, usually as a result of the action of the brush attachment on the fur.

Manufacturers of hand vacuums which are particularly adapted to the fur trade have included in the equipment special soft-haired brushes which are flexible enough to permit their use on such furs as Persian lamb without opening or in any way destroying the natural curl of the skin. For other furs a heavier, black-bristled, rotating brush can be used with safety.

G. Blowing. Most commercial vacuum cleaners can also be used as air blowers. Blowing clears out, fluffs out and improves the appearance of most furs much as the same technique will improve the appearance of any pile fabric. Blowing, however, is not of much value on the lamb family and should not be used for these skins.

There is some reason to believe that warm-air blowing is superior to unwarmed air for this purpose but of course the temperature should not be too high.

H. Clipping. The shearing or clipping of furs of the lamb family in order to improve, even out and blend the skin joinings is a custom of long standing. Formerly done by hand with fine barber shears, the clipping is now accomplished in volume with an electric clipper especially designed for the purpose. However, for clipping Chekiang lamb, caracul, Persian lamb and some other furs, the novice clipper is advised to confine his efforts to barber shears.

The trick in the use of the shears is, while holding them generally at a right angle to the fur leather, to keep turning the direction and

case of beaver, for instance, not only is the sheared fur delivered to the manufacturer in a flat state, but the sewed skin is often returned to the shearer for a further step known as grooving. In this process the light blue sides of the beaver are sheared down slightly flatter than the rest of the skin to enhance the color and appearance of the pelt. Of course, such pelts as sealine, Hudson seal, Alaskan seal and other flat sheared furs are commercially sheared before they are given to the furrier for processing. The great value of this shearing and grooving process is to improve the appearance of the fur and make it commercially more desirable.

There is some question as to whether any fur, even beaver, can be sheared or grooved after it has been worn for some time. The processor, repair man or remodeler is safer if he submits an individual sample before attempting or guaranteeing such work.

FUR CLEANING

No subject has been argued more extensively than the relative merit of immersion versus abrasion cleaning of furs. The proponents of immersion cleaning, notably many drycleaners, point to the fact that they can in most cases successfully clean a fur garment or fur piece by immersion. They also point out that, contrary to the claim of furriers, in most instances the immersion seems to have no apparent effect on the leather. This claim is disputed by the furriers and the fur dressers, who contend that immersion removes the oil or butterfat which has been worked into the leather to keep it soft and pliable during its life.

The author must side with those who believe in abrasion drumming for furs. It has been his experience that furs which have been cleaned by immersion apparently have the same leather strength as they did before, until they are made wet for reprocessing. It is then revealed that the leather has been dried out and lost most of its strength.

A. Drumming. Everyone who handles furs is familiar with the commercial fur cleaning drum. The volume cleaner of furs will find it to his advantage to purchase any one of the several commercial fur drums and *use it exactly as the experienced manufacturer indicates.*

In addition to preserving the leather, an added advantage of this method is the abrasive effect of the sawdust upon the individual

fur fibers and fur hairs. We may surmise that this polishing effect on the fur of the sawdust, ground shell or other carrier used in the drum is one of the great advantages of the abrasion method of fur cleaning over immersion.

What of the fur cleaner who does not have sufficient volume to justify the purchase of a commercial fur drum at an expenditure of considerable space and several hundred dollars? In such cases the author has long advocated the use of any tumbler with ribs. In order to use a tumbler for furs, the cleaner need only operate it cold. He should prepare for this work a set of fabric bags, made from No. 12 duck or any other material which is sufficiently heavy and tightly woven to permit it to be used somewhat like a vacuum cleaner bag, holding all the material in it but allowing air and fumes to escape. The garment is introduced with the sawdust into this bag which is tied tightly at the throat and allowed to tumble. The advantage of this method* is that it does permit the fur garment to be cleaned somewhat along the lines of the fur drum method.

A further refinement of this tumbler method permits the cleaning of furs as effectively with a ribbed tumbler as with a commercial fur drum. The author has the following suggestions for this technique:

Make these bags a minimum of 2 feet across and 3 feet deep. The throat or opening of these heavy bags should be made so that they can be tied so as to be practically airtight, or at least not permit any material to escape. A smaller canvas or heavy muslin bag is also made. This bag should be perhaps a half foot smaller in each direction than the heavy outer bag. The garment to be cleaned is placed within the muslin bag, which is tied at the throat and placed in the larger bag. The complete unit is allowed to tumble within the tumbler.

This combination of bag within bag has several advantages. In the first place, it permits the tumbling of a comparatively weak garment without too great a strain. Secondly, any grit or dirt left over from previous drumming will not get on the garment being cleaned.** In the third place, the sawdust or whatever carrier is

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*It should be noted that this single-bag method is covered by a patent.

** Where the dye of a fur is comparatively fugitive, it is dangerous to use the same cleaning unit of carrier and bag on another fur of lighter shade. In such cases the bags should be cleaned and a fresh carrier unit used.

being used may be introduced on the outside of the canvas bag within which the garment has been placed. In this way the cleaning action can take place without the sawdust or carrier being permitted actually to work itself into the curls of the caracul or Persian lamb type, which very often happens when lambs are cleaned.

A set of five or six of these bags, each with its own type of solvent, sawdust or ground shell, will permit the performance of several

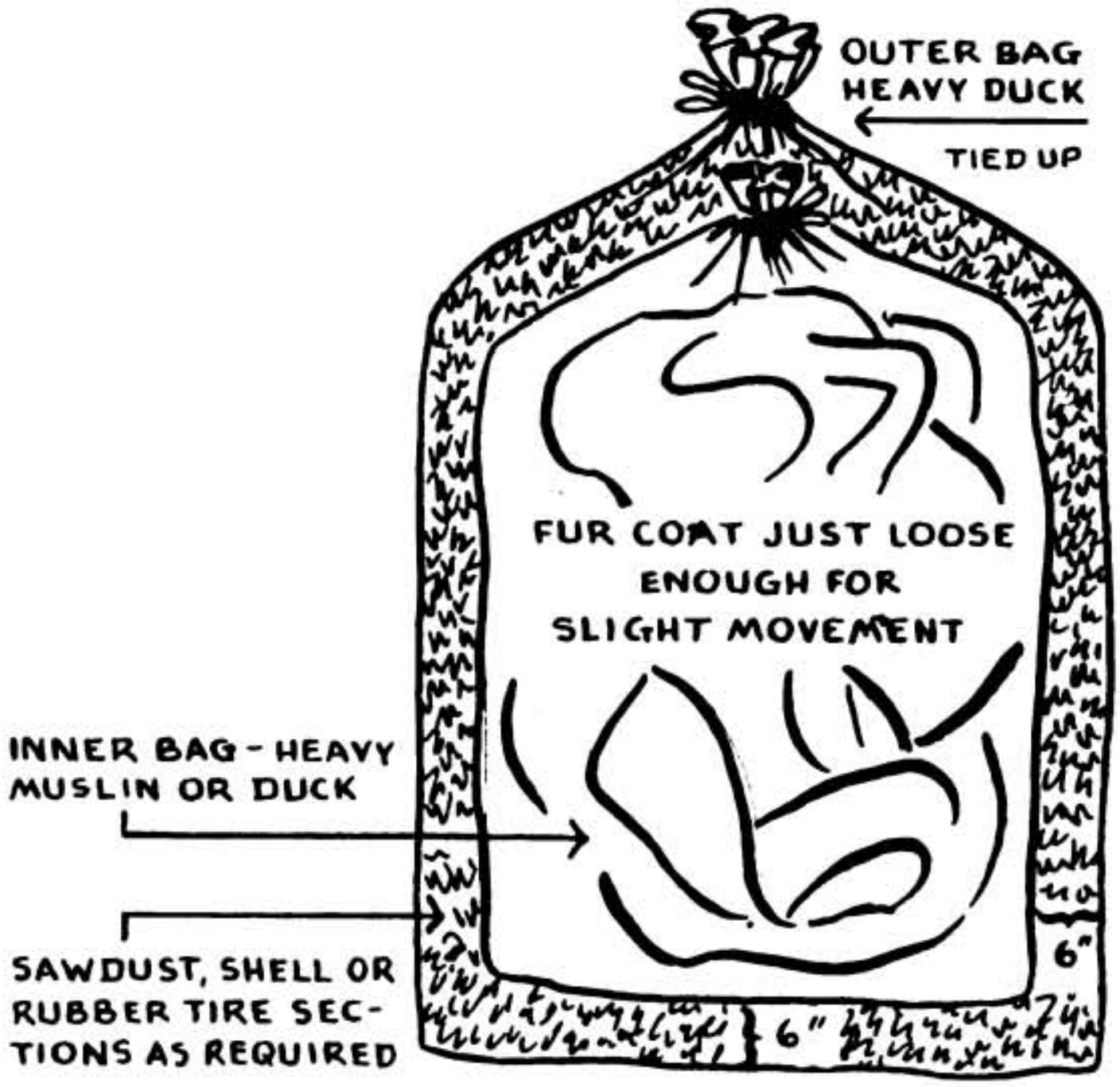

Fig. 133.—Bag-within-bag method of fur cleaning.

different operations in several different strengths at one time. This procedure cannot be followed within the commercial fur drum unless this bag-in-bag method is used.

Another use of the bag-within-bag system is the softening of garments, a use of the fur drum which is not commonly known. The nailed fur garment is usually stiff and hard and not of a suitable softness for most wear. To soften the garment, the furrier introduces it into the fur drum for a half hour or so. Sometimes he

uses sawdust; on heavier furs he may use cut up sections of rubber tire which bounce against the fur garment and gradually soften it. This procedure, however, has the disadvantage of subjecting the fur to somewhat more strain than is advisable. By means of the bag-in-bag method, the fur garment may be placed within a muslin bag and in the larger bag there may be placed several small sections of rubber tire or other rubber pieces each about the size of a small rubber ball. The bag is allowed to tumble freely for a half hour or so, thus softening the fur leather to the softness desired by the wearer.

For use in the fur drum or with sawdust, the cleaner may feel perfectly safe in using any good commercial solvent he would use on any fine wool garment, keeping in mind that fur fiber is nothing more or less than fine wool. Of course, the use of a strong solvent on weak leathers, weak furs, or pastel-shade furs which have probably been bleached is not advised. The weaker the furs, the less cleaning fluid should be used. Nor should the garment be allowed as much freedom of movement as it is tumbling.

The amount of sawdust used should be equal in volume to that of the rolled-up garment. A mixture which has proved effective for most fur coats is produced by adding a tenth to a twentieth part of solvent to the sawdust, by volume. The smaller amount of solvent is for sparsely fibered furs; the proportion is increased with the density of the fur. An hour's drumming is sufficient for most furs, depending more or less upon the strength of the fur and its density.

B. Fur Cleaning Without Drumming. Very often a fur or a section of a fur must be cleaned without drumming. Perhaps the fur is just a cloth-coat trimming, or the fur may be so weak as to make a drumming inadvisable, or possibly it has been mechanically reinforced and there is danger that the drumming will loosen the staying. Many furs, such as broadtails and kidskin, are by their nature so weak as to make a drumming undesirable.

The drycleaner or fur processor has the problem of cleaning such furs without subjecting them to a mechanical drumming. One of the simple expedients that he can use is to reproduce the sawdust cleaning method by hand. If, for instance, a collar or lapel needs to be cleaned without subjecting the entire garment to the process, a dish containing sawdust is moistened with a solution of cleaning

fluid suitable to the job. The wet sawdust is rubbed carefully with the fingers into the area which requires cleaning. The amount of strength used for the requirements of each fur can be carefully controlled by varying the pressure applied in the hand cleaning.

This method can be varied by the use of different fluid carriers or solvents as needed. For example, it has not been uncommon in the past to utilize clear dry sand which has been slightly warmed to clean fur trimmings made of beaver, otter and other full-fibered furs which have apparently picked up a great deal of oil or grease. The warm sand is brushed in with a fur-glazing brush. This action picks up most of the oil or fat which has gathered in the fiber and at the same time burnishes and shines up the fur.

Such a preliminary treatment can be followed by others to clear out the fur. In cases of very bad soiling a paste made of fuller's earth and a suitable solvent can be worked over the fur and allowed to dry. It is then brushed out of the fur two, three, four or even more hours later.

The problem of cleaning white fur trimming often arises. Here again the hand cleaning method, utilizing a suitable solvent and carrier, is most convenient. For white furs such as ermine and white fox, a paste made from starch or rice is worked into the fur and allowed to dry. The starch or rice will add to rather than detract from the whiteness of the fur as the solvent cleans it.

In all of the above techniques the important thing is to beat or blow or vacuum out the carrier. Care must, of course, be taken to see that the beater or vacuum is perfectly clean. After the solvent evaporates, the carrier is left dry and can be vacuumed and brushed off.

Such heavily fibered furs as beaver, nutria, otter and sheared raccoon require special treatment to complete their finish. A half ounce of common potassium permanganate crystals soaked in a quart of white vinegar for 24 hours will provide the raw material for a good solution for finishing or "electrifying" these furs. After this solution has been allowed to stand for a day it should be thoroughly mixed. A brush or rag is dipped in this solution, shaken to remove the excess, then applied to the fur surface without penetrating into the fur. As soon as this solution has been applied it should be ironed off by means of a fairly warmed iron wrapped in kraft paper. Since the solution is a liquid, the iron must be kept

moving quickly so as not to create enough steam to shrink the fur. The use of a steel comb or brush after a preliminary treatment of this nature is advised, to separate and fluff out the hairs.

The same treatment is repeated with the hair in reverse. A beating with rattans or on the beating machine will complete the job of brightening or electrifying the heavy-fibered furs.

As sheared furs become more and more popular, the problem of unmatting these sheared fibers becomes acute. Hand treatment is costly, therefore several manufacturers have met the problem by introducing machines which heat-treat the fiber in motion. In the main most of them will "electrify" or unmat the fiber as needed, but the danger of singeing from excessive heat still exists.

GLAZING AND DYEING

A. Ironing Furs. It has been customary in the fur industry to iron off the surface of furs to improve their appearance. With very few exceptions, such as the weak furs and curly furs, this has been a general practice. Sheared furs and long-haired furs are usually ironed. Even the flat-haired American broadtail or Persian-paw garments are given ironings as part of their preparation. Persian-paw-plate garments are ironed with wax paper. The wax is transferred to the fur, which is thus brightened and flattened in one operation.

When the regular electric iron was used, a wrapper of unglazed paper was usually placed around it. The iron was heated more or less, depending upon the nature of the pelt, and the fur ironed with the kraft paper in between. The purpose of the kraft paper was to prevent the fur from becoming too hot and also to absorb and bring out the natural oils of the hair and fiber, thus giving the fur a gloss.

Probably the most important function of this ironing was to separate the fibers from one another so that each would stand out individually and give the fur a full appearance. Through long experience the ironer learned just how much heat each fur could stand, from the unbelievable amount that a natural beaver could absorb without any harm to the very, very slight amount of heat that the average sealine skin could take without becoming singed.

The advent of the automatic steam iron has changed all this. The few simple directions which are given to the purchaser of one

This entire technique revolves around the ability of the operator to apply the steam in a direction parallel to the leather of the garment so that the steam will at no time penetrate to the leather and heat it up to any extent.

A popular-priced flat, matted red fox jacket can be given a beautiful, full, lustrous appearance by a 5-minute treatment with this steam gun.

With the precautions indicated, the standard drycleaning steam spotting gun can be used.

C. Coloring or Touching Up. The use of pastel crayon, graphite and other mechanical coloring devices was much more common in the fur industry a generation ago than it is today. These materials were used to blend or enhance the appearance of a fur so that it would pass muster. Unfortunately, all such applications were temporary and soon wore away. A good example is the use of a heavy piece of graphite on natural squirrel skins. This graphite, rubbed over reddish-appearing sections of the skin, gives the pelt the gray color which is so much to be desired. Unfortunately, this application, like all those of the touch-up type, is prone to come off on the user's body and hands. The use of such coloring devices, by and large, does not justify the possible complications they may cause.

D. Leather Staining. So long as furs have been used in their natural state the disparity in color between the fur fiber and the leather has often been the cause of considerable trouble to the furrier. For instance, the natural raccoon, with brown underfiber and natural cream-white leather, presents an undesirable color contrast. Wherever the sides of the skin are not too full, or where the action of a high wind or stream of air would tend to blow the fiber away, the contrast of the white leather against the brown underfiber or gray top hairs is most unattractive.

To overcome this difference in color between the leather and the fiber in natural furs, the furrier has been in the habit of staining the leather of the nailed fur garment as it sets on the board. A suitable leather stain, applied on the leather side, penetrates to the hair side of the pelt. For example, the leather of the raccoon would be stained brown; a natural gray Persian would be stained blue-gray; a natural skunk would be stained dark brown. The idea in

all of these instances is to have the color of the leather conform to the outstanding color of the underfiber.

The application of these stains is not particularly difficult except that care should be taken not to put too much stain on any part of the leather so that it will penetrate only through the leather and not on to the fiber itself. Such stains can be purchased from any general fur supply store.

E. Lustering. The improvement of the luster of furs is a crucial problem for the fur cleaner and processor. One of the main objects of the cleaning methods previously described is to improve the luster of furs where luster is considered a desirable factor. In fact, the use of the term "lustering" has been commercialized by several large-scale fur cleaners.

Any process which will improve the gloss or shine of the grotzen hair is desirable. Most processors unfamiliar with the nature of furs attempt also to impart a luster to fiber. This is desirable where it can be done by straight cleaning methods. The use of alcohol in minor quantities on such furs as Hudson seal, sealine and Alaskan seal, removing as it does any vestige of an oil or fat and permitting each hair to stand out individually, is considered desirable by some furriers. It is, however, grotzen hair of the natural or dyed skunk, the mink, the fox and other furs with long, straight-hanging guard hairs which is the prime object of any true lustering process.

For many years the furrier has made use of the China wood product for lustering. This bark, which is usually from the Chinese eucalyptus tree, can be purchased in packages from any general fur supply store. A strip or two is placed into a pint of warm water; by kneading, the bark releases an oily film in the water. This film is very much like the component parts of most popular-priced human hair dressings and is about as valuable. If a solution of this film is rubbed lightly and delicately over the guard hairs of the furs of the types we have indicated, so that it dries on these guard hairs and guard hairs only and does not fall down into or apply itself to the fiber, the fur can later be lustered or shined by ironing. The great danger here is, of course, that the solution may get down into the fiber and cause it to mat. Usually, a dry ironing with kraft paper will remove any excess of such oil or fats that may have been deposited in applying the solution.

F. Blending. Perhaps the outstanding characteristic of furs merchandised during the last two decades has been that they are colored and blended. The percentage of furs which do not appear in their natural length or color has risen sharply to the point where probably nine out of every ten fur pelts used in the United States are either sheared, dyed or blended, if not all three.

Of these processes, blending is probably the highest art. Blending differs from dyeing in that the latter is an immersion process in which the furs are treated like any other material and totally immersed in the dye solution. Blending, however, is a delicate, fine hand operation, in which the commercial blenders apply color on certain hairs in certain spots of the skin to give it the desired appearance. The earliest use of blending was to give such valuable pelts as the minks, martens and fitches the dark grotzen hair which the individual skins within a lot might not have had.

The blender, applying dye with such instruments as fine turkey feathers, attempts to color the guard hairs of the skin without allowing the dye to touch any other part of the pelt. When he is successful, these darkened guard hairs enhance the appearance of the skin so that it looks like the very finest grade of a better appearing brother.

From this one beginning the blending of furs has developed into a tremendous industry. Almost any dyed fur you can name from rabbit to mink, marten, fitch and sable, is blended whenever it will improve the appearance of the garment. For these finer pelts it is probably best for the handler of furs to allow the commercial man to do the blending.

The commercial fur blenders, who are located in every large fur city, have learned through experience to blend the more expensive furs to the best advantage. Certain characteristics of worn or used furs, which make it impossible or impractical for them to be blended, are not easily recognized by anyone who has not handled many furs. Therefore, blending contracts should not be undertaken until the blender has himself seen the garment and given his approval.

There are, however, several simple jobs in blending which any handy furrier can do. Commercial blends which are on sale in fur supply stores enable the furrier to do such jobs as replace the stripe on a sable-dyed coney coat or muskrat coat in order to darken or blend in an individual skin in a garment so that it will match with the others. The volume user and processor of furs should become

set into the jaw of the machine. The two strips are held as fur will be held; that is, the right hand holds the outside strip from underneath with the thumb on the inside of the paper and the four other fingers on the outside. All fingers are slightly bent so that the balls of the fingers grip and control the material. The left hand, with the elbow on the table or just clear of the table, controls the inside piece of paper (or fur). The hold is from above. The strip slides through a grip formed by the little finger and the thumb on the inside against the three middle fingers on the outside of the paper. If the position is correct, the left hand will naturally turn so that the back of the hand is flat and the thumb in the middle of the two pieces of paper. This is the position in which the thumb will later control the fur hair when the seam is made on fur.

D. Imitation Fur Needle Exercises. The next step involves the use of an ordinary pin with its head clipped off. This headless pin is set into the needle holder slot, in imitation of a needle, by opening the needle holder screw 1½ turns and inserting the pin until it stops, then retightening the holder screw.

The paper exercises outlined above are repeated. When control is good, the holes made by the pin will run just below the edge of the paper.

E. Inserting the Needle. Before any attempt is made to insert the

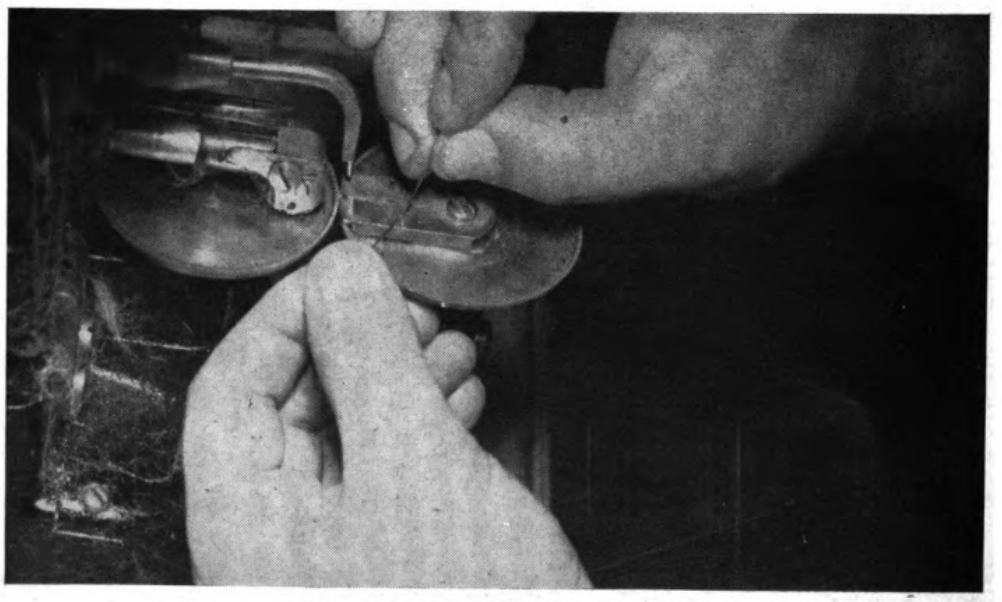

Fig. 11.—Inserting the needle.

Part I

BASIC TECHNIQUES

acquainted with the range of blends and blending materials available in his industry and experiment with them on samples of fur so that he may learn what he can and cannot do with these furs and with these blends. In all cases, as with most of these commercial products, following the instructions of the maker carefully generally insures success where success is possible.

G. Dyeing. Enough has been said in previous discussions to indicate the variety and the possibilities for development of fur dyeing here in America. Ordinarily the fur processor is not concerned with the dyeing of new furs. Such work is done in commercial lots by the fur dyer who makes a business of it.

On the other hand, it may often be necessary for the repairer or remodeler of the fur coat to recolor a worn spot or garment which has lost some of its natural color. Of course, such an attempt at redyeing should be confined to fur garments which are one solid color, such as sealine and black Hudson seal. Redyeing of blended or striped garments should not be attempted without considerable experience in this field.

However, using the proper commercial dye the fur cleaner or repairer will not find it difficult to redye a Hudson seal or sealine garment, or almost any other solid-color garment. He should not attempt to immerse such fur garments and tumble them as a commercial dyer would. Such treatment would probably tear the old fur to a point where it would no longer be useful.

The proper procedure in the case of older furs is to tack the nailed fur garment on a fur board, hair side up. Assuming that the fur has previously been carefully cleaned, it may be glazed lightly with water and allowed to stand overnight until dry. The next day, the dye can be applied to the hair liberally by means of a fur brush or even a paint brush, so long as the excess dye is shaken off. After the fur has been thoroughly coated or painted, the board upon which it has been placed should be inverted so that the fiber or fur hangs downward on the undersurface of the board. The fur should be allowed to hang in this position until dry.

When dried, the fur should be blown with a high-pressure blower so that the color can be seen. If individual spots seem to have been missed, these spots should be individually handled. Generally speaking, it is best to give the entire garment two or three coats.

It is not particularly difficult to recognize a pointed silver fox, even if one is not enough of an expert to recognize the artificiality of the silver pattern. By blowing into the hair at five or six places over the skin, the little globule of glue at the base of these hairs can be easily detected.

The important fact about a pointed silver fox is that this pointing can be undone if the fur is immersed in a cleaning fluid and saturated to the point where the fluid penetrates the fur and loosens the glue. The results, as can be readily understood, are disastrous.

The author cannot leave this topic of the cleaning and glazing of furs without giving the processor fair warning. There have been several cases in the writer's own experience where the very fact that the cleaner did a particularly good job of cleaning the fur worked out to his disadvantage. The customer discovered defects and discolorations in the garment that she had not previously seen, and blamed the processor for this condition. The author can only reiterate the necessity for a careful inspection of a garment in the presence of the customer, before any processing is done, possibly with the added precaution of a written receipt absolving the processor from any claim of this nature.

Part III

REPAIRING AND REMODELING

Chapter 7

REPAIRING

Any competent manufacturer of furs can do a good repair or remodel job, if he knows the very few additional facts that are required to reprocess the fur which he has been manufacturing. Even the expert manufacturer will be unable to do a good repair-remodel job on such furs as mink or Persian, for example, unless he has had experience or special instructions with the remodeling of these skins. However, the fact does remain that most of the principles of remodeling or repair are based upon the very same techniques by which the garment is made. No repairer or remodeler of furs can do a good job unless he has first understood fairly well these basic principles.

The problem of the amount and nature of the fur stock which a repair and remodel department should carry has no simple answer. About the best approximate guide to the assembly of such stock is a careful analysis of the range and type of fur garments which the repairman has accepted for storage. It must also be remembered that the stock should reflect the fur trends of the past few years, since these are the garments which will be brought in for adjustment.

A. Examination. Any processor who undertakes a repair or remodeling job must first learn exactly how and what to look for when he examines the fur garments. Contrary to popular belief, it is not damages or deficiency in area which he must look for primarily. His main concern is deterioration—not wearing away but deterioration or old age which very often defies detection unless the fur is carefully and closely examined.

An unnatural creamy whiteness of the fur leather is a danger sign, because it indicates that the leather has been drycleaned and will probably be unable to stand the application of any water. Among others, such furs as muskrat and mink have this characteristic. When examined superficially, they seem to be quite strong and able to withstand any amount of repair or remodeling. The unwary processor soon learns to his cost that such furs cannot stand water,

cannot stand cleaning, cannot even stand much handling, and very often disintegrate in his hands when he begins to work them.

The first thing that an examiner of furs offered for processing should learn to do, therefore, is to open the lining at the sweep and to examine the leather all over the garment. He should give special study to the area under the arms, where perspiration may have weakened the leather to a point where it can no longer be worked. With the permission of the customer a tiny sample area may be moistened and stretched to see whether or not it will stand water.

When the processor discovers such a deteriorated condition and is able to inform the owner with certainty that the fur can no longer be handled, he has saved himself much grief, a great deal of time and effort and possibly a lost customer. The minor labor cost of resewing the lining on the garment which has been examined and found unsatisfactory is the cheapest kind of insurance against a major loss in cost, plus the loss of a customer.

B. Range of Repair and Remodeling Jobs. The fur processor may be required to do anything from simple cleaning and glazing to a small repair job on edges, front and cuffs, where perhaps a half-inch width of fur has begun to wear away, up to the full repair job involving major rips, tears and extensive replacement of fur. Remodeling is only one step beyond the major repair job except that it is probably less difficult, a fact which has escaped the attention of many processors.

In the following pages we will describe in detail a sample set of repair and remodel techniques on standard furs in varying degrees of difficulty. We will present some of the outstanding factors which need to be known in addition to the already established processing techniques in order to do a good repair or remodel job.

REPAIRING WORN EDGES

The most common of all fur repair jobs is presented by the 3-to-5-year-old garment with worn edges at the front and cuffs. It is also probably the easiest to handle.

A. Examination. The outstanding factors in the examination of fur garments offered for repair and remodel have already been explained. The processor will soon learn that the garment the customer considered wearable up until the moment when she brought it

D. Marking Damaged Edges. When the garment is turned over on the leather side, indicate the damaged areas on the cuffs and front by two rows of pins. As the pins are removed, mark the indicated points lightly in crayon.

Now draw two parallel lines just far enough to include all these marks within them. Generally the damaged areas do not extend all the way to the sweep, so that the parallel lines can be finished off at top and bottom by wedge points. At this stage you can insure accurate fit in cutting by making a paper pattern exactly the size and shape of the worn area, if you do not feel confident that you can cut it freehand.

E. Cutting Out Damaged Edges. Now cut out the damaged area from the leather side. Always remember that the fur must be lifted free from the table during the cutting process.

F. Replacing "Matching" Damaged Edges. It is an axiom in the fur trade that the best material to use in replacing damaged areas is fur from the same skin or garment, as near to the worn portion as possible. Therefore, the first thing to do is to examine the facing area carefully. If it is wide enough and in good enough condition, cut a section exactly the same size and shape as the worn area out of the facing, using a pattern form. Extra replacement fur is also cut to the pattern and fitted into the space left in the facing. By making this exchange a perfect match is assured in the front where it shows. Generally, it is possible to move fur directly from the facing over into the damaged area. The additional fur is placed on the facing edge, replacing the material which has been moved over.

If you are certain that the extra fur will match perfectly in the front and on the cuffs, this three-way exchange is not necessary. The extra fur can be used directly at the damaged areas. In either case, if you are not confident that you can cut the replacement perfectly to size, make use of the pattern form for all the cutting.

G. Resewing Repairs. Carefully measured cutting has been insisted upon in this type of job in order to avoid any nailing if possible. However, all this care will be wasted unless the sewing is also exact. It pays to go to the trouble of measuring and making sewing guide lines before sewing. As usual, the thread and needle used should be as fine as possible. On extremely soft leather, preliminary friction taping of the edges may be worth while.

H. Flattening the Seams. The best method of flattening the sewed repairs so that the seams and fur lie perfectly even with the rest of the garment is to use a slightly warm electric iron. The iron is pounded lightly, not rubbed, all over the replaced area and seam until they lie flat as desired.

I. Ironing. In most cases, the hair side of the reworked areas can be improved by light ironing in the direction of the hair flow with a warm iron wrapped in unglazed paper or, preferably, by the steam-iron method. If the fur fiber does not seem to blend well at the seams, the ironing should be preceded by very slight dampening. A few strokes with a steel comb on the stronger furs will complete this part of the job.

Quite often the repair area occurs on a fold, such as the cuff or front facing edge. In such cases, the iron can also be used to set the folds.

J. Resewing the Lining. This is a routine job requiring no special instructions, provided that the technique and details of the original stitching were noted when the lining was removed. The lining will probably be usable as it is or with the addition of new shields under the arms, new tie strings and possibly new loopings. Even if it is completely worn, remove it carefully to serve as a pattern for the new lining. In most cases, however, only a part of the lining will have to be cut free from the garment before beginning the fur repair work. This part can be easily resewed because it does not require the fitting that the fully removed lining or a new lining would demand.

K. Estimating the Cost. Factors in estimating are the cost of the fur needed and, of course, the difficulty of the repairs that the garment will require. If the fur material is not in stock and the processor is located far from a fur market, the job of getting fur replacements may be quite difficult and costly. In general, secondhand fur will cost about 50 to 75 percent of the cost of new skins. For example, if new Hudson seal costs about $6 per skin, a secondhand skin will cost from $3 to $4. In the case of standard furs, it may be desirable to buy a part of a coat and thus build up a supply of replacement skins.

In general the charge to the customer for a repair and remodel

job should be exactly twice the total cost, including fur supplies, labor and relining material. (See chart of estimated costs on pages 229 to 232.)

L. "Strap" or Local Nailing. No matter how well repair pieces have been fitted, the repair edges of a cuff or facing may sometimes require renailing. The best way to do this is by a system of what might be called localized nailing. The proper procedure for work of this type is as follows:

1. Wet the repaired sections carefully with a wetting brush, using a yardstick or a strip of cardboard to protect other parts of the garment and the lining from the water and keeping the water within the particular area which is to be renailed.

2. Nail out the repaired edges with pins, without stretching the fur except to smooth it out. The line where the water ends should be reinforced with a narrow strip of cardboard, doubled over, to relieve the unwet part from the strain of the nailing. This strap or straps placed around the nailed area will keep the strain of the drying process within the borders of the area being repaired and prevent the rest of the garment from losing shape, rotting or becoming weakened as a result of this work.

For instance, it is perfectly safe to strap-nail the bust or back area to which new fur has been added, yet the same water and strain might prove disastrous if by mistake it reached the underarm area which as a result of perspiration is usually weaker than other parts of the coat.

REPAIRING SAGS

One of the common ailments of a fur coat which has been worn to some extent is the sag or pouch which develops in the seat area, caused by carelessness in sitting. The repair of this particular defect in a fur garment involves the use of the strap nailing described above plus one or two other special techniques. It would be advantageous to have this job made a part of an all-around repair job because of the saving in labor involved.

The lining is opened over the entire sweep and halfway up the front so that the sagging area is cleared and the fur can be handled. Now set the coat out flat, with the leather side up, on a nailing board which has been covered with heavy wrapping paper. Fasten the ends of the garment at the corners of the sweep and the front

garment must be set up on edge to save space, it should be firmly fastened to the board by means of a very heavy cover of kraft paper. This paper will hold the garment in place and prevent any of it from pulling on the strap-nailed area.

The next day, the worked seat area of the garment should be dry and flat. However, the leather of this area may be under greater tension than the rest of the garment. To equalize this difference, remove the cardboard straps and wet slightly the exact area on which they have rested. This can be done with a small rag soaked in lukewarm water. The garment can then be set out in a cool, dry place to dry overnight, completing the job.

In refinishing this particular type of job, it may be advisable to include hand felling over the area to prevent any further sags and to reinforce the fur that has been slightly weakened by the heat. This touch will probably assist the processor in selling the job to the customer. The process consists of hand-sewing diagonal criss-cross strips of good bias tape right to the leather, across the seat area diagonally, so as to reinforce the fur and inhibit further sags as the garment is worn.

The lining is then resewed and the garment is returned to the customer.

REPLACING WORN FUR AT SEAT

The job described above assumes that the fur in the seat area has merely been stretched and not worn. Usually, however, the fur itself has been worn away and must be replaced. If the fur is of the lamb type, patching is not too difficult. The more distinct the color scheme is, the more difficult the work becomes.

The problem becomes especially acute in a let-out fur such as skunk or a chemically striped fur such as the popular striped musk-rat-back garment. In these furs, the rubbing away of the long, straight, black guard hairs exposes the short, dull, wavy fiber. This kind of wear stands out prominently and any fastidious customer will want to have it repaired.

The biggest problem in this kind of repair will be to get the matching fur needed to replace the worn area. The replacement fur must match exactly with respect to height of hair, coloring and size. The job cannot be begun until the exact match of fur is available and at hand.

possible. In this case, the cutting along the grotzen will be assured by placing a series of pins along the grotzen line most suitable for cutting on both sides. Then cut the fur from the leather side through these pins as needed.

When the area has been removed, the two or three skins which are to be used to replace the worn spots are lined up and zigzagged together so that their stripes match. After these pelts have been made into a unit, this unit is then placed within the area to be replaced. The intermediate grotzen lines are carefully marked out so that they will match with the same lines on the pelt. The easiest way to do this is by the pin method described above. Such pins are marked over with chalk on the leather side and then aligned so that the marks will match when the garment is zigzagged together. The actual zigzagging is done with the matching of these lines as the main consideration.

If the cutting is carefully done, the added fur will match both sides where one half of the new grotzen will match one half of the old grotzen. Furthermore, at the head and rump of the joinings, the old lines chemically blended upon the skins will match with the lines on the fur which is to be added.*

The patch is then nailed into place—strap-nailed like similar areas of this nature in other repair jobs. The lining job is handled in the usual manner.

REPAIRING SPOTTED-FUR GARMENTS

The range of commercially used spotted furs is as extensive as any in the fur trade. In your repair jobs you may meet leopard, ocelots, wildcats in different shades and, above all, the very, very many furs such as rabbit, conies, mouton, kidskins and others which are today bleached and then stenciled in an excellent imitation of the naturally spotted furs.

The handling of the spotted fur is more or less the same as in previously described techniques. The important thing to remember here is that the match must be perfection itself. The very identical area of skin must be replaced in all of this work; for example, left

* The reason why the furs are not first sewed together and then blended is that it is never possible to tell in advance what the reaction of any particular piece of fur will be to a given dye or blend. Any two pieces of fur of the same type will react differently to coloring because of differences in initial processing, wear, age, conditioning and other factors.

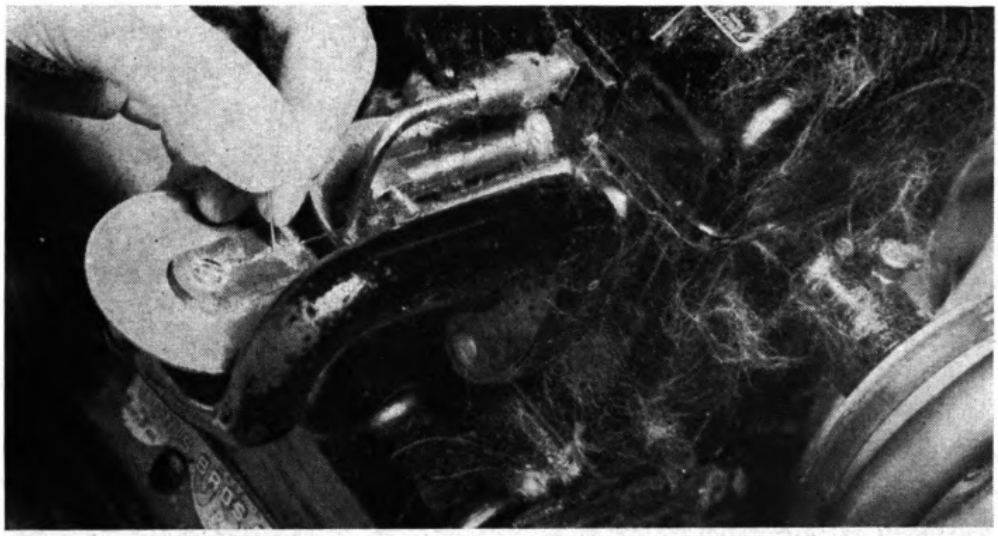

Fig. 12.—Inserting the needle, viewed from another angle.

needle, it should be inspected. The beginner should become familiar with the difference between the top of the needle, which has a short notch, and the bottom of the needle, which has a longer notch. A good method of inserting the needle quickly and effectively is the following:

1. Remove right foot from power pedal to prevent the machine being run by error during insertion of the needle.
2. Open the needle holder screw 1½ turns.
3. Drop the needle on top of the needle guide plate of the outer wheel, with the short notch up.
4. Insert the point of a pin, held in the right hand, into the eye of the needle with the short notch up, the point of the pin preventing the needle from turning.
5. Drop the needle into the needle guide groove. Change hands on the pin without losing control of the pin or needle.
6. Using the pin as a lever, slide the shank of the needle back into the groove until the guard stops it. Now tighten the needle holder groove.
7. Test the set of the needle by rolling the machine through one complete stroke by hand, to see if all is clear.

F. Threading the Machine. The threading of the fur machine up to the point where the thread reaches the needle plunger is simple

All raw skins must first be dressed. Fur pelt dressers, with plants usually located within easy trucking distance of the New York market, charge so much per skin. They specialize fully as much as the manufacturers they serve, handling two or three kindred types of pelts exclusively. A dresser of rabbit skins would not attempt to process foxes or vice versa.

The material used to dress fur pelts today is basically the same as the salt-and-alum compound that Jason presumably used to tan his golden fleece. The furrier may not know just what his dresser used in the mordant wash, but he can tell by touch which pelt was imperfectly skinned and dried by the original trapper or incompletely processed by the dresser. He knows immediately, for instance, when the flesher has failed to remove the excess fat from the leather of the skin. On such substandard pelts the leather is thick, rough and inelastic, and tears when wetted down and stretched.

After the cleansing bath, which may take several days, the skin is drummed and caged to soften it. The pelt is then made very pliable and flexible by a technique called "tramping." The term comes from the foot-stamping method originally used. Today giant leather-shod wooden beams, mechanically activated, have replaced the pounding feet of the tramper. Following each step, such as the salt bath or leather oiling, the pelt gets another tramping.

The natural oil lost in the washing is replaced by working an oil or fat into the leather pores. A half day of bouncing around in a sawdust-filled drum may complete the dressing of the skin or it may only serve to prepare it for subsequent plucking. Plucking is required on certain furs with very heavy guard hairs, such as otter, beaver and muskrat. Many are sheared and grooved. Ninety percent or more are artificially colored in some way, most commonly by blending, dyeing, "tipping" and staining.

It must be understood that the steps in processing described here, while applicable to furs in general, will vary with the individual pelt.

Our mythical fur manufacturer, who has been in close touch with the new offerings in colors and with the probable needs of his buyers, will now place out some or all of his skins, according to his assortment, for dyeing or blending.

The rise of the American fur dyeing industry dates back to World War I, when it was cut off from German sources and had to strike

Chapter 8

REMODELING

PRELIMINARY PROBLEMS

The beginning fur processor will probably put off accepting fur jobs which require remodeling. Yet in some respects remodeling jobs in fur are easier than a complete repair job. When a fur coat has been so badly damaged and worn that it must be completely flattened in order to repair it, it is probably better and easier to do a remodel job. One reason is that for the remodeling job a new pattern would have to be available, while for the complete repair job the pattern would have to be copied from the old garment.

Another advantage in the complete remodeling lies in the fact that the processor may ask for and expect a higher fee for a job which turns the old-fashioned garment into the latest style. Such fees generally range from 30 to 40 percent of the original cost of the garment, unless there has been a considerable fluctuation in the price of the fur since it was originally made.

But all is not beer and skittles with the fur remodeling job. The main problem which the processor must face is the proper selection of style and fitting. The customer is quite likely to bring in a picture or sketch which she has seen in a magazine or paper, a style totally unsuited to her and/or to the fur which she wishes to have remodeled.

The processor who is sufficiently experienced to be able to alter a standard pattern to the individual requirements of the fur customer does not need much of the information offered in this chapter. Many of our readers, however, will not be in that category. For them and for most processors, it is suggested that the remodeler collect each year a set of four or five patterns in standard sizes. Several of the larger pattern services offer such packaged sets of patterns which enable the fur remodeler to anticipate and present the most successful of the new styles. Where the facilities are available, such patterns should be made up beforehand in standard stocks in canvas fittings which are actually the fur garments dupli-

cated in canvas. From these the customer can immediately see what the style will be like and at least get a rough idea of what she might expect from the remodeled garment.

It is probable that most of your customers will require some additional adjustment in fit if not in style, just as they do in their dresses, coats and suits. It is assumed that the reader understands enough of standard garment alteration and fitting techniques to be able to adapt these to furs. The principles which are followed in altering a coat or a suit to the individual figure can be followed with more or less exactitude in furs.

If such a background in garment alteration and fitting is not available in the organization, it is better not to attempt any remodels for customers whose figures deviate in any respect from the normal sizes. Such customers require individual canvas fittings.

The major steps in the production and use of a canvas fitting are:

1. The cutting and sewing.
2. The fitting of the canvas to the customer.

The production of canvases is a special field in itself, involving skill in tailoring. In the presentation of a typical fur factory, it was indicated that this job was left to a specially trained fitter or designer. The smaller manufacturers who do not have the volume of business to warrant hiring a full-time fitter usually make use of the services of one of the several large fur design and fitting concerns whose sole business it is to supply furriers with patterns and fittings.

The fur remodeler is cautioned against attempting too radical a change in any of the stock and bought patterns in response to a particular customer's request. All too often such departures or experiments result in a garment which is not exactly what the customer had in mind, with attendant dissatisfaction. Because of the expense and labor involved in this type of job, it is better to concentrate upon patterns and styles with which the fur remodeler is familiar, where he can fall back upon his standard stock patterns. To make sure that you and the customer both understand exactly what is going to be produced in the fur remodel job, record in detail every particular item of style before you begin the work.

The second problem in fur garment remodeling is that of securing the necessary furs, a problem which has already been discussed

in great detail. Here again, only experience and good judgment will indicate the practicability and the possibility of securing matching skins. There is one major difference between fur repairing and fur remodeling in this respect. In many cases it may be worth while to secure new furs for a remodeling job where it would not be warranted for a repair job.

What are the costs and prices on a remodeling job? The basic figure around which the fur remodeler can estimate the charge to his customer is the cost of the fur added to the garment. Fur remodeling charges in recent years have run approximately from 30 to 40 percent of the original cost of the garment. It must be remembered that a fur remodeling job includes the actual work of remodeling, the fitting, possibly a canvas, a new lining and new trim. If a new canvas must be made for a fitting this should be added to the figure of twice the cost of the fur. For example, the remodeling of a Persian lamb garment might require nine skins at an average cost of $20 a skin. The charge to the customer should be around $360, little enough for all the detailed work indicated above and probably not enough if a canvas fitting is needed.

The element of salesmanship enters into the success of fur remodeling in the selection of and selling of the proper styles. The stocking of patterns in a few simple new styles should enable the fur remodeler to command small fur remodeling jobs. Of necessity these styles must be kept simple. Old furs, no matter how strong they are, cannot be manipulated into elaborate styles. Nor does it pay to attempt to work over a simple garment into an elaborate style. Such labor would be far more expensive and difficult than the actual manufacture of the original garment.

There are many levels at which the estimating of a fur remodel can be attempted. For the comparatively inexperienced fur remodeler the best thing to do is open the lining of the garment at the sleeve and get an idea of the average skin size by measuring all the skins he can see and striking an average. If the sweep length and other major measurements of the body of the fur are compared, the difference can be worked out in area inches of fur. An allowance of at least 25 percent should be made for loss and error, and a rough calculation of the number of skins made.

For example, let us assume a Persian lamb fur coat which has

been prepared for remodeling. It measures as it stands 41 inches in length and 72 inches at the sweep. The pattern to which the customer wishes to have the coat remodeled has a length of 46 inches and a sweep of 84 inches. A little simple arithmetic indicates that there is a difference of 800 square inches between the body of the pattern and the old fur. Assuming that the Persian lamb used in this case has an average working area of 10 by 17 inches or 170 square inches, the body will need only four or five skins, unless the layout is such that more material will have to be worked out for special reasons. The same method of measurement indicates that the sleeves will need two more skins, making seven for the remodeling only. Adding to this the 25 percent allowance plus the necessary material for straight repair work, the total of nine skins is arrived at.

The fur remodeler with a little more experience can estimate in much the same way by placing the garment to be remodeled over the pattern selected. If the neck and center back of the folded fur garment are placed exactly over the neck and center back of the pattern, differences between fur and pattern will be shown approximately. Such a comparison might show, for instance, that an additional line of 2½ skins was needed for the added sweep, plus one skin for the wider sleeve, plus one pelt for the larger collar. Add to this the 1½ to 2 needed for plain repairs, giving a total of 6½ to 7 skins needed.

Here, however, the fact that the fur garment is sewed and closed will complicate the estimating. This procedure may be necessary where the customer will not permit or where it is not advisable to open the lining and flatten the fur garment for the estimate.

GENERAL REMODELING PROCEDURE

The most important factor in a good remodeling job is careful planning. The best way to plan is to open the original garment and flatten out the sleeve and body by opening all closing seams. The underarm seam of the body section should also be opened so that the body section will consist of three parts, the back and two fronts. If there is no underarm seam one should be made by cutting right through the underarm from armhole to sweep. When the folded back section is placed over the same area of the pattern, a good idea can be had of what must be added or subtracted. In the same

way the front of the garment and the sleeve are placed over the corresponding areas of the pattern.

When a fur job can be so planned that all fur will be added under the arm or to the front of the body and under the arm of the sleeve, it is comparatively simple. Unfortunately, this is not always possible. For one thing, the fur to be added may be just different enough from the fur in the garment to make it inadvisable to add the new material in those areas. In the second place, fur to be added may be newer and in better condition than the fur on the garment. It would be poor technique to bury the new fur in areas where it will not be seen while allowing the old fur to show up.

Good practice in such cases is to utilize the fur of the old sleeves as, for example, in working out and adding to the under areas of the body, and then making new sleeves from the new fur. If the fur garment has a tuxedo the same procedure can be followed. The idea is the same as in the manufacture of a garment; that is, wherever there is a slight individual difference in a given bundle of fur from which a garment is to be made, those pelts or sections having the difference should be used for sleeves or collar where the slight variation will be acceptable to the eye.

No amount of time spent on planning is too great. The fur remodeler should have the entire layout clearly marked and in mind before he sets the knife into the garment for any of this work.

In the following paragraphs special techniques and methods which are useful in specific fur-remodeling problems will be presented.

A. Stapling-Nailing Remodeled Furs. One of the difficulties that is encountered when fur garments are remodeled is their comparative weakness and inability to resist tearing under the nailing process. Although the fur remodeler will have adequate provision for a full garment as compared to the pattern, occasionally it will be found that a little stretch is necessary in the nailing process in order to get the garment flat. It is at this time that the old fur tears under the tension of the nailing process.

Stapling is one of the new major mechanical developments in the fur trade in the last decade. It substitutes for the ordinary nail and pincer a common, open "U" stapling machine. The fur is tacked by means of these wire staples which substitute for the

hair side of the fur by bending one edge of a given staple slightly and pulling the other end out with a fur tweezer or staple remover.*

The stapling technique has been developed to such an extent that it is now being used in the original manufacture of many fine, thin-skinned garments such as broadtail, ermine and other furs where flatness of the hair is desirable. In this work stapling serves to hold the fur very flat against the paper, which is sometimes lined with wax to add to the gloss.

Stapling has another advantage in that the beginner will find it easier to nail with a stapler than with a standard fur pincer and nail. Because of this and other advantages, some day most furs may be nailed with staples.

B. Reinforcing Fur Garments. Strengthening and reinforcing the leather of weak and old fur garments has been a constant problem in the fur trade. The blindstitching across the leather side of the fur garment, a most commonly used method, does give the fur garment body and does add to its drapability, but it cannot be used on the old weak furs that need it most.

To solve this problem, research and factory experiment with chemical reinforcement has developed systems of fur leather stays which are easily applied and resistant to all cleaning except immersion. Furs so treated can be cut and sewed, wetted, stretched and reworked. Chemical reinforcement does, however, have the disadvantage of making the fur leather stiff and heavy, and most of these chemically reinforced systems will rot under the action of perspiration produced by them. The fairest thing to tell a customer whose garment requires this kind of reinforcing is that this is the last step that this garment will be given, that no further possibilities of wear exist after the chemical reinforcing has decayed. She should be told that the fur garment which is chemically reinforced will last two to three years but will then have to be discarded.

The selling job should be so planned that the reinforcement will be part of a full repair or remodel job. In that way both you and the customer will save the cost of removing the lining and flattening out the coat for reinforcement alone.

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*Where you have a pattern of comparatively few curves and turns, the staple-removing problem can be handled by stapling through 1-inch strips of heavy paper which have been placed along the edges. When the fur dries, the paper strip is pulled up with the staples right off the fur.

For the actual reinforcing part of the job the following materials are needed:

Heavy wrapping paper for stapling base.
Open stapler using fine staples.
Chemical staying kit; liquid, treated cloths, brush applicators and rollers.

The following is the complete staying technique step by step:

1. Cover the nailing board completely with heavy wrapping paper, preferably folded over into two layers. Fasten the paper with a staple at each corner.

2. Staple the entire garment (or that part requiring reinforcement) out flat. This can be done as part of the regular nailing technique if the garment is being repaired.

3. If there are still some minor rips or tears in the garment, pull these together where possible, tuck the hair in and staple the edges together so that they touch.

4. Apply the adhesive liquid generously all over the leather of the fur which is to be reinforced. Allow this first coat to dry for about 10 or 15 minutes until it becomes tacky. If the garment has been stapled as part of the nailing process, this step will have to be delayed overnight until the leather becomes dried out. When the first coat has become semidried and tacky, apply a thin second coat of adhesive liquid.

5. After waiting about 5 minutes to permit the second coat to become slightly dried, lay the treated cloth out flat over the treated surface, smoothing the fabric in place with the hands so that all wrinkles disappear. The coated surface of the cloth will naturally be laid towards the liquid and leather. If more than one width of fabric is required, the edge of the first laid fabric is prepared as above for the overlap.

6. The flattening process is immediately completed by pressure-rolling with the special hand roller. This step is considered complete when the fabric lies flat and the seams stand out through it.

7. Trim away with a razor blade the edges of the fabric which extend beyond the fur.

8. Store in a cool, dry place overnight to dry completely.

9. Remove the dried garment from the board by lifting the base paper clear of the board, staples and all.

10. Remove the staples from the fur by tweezing with fur or other pincers from the hair side.

11. (Optional) Cold-roll under a flat mangler, if one is available, for complete flatness.

From here on normal processing is resumed. It will be found that the fur-knife edge will dull more quickly than usual and that the sewing thread will break more often than it ordinarily does during the operating. This last difficulty can be overcome by "oiling" the sewing thread. Simply wedge an oil-soaked rag into place under the thread on the front top of the machine where the thread leaves the tension control.

The final step, which is required on all garments which have been chemically reinforced, is drumming to restore the softness and drape. The preferred method is to tumble the garment from a half hour to an hour in a wood-lined drum, along with 20 to 50 squares cut from rubber tire and introduced into the drum as a softening agent. The bag-in-bag method described in Chapter 6 may also be used.

Almost any garment worth repairing can be reinforced so that it will give additional service at a cost well within the means of every fur coat owner. At the same time, you can simplify your repair or remodel work by staying the leather and closing the tears or rips.

There are, however, certain additional considerations which must be carefully kept in mind. In the first place, while most fur leathers will respond to the standard liquid adhesive commercially distributed, some furs, such as mink, beaver and nutria, require special formulas for best results. The second difficulty is the inadvisability of attempting to stay old garments of the *ungulata* or lamb family such as the lambs and caraculs. These pelts have multilayered leather which flakes as it ages. Chemical staying will hold the back leather together but it will not make the hair side immune to peeling.

The apparatus and materials required for the chemical staying of fur garments can be purchased from any large fur supply house.

CHANGING THE LENGTH

The dictates of fashion are such that fur coats are continually being lengthened or shortened as new styles appear. Operators

of fur repair and remodel departments are bound to receive a number of inquiries about the possibility of changing the length of fur coats to fit changed styles.

Ordinarily, it is a simple job to shorten fur coats. It involves the cutting away of material to the length desired, allowing, of course, a 1-inch margin for bending in. Occasionally the shortening accompanies a desired extension of the sweep to allow more fullness, a pattern characteristic which is common on many shorter garments. In such cases, in order to obtain the added width, the material which would normally be cut away from the length of the garment must be utilized by the letting-in technique.

Two basic principles must guide the examiner in deciding whether or not a fur coat can be lengthened. First, only certain furs can be lengthened at all. Secondly, those which are adjustable depend for a successful result upon the match of fur to be added. Unless it blends perfectly, the added material stands out from the rest of the coat in a most undesirable border effect. In such instances the best procedure would be a frank explanation to the customer, including conditional acceptance of the job depending upon your ability to secure the needed furs in exactly the right shade.

With regard to this kind of remodeling, furs may be classified in three types:

1. **Blocked Pelts:** Garments made from blocked pelts; that is, with the skin in a more or less rectangular shape, such as natural muskrat, squirrel skins, dyed rabbit, can be lengthened by adding one or more rows of skins. Only a complete row can be added, however. The addition of a half row would give a patched appearance. For example, a 36-inch natural squirrel garment can be lengthened to 45 or 47 inches by the addition of a full row of skins, but a 40-inch length would be impractical, unless a large, full collar style would cover half skins at the neckline.

The furs which are worked in zigzag, such as muskrat backs, sealine and Hudson seal, fall into this category. Given a good match, they are probably the easiest of all furs to lengthen, for the seam helps to blend the original to the added fur.

2. **Patternless:** Patternless lamb presents a different problem. It would be possible to lengthen a Persian lamb coat by simply

adding fur to the bottom, if you were a Persian lamb specialist with unlimited matching furs at your command. But even then the amount of time required would make this method impractical. The proper procedure is apparently more complicated, but it is actually simpler and more or less foolproof.*

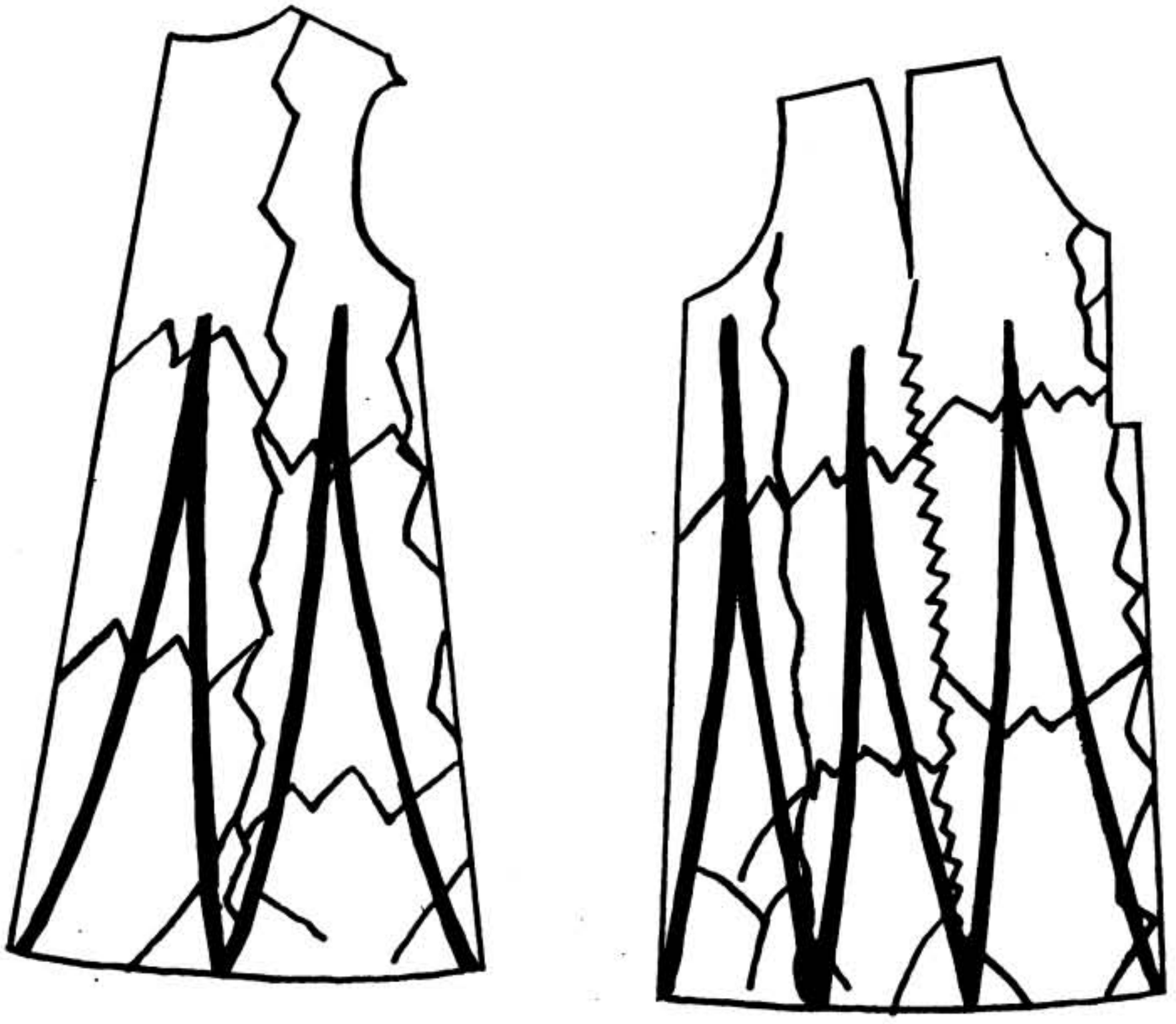

Fig. 146.—How drop tongues are cut to lengthen Persian lamb. Half back at left, front at right.

The garment to be extended is opened, the sleeves removed and the body separated into three parts, one back and two fronts. Each section is placed on the pattern and the missing length determined. A tremendous single drop tongue, one for each line of pelts in the section, is made. The tongue should end somewhere along the

*A more complicated method, justified only on very expensive coats, consists of taking the entire garment apart, line by line, and inserting additional material at suitably matched places. Since this amounts to practically remanufacturing the coat, it is not usually advisable.

shift, allowing the four fingers to roll under and finish the seam right over the edge of the machine.

Fig. 14.—Finishing a seam.

The right hand, in the meantime, is brought over to the machine set hand wheel and assists it in braking to a sharp stop. In the same motion, a push of the right hand turns the hand wheel to bring the needle plunger in as far as it will go. In this position the looper is high and to the left. A sharp pull of the thread to the right and slightly downward will tear the thread clean off the looper and leave enough end for the next stitch.

H. Sewing Two Pieces of Fur. Before attempting to make a real seam on fur, the beginner should practice running two pieces of fur through the machine, trying to control the hair without the needle in place. Fur seams are invariably made against (opposite to) the hair flow, in order to make it easier to control and force the fur fiber and hair into place. When a fur seam is made in the same direction as the hair flow, some of the hair is likely to be caught in the stitching, creating a damage on the hair side.

The left thumb, which up until this time has been more or less idle, does this most important work. As the fur flows into the grip of the two wheels, the thumb, moving up and down, forces the hair down below the edge of the fur. Where the hair is obstinate, the fur edges are brought together as the thumb goes down. No technique is more difficult to master or more illustrative of the essential inadequacy of the machine than this particular operation.

out on its own. It is a great tribute to the energy and resourcefulness of the American fur dyers that even before the second World War they had established international preeminence. American-dyed furs were then and are now going out all over the world. The fur dyeing and blending industry, by constant devising of new blends and shades, has set a pace which the rest of the fur trade is hard put to follow.

Blending, dyeing and striping techniques have been perfected to such a degree that a veritable flood of good imitations in muskrat, coney, marmot and other popular furs will inevitably follow the presentation of a new mink mutation shade. The trade in general follows the policy of imitating the costlier furs in the popular-priced ones, so that mutation minks have been the inspiration of many of the new dyes and blends for the past half-dozen years.

While his skins are undergoing the preparatory processes, the typical manufacturer will be considering the problem of style and pattern. If he is unlucky enough to strike a year like 1947, when fashion decreed that women's skirts and dresses become 6 to 8 inches longer, he may be forced to withhold or limit production until the style trend is cleared. In 1947, for example, full-scale production in the wholesale fur market was postponed for more than a month until the uncertainty was resolved.

Customarily the fur designers present their winter seasonal showings from the latter part of March through the early part of June. The presentations, offered either in their showrooms or as style shows, normally allow the manufacturer to make his selections sufficiently early.

Selections of style are not made casually. The individual manufacturer must first consider whether a specific style is applicable to the fur he works; second, whether his staff can work the pattern; third, whether or not his buyers will like it. A fur buyer from a Southwestern city may not be interested in the same styles as a representative from a Minnesota store.

ASSORTING AND BUNDLING

As soon as a lot of dressed and dyed fur skins has been received, it is carefully checked. Unless the lot is to be withheld for some special reason, it must first be set up for the cutter. Assorting, or breaking down the lots into single-garment bundles, is a highly

skin by skin and lengthen each individual skin by letting it out. By the time the fur was added to fill out the width the remodel would cost as much as 50 percent of the original value of the garment.

A simpler method of step-triangulations has been in general use for several years. The author has improved this method to fit more closely the natural cutting involved in the original skin.

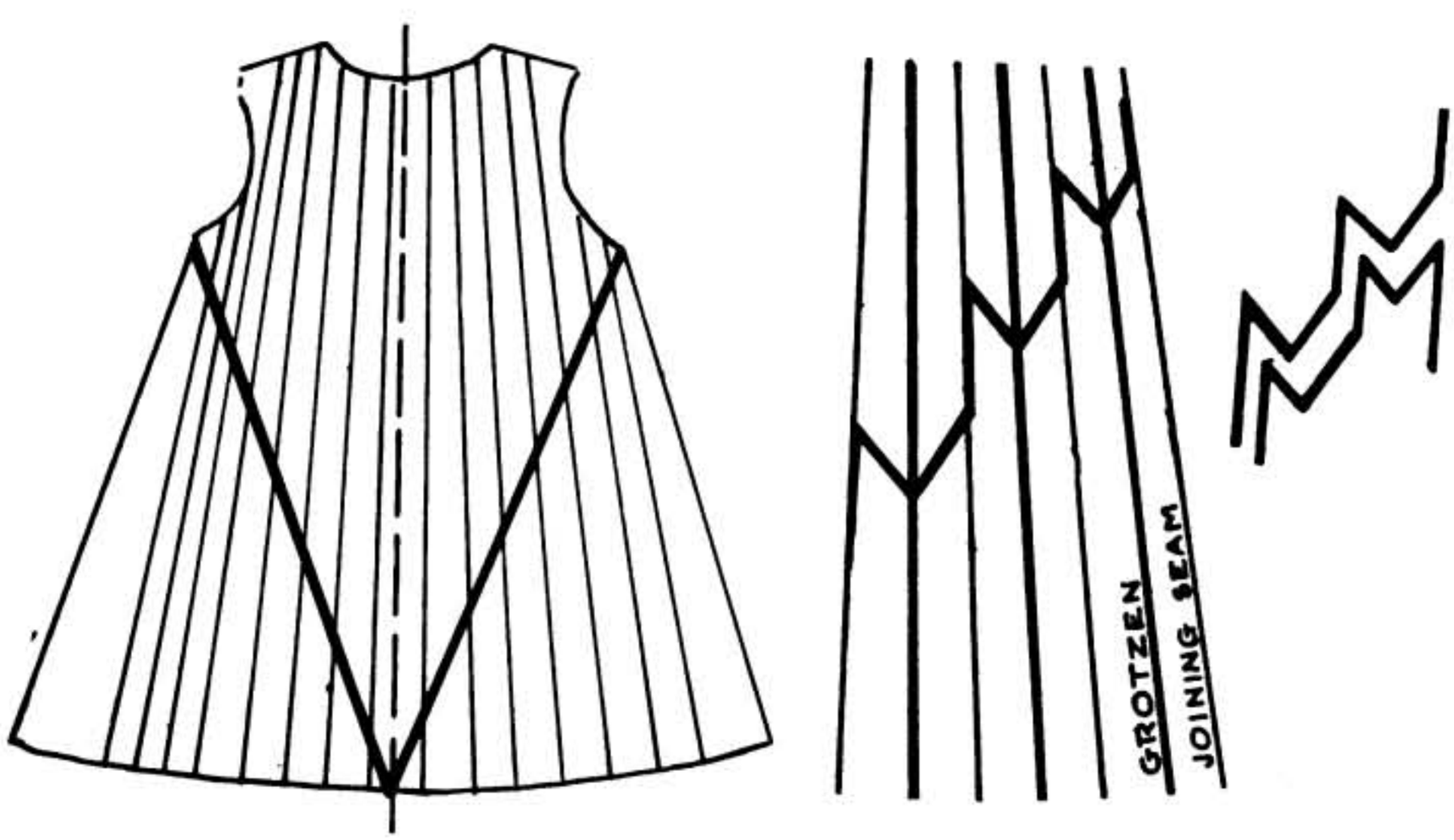

Fig. 148.—Left: Method of drawing guide line for step-triangulation. Center: Detail of method of drawing. Right: Section of steps cut apart.

A line is drawn from the grotzen of the center back skin at the sweep up to the top of the underarm pelt on each side. A similar line is drawn to the armhole from the front sweep. This creates two triangles which have their tops at the center underarm. The diagonal sides of these triangles are lines running diagonally across each skin. At the point where this line meets the grotzen of each skin, a matching diagonal line is drawn in exactly the opposite direction, at exactly the same angle, to the end of the same skin. This results in a V drawn on each skin.

When the complete set of V's has been made it will be found that they are not connected. Now a line is drawn right down the joining seam connecting the adjoining V's. When this line is complete the back should come out with a complete pattern of joined V's.

at the bottom front is removed and placed under the arm, leaving only the middle to be filled in.

The same method can be used on the sleeves if needed. The diagonal is drawn from the underarm top to the underarm bottom diagonally across the sleeve.

The method described above will serve for lengthening or shortening all thin-striped let-out furs but it will not do for sheared beaver or let-out gray Persians. Both customer and furrier must realize that the addition of 7 inches of length to a fur garment means an addition of an area of fur relatively equivalent to one-third of the body of the coat. For instance, a 36-inch coat which is to be lengthened to 42 inches represents the addition of one-third, not one-sixth more material, when the full width of the sweep is considered. The charge for the job should be commensurate.

Last but not least, it must be kept in mind that when a fur garment is made longer it must of necessity become narrower if no additional fur is added. The added fur must be inserted where it will best serve the appearance of the garment.

CHANGING THE FIT

In spite of diets and calorie counts, customers will add a little weight as time goes on, making it necessary for them to call on their furriers for alterations in their fur garments. Dresses and suits are not too hard to adjust when the material is available in the seam. It is also fairly simple to change the fit of most fur garments, especially those made of patternless furs dyed one color like Hudson seal, lapin and Persian lamb.

Adjustment becomes more difficult on natural furs like muskrat, squirrel and leopard, where the pattern of the fur must be considered. A really thorny problem is presented when the garment to be refitted is one of the let-out furs—mink, skunk, muskrat, opossum and raccoon. When altering these let-out furs it is not possible just to add the amount of fur needed. The material must be added and handled in unit "stripes" which must match and conform with the patterned pelt layout of the garment as it stands. These stripes are usually obtained from a matcher who takes worn garments apart and resells them as needed, each let-out skin being a single stripe.

An alteration job typical of this kind is a natural raccoon coat

The method used in grading up the front an additional inch, about the amount needed, is a simplified adaptation of several grading systems. The part of the pattern to be enlarged (the front) is copied carefully and split up vertically into four equal parts. Each

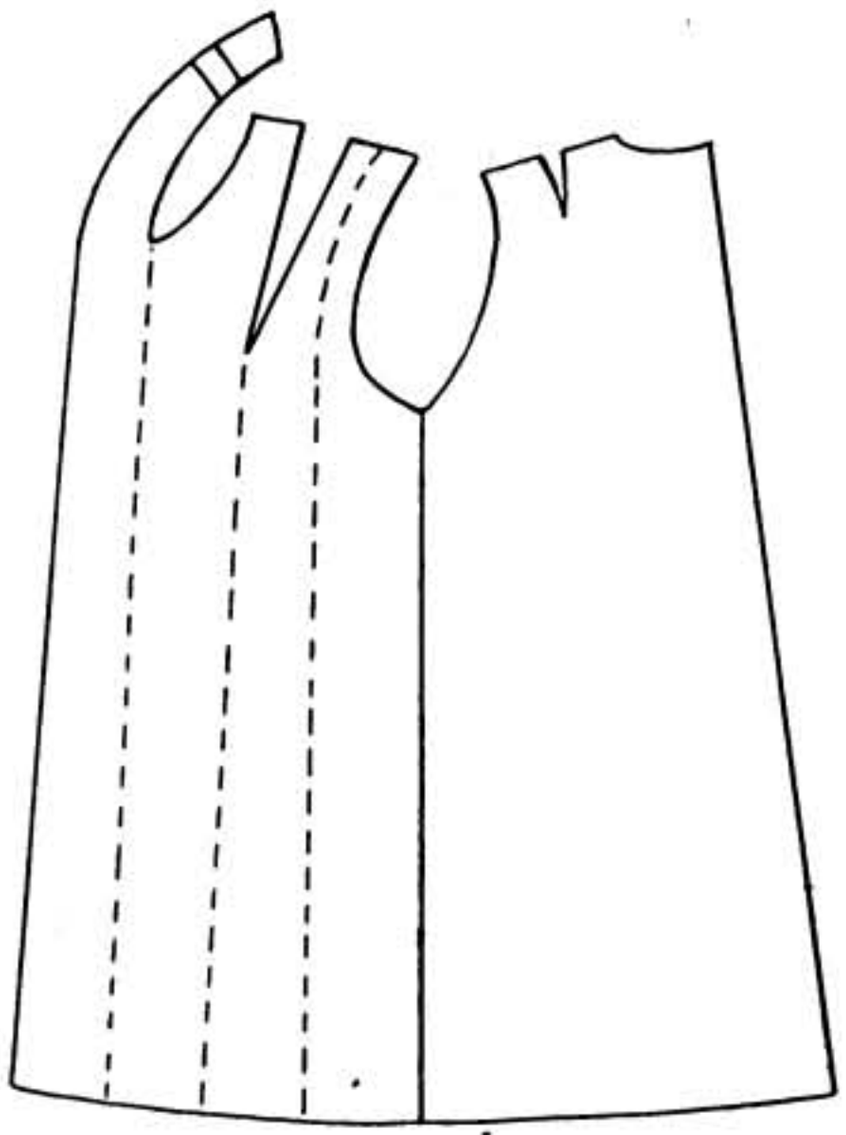

Fig. 151.—Breakdown of front pattern for grading.

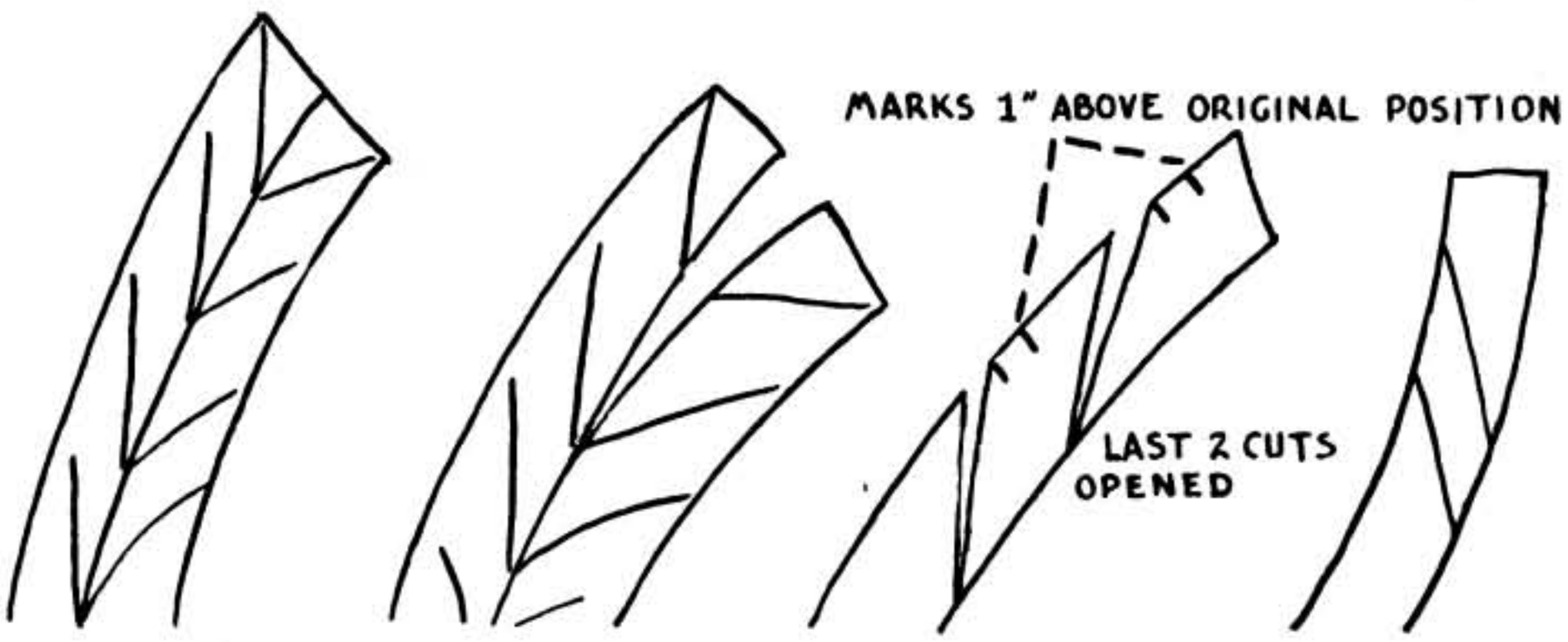

Fig. 152.—Reshaping let-out skin. Left original pelt, next to bust dart. Next, pelt opened on grotzen seam. Fourth sketch reshaped skin resewed.

of these parts is widened ¼ inch. At the top, each of the four parts is tapered off back to the original top measurement so that

The best fur match available within the correct texture and hair height happened to lack some of the striped effect of the original fur. After careful planning it is decided that the best place to add the new pelt will be between the last and next-to-last pelt near the armhole. The seam is opened at this point and the pelt sewed into place. With the pelt in place it is now possible to see just what has to be done with each of the other pelts to make this fit in the graded pattern. The pelt is let out a cut or two as needed and pelts are drawn in or shirred loosely to make them fit.

While the fur is flat, worn spots are replaced.

Since each front is now quite ample, a pair of cuts ¼ inch apart are cut out on either side of the worn fold of the original facing. The strip is removed and replaced at the edge as described on page 179. An additional strip or side is sewed to the upper armhole.

The final check is made over the paper pattern and the fronts are now ready for nailing. In nailing out the fronts over the pattern, care is taken to maintain each strip in an even tapering width, just as they were in the original.

After a day of drying, the fur is turned over on the hair side and examined. These examinations may disclose that the grotzens are considerably lighter than those on the original pelts. This condition is corrected by two applications of striping dye with a two-row brush, allowing a day for the drying of each application.

The completed fronts are again checked against the pattern, squared off to fit, and made ready for assembly with the back by hand-taping of the side seam edge. The matching seams of the back section are also hand-taped, so that the seam will not stretch during the joining but remain flat.

Now the remodeled fronts are joined to the back, the darts are closed, the shoulder seams made and the sleeves set back in place. While the sleeves were flat, worn spots were replaced and material added to the width under the arm to conform with the additions that were made to the pattern. In this connection, it should be noted that with the exception of certain styles, the circumference of the sleeve armholes should be roughly 1 inch greater than the circumference of the body armhole.

New collars, which have been cut entirely new from a pair of good stripes and colored in the same way as the pelts, may be added to the body and sewed back into place.

The sewing of the lining is routine except that before it is resewed a matched panel of material to take care of the added fullness is inserted in the lining of the underarm seams, although most linings are cut full enough to permit an additional inch of fullness.

The labor required for this type of job is of major proportions. It is safe to say that for most of the let-out furs the cost of an alteration and repair job of this nature runs to about 30 percent of the original cost of the fur.

SLING-CAPE REMODEL

A good many of the worn fur coats customers bring in for restyling simply will not stand the strain of reworking. Even if the 5- or 6-year-old coat happens to survive reprocessing, rips and tears that will soon ensue as a result of normal wear make the whole job one big headache for both furrier and customer.

Recent fur style developments provide a ready answer in a suggestion to the customer of remodeling to a sling cape. It can be pointed out that it is small enough not to require the use of additional furs, that it is warm and yet can be worn nine months of the year, and that although it has no sleeves the style line gives a sleeved appearance. You mentally reserve the fact that because the garment has no sleeves it will have no cross-back strain to rip or tear the fur.

Old dyed muskrat, which is usually too weak to be the raw material for the ordinary remodel, may well form the typical subject for the type of sling-cape remodeling to be discussed.

After a light preliminary cleaning, the lining is removed, the closing seams opened and the edging cut away, leaving the back body and sleeves ready for work. The comparison with the cape pattern reveals that, as was to be expected, the coat is too long and narrow.

A trial layout of the leather side of the fur on the pattern shows that it will be necessary to set the sleeves to the front of the body to fill out the width. Inspection discloses that the worn sections around the buttons and under the arms will also need to be damaged. The sleeves are trimmed and other adjustments made as needed; extra pelts from the top row of the back of the coat are used to fill in the armholes. It will be noted that both sleeve and armhole fill-ins are set in in accordance with established pelt

stick. This step is followed by a steam ironing. The fur, hair up, is then hung over a line and left overnight to dry.

Finally the block is squared to the pattern, closed, taped, and sent to the finisher for relining. The completed garment is vacuumed and blown out before it is turned over to the customer. No special fitting is necessary as these capes do not require too exact a fitting beyond the length adjustment for taller women.

REMODELING A PERSIAN LAMB GARMENT

Just how sharp the changes in fur fashions have been is not realized until the problem is presented of remodeling a 5-year-old coat to today's style. It is only by actual comparison that the dry-cleaner-furrier and his customer will begin to understand that a present-day (1950) coat generally utilizes at least one-third more fur than the out-of-style garments contain.

A typical job in this particular field might involve the remodeling of a full-sweep, fitted-style garment with small sleeves into the flared-back coats with fuller sleeves and tuxedo front, fashionable at the moment of writing. When the fitted bodice is separated from the skirt, it is usually found that the bodice is comparatively meager in comparison to the area above the waistline of the new pattern and that it will need to be filled in.

The skirt, it is found, has too much flare and some of it must be eliminated. This is accomplished by removing from each half of the skirt the triangular skin under the arm which gives the extreme flared shape. With this triangular skin removed, the resulting opening is resewed. In most cases this operation is sufficient to restore the area below the waist into a roughly usable shape. Wherever possible in the entire job the furrier should use the long zigzag joining seam characteristic of the manufacturing work on Persian lambs.

With the preliminary adjustments made, a complete layout can be planned. The triangular skins cut out from the skirt flare, plus an additional skin, are laid out to fill in the missing area below the waistline. Although one skin is generally required, more may be needed if the original collar cannot be used to fill in the narrow top back of the bodice. Usually the body, exclusive of the new collar or front, requires three skins—one for the bodice, one for the skirt and one for the flowering out and repairing of the body.

there is no real necessity of adding expensive fur to the under-sleeve. It may be split and the new fur added to the top sleeve, if that is badly worn, with the old fur shifted underneath.

In this layout, as in all Persian lamb cutting or squaring done in the fur trade, the common pushpin is used to keep the fur in place.

With the main areas of the fur in their proper places, the garment is now ready for a careful over-all examination. Each part of the garment, including the new areas, is examined in a good light for worn, dull or substandard fur. These areas are cut into triangular or diamond shapes and replaced carefully with matched pieces. Another and final pushpin layout checking follows and the garment is ready for nailing.

Each part of the garment is made thoroughly wet and allowed to stand for at least two hours. The usual Persian nailing process is used, including lifting of the fur on the nails to prevent crushing the curls. The fur is allowed to set and dry for at least two days in order to prevent any post-nailing shrinkage.

Pushpins are again utilized in squaring the garment. They hold the pattern and fur firmly in place while a clear thin chalk line is drawn. The actual cutting of the lines is done by means of a razor-blade knife or good heavy shears, the latter only on edges which are not going to be joined to other fur, such as the sweep of the garment. When the shears are used, they are tipped at an angle so that the cutting edge on the hair side slants away from the fur. In all this work care is taken to prevent any stretching.

All the squared parts are then given to the finisher who hand-tapes all top edges with long black twill tape, using a diagonal stitch. However, on popular-priced garments a special type of black friction tape which is applied with a warm iron is more often used today.

Closing the garment body together follows the usual procedure, except that the long seam joining any tuxedo to a coat should be made only after matching chalk lines at intervals will insure a flat, unshirred seam.

FUR ACCESSORIES

The manufacture and maintenance of fur accessories, such as buttons, hat trimmings, tuxedos, collars and even gloves, is a lucrative part of the fur repair and remodel business. It should not be

and skills. The pelt was first trimmed of head, paws and tail (these trimmings were carefully saved) and then split down the grotzen. The half pelt was dampened and tested over the half pattern. This layout disclosed that the pelt was about the right length but lacked the proper shape; it was too narrow at the rump and too wide at the head. The rump had to be shaped and widened, the head narrowed and lengthened, and the whole pelt both kept in shape and kept sufficiently long.

To produce the desired result, three different types of let-out cuts were used. The rump was widened by means of let-in step cuts. To counterbalance the loss of length the head was lengthened by means of plain let-out cuts. In addition, shaping half cuts were used in all areas to produce the shape wanted.

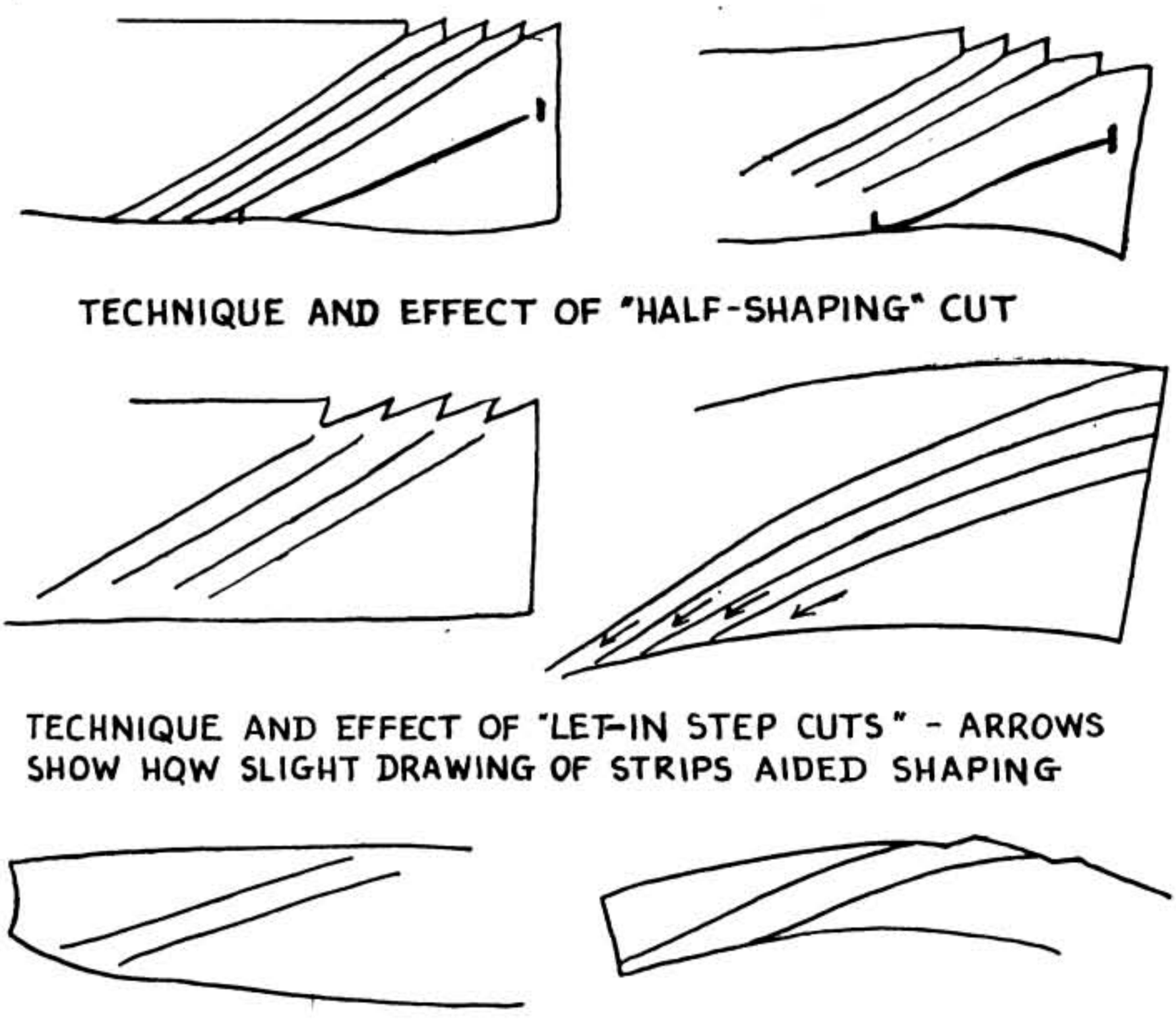

Fig. 171.—Details of cuts used on mink hat trimming.

The second half is cut exactly the same as the first but in the opposite direction, to produce the reverse or mirror image of the first half skin. The two halves are individually checked, joined at the rump, checked again and made wet for nailing.

The nailing sequence that was followed was designed to insure a symmetrical piece. The center seam was nailed out first, from the outside or top edge to the bottom inside. In nailing the outside, representing the grotzen or best half of the pelt, as little overlap at the seam as possible was taken over the pattern. Corners, outside edge and inside were nailed in that order. Fine nailing pins were used throughout to minimize the size of the nail holes.

The nailed fur was squared, its edges reinforced with heated friction tape and all edges machine-taped.

Chapter 9

BUILDING A FUR BUSINESS

Those who deliberately enter the fur business generally do so on the basis of a background of experience. They may be presumed to be familiar in a general way with the pattern by which a fur business grows and expands, and the services, materials and equipment which are needed as it develops.

There is, however, a large group of concerns which are, in a manner of speaking, in the fur business by chance. The majority are drycleaners or laundryowners whose storage facilities have forced them into this field.

Anyone who stores fur garments, directly or as a representative, inevitably finds his customers demanding additional services—services which must be supplied to maintain the storage volume. It is not hard to understand the viewpoint of the customer who does not want to store her coat in one place and have it serviced in another.

The service most commonly demanded is cleaning and glazing. At the outset, it may be found worth while to send this work along to a nearby fur cleaning specialist. A beginning can be made in cold tumbling by the method described on page 159.

As business grows and a certain minimum volume becomes assured, the purchase of a fur cleaning drum must be considered. The manufacturers of this equipment are best able to assist you in selecting the size and type of drum most suited to your particular needs. As with most fur equipment, efficiency in servicing is an important factor in deciding on a particular drum.

Glazing has a different meaning for each class of skins. For sealine and Hudson seal a water glaze may be sufficient while other furs require more complicated treatment, with corresponding equipment. A steam iron is a necessity. If volume warrants, one of the new "electrifiers" which eliminate matting from beaver, nutria and sheared raccoon may prove a worth-while investment. A hand vacuum and a steam gun also have their uses in glazing. Methods

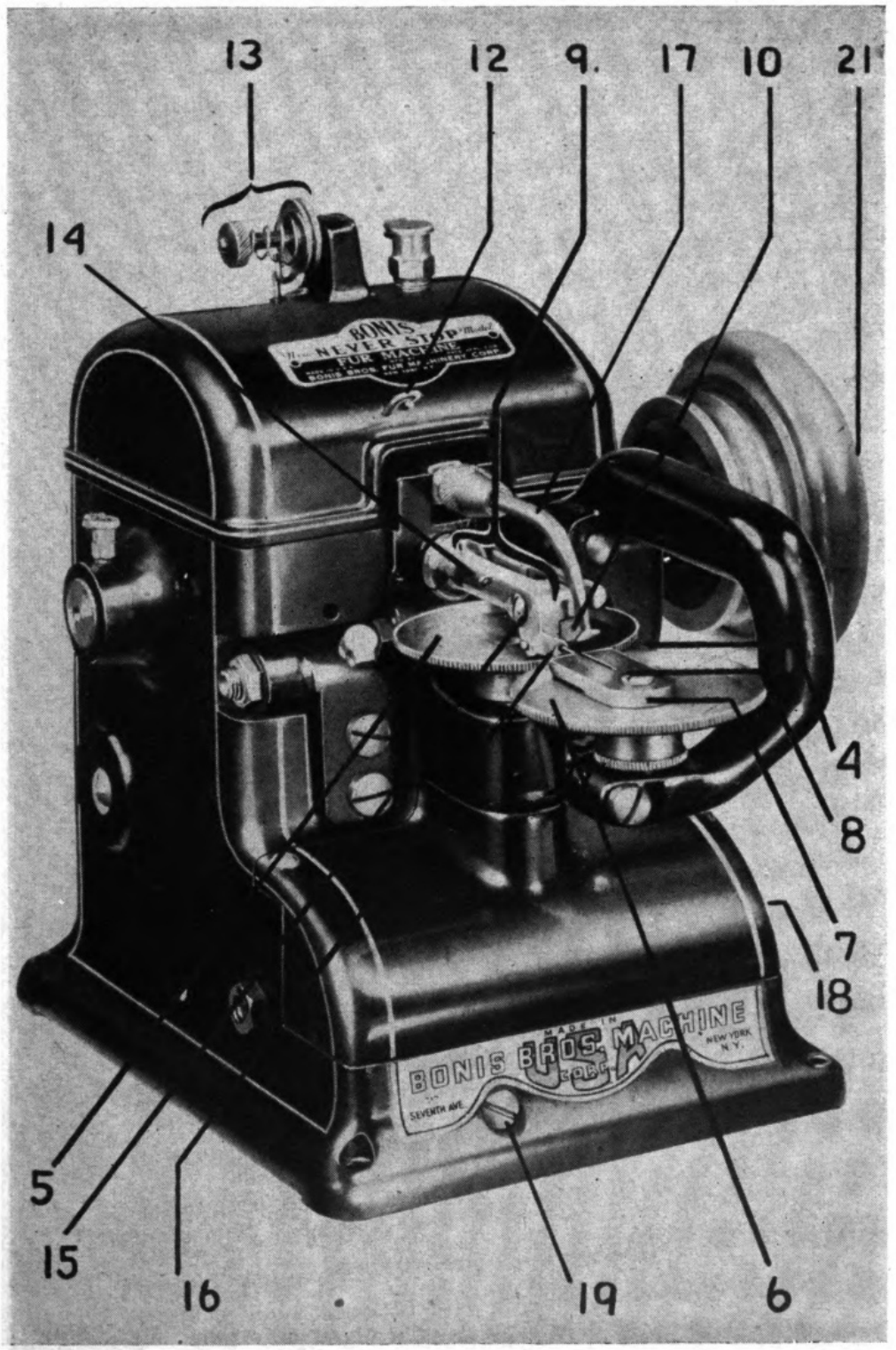

Fig. 15.—Parts of fur machine; numbers correspond to following chart.

skilled art which calls for an experienced craftsman. Usually this job is handled by the foreman, the owner or a professional assorter especially hired for the purpose.

The assorter must not only have trained vision and be able to detect minute differences in shading, size, pattern and density of furs, but he must also have a thorough, practical working knowledge of the processing of garments made of that particular type of pelt. In order to set up a bundle of skins suitable for a single garment, the assorter must know how many pelts of that type will make the required style of garment in that particular fur. He must also know how wide a range in any of the major characteristics of hair height, color, pattern and density of the pelt is permissible in any one garment. Most assorters are competent in a limited scope of furs, with which they have had extensive experience.

Working in natural northern light, wherever possible, and with as large a table area as he can command, the assorter examines and grades each pelt. He places the skin flat on the table with the hair up and the head nearest him. The assorter working with long-haired furs may put his hand through the fur to feel its density, to see the undercolor and to get an idea of the height of the hair. Experienced matchers work up piles of the various grades of skins directly as they examine them. The top skin of each pile-grade is a prototype or sample and the skins matched to it are placed underneath.

If the bundle is badly mixed, the sample-skin method may be used for a direct comparison. In this procedure, which is slower but probably more accurate, the sample skins are carefully folded down the center back or grotzen. In the folded position they are placed on the table beside each other with a suitable space in between. Each skin that is to be compared or graded is similarly folded and placed, with grotzens touching, next to the sample it seems to resemble. If the assortment is good, the two halves will appear as one skin. This method may be successfully used by sorters with limited experience.

There is no simple answer to the question of how many assortments to make. The sorter will naturally try to make as few as possible and to leave as few "throw-outs" or unmatchable skins as he can. Whether or not the given skin will be "forced" into a bundle depends upon the standard of work set by the individual plant and

of using such equipment have been presented in Chapter 6. Enough progress has been made in pressure sprays for imparting luster to furs to merit their inclusion in this department.

Up to this point, the intelligent technician will have been able to master the skills of cleaning and glazing furs without too much difficulty. Many have also managed to pick up the repair techniques little by little, "farming out" the more difficult repairs as they did at first with the cleaning work.

For the most part, however, the development of a sizable repair business will require not only a full set of fur plant tools, but also the employment of an experienced furrier. Requirements for such a business include the following:

EQUIPMENT

Fur sewing machine
Fur cutting table
Fur nailing boards
Fur drum
Fur wetting table
Set of figures

SUPPLIES

Operating thread (black, gray, brown, white; sizes 70, 90, 110)
Wetting brush
48″ ruler
Pushpins
Plain pins
Furrier's nails
Tracer, needlepoint
Hand vacuum
Paper snips, 12″
Stapler, adjustable for open and closed stapling
Oilstone, fine
Furrier's replaceable-blade knife
Furrier's razor-blade knife
Nailing pincers
Nail puller
Machine oil
Motor oil, electric
Oil can
Furrier's steel comb
Furrier's steel-back wire brush
Magnet
Notcher, pattern
Set of kyles—24
Heavy pattern paper
Stay cloth
Leather adhesive
Set of black dyes, fur
Set of brown dyes, fur
Set of leather tipping dyes—gray, brown
Striping dye and brushes
Lining supplies

In addition to the above, the fur repairman will need to have a supply of matching furs or a convenient source for obtaining them.

The building up of a repair stock is a necessity, if costs are to be kept down. The type of stock needed can be determined from a percentage analysis of garments stored. When customers' coats become too old or outmoded, they can be purchased for the repair stock. A drawback to this procedure is the customer's usually exaggerated idea of the value of her old coat. Sometimes a stock can be built up more reasonably by a mass purchase from a large fur-matching supply house. A set of labeled one-coat shipping boxes, kept in a cool place, will store the fur conveniently.

The inevitable next step is remodeling. With remodels comes the threefold problem of patterns, styles and estimating. Fortunately, the large fur-design houses have taken cognizance of the need for this service, and for a reasonable fee will supply a set of patterns in the season's styles, with interchangeable trimmings. From these patterns a set of canvases can be worked up which will suffice to get customer selections and to make adjustments.

In this connection, remember that it is often simpler to remodel than to repair, especially when the original pattern is not available and must be traced.

With regard to fitting, the author recommends a very fine book which was written with this problem in mind, *The Assistant Fur Fitter,* by Sol Vogel. Even the experienced fitter will find much of value in this well-illustrated text.

The correct estimating of a fur remodel job is not easy. Large-scale fur services have worked out a schedule of prices for the common jobs on standard furs. A compilation of several of these price lists* is reproduced on pages 229 through 232. The prices are those charged to the customer. Most of the mass-production repair and remodel houses will do these jobs in bulk on a 60-40 basis, with shipping costs split evenly.

In no field is the law of averages of greater importance than in fur repairing and remodeling. No amount of examining and figuring will prevent the occasional "lemon" from creeping into the lot. The best thing to do is to complete the job no matter what the cost and deliver it without comment. Another job which will make up for this underestimated one is bound to come along.

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*Prices based on the relatively high labor and material costs of the 1949 season. Dips and rises may require up to 25 percent variation in scale either way.

In the natural course of events opportunities to market new fur garments will arise. The obvious answer is consignment shipments, based, if possible, on a specific detailed order to the shipper. The difficulty here lies in persuading a furrier to make such shipments. Generally, only the desperate manufacturer will embark on a program of consignments, unless you are able to show a high percentage of sales. Not only is there expense involved, but also the deterioration which results from many shipments and try-ons.

Where volume warrants and lack of competition makes it feasible, a small stock, carefully selected on the basis of known local pelt and style requirements, can be assembled. Every attempt should be made to keep sales and space overhead down to a minimum. The bane of all fur retailing is what might be labeled "unanticipated overhead," occasioned by extensive adjustment, markdown sales and clearances. After a season or two of fur retailing, you can begin to understand why a fur coat must retail at one-third to one-half more than its cost if you are to keep out of the red.

ESTIMATED PRICES FOR REPAIR AND REMODEL

Fur	1 Clean and Glaze	2 Fix Each Rip or Tear	3 All Edges	1, 2 and 3 Combined	4 Remodel No Fur	5 Cost Per Skin Added to Remodel	6 Coat to Jacket No Fur	7 Coat to Cape	8 Sleeve Remodel No Fur	9 Collar Remodel No Fur	10 Redye	Remarks
AMERICAN BROADTAIL	$12.00*	$5.00	$27.50	$50.00		$11.00	$100.00	$75.00	$50.00	$15.00	$20.00	*Spray-glaze only
BEAVER	22.00	5.00	75.00	95.00	$150.00	30.00–40.00	125.00	100.00	70.00	15.00	50.00	No regrooving nor shearing
CONEYS	13.00	3.00	35.00	45.00	70.00	1.00–2.00	75.00	60.00	40.00	10.00	20.00	
FITCH, DYED	15.00	5.00	50.00	65.00		4.50–8.50			70.00	15.00	35.00	Dyed fitch usually in jacket form
FOX, DYED	13.00	4.00	25.00	40.00		7.00			40.00			Jackets, usually
FOX, SILVER	15.00	5.00	35.00	50.00		10.00–20.00			50.00			
KIDSKIN, DYED	13.00	3.50	35.00	50.00	70.00	6.00–12.00	85.00	70.00	42.50	12.00		Natural kidskin 10% higher
KOLINSKY	17.50	5.00	75.00	95.00	150.00	10.00–15.00	125.00	110.00	50.00	15.00	35.00	Some coats, mostly jackets
LAMB, CARACUL	17.00*	4.00	55.00	75.00	110.00	8.00–20.00	100.00	85.00	50.00	12.50	25.00	*Cleaning and lusterizing

ESTIMATED PRICES FOR REPAIR AND REMODEL

Fur	1 Clean and Glaze	2 Fix Each Rip or Tear	3 All Edges	1, 2 and 3 Combined	4 Remodel No Fur	5 Cost Per Skin Added to Remodel	6 Coat to Jacket No Fur	7 Coat to Cape	8 Sleeve Remodel No Fur	9 Collar Remodel No Fur	10 Redye	Remarks
LAMB, INDIAN	$17.00*	$5.00	$60.00	$80.00	$120.00	$ 1.00–3.00	$110.00	$90.00	$55.00	$15.00	$30.00	*Cleaning and lusterizing
LAMB, PERSIAN	22.50*	3.50	75.00	95.00	150.00	10.00–25.00	125.00	100.00	60.00	15.00		*Cleaning and lusterizing
LAMB, PERSIAN PAW	22.50*	3.50	50.00	65.00	90.00	20.00 plate	75.00	70.00	50.00	10.00		*Includes wax-ironing
LEOPARD	22.00	5.00	50.00	95.00	125.00	35.00–150.00	115.00	105.00	65.00	15.00		Beware remodels with wider sweep than original
LEOPARD CAT	15.00	3.50	35.00	70.00	75.00	13.00–20.00	95.00	75.00	45.00	10.00		Match pieces
MARMOT, DYED	15.00	4.00	50.00	65.00	75.00	5.00–8.00	95.00	85.00	50.00	12.50	30.00	Watch stripes
MINK, AMERICAN	32.50	5.00	90.00	100.00	375.00–450.00	14.00–35.00	175.00	200.00	75.00–150.00	25.00–75.00	60.00	Cost depends on amount of alteration of the shape and taper of each skin needed
MINK, CHINA	20.00	5.00	75.00	95.00	175.00–225.00	4.00–6.50	150.00	150.00	75.00	25.00	50.00	Same as above—American mink

MOUTON LAMB	$14.00	$3.00	$30.00	$45.00	$ 60.00		$ 70.00	$55.00	$30.00	$ 7.50		Additional fur inadvisable
MUSKRAT, LET-OUT	15.00	5.00			120.00	$ 7.00–10.00	100.00	100.00	65.00	12.50	$40.00	
MUSKRAT, SKIN-ON-SKIN	13.00	3.00	50.00	60.00	65.00	3.00–4.00	75.00	70.00	40.00	10.00	35.00	
NUTRIA	25.00	5.00	70.00	90.00	160.00	7.00–20.00	135.00	115.00	70.00	17.50	35.00	
OPOSSUM, AMERICAN	13.00	3.50	35.00	47.50	80.00	1.50–3.50	75.00	75.00	50.00	10.00		
OPOSSUM, AUSTRALIAN	16.00	4.00	50.00	65.00	110.00	5.00–8.00	100.00	100.00	60.00	15.00		
PONY	15.00	5.00	50.00	65.00	90.00	10.00–20.00	110.00	100.00	70.00	15.00		
RACCOON, NATURAL	13.00	3.50	40.00	40.00	75.00	4.00–10.00	85.00	75.00	50.00	10.00		
RACCOON, SHEARED	20.00	5.00	50.00	70.00	135.00	5.00–12.00	120.00	110.00	70.00	15.00	25.00	
SEAL, ALASKA	25.00	5.00	85.00	100.00	175.00	75.00	150.00	125.00	75.00	17.50	25.00–40.00	
SEAL, HUDSON	14.00	4.00	60.00	72.50	110.00	4.00–6.00	125.00	110.00	65.00	15.00	30.00	
SKUNK	14.00	4.00	55.00	67.50	100.00	4.00–6.00	90.00	85.00	55.00	10.00		
SQUIRREL	15.00	3.50	75.00	85.00	130.00	1.00–3.00	110.00	100.00	55.00	12.50	35.00	Jackets 25% less

EXPLANATION OF COLUMN HEADINGS

1. **Clean and glaze.** Includes individual treatment of deposits on collars, complete cleaning of fur surface and freshening of lining but no spotting of lining. Lambs are spray-glazed.

2. **Rips and tears.** Includes opening and resewing of lining, which is major part of labor cost.

3. **All edges repaired.** Includes new eyes and hooks or loops, and repairing worn sections underneath fronts, pockets, collars, cuffs, using fur edging on coat.

1, 2, 3. **Combination.** Main saving is in opening and resewing of lining.

4. **Remodel, no fur.** Includes new style and at least one fur fitting, repair of all worn skins, full cleaning and glazing, and lining.

5. **Cost per skin.** Average cost of skin usable for matching. For let-out garments, cost is for skin already let out.

6. **Coat to jacket.** Assumes no fur needed. Includes fur fitting, cleaning and glazing, and new lining. If old lining is used only $5.00 should be allowed, since it must be opened, cleaned, pressed and recut.

7. **Coat to cape.** See above. Beware cape with sweep greater than original coat; involves much labor.

8. **Sleeve remodel.** Includes removal of old sleeve lining and replacement with new, plus recutting of body armhole.

9. **Collar remodel.** Assumes new collar smaller. Striped collars more difficult.

10. **Redye.** Includes removal of lining in some cases and re-opening of all closing seams to flatten coat. Gray Persian, broadtail and lamb are sprayed in coat form. Redye not permanent. Will fade in one to three seasons.

Repair: Depends on ability to match fur accurately. Pieces should be added in, using fine zigzags. Unsheared beaver coats in good condition can be sheared but coat must be taken apart skin by skin. Coats can be blended or reblended, by experienced furrier in factory.

Remodel: Old dry-leathered beaver should not be extensively remodeled. Pieces added should be placed where they will show least. Pelts must be let in or out individually.

Appearance in use: Garment is nut brown to bluish brown, with silver-tan sides, 5 to 13 stripes to coat.

Durability: First-class. One of three most durable furs. Fiber mats, however, and needs conditioning once or twice a year.

Imitations and substitutes: *Nutria*—smaller pelt, duller, no silvery flanks; thinner leather.
Sheared raccoon—duller, smaller pelt, often blended; leather very similar.
Beaverette—rabbit, zigzagged and striped beaver shade.
Mouton—larger pelt, longer fiber. Stripes very artificial at present; may be improved.

FOXES

Sections: Several varieties in common use in industry, notably American kit and red fox (also Turkish), and silver fox and its mutations (United States and Canada, Alaska, Norway). Blue and white fox from North America and Norway also used.

Appearance of skin: Foxes in general characterized by dense underfur and distinct grotzen, which is often sunken and heavily guard-haired. Leather usually thin and papery, especially at sides.

Uses: Extremely versatile fur. Coats, jackets, scarves; collars and trimmings of cloth coats.

Working methods: Let-out, leathered, reset and combinations of these. Skins also mounted for scarves.

Cleaning: Bag-drum cleaning with smooth-ground carrier. Strong solvents inadvisable with light-dyed shades.

Glazing: Big problem is matting. Can be corrected by bag-drum cleaning or combing and blowing. Ironing with kraft paper or steaming also effective, as is the steam gun.

Appearance of skin: Sizes range from 14 to 25 inches in length. Whole gamut of specially bred mutations in special shades, including silver-blue, blue frost, Kohinoor, royal pastel, arctic, Breath-of-Spring and others. All have dense, short fibers set off against contrasting darker grotzen of longer, shiny guard hair.

Uses: Another versatile fur. Coats, jackets, capes, scarves, cloth- and fur-coat trimmings.

Working methods: Let-out or reset or both; split-skin.

Cleaning: Normal drum-bag cleaning best. Collar and cuffs can be hand-rubbed.

Glazing: Hair reversal with heated wrapped iron and glazing stick effective. Steel comb useful, also brush.

Repair and remodel: Until the leather dries out and becomes unmanageable, fur can be both repaired and remodeled. Fur must match perfectly or be interchanged. Blending or reblending possible on dull, oxidized coats, if leather still strong.

Appearance in use: Long narrow strips, outstanding characteristic of all let-out work. Strips run length of coat, maximum width about 2 to 2½ inches.

Durability: In first rank. Two decades of use (with care and repairs) not unusual.

Imitations and substitutes: Most widely copied and imitated of all furs. Kolinsky, weasel, muskrat and others in let-out form; almost every common fur in chemically striped form.

MUSKRAT

Sections: Two general groups – Northern (including "natural Jersey black") and Southern. Northern from Rice Lake, Ontario; New York, Pennsylvania and North Central states. Southern from Texas and Louisiana.

Appearance of skin: Northern larger, longer haired, up to 1½-inch grotzen hair height, reddish. Southern smaller, flatter, 1-inch grotzen hair height, bluish-black cast. So-called "Jersey rat" almost black.

Uses: Second only to rabbit in versatility. Coats, jackets, trimmings, etc.

Uses: Very versatile fur. Coats, jackets, slippers, mittens, cloth-coat linings, cloth-coat trimmings.

Working methods: Mostly block. Sealine and beaverette worked hair up and zigzagged. Chinchilla rabbit let-out. Sealine sides worked in chevron.

Cleaning: Regular drum cleaning satisfactory for all but old, weak garments.

Glazing: Simple water-and-stick glazing for sheared types. Light steaming plus hair reversal for long-haired types.

Repair and remodel: In general can be repaired and remodeled provided leather has not weakened. Extensive remodels impractical. Simple zigzagging best.

Appearance in use: Entire gamut of furs—long-hair, short-hair, all colors—found in rabbit imitations of other furs.

Durability: Good for two to three years, then must be repaired. Work on coat over six years old questionable.

Imitations: This fur is itself the imitator par excellence.

RACCOON

Sections: Three furrier types—heavy, semi-heavy and coat sections. Natural coat type comes from Missouri (New Madrid), Arkansas and North Carolina. Others from most Northern and Central states. Semi-heavy and heavy types used for shearing.

Appearance of skin: Over-all appearance dark gray, with black guard hair, light gray sides. Fiber color analysis complicated. Size 18 to 24 inches long, 10 to 16 inches wide.

Uses: Versatile fur. Heavy and semi-heavy for cloth-coat trimmings; flat coat stock for coats, jackets and cloth-coat linings.

Working methods: Almost invariably let-out, split-skin. Some coats still made skin-on-skin.

Cleaning: Will take strong drumming, steel brushing.

Glazing: Wire-brush matted areas, then steam with medium iron; reverse hair and steam lightly.

Repair: Can be repaired if added fur matches; same principles as let-out work.

Remodeling: Remodeling presents usual let-out problems.

Part	Description	Location	Function
13. Thread tension unit	Two thin metal discs, spring and nut location, top center of machine head	Top center head	Tightening of nut presses two plates against each other and exerts pressure on thread which passes through it, thus tightening or loosening stitch tension as required
14. Plunger thread guide	Metal eyelet	Middle top left of plunger	Guides thread for stitching
15. Plunger thread tension head	Spring set sliding screw head	Front top left of plunger	To pull thread tight for each stitch
16. Needle block channel	Thread channel cuts through bottom of needle block unit laterally	Running from left to right on underside of needle block about ¼ inch behind front edge	Channels thread under needle so that it can be led through eye
17. Looper	Swinging thin metal arm with flared end	From top center of head down over jaw	Gathers up looped thread to make stitch during working of machine
18. Stitch size adjuster	Narrow knob and pointer lower right-hand section	Lower right-hand base of machine, just below strap of machine	By moving narrow knob and pointer toward back of machine, stitch is made progressively larger (more open). By moving knob and pointer in opposite direction; that is, nearer operator, toward front of machine, stitch is made smaller
19. Jaw tension adjuster	Small screw head	Flush with front face of machine near bottom, where head is joined to its stand	By turning this screw head clockwise to right, jaw pressure is increased. By turning to left, pressure of two wheels upon each other is decreased
20. Leather strap	Round leather belt pulley	Runs from the power unit under the stand to hand wheel at right side of machine head	To activate machine head, transmitting power action from motor to machine head
21. Hand wheel	Large round metal wheel	Right end of machine	Permits operator to move needle by hand; assists operator in quick stopping of machine action

the amount of pelts the concern will handle during the year. If many are to be handled, it is probable that some of the throw-outs can be matched into a lot later on.

The run of pelts has now been broken down into as many as six piles, perhaps even more, each representing an assortment. The assumption is that each assortment differs from every other so that the skins from one cannot be worked into the same garment as those from any other. This, of course, is not strictly true. In each assortment there are a few borderline skins which can be forced from one bundle to another. Here again the standard of workmanship of the individual manufacturer will determine the extent to which this procedure is followed.

Assume that one of these assortments contains 427 skins, and that it is estimated that 40 of these skins will make a size 16 garment. The assortment, broken down by size, contains the following:

31 extra large	189 medium
155 large	52 small

The manufacturer wishes to make up 10 garments as follows:

1 size 12	4 size 16
2 size 14	2 size 18
1 size 20	

In order to use as few skins as possible, the manufacturer might break these skins into bundles, each containing enough for one garment, as follows:

NO. OF GARMENTS	SIZE	XL	L	M	S	TOTAL
1	12	2	12	19	7	40
2	14	2	12	20	6	40
3	14	2	13	19	6	40
4	16	3	15	18	4	40
5	16	3	15	18	4	40
6	16	3	15	18	4	40
7	16	3	15	18	4	40
8	18	3	16	17	4	40
9	18	3	16	17	4	40
10	20	4	17	16	3	40
USED		28	146	180	46	400
WITHDRAWN		3	9	9	6	27

XL = extra large; L = large; M = medium; S = small.

Appendix II

SOME COMMON PROBLEMS

Possible Faults and Trouble Spots To Be Looked For on Garments Offered for Repair or Remodel

Problem or fault	Description and how discovered	Solution	Common furs on which found
Peeling leather	Surface layer of leather peels off with hair	None. Too old	Lambs
Hair rubbed	Guard hair and top of fiber worn away, by comparison to top back	Replace (foxes—pointing)	All. Especially long-haired and kidskin
Shedding	Fiber comes out of fur when handled and worn, either because fur is old or natural character of fur	None. All cats shed	All cats Any fur in which leather has dried
Yellow "rusted," faded	Gray or brown fur dyed, sprayed or bleached. Often shows up *after* fur cleaning	If fur strong can be cleared or reblended (expensive)	All processed lambs Most pastel dye shades, especially if bleached Browns, especially light shades
Leather dried out Weak, tears	Crackly, sandy, very white leather. Natural oil has either dried out or has been washed out by drycleaning. Will disintegrate when dampened. Test by dampening section	None	Mink Muskrat Sealine Beaver Lambs
Dull	Grotzen hairs either worn away or dull. Fiber is naturally dull and age dulls it more	Guard hairs can be given luster by application of commercial lusters. Steam iron helps both hair and fiber	All furs

Problem or fault	Description and how discovered	Solution	Common furs on which found
Burned	Excessive heat accidentally applied to part of garment. Results in hard leather and puckering of fur toward burn. Look for puckers and hard sections	Replace	All
Leather, glued cloth reinforcement	Messaline cloth glued to leather	None. Do not accept for repair or remodel	All weak furs
Leather, blind-stitched cloth on it	Cloth blindstitched to leather	Test leather. Work with cloth attached if possible	Many thin-leathered furs
Motheaten	Appearance about same as motheaten wool pile fabric	Sunning Airing Long drumming and vacuuming	Especially on undyed furs
Matted	Fiber gathered in knots, curled	"Electrifying" by commercial cleaner or wet or dry ironing	Beaver, nutria, sheared raccoon and all full-fibered furs, especially the sheared

GLOSSARY

TERMS USED IN THE FUR INDUSTRY

assorting: breaking down a given lot of fur pelts into grades and/or sizes.
assortment: given grade or quality which results when lot is assorted.
beating: rattan beating of hair side of fur by hand or machine for cleansing purposes.
blending: chemical surface coloring of fiber or hair to conform to desired natural pelt coloration.
blindstitch: any hand or machine stitch on the back of material or fur which does not show through on the face.
block: name given to most common layout of pelts in a fur garment in which each skin is worked out in more or less rectangular shape.
block-type garment: form of skin-on-skin construction in which skins are cut to an approximately rectangular shape.
bundling: setting up assortments of skins into units sufficient for one garment.
caging: part of drumming process in which the fur is placed in a revolving screen cage through which air is forced. The used carrier and impurities fall through the screening into a tray below.
canvas fitting: trial assembly of a pattern or its adjustment in canvas or muslin.
carrier: in reference to fur cleaning, sawdust, ground shell or similar base to which solvent is applied.
character: that quality of a fur pelt, notably the lambs, formed by patterned effect in the hair, as contrasted to the plushy pile-like characterless furs.
closer: specialized fur operator who puts together the squared fur garment.
cutting: combined operation of grading, layout, trimming and damaging fur pelts for the fur operator. By far the most important phase of the fur cutter's work is the matching.
damaging: removal of and adjustment of deficient areas of fur.
dressers: processors who tan, prepare and preserve the raw pelt.
drumming: method of cleaning furs by abrasion in a revolving drum, using sawdust, ground corncobs, ground nutshells or other carrier, with or without cleaning fluids, to clean, soften, polish or fluff out a fur.
dusting: tracing zigzag or similar pattern on to fur leather by means of chalk dust.
dyeing: in general, the over-all coloring of a fur pelt, usually by immersion.
felling: part of the finishing process wherein the lining shell is blindstitched to the closed fur garment.
fiber: short, dull, wool-like, fine filaments which form the underfur of many pelts.
finishing: general term for all the processes involved in putting the lining in a fur coat.

flaking: phenomenon characteristic of poorly cut lamb edges wherein tiny points of leather spoil the even edge.

flesher: technician in dressing plant who removes excess fat from skin during dressing, using either a hand or revolving knife.

flowering: special damaging technique used on lambs by which two areas of fur are cut to a petal-like shape and interchanged, to improve the appearance of the fur.

forcing: including in a garment or bundle a pelt or pelts which are on borderline of a true match.

full skin: garment layout in which pelt is used as a unit.

glazing: group of processes by which the appearance of certain furs is improved. Originally meant simple wetting of hair followed by reversal of hair flow with a sharp-edged flat stick.

grading: enlarging or making smaller a given size of pattern.

grooving: process which artificially reproduces the natural drop in the height of hair along the flanks of skins. May be done mechanically by shearing, or chemically by gluing.

grotzen: term used to denote entire area along the spine covered by the guard hairs.

guard hair: straight, long, shiny bristles which are massed along and protect the spine of most fur animals. The presence of these guard hairs is the important factor in determining the value of many pelts. The guard-hair flow on any fur pelt is called the grotzen.

hair up: term used to describe fur garment in which the pelts have been worked with the head down and rump up.

head: on an untrimmed skin it is the natural head; on a trimmed skin it is that edge of the skin from which the hair direction flows.

interchanging: in fur garment assembling and layout means procedure by which opposite halves of pairs of skins are transposed.

interlock layout: novelty pelt layout, usually used on muskrat flanks, by which the heads and the flanks are made to set together diagonally, creating an interesting pattern.

ironing: usually means the ironing of fur fiber under special conditions and with specially adapted equipment to improve its appearance.

kyle: refers both to a form of pattern adjustment in which excess material is inserted at a given point, and to the mechanical device which is used to stretch the fur to fit the pattern part so made. A kyle is the opposite of a dart.

lapped seam: any fur seam in which the edge of one fur is joined to a fold of another piece of fur, giving a shingled effect.

layout: plan for the arrangement or positioning of pelts to compose a garment.

leathering: operating technique in which ribbons of leather are inserted within or between fur pelts.

let-in: form of let-out work in which the skin or part of the skin is made shorter.

let-out: general term given to a group of allied cutting and sewing techniques by which certain fur pelts can be reshaped to any length or width without affecting the natural hair formation and coloration.

lightning: see "mixing."

line: in fur business, a column of fur reaching from the neckline to the sweep of a garment (not to be confused with "stripe").

lot: unit of skins offered for sale by auction-house dealer or merchant. May be small or large depending on whether it is the part-time catch of a farmer up to the complete shipment of a collector.

lustering: improving the gloss of the guard hairs of fur pelts by the application of suitable chemicals.

market: in all needle trades in New York City the market is generally the geographical center of the factories of the industry, where workers and employers congregate to transact business, hire help and even discuss current events.

mixing: special type of seam which conceals the fact that two pelts have been joined together; also called "lightning."

mutation: biological "sports" (variations from normal that breed true) in ranch (domestically raised) furs which have been carefully bred for commercial purposes. Example, blue frost minks.

nailing: technique by which sewed fur garment is stretched and set permanently. May involve use of nails or staples. This process is very similar to stretching a washed curtain over a curtain frame.

nail puller: special rolling device which lifts fur nails from nailed garment efficiently.

needlepoint tracer: fur and pattern marking instrument by which lines are traced through to the other side or to other surfaces. Consists of a handle to which is attached a revolving wheel edged with long thin needle points.

ombré: French word for shaded. Used in fur work to indicate a type of muskrat garment in which each row of fur down the garment is made from a progressively darker section of the skin.

one-into-two (-three, -four): phrase used in describing the number of skins to be made from the original in resetting.

operating: seaming the furs by machine. Machines used make overlock chain stitch.

patch: same as general meaning; the addition of fur from another skin to adjust or fill in.

pincer: adaptation of a plier to fur nailer's special needs. It has a wide nose and one handle is curved to fit the hand. Used to stretch nailed garments into position and to hammer the nails through the fur into the board.

plate: commercial unit of assembled fur pieces which may be any one of several standard sizes according to the individual fur.

plucking: mechanical removal of guard hairs, as on beaver.

pointing: insertion of silver hairs in pelt to give appearance of naturally contrasting guard hairs, such as silver fox.

resetting: process by which a complete skin is remade into two or more complete skins each proportionately narrower than the original.

reversing: a variation of resetting in which a right *and* a left half are produced from a section of fur which may itself be either right or left.

ribboning: separation of joined pelts by leather or ribbon inserted in the seam. Its function is to flatten the hair flow and separate the pelts.

rounded-head: variation of full-skin layout in which the head and rump joining is made in the form of a rounded semicircle to conform to the natural shape of the skins.

row: horizontal column of fur reaching from one front around to the other front.

rubbing out: technique by which seams are flattened. Empty spool, back of knife or special iron is used.

rump: on the untrimmed skin it is the area around the tail; on the trimmed skin it is the edge to which the hair flows.

salt bath: washing in salt or other chemical solution which assists in preserving the leather.

scallop: type of concealed seam joining having a wavy outline.

self sides: layout system for fur garments in which the sides of a pelt are joined together and the grotzens left open for joining to the next skin.

semi let-out: form of let-out in which the length of only one side of a pelt or half pelt is changed.

shearing: mechanical cutting of the height of hairs on pelt down to the same level.

shell: unit of underlining and lining tacked together ready for insertion on a fur coat.

shirring: term in general use in the needle trades whenever a greater length is worked into a shorter length in sewing.

skin dealers: middlemen who purchase lots of raw or dressed furs from auction houses, trappers, collectors or dyers, and in turn sell to the manufacturer. They render the manufacturer two services: (1) break down large lots as necessary; (2) offer credit if needed.

skin-on-skin: type of pelt layout where the length of the garment is achieved by setting one skin above the other, brick fashion, except that all seams are generally aligned.

slicing: process of making let-out cuts.

split skins: type of fur pelt layout which uses halves of skins as units, the skins having been split down the grotzen.

squaring: cutting the nailed fur garment exactly to the pattern.

squarings: material left over when garments are squared.

stapling: alternative to nailing by means of nails, this method uses open staples.

staying: general term signifying any one of several methods of reinforcing weak fur leathers, either by fabric sewed to the leather or by chemical gluing.

stenciling: has approximately the same meaning in furs as in general use; refers to imprinting of spotted fur patterns on popular-priced furs to imitate more expensive naturally spotted furs.

strap-nailing: variation of standard nailing in which a limited area is surrounded by heavy cardboard strips and stretched by means of the staples or nails which hold these strips in place.

stripe: name given to any single let-out skin.

striping: blending process on popular-priced furs, usually imitating the natural grotzen lines of more expensive furs.

sweep: the bottom edge of a fur garment.

tacking: preliminary nailing of certain skins, such as silver fox and Alaskan seal, before cutting.

taping: may be either for the purpose of reinforcing an edge or surface of fur or for providing the finisher with an edge so that she may turn over and baste down any fur or edge.

three leathers (two leathers): oral instruction by cutter to operator indicating the number of leather strips to be used in each section of a skin when a fox or lynx or similar fur is being reset and leathered.

throw-outs: unassortable or reject skins in a given lot.

tipping: leather dyeing process in which the leather of the nailed fur garment is stained so that it will be of the same shade as the underfiber of the fur.

tongue: basic technique in fur cutting by which neighboring or adjoining fur is moved in to correct any fault on a pelt, without this move showing on the hair side; as distinguished from patching or flowering.

touching up: temporary coloring on the hair side of pelt or skins with graphite or artist's crayons to improve the appearance.

tramping: part of dressing and dyeing process in which the pelt is mechanically softened by pounding action of leather-shod beams. The natural oils which have been removed during the processing are replaced in the leather during this procedure.

tuxedo: in ladies' wear terminology, a broad band of material extending full length of front on either side of center opening.

V let-out: form of let-out work in which the unit piece being let out is in the shape of a V.

V notch: variation of full-skin layout in which the joining of the head and rump of two skins is made by a fitted V notch.

zigzag: type of seam joining made to conceal the seam by matching two saw-tooth edges.

INDEX

THE FINAL STEPS

A. Nailing. Normally the sewed fur garment is passed on to the nailer, after a preliminary soaking of the leather side by the floor boy. The nailer's function is not, as many have supposed, merely to increase the area of the fur by stretching, but rather to "set" the fur in shape so that it may be cut exactly to the pattern. While doing this job, the nailer must see to it that each skin occupies its proportionate place in the garment.

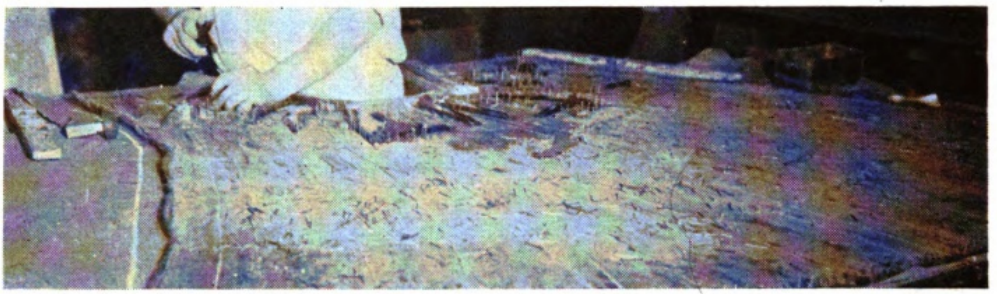

Fig. 16.—Nailer at work.

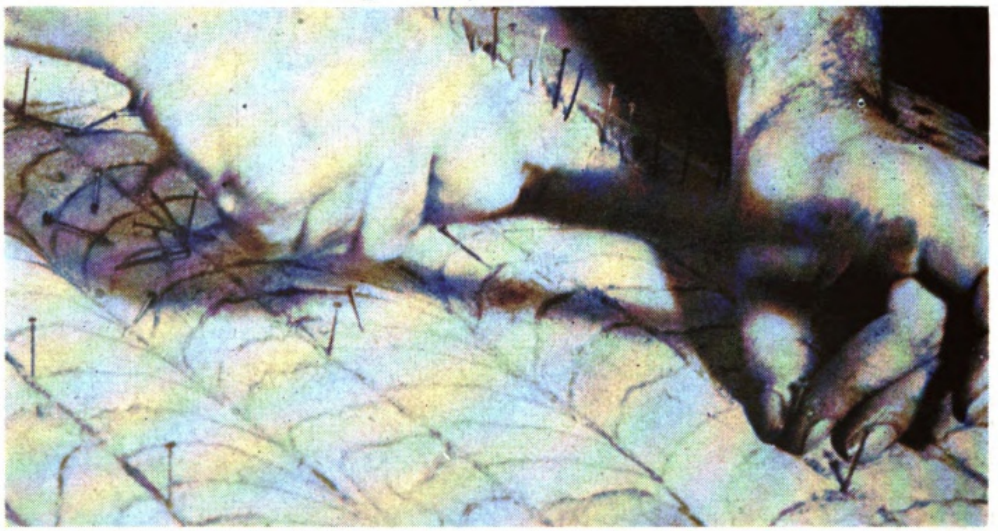

Fig. 17.—Close-up of nailer's hands.

In addition to pine or California redwood nailing boards and a pair of wooden horses, the nailer uses a type of galvanized large-head nail and a special furrier's pincer to tack out the fur over the pattern, which has been marked out in chalk on a nailing board. The nailer's right hand grips the pincer with the curved end down.

As the table shows, the 27 extra skins are withdrawn as nearly as possible in the same proportion as those that are used. If this particular assortment were the furrier's best, he might instead have tried to force 13 more skins into this bundle to get the 40 skins for an additional garment.

Garment bundles made up this way have the advantages of permitting the same layout plan for any size and of resulting in a group of evenly valued garments. On many pelts other considerations would militate against using this system. The furrier who is working coneys and lapins, for instance, where the processing is uniform and the labor return is small, cannot afford this expensive procedure. Instead, the skins will be counted out into bundles just as they come from the box. On the other hand, the procedure for the costly furs may be based upon the superior return attained by placing all of the best skins into one garment irrespective of size. One outstanding garment in the luxury class may return a large percentage of the cost of the lot and may justify this type of procedure in preference to another.

Whatever the method of dividing the assortments into bundles, each bundle is given a work ticket listing the number of skins, the style number of the garment into which they are to be made, and the size. The bundles of skins are placed in the vault and the factory is ready to go to work.

Of course, if the factory has been in constant production this particular lot and the bundles into which it has been broken will merely be placed in their work order and introduced into the factory procedure when it becomes necessary or when it is feasible. Assorting is actually a continuing job which takes place whenever new lots are brought into the factory to be put into production.

This curved edge is held between the third and fourth fingers, so that the jaw can be opened and shut as needed.

Most nailers hold the nail between the middle finger and thumb of the left hand. The forefinger is not used because, as a little experimenting will show, the angular position will cause too many accidents during the striking of the nails through the furs into the board. The forefinger is usually held pointed straight out of the way during this operation.

B. Squaring. After the nailed garment has dried out for 24 hours or more, it is removed from the board by the floor boy, using a nail puller, where possible.

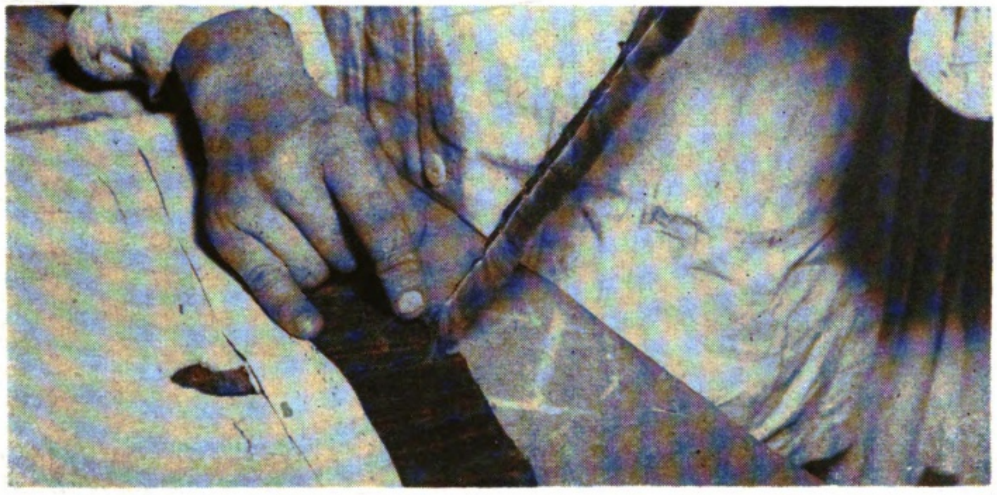

Fig. 18.—Squarer at work.

The dried garment now goes to the squarer. It is the job of the squarer to cut the fur exactly to the pattern. He also makes repairs where needed as a result of tears or deficiencies arising from the nailing.

C. Closing and Finishing. From the squarer, the garment now goes on to the closer. The closer is often a specialized operator who makes the repairs indicated by the squarer and joins the parts of the garments together according to the pattern, which he must understand fully.

The closer passes the garment on to the finisher. The latter cuts the lining, prepares it and the underlining in a shell form and sews (fells) the lining to the coat.

Chapter 2

FUNDAMENTAL SKILLS

FUR CUTTING

Fur garment manufacturing plants range in size from one-man establishments to a few factories with staffs of 100 or more. The majority employ fewer than 10 workers. In every plant, whatever its size, there will be found craftsmen and craftswomen doing one or more of the jobs described in the following pages.

The fur cutter is the heart and soul of the fur garment production line. His very classification is a misnomer. It is true that he does trim, damage and cut furs, but this cutting is merely a mechanical skill which represents a small part of his work. His real value lies in his artistic ability to make the best possible use of the material at hand, placing the finest parts where they will show to best advantage, hiding the poorest where they won't be noticed, and giving the whole garment a truly symmetrical look.

There has been no basic change in the fur cutter's tools in recent history. A fur knife, a sharpening stone and some simple accessories are all the fur cutter used in 1880 and all he needs today, beyond his table.

The peculiar shape of the fur-cutting knife was developed by trial and error. Although it was originally made from a single section of steel, two variations with replaceable blade edges are now in common use. The heavier knife uses a specially prepared blade. The cutting edge of the lighter one is one-half of a razor blade cut diagonally across. The solid steel type is still in use for special jobs such as squaring. The heavy replaceable-blade type is the more popular. The half-razor type is convenient for furs with thin, soft leather.

The proficient fur cutter makes use of four cutting positions. Whichever he uses, he must be careful to keep the fur fiber and hair clear of the table. This one factor, which is necessary in order to prevent the fur fiber from being cut as the pelt is being worked out, is what makes the technique of fur cutting complicated and

Fig. 19.—Modern fur finishing department.

and logical, and needs little explanation. For proper operation of the tension plates upon the thread, care must be taken to see that the thread rests between and not on these two flat discs. After it is threaded through the tension unit, the thread is brought down through the eyelet of the left side of the needle plunger. It is then caught up in the fingers of both hands about 6 inches apart and brought under the plunger lock through the open jaw. The thread is sawed lightly back and forth until it catches in the thread channel

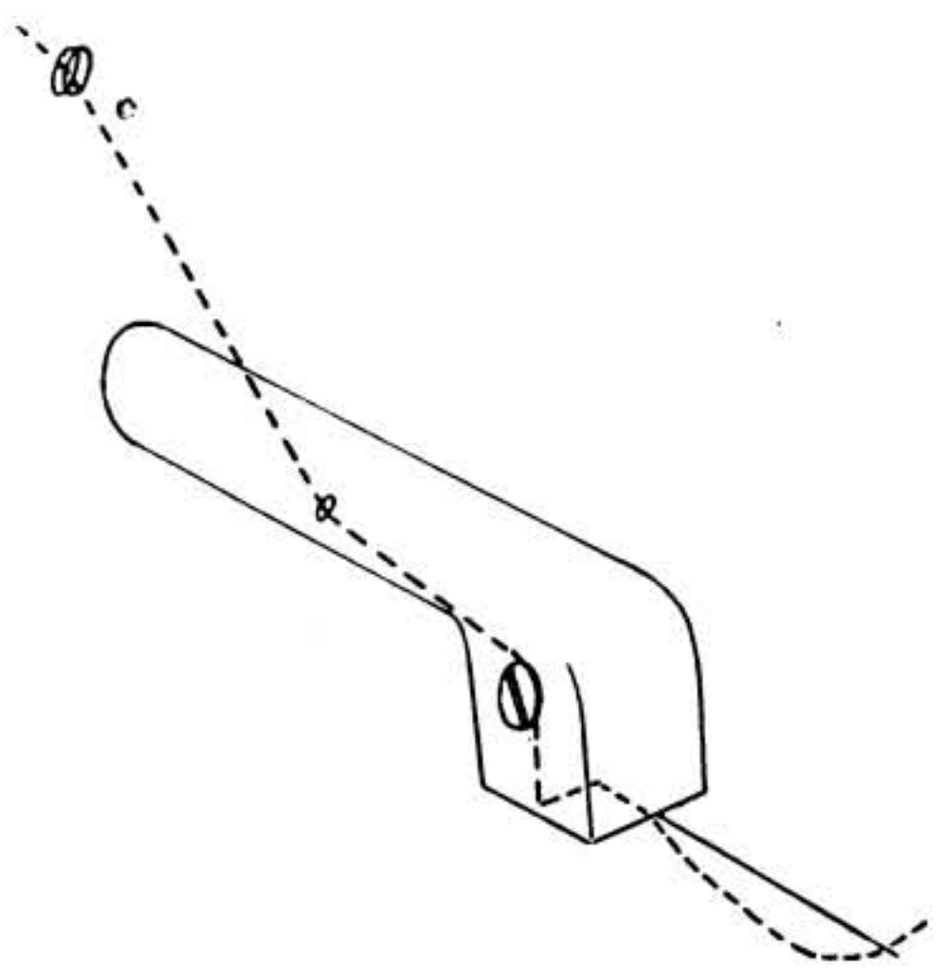

Fig. 13.—Threading the machine.

which is underneath the needle block and cannot be seen. The left hand then places the thread over the sliding screw head at the left of the plunger. The right hand brings the thread forward until it catches in the little notch right above the needle. The thread is then brought through the eye of the needle with about 1½ inches more of end. It is then ready for sewing.

G. Sewing Folded Furs. The first seam attempted on fur leather should be of folded fur. Any thin scrap of fur such as a marmot or skunk side will serve. It is first folded across the width. The folded corner is inserted in the jaw of the machine between the wheels. The folded edge should be level with the needle guide plate and just to the left of the needle guide notch. As the machine runs slowly, drawing in the fold, the fingers of the left hand should

The fur "market."

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later. Several of the considerations which would modify the cutting of these areas are type of skin, place on pattern, and grade or type of work being done.

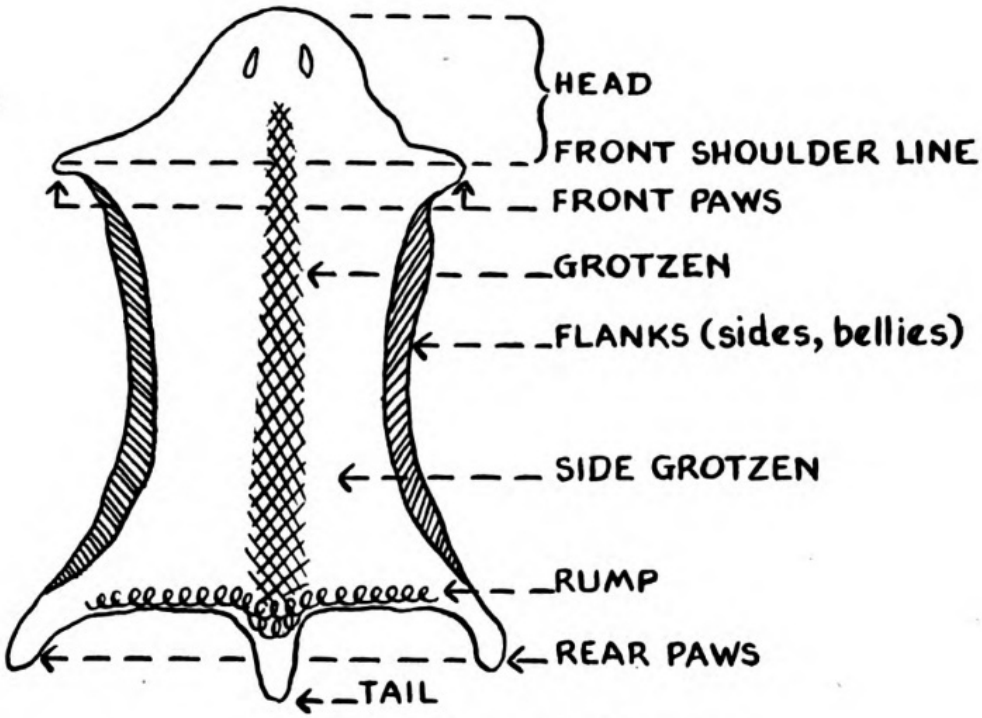


Fig. 25.—Important parts of fur pelt.

A needlepoint tracer may be used to mark off the unusable parts of the head, sides, paws and rump, which inspection has shown require trimming.

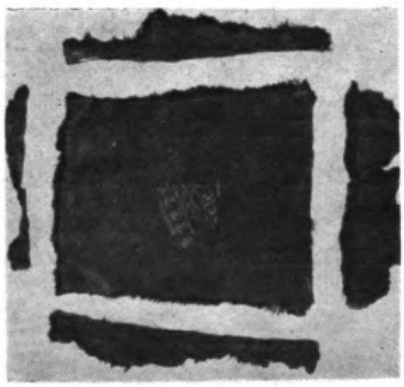


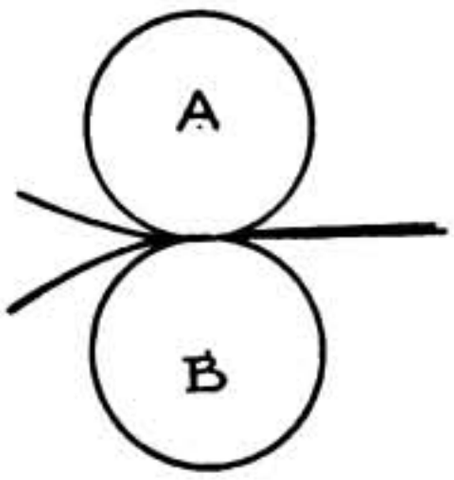
Fig. 26.—Trimmed skin.

OPERATING THE FUR MACHINE

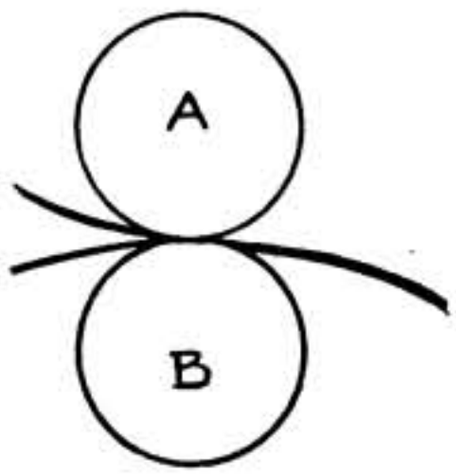
When this technique has been partially mastered, the real fur seam can be attempted. It involves the combination of the above skill plus another compensating factor.

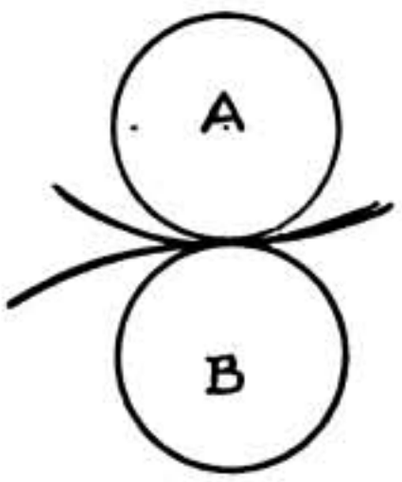
Anyone who has worked the fur machine for a little while becomes aware of the fact that the two wheels do not travel at the same speed when furs are inserted between them. This lag is due to the fact that power is applied to the inside wheel only. The heavier the leather, the greater the lag of the outside wheel. In order to produce a straight seam—for example, to have two 10-inch pieces of fur come out even at the end when sewed together—the superior pull of the inside wheel must be compensated by retarding the inside fur piece enough to balance.

If the compensating pull is correct, the seam will come out on the two wheels as follows:



If the inside piece is not held back enough the result will be as shown at left. An excessive pull on the inside wheel will produce the result shown at right.





Very rarely are two pieces of fur which are to be sewed together exactly the same length. Often an unequal or curved seam is required. If the longer piece is on the inside, it is allowed to flow freely without the normal retardation. Very great differences may require a combination of shirring and manual forcing of the outside wheel in order to produce the desired result.

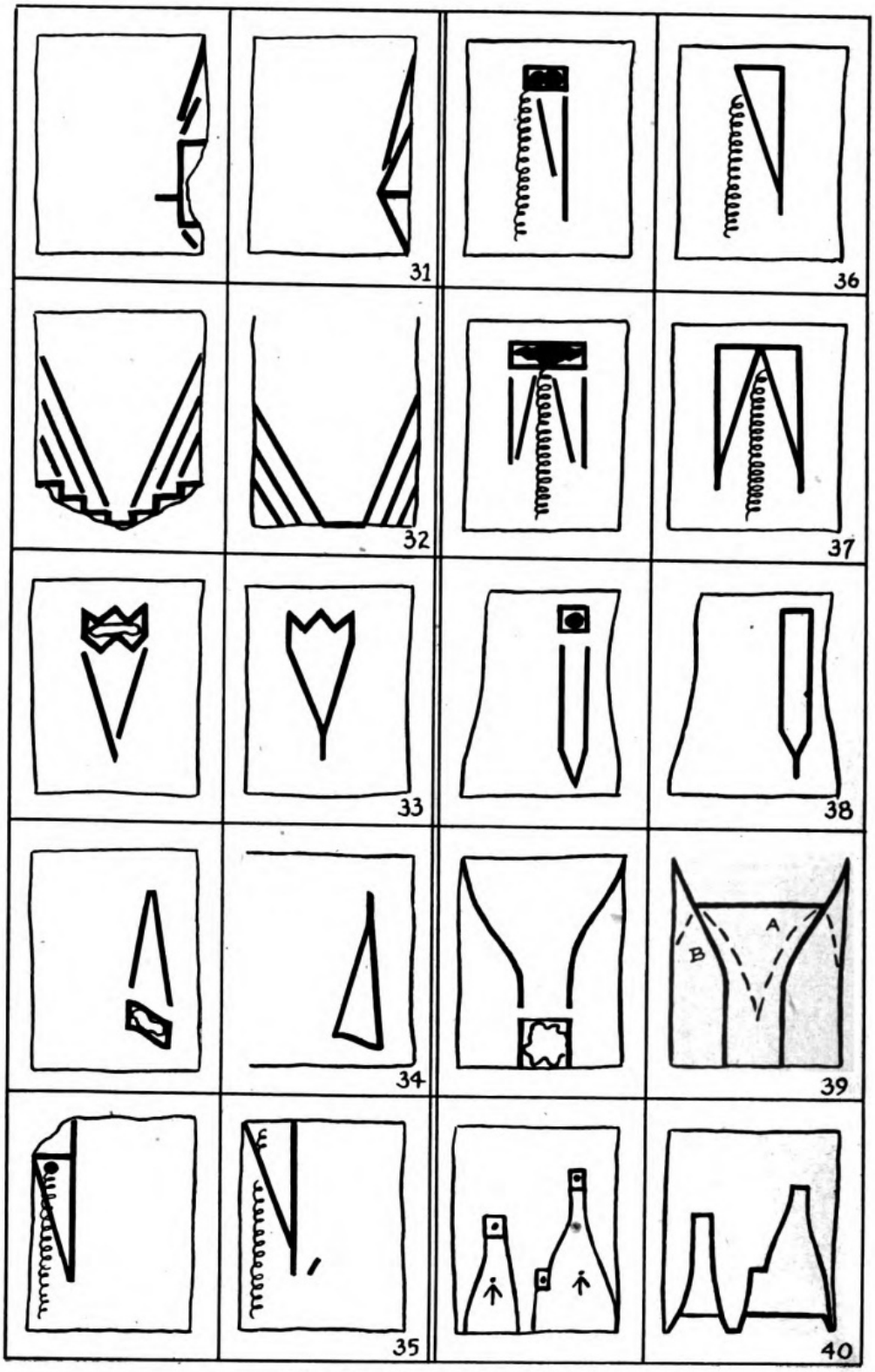


Fig. 32.—Standard tongues.

THE IMPORTANT PARTS OF THE FUR MACHINE

Part	Description	Location	Function
1. Machine head	Entire machine unit on stand	Center right of the machine stand	Stitch-making unit
2. Machine stand power pedal	Foot pedal at base of stand	Right pedal	Controls power to run motor, activates machine head
3. Jaw pedal	Foot pedal at base of stand	Left pedal	Controls opening of jaw of machine; activated by pressing heel of left foot with considerable pressure
4. Jaw	Space between two laterally mounted fur holder disc wheels	Front center of machine	To hold fur and move it past needles for stitching
5. Inside jaw disc wheel	Interior of two jaw holder disc wheels, ratchet - edged wheels	Disc wheel nearest machine head	Inner half of disc jaw driven by machine power action
6. Outside jaw disc wheel	Outer of two jaw wheels, ratchet-edged wheels	Jaw disc wheel nearest operator	Outer half of disc wheel jaw, not powered; follows inner wheel by ratchet action
7. Needle guide plate	Grooved bar of metal	Center to inside circumference of top of outside jaw disc wheel	Guides proper setting of needles and height of stitches
8. Needle guide plate (groove)	Channel cut in needle guide plate	Top face of needle guide plate	Guides proper setting of needles and height of stitch making
9. Needle plunger	Round sliding rod with needle set blocks at end	Upper middle front of machine, just above inner disc wheel	Drives needle through fur
10. Needle plunger set blocks	Block of metal which, when tightened with needle plate set block screw, holds needle in place	Right half of needle block on front edge of needle plunger	Holds needle in place
11. Needle plunger set block screw	Metal block screw	Right side needle block	Tightens block which holds needle in place
12. Thread guide	Looped metal eye	Before and after thread tension unit on top center of machine head	To guide thread properly through machine

2. If any move of more than 1 inch is required, use a let-out or compromise form.
3. Avoid using straight cuts across the fur whenever practical.
4. The more expensive the fur, the greater the care that should be taken in damaging.
5. Combinations and complicated damaging are warranted only on more expensive furs. For the others, one large tongue is better than a combination of smaller ones.

Returning to our sample coat, each skin is now cut to the area assigned to it in the layout. Assuming that there will be nine skins in the bottom row, the cutter begins by carefully trimming the center back pelts. Any part of the skin that falls on an outside edge

Fig. 33.—Close-up of cut coat skin layout on pattern (worked hair up).

The examiner gives the garment a final check, cleans and trims it. The coat is now ready for merchandising.

The simplified procedure outlined above does not take into account the necessary excursions which the garment would have to undergo for dyeing or blending and other processing. For dyed muskrat, as an example, the garment must make two trips to the dyer's plant during the processing: one for a preliminary ground dyeing just after the operating, and the second for the blending which the garment receives while it is still flat after it has been nailed.

In general, however, all fur garments go through the basic steps of assorting, cutting, operating, nailing, squaring and finishing. The very large factories will have additional specialists, such as sorters, cleaners and ironers, who do what they can to speed up production and improve the appearance of the garment. Additional equipment for these jobs would include a drum and cage, for cleaning and softening the closed coat just before it goes to the finisher, and an automatic steam iron or steam gun for glazing.

one of two adjoining skins is a trifle shorter or longer than its neighbor. Any excess is worked in gradually rather than piled up in one place. Usually excess of this type is worked in where it will do some good, if needed.

When sewing two pieces of fur which are unequal in length together so that both ends will meet, the operator makes use of the

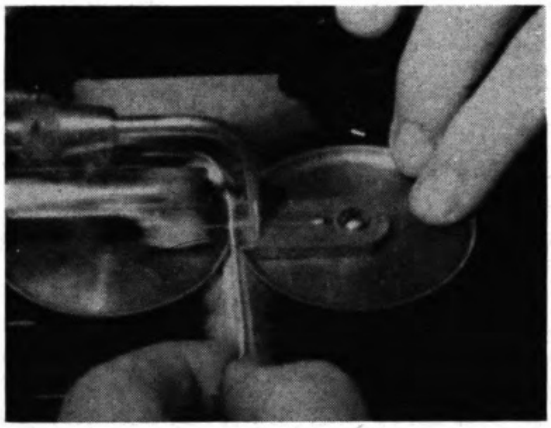


Fig. 35.—How two pieces of unequal length are seamed, driving outside wheel.

natural drag of the outside wheel whenever possible by placing the longer piece on the inside and not holding it back as he normally would. Sometimes, however, the long piece must be placed on the outside wheel. In such a case this wheel must be forced ahead by hand to pull the longer piece in the machine faster.

Assume that the head area of the line being sewed up is skimpy. The operator will, therefore, work this excess in the head half of the seam on the assumption that it can be stretched in the needed direction during the nailing process. The fact is that the average fur garment has a good deal of the shirring just described. In its sewed state the garment seems to consist of a great many shirring bumps and irregularities which would lead the onlooker to believe that it could never be made into a flat, fashionable coat.

Sewing out damages or "moves" in itself requires no special technique. The operator must understand with each and every cut that he sews what the cutter has done. If he does not, the standard procedure is always to ask what the cutter had in mind when he made the cut.

In sewing, tongues should be stretched in their length as much as

Chapter 3

PRODUCTION OF SIMPLE GARMENTS

MATCHING

The manufacturing furrier tends to classify furs according to the way they are worked. Certain furs are known as skin-on-skin; for example, rabbit and kidskins. Others, such as muskrat backs, are called zigzag. Other types are known as natural furs, such as squirrel, while the let-out furs form a category of their own.

The simplest and most basic type of fur garment is the block type, or skin-on-skin. Generally the trimmed pelts are almost rectangular in shape and are set on each other in lines in the garment. The head and rump joining of the skins may be a perfectly straight seam, or it may be rounded or in a V form, depending upon the characteristics of the furs and the custom that has been worked out in the fur industry.

The experienced fur cutter, upon receiving a bundle of wet and stretched skins, work ticket and patterns, will first place the body pattern on the cutting table. He places the center back line farthest away from him and parallel to the edge of the table, so the sweep will be to his right. He will then lay each pelt, one by one, directly on the pattern, placing it where he thinks it will show up to best advantage to itself and to the complete garment. He can match in this quick way because he has a wealth of experience in handling that type of pelt. If, however, he were presented with a kind of pelt new to his experience, he would have to proceed much as a beginner might in matching out, let us say, a mink-dyed coney coat.

In a job such as this, an excellent example of a standard block-type coat, the cutter's first step is to grade the bundle into three, four or five grades, depending upon the range of variations in the skins. The characteristics he would look for in matching out the grade in mink coney would be fullness and evenness of fiber, luster, lack of damage and even flow of hairs. Size would not be an important consideration in this particular pelt.

The cutter next turns his attention to the pattern itself, which we

this box, under the cover, and left overnight. The next day the leather was soaked and pliable for nailing and would not tear even under great strain.

While the garment is being prepared for nailing, the pattern is marked out in chalk on a nailing board. Margins of several inches are allowed between separate parts of the garment for ease in manipulation. The center back and bust darts are marked 1 or 2 inches beyond the pattern to assist the nailer in his work. If the pattern called for a kyle, this, too, is continued beyond the pattern line so that it can be set up properly.

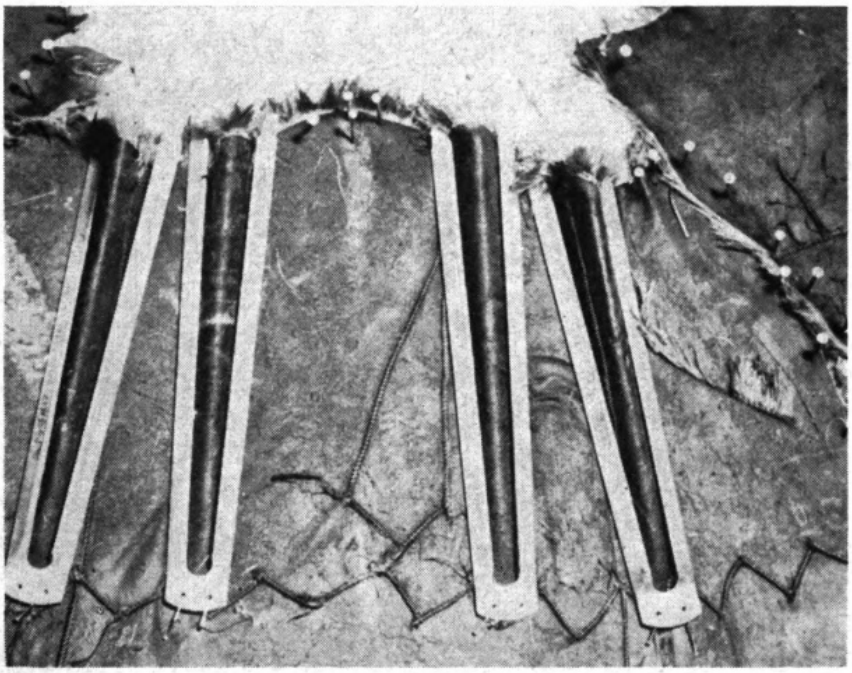


Fig. 36.—Use of metal kyles to produce fullness required in pattern by nailing (four-flare back).

The object of the nailing of a fur garment is not mere extension of area. This process serves the purpose of working the garment out symmetrically and flat, much as a curtain frame shapes a washed curtain. It has been found that a certain sequence in the nailing of the various edges will give the best results. The standard nailing sequence also permits the nailer, when necessary, to allow shortages in those parts of the garment where they will do the least harm and will be easiest to adjust or fix.

will assume is a 40-inch, size 16 coat with a "johnny" collar and a straight cuffed sleeve. This more or less standard pattern is used with slight variations year after year and represents a good example of the type of problems the average cutter is likely to meet.

The fur garment manufacturer knows that certain parts of a fur coat made from a pattern of this type will inevitably draw the most attention. These sections are the collar, the top part or crown of the sleeve and the center back of the garment. Next to these areas in importance are the front, the bust, the top sleeves and the side center back. The remainder—the undersleeve, the underarm, the undercuff and the facings—are the least conspicuous and should be allotted the poorest skins.

The cutter now looks through his best skins, searching for a pelt or pelts of a slightly different or distinctive nature. If one such skin is found, it is used for the top collar. Any others he may find are used for the lapels and top cuffs. The reasoning behind this procedure is to place the more individual of the best skins in those areas of the garment where its difference or individuality will not be very noticeable. Since the collar and the cuffs are separate, distinct parts of the coat, the onlooker's eye accepts these slight variations from the general appearance of the garment.

The remainder of the best pelts are distributed over the center backs and sleeve caps. Since the patterns represent only a half or one of two sections of the garment, each part must be made of double fur. The cutter, to avoid a disfiguring seam down the center back of the body, folds the skin for this area leather to leather, along its grotzen or center line.

In arranging the four pelts to form the center back line, the cutter will generally try to have the smallest and flattest skin on top, with the largest and fullest skins at the bottom. The remainder of his best skins (from two to four) are placed on the sleeve for cutting later.

The second-grade skins are now laid out. In this group, as with most of the pelts in the garment, a constant watch is kept for skins which can be paired because of similarity of size and quality. These pairs are placed leather to leather and matched to the garment, as were the backs, the largest and fullest on the sweep, the smallest and flattest at the top.

The very large skins are, if possible, worked into the front and

place are set in at varying angles to press the cardboard against the leather and distribute the strain of both.

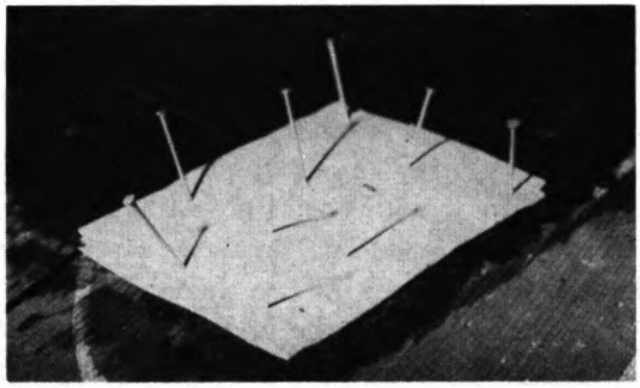


Fig. 38.—Corner reinforcement.

Let us assume that the garment has been nailed out without any special problems arising. It is still necessary to insure perfect alignment of the vertical seams by forcing these lines into position with nails or pins. If a seam should weaken or tear, its edges are pulled together as much as possible and fastened in place with pins or small nails, so that the tear will not increase as the fur dries and the tension on the leather becomes greater and greater.

The careful reader will have noted the relationship between the nailing sequence and the pelt layout order previously described. The same principle applies here; that is, to place poor or missing fur areas where they will show the least.

All too often, even a simple garment like the one which is being described will come to the nailing board out of proportion. With regard to the pattern, it may be long and narrow or short and wide, or have a combination of these faults. In such cases it is wise to vary the nailing sequence as needed. The dimension which is oversized is left to be handled last, while the dimension which is deficient is handled first. For example, if the body has ample length but is narrow, the sweep is left until last and nailed after all the other edges, especially the fronts, have been worked out.

In bringing out any fur area to a given mark, the good nailer does not simply grasp the end of the outside skin with his pincers and pull. This procedure just places a great strain on the pelt at the edge and does not stretch the rest. The expert nailer who is at-

top of the sleeves where their extra size can be utilized. In the garment under discussion, the side center back line used four pairs or eight skins, as did the front, while the top sleeves required four pairs. The remainder of the skins were paired and distributed over the undersleeves, underarms and undercuffs with the larger pelts placed where they would do the most good.

In the completed layout, all parts of the pattern should be accounted for. The layout itself should involve from 10 to 25 percent of overlap. This percentage, at least, will be trimmed away during the cutting.

While doing the actual cutting, the cutter will mark the skins so as to guide both himself and the operator later. While each cutter has his own marking idiosyncrasies, certain code marks are more or less standard. The following with modifications are found in general use in the fur trade:

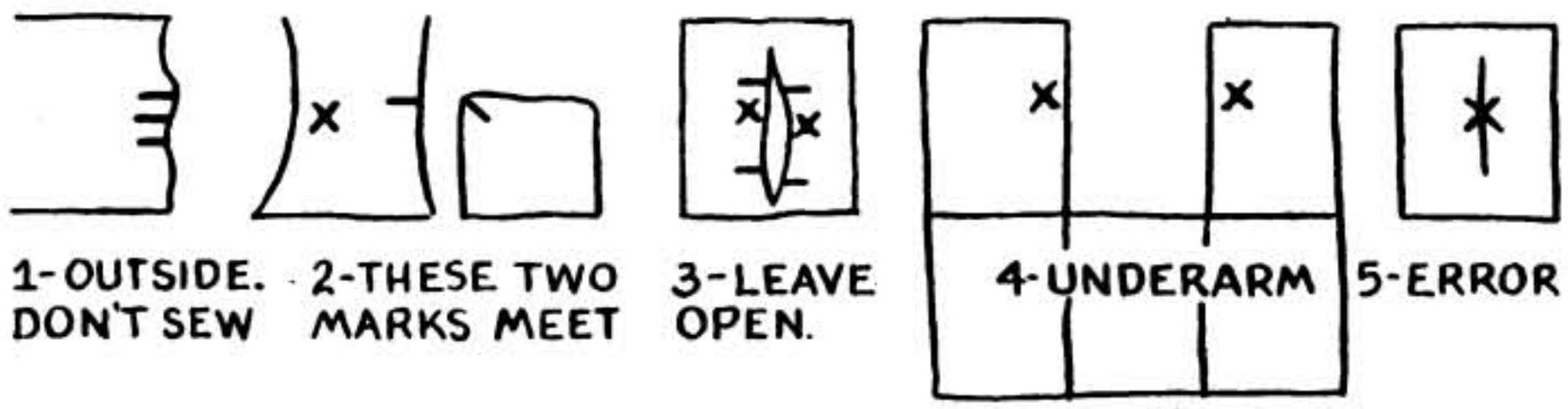


Fig. 20.—Cutter's marks.

In the sample garment under discussion, each skin on the facing of the garment would be marked as in Diagram 1 above. The edges which form the armholes would be marked as in Diagram 4.

With the marking complete, the actual cutting can be considered.

If our sample garment is 40 inches in length and is to be made from four rows, it would seem that each of these would simply have to be trimmed to a 10-inch length on the average. In practice, however, a good part of the larger skins would have to be cut away, while the smaller skins on top might not make the length. Therefore, only the one or two lines in the middle of the body would be cut to a 10-inch length. The larger skin of the bottom line would be cut from 10½ to 11 inches, while the shorter skin at the top would be worked out to no more than a half-inch less than the average, up to the 10-inch figure, if possible.

CLOSING

The closer's ability to understand the way a pattern is sewed up, plus skill in setting in pieces so that they will not be either too tight or too loose, is the basis of the higher salary he receives in comparison to other operators.

As he sews in the pieces, the closer carefully hammers the sewed pieces with an empty fur-thread spool or a cold electric iron. On

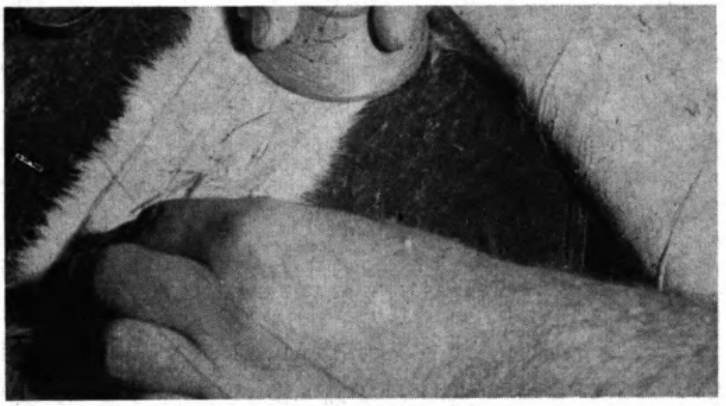


Fig. 40.—Closer hammering out sewed pieces.

more expensive furs this operation may involve the use of a slightly warm iron and a small pressing buck.

If the squarer has cut the damage replacements correctly, the closer should have little difficulty in setting them in properly. The pieces should always be on the inside wheel as they are sewed into place. The extra pull of the inside wheel will set the piece in with just enough looseness to insure against pull on the nailed fur area.

Very little can be said in print about closing. The closer will generally close up the bust and back darts of the body first, then set in any kyles required by the pattern and close the over-shoulder seams. He uses a thick, tight stitch with a needle a size or two heavier than was used to sew the garment. On most garments except Persian lamb, even the popular-priced garments, it will prove worth while to press the shoulder and bust seams out on a small pressing buck. A warm electric iron is used and the leather side shaped out so that the garment begins to have the desired form.

The closing of the few or many darts which form the crown of the average sleeve, depending upon the style, is a routine job. Pleats

The width and shape of each skin should derive from the shape of the garment. For an ideal job the vertical seam must appear vertical when viewed from any angle of vision. Since all body patterns taper more or less, a perfectly rectangular skin would result in a skewed job, like this:

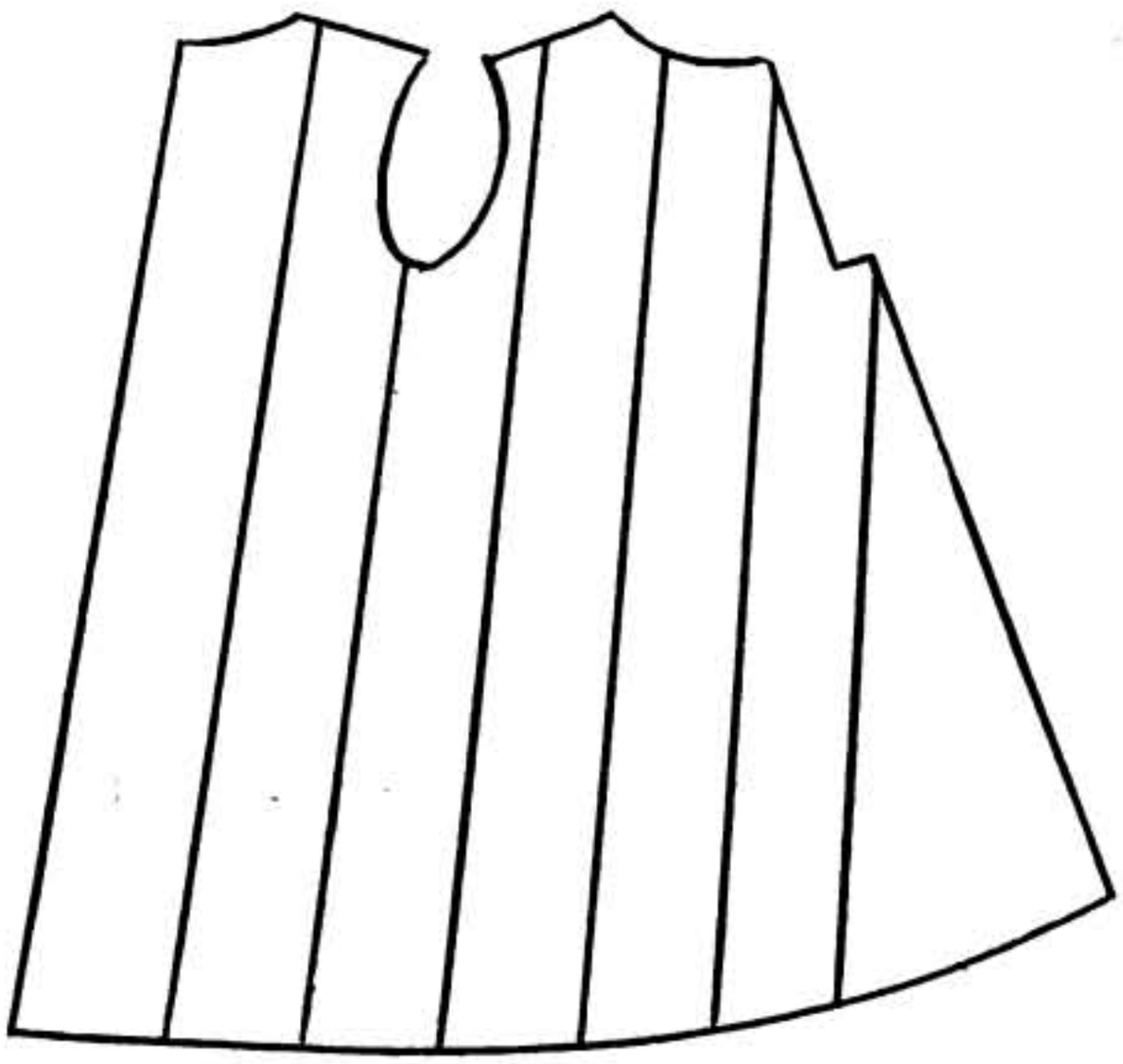


Fig. 21.—Effect of parallel vertical seams on appearance of garment.

The solution is to cut each skin to the same proportion as the pattern itself. If, for instance, the pattern measures 40 inches across the top and 72 inches at the sweep, the proportion is roughly four to seven. Each individual pelt line must be cut in the same proportion, as shown in Figure 22.

This rule need not be followed meticulously with most furs. The nature of most fur leather is such that the rump area will stretch more than the head when nailed. For this reason the rump can be cut down and the head area increased slightly by comparison without any danger. As a matter of fact, in most skins these approximate proportions are found naturally in the rump and head areas.

In cutting this block type of garment, some cutters might make the front and back fairly square and place all the taper or flares under the arm, as shown in Figure 23.

FINISHING

In presenting the salient facts about fur finishing, the gradual development of techniques from simple to complex furs will be temporarily sidetracked. Fur finishing, an independent segment of the industry, lends itself to one complete presentation. There is not enough difference in the finishing of a mouton coat and that of a mink, except for the greater care used, to warrant separate discussion here.

The term "finishing" has different connotations in the various divisions of the apparel trade. In the fur manufacturing industry it refers to the process by which the garment is given its final style, body, fit and shape. Taping, fitting in of lining, underlining, edging, pads and pockets are some of the details involved in fur finishing.

The finishing can make or break a fur job. Poor finishing results in an ill-fitting, uneven, misshapen garment; fine finishing transforms a mediocre fur garment manufacturing job into a salable product.

A. Taping. The first step is the aforementioned reinforcement of all edges with tape to prevent tearing or stretching out of the garment. On popular-priced furs this is accomplished by the application of friction tape with a slightly warmed iron or a special small taping iron recently developed in the trade. This tape is also available in a "cold" variety which does not need heat. If friction tape is used, it should be applied about ⅛ inch away from the edge because the fur sewing machine will not sew through this material very well.

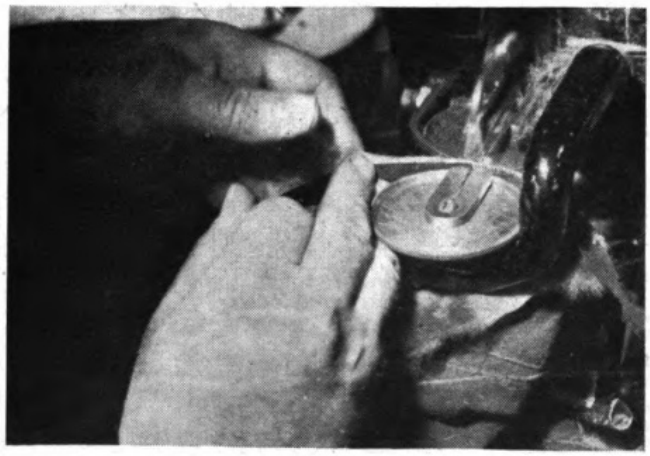


Fig. 41.—Machine taping.

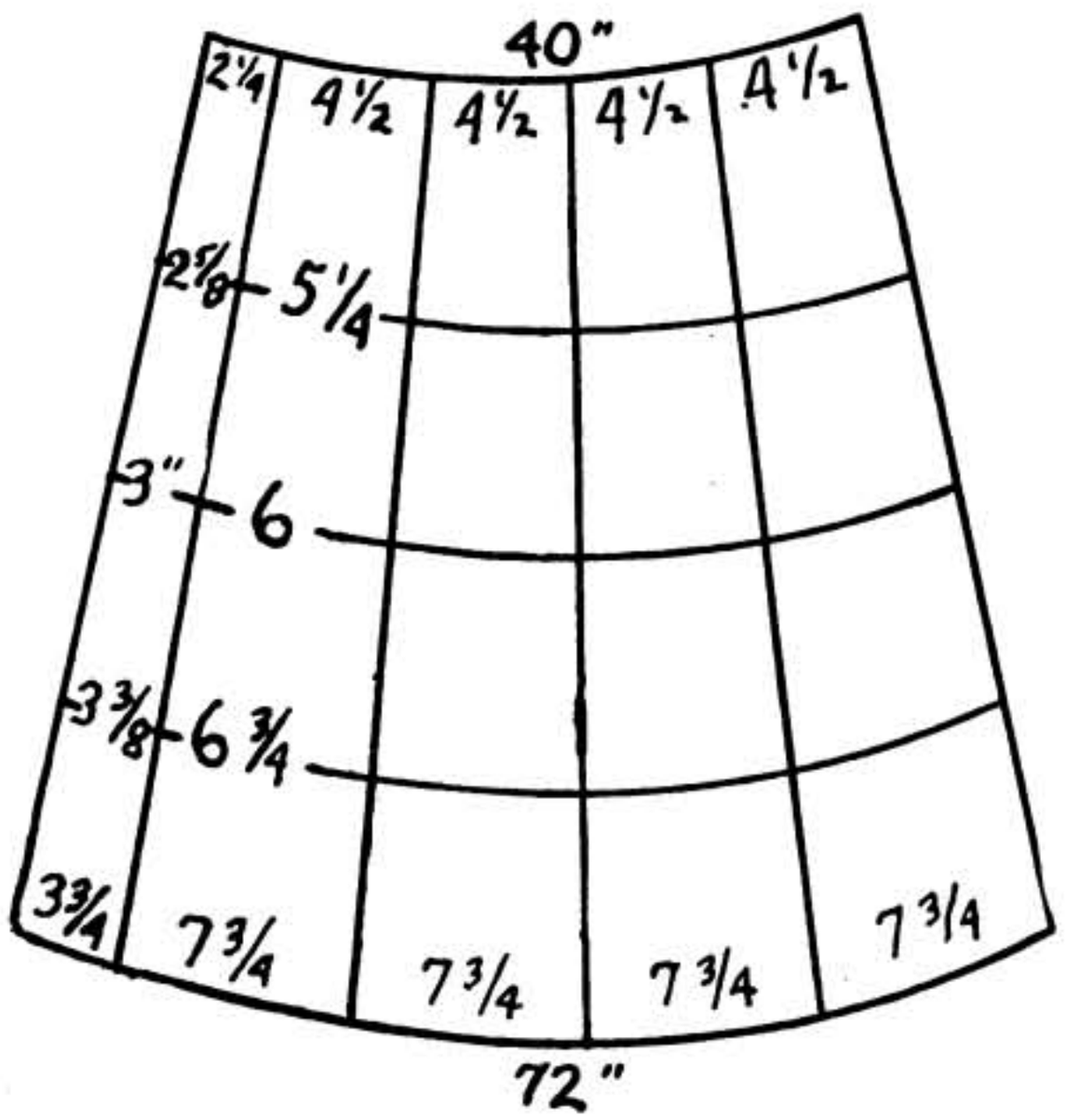


Fig. 22.—Basic layout scheme, 9-skin, 4-line (armhole and top not shown).

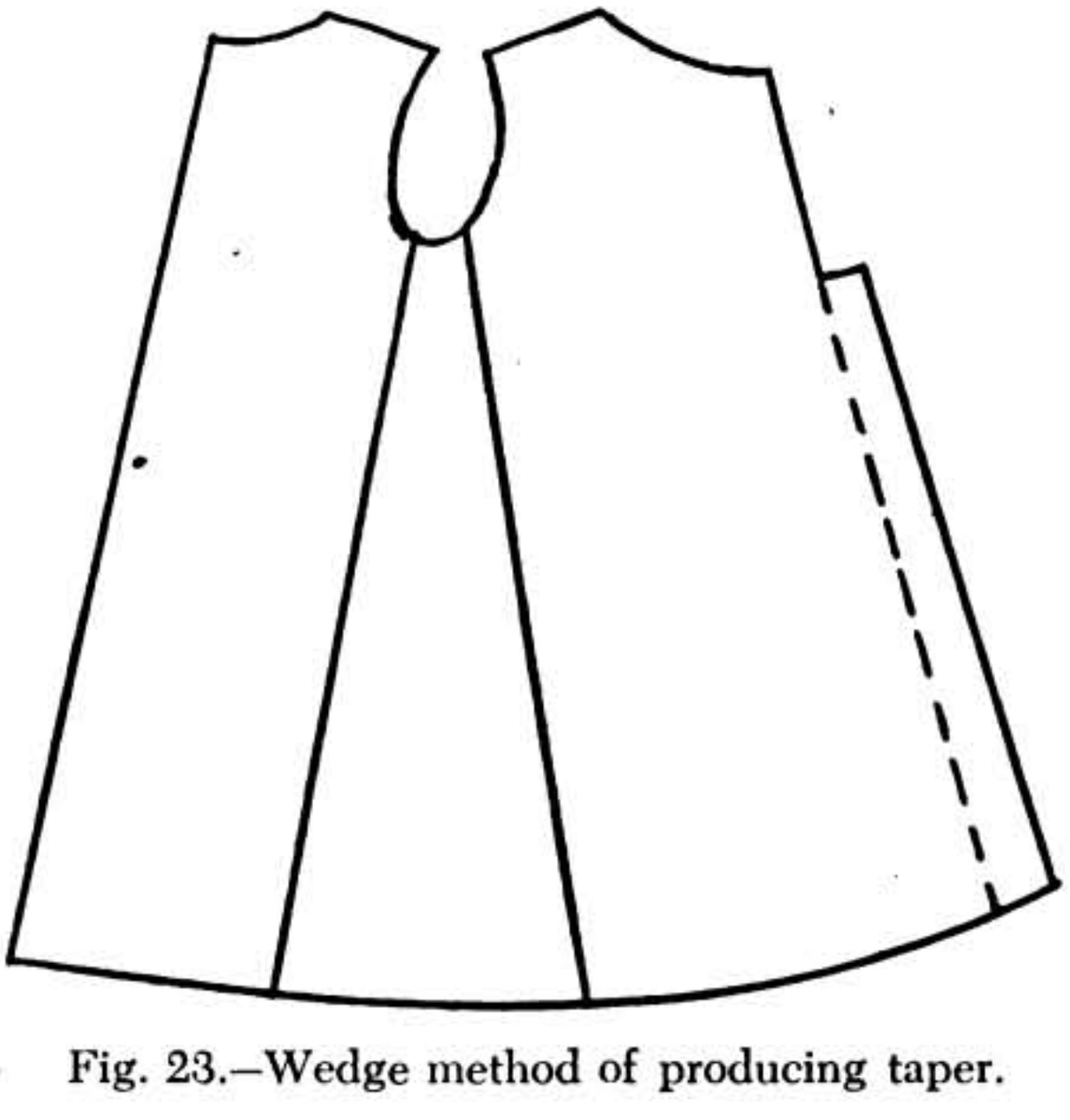
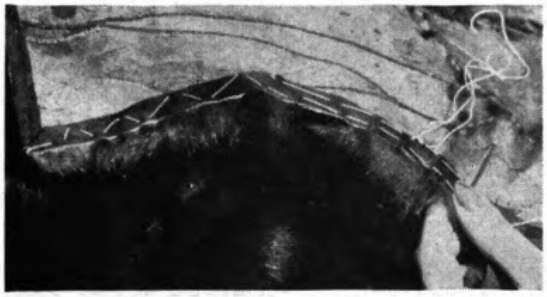


Fig. 23.—Wedge method of producing taper.

This method is probably much easier to cut but it results in back and front lines that are askew. This obvious disadvantage makes it undesirable for good garments.

On quality work and on all fairly good garments, twill weave tape of a matching color, usually ¾-inch width, is used in taping. Size 36 cotton thread is generally used or size D silk or nylon thread. On fine broadtail or ermine, machine thread as fine as size 90 may be required. The preferred hand sewing needles are size 4, 5 or 6 "sharps," long type for most furs. The heavy-leathered furs like raccoon and beaver need three-cornered needles of a heavier size.

Zigzag stitching, in alternating diagonals about an inch long, is suitable for sewing the tape on straight edges. When it is necessary to work around a curve, as at the armhole, a plain double stitch



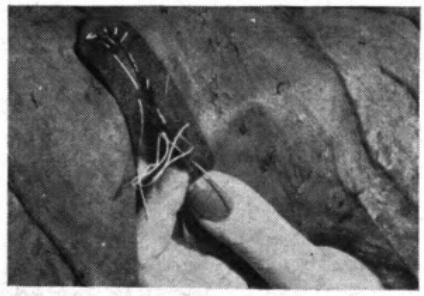


Fig. 42 (left).—Two types of hand taping: diagonal (left) and double.
Fig. 43 (right).—Reinforcing bust dart.

along the two edges of the tape is used, since it may have to be partially slashed through in order to shape it. In making a right-angle turn, as at the edge of a cuff, simply fold the tape under and tack it down tightly to the fur so that the closer can tack the corner cleanly when he assembles the garment.

Certain parts of the garment, around the bust and at the shoulder and on the sleeve, are usually subject to more than ordinary strain in wear and therefore require extra care in taping. In reinforcing the bust dart, for instance, the tape is bent around the base of the dart and folded back so that it forms a pocket. This V-like pocket of double tape is attached to the fur at the base of the dart with several small tight stitches.

After all the taping has been completed, the garment is returned to the closer for closing. The closed garment is carefully pressed on the leather side as described above.

B. Padding and Fitting. When the closed and pressed garment is returned to the finisher it is ready for padding out at the front,

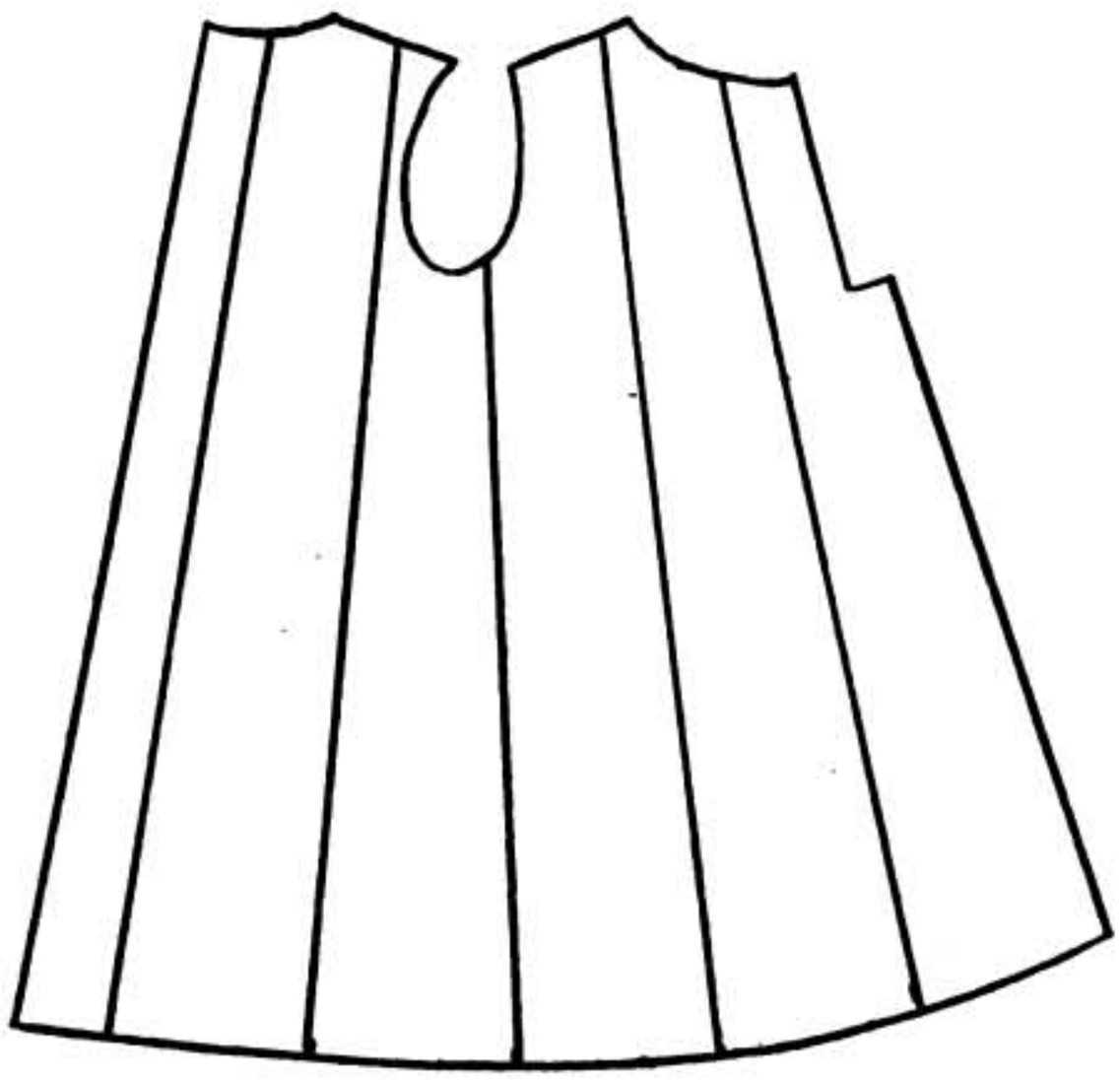


Fig. 24.—All lines in proportion; layout, 11-line body.

Although as a rule the cutter receives skins that have already been stretched by the floor boy, he will soon need to do additional stretching to make the skins conform to the particular requirements of the area the pelt is to fill. Sometimes a skin must be worked out in the width, other times in the length. Sometimes the head may have to be widened while the rump may have to be lengthened.

In all cases, this adjustment of a pelt shape by stretching is accomplished after the leather has been suitably dampened. The leather is then worked out as needed, the amount of tension depending on the strength of the leather.

With the skins in place according to the matched layout, each skin is now ready for trimming and damaging.

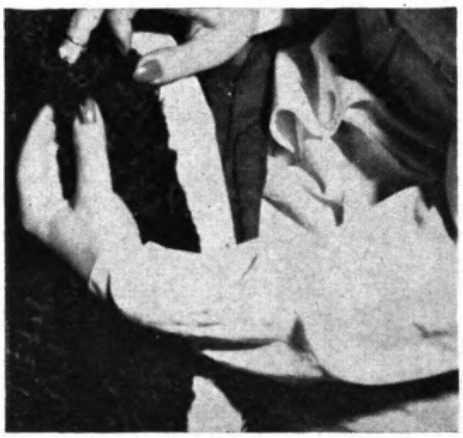
TRIMMING, DAMAGING AND CUTTING

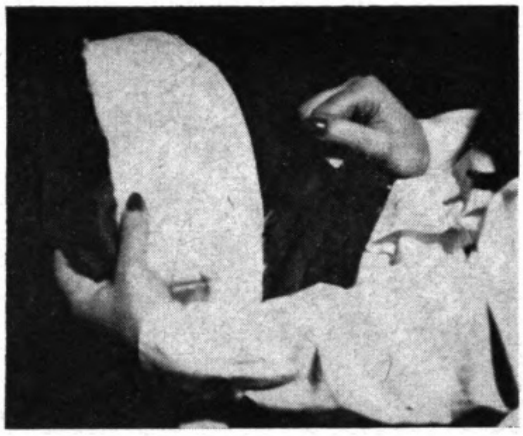
Another of the basic skills which a fur cutter must acquire is the ability to trim a given skin around properly. In order to understand just what areas will be trimmed, the standard working divisions of a fur pelt, as they are used in the trade, must be learned. A fur skin of any type will have the areas shown in Figure 25.

As a rule the head, paws, sides and rump are trimmed away—just how much would depend on circumstances which will be described

shoulders and collar. For the front, wadding of sufficient length, cut into 1-inch strips, and lengths of fitting cloth canvas 2 to 4 inches wide for tuxedo or plain fronts, are prepared. The canvas is basted to the front right next to the edge, using a 1-inch stitch.

Heavier furs, such as mink and Persian lamb, require a single thickness of wadding over the canvas. A 1- to 2-inch basting stitch through the middle of the wadding is used to set it in place. Some of the very heavy furs like raccoon have sufficient natural fullness to make a satisfactory edge without any wadding. On the other hand, the thinner furs such as seal, squirrel and muskrat need two thicknesses of wadding. In such cases the wadding is tacked down first so that the middle of the strip is even with the front edge of the fur. The canvas is then tacked down so that the wadding can be bent back over its edge, creating a double edge of wadding.





Figs. 44 and 45.—Sewing in the padding.

A good hand sewer can do both tacking operations in one, through wadding and canvas into the fur. The other edge of the canvas is bent under about ⅛ inch to smooth it out and prevent raveling. It is then basted directly to the fur.

Collars are padded out in the same way as the front except that bias canvas or canvas cut to pattern is used. Shoulder pads are then basted to the shoulders with the shorter slope in front. If the garment has one of the recurringly popular saddle shoulders, the welt will require preliminary felt padding before the shoulder pad is basted down.

The front and cuff can now be worked out into shape by the use

Damaging is the most basic operation in fur cutting. It makes possible the utilization of the 95 percent of fur skins which contain worn spots, holes, dressing or dyeing faults, or other defects.

When examining a pelt from the hair side for damages, every break in the smooth flow of the hair should be investigated. This means not only bald spots, discolorations, mis-shearings, cut hair and knots, but even slight breaks in the pile. This last is especially important on sheared furs. What seems to be a minute break in the fullness of the hair flow can become a gaping damage when the fur is nailed. Very often the density of the fiber covers the damage until the pelt is stretched.

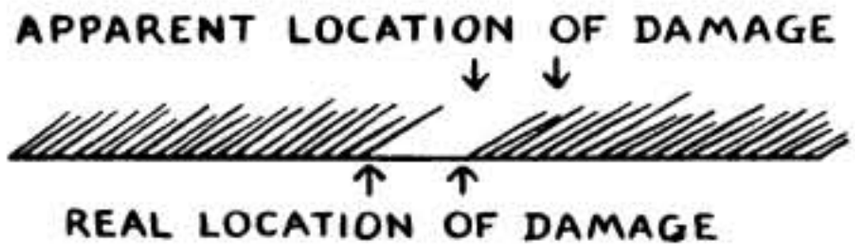


Fig. 27.—Apparent and real location of damage.

The best method for finding these damages is to water-glaze the skin before cutting. This method is employed on Alaskan seal, but its use is limited by its expense. To inspect most furs the cutter simply blows a blast of breath at each suspected spot. Running the skin, hair up, over the edge of the table at a 90-degree angle will also disclose damages.

When the damages are found, the cutter makes vertical incisions with the point of his knife along the right and left edges of each damage. These cuts are just long enough to show the boundaries of the defective spots. After all damages have been so marked, the pelt is turned over on the leather side and the marking cuts are connected to cut out the damaged areas, with due regard to the size of the damage, nature of the fur, etc. The only judgment that must be exercised in cutting away waste areas is in varying the actual cutting as against the marks that have been made, so that the pelt will conform to the needs of the pattern. By stretching and otherwise adjusting the area through the use of properly selected tongues, the pelt is made to fit.

Tongues

The word "tongue" embodies the entire technique of damage repairs which makes possible the use of substandard skins. The basic

ACKNOWLEDGMENTS

Without the unstinting cooperation of two colleagues of *The National Cleaner & Dyer,* William R. Palmer, editor, and Galina Terr, managing editor, this book could never have been published. Miss Terr proofread every word and is responsible for the layout and arrangement. Mr. Palmer helped whip the first drafts into shape and took many of the photographs. Nor should the inspiration of the late Paul C. Trimble, former editor of *The National Cleaner & Dyer,* who helped develop the original outline, be forgotten.

Thanks are also due to the concerns in the fur field which so cooperatively provided facilities for the many photographs, taken by William Palmer and the author, which will be found in the following pages: The American-Mitchell–Sol Vogel Designing School, Bonis Bros., Breger-Einhorn and Company, Inc., Constad Laboratories, Jazel Company, Harry Kreitman, Harry I. Kushner and Company, Podhauser and Hollinger Corporation, Quality Furs, Inc., and Harry Trencher Furs, Inc., all of New York City.

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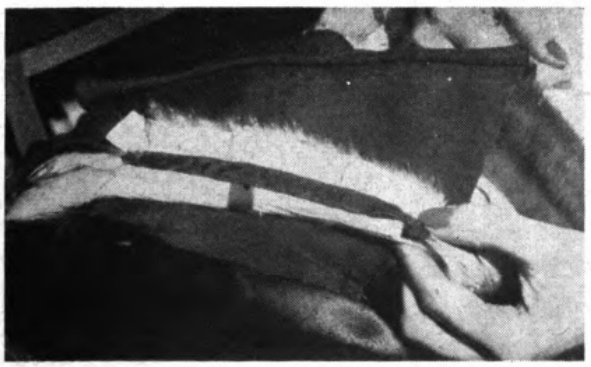
of blindstitching very similar to that used on the front of tailored suits. On such furs as Persian lamb, which has no underfiber, two or three rows of blindstitches running about a half inch under the fur on each stitch will suffice.

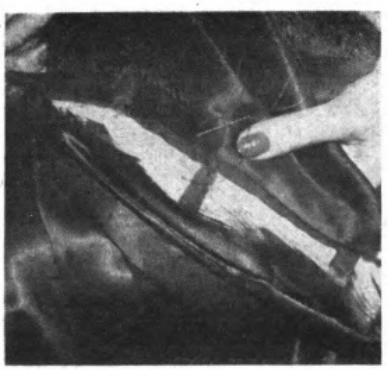
Long-haired furs or furs with full underfiber must, however, be set from the inside by means of bias running stitches about ¾ inch apart. Only enough of the leather of the coat must be caught through the canvas from the turned edge so that the stitches will not show through the fur side.

The garment is now ready for a final fitting if a custom order requires it. During this fitting, or for that matter a try-on on a standard figure, the proper places for the hooks and eyes are determined and marked.

C. Pockets. The edges of the pockets have been hand-taped in the same fashion as the other outer edges. Here again care must be taken to do a very firm job since a great deal of strain is placed upon the pockets. The pocket itself is made from a piece of Celanese, velveteen or other pocketing material. Its size is usually 12 by 10 inches unfolded.

One of the 10-inch edges is turned under ¼ inch and sewed to the front edge of the pocket opening. A piece of matching fur about an inch wide, which has been added to the pocket slit, is then sewed over the pockets in the form of an overlap with a small blindstitch. In mass production methods both edges of the pockets receive fur facing but this is not advisable except on very flat furs, since on a bulky fur the facings tend to make the edges of the





Figs. 46 and 47.—Steps in fur pocket facing.

idea behind tongues is the fact that patches made by filling in fur from another skin or from a different part of the same piece are time-consuming and never perfect. The only fur areas which are certain to match the missing areas in color and density are those from the bordering sections of the same skin, above or below the actual damage. The entire system of tongues is the development of this simple fact, and it is unquestionably the single most important factor in fur cutting.

The moving of the fur into the missing area is accomplished by cutting a wedge at least three times as long as the damaged area up or down the skin just above or below the missing area itself. With rare exceptions, tongues are not cut across fur pelts because the nature of the fur changes too rapidly in this direction, causing the move to show. The cut wedge is moved up into the missing area. When properly cut and sewed, little or no puckering of the skin will be caused.

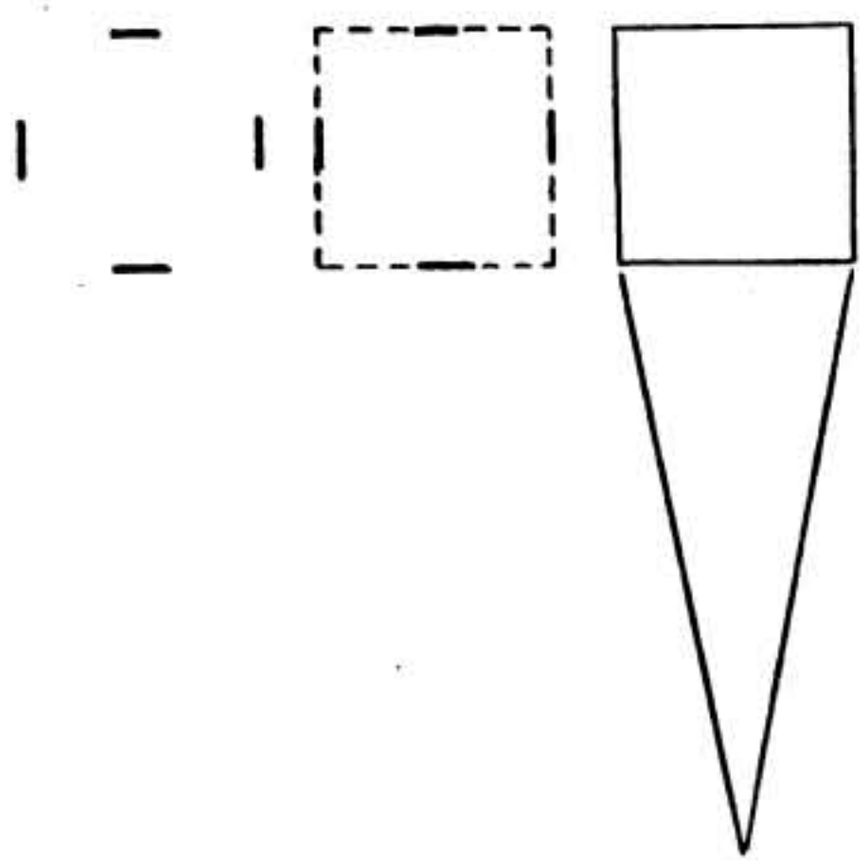


Fig. 28.—Rough diagram showing basic principle of tongue.

Figures 29 through 32 and the accompanying explanation should be studied with the greatest care by all who wish to succeed in fur work. It will pay the beginner to try each one of these tongues on furs.

The following rules should be followed in the selection and use of tongues on damages:

1. Use the simplest tongue that will solve the particular problem.

Figs. 48 and 49.—Further steps in fur pocket facing.

Fig. 50.—Finished pocket.

pockets far too full. For such full furs it is better to have a very narrow fur facing or none at all on the front edge and to have the fur facing on the back edge only. As with the coat front, canvas and wadding cut to length are basted against the front pocket seams. The wadding is then half under and half over the canvas to make a soft roll.

Next, turn the pocketing and blindstitch into place far enough back so that the material will not show through on the fur side. The other edge of the pocket is now closed to the back edge of the opening. The edge is basted down with the seam made by the fur facing and the opening, using 1-inch stitches.

The pocketing is then fastened to the edge of the fur facing by means of a series of very small, tight, half cross-stitches. These must catch the edge of the fur facing very accurately to make a clean finished pocket.

Fig. 29.—Standard tongues.

The two edges of the pocket are now tightly pinned together in place so that they match evenly inside and out. The top and bottom ends are reinforced with several backstitches to prevent gaping of the pockets. These stitches should be anchored firmly and as neatly as possible so that they do not show on the fur side.

Finally, the open seams of the pocket are stitched together by machine or by hand, whichever is more practical.

The hooks and eyes are anchored by making a small hole through the fur to the canvas and stitching the threads to the canvas as firmly as possible. If the leather is not too strong and it seems that the fur may not hold because of the excess pull of these hooks and eyes, it is sometimes advisable to add an extra fold of canvas beneath them as they are tacked to the leather.

D. Lining. Not until all of these preliminaries have been completed can the lining be sewed to the garment. In cutting the lining, mark off the original pattern on the wrong side of the fabric with the length always parallel to the selvage. Provide for a half-inch seam allowance at the sides, ¾ inch on the armholes and 1 to 1½ inches at the shoulders. This last fullness is for the shoulder pads. One inch is sufficient at the sleeve.

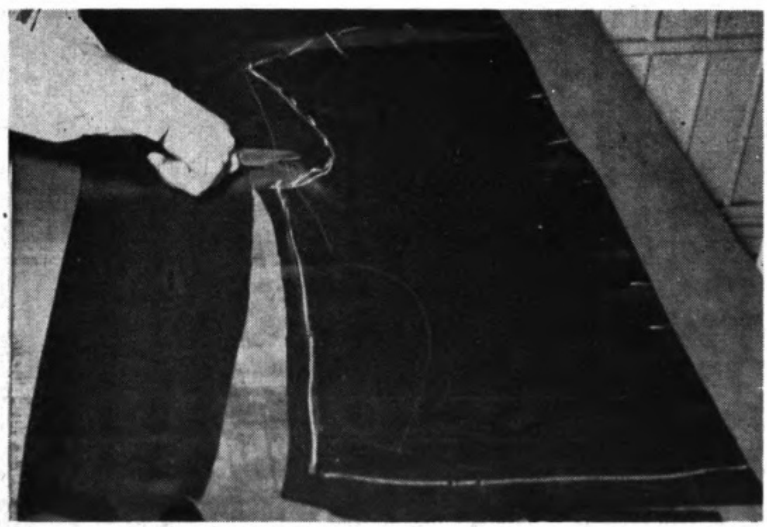


Fig. 51.—Cutting the lining.

In the center back, which may be a seam or on the fold, allow 1 inch on each half of the pattern so that the back width of the

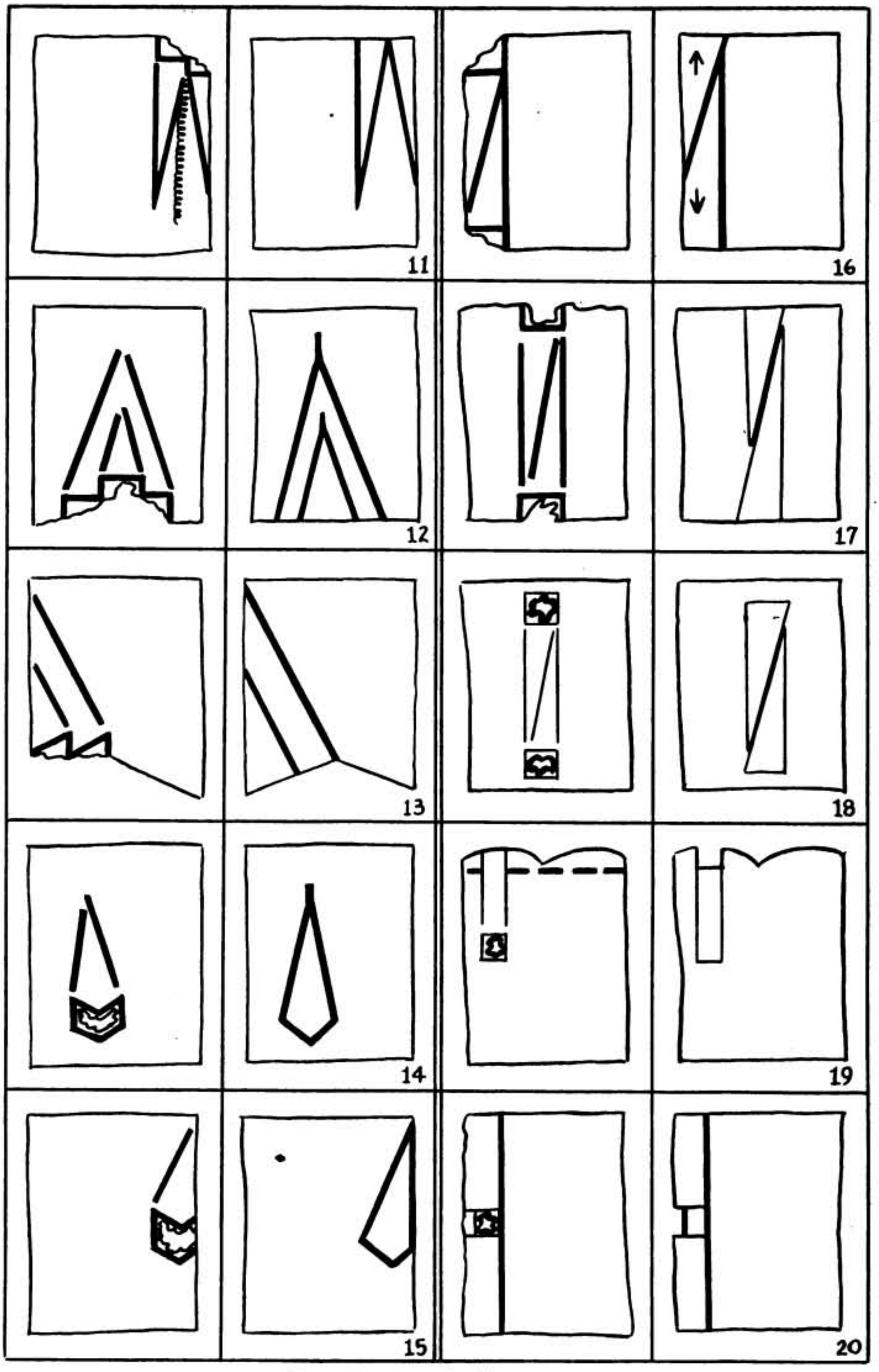


Fig. 30.—Standard tongues.

lining is 2 inches more than that of the fur. This fullness will later be gathered in by a pleat to permit plenty of freedom through the back as the garment is worn.

Sleeve linings are similarly cut, except that little or no allowance is made in the width except for a seam. The same allowance that was made for the shoulder and body is left at the top of the sleeve lining. The underlining flannel is cut in the same way except that no allowances are necessary, since the material is much more elastic than the lining.

The cut lining and underlining body are now machine-sewed into a "shell" in one operation. The sleeve lining is closed in the same way. Sleeve lining and body are then set together by hand

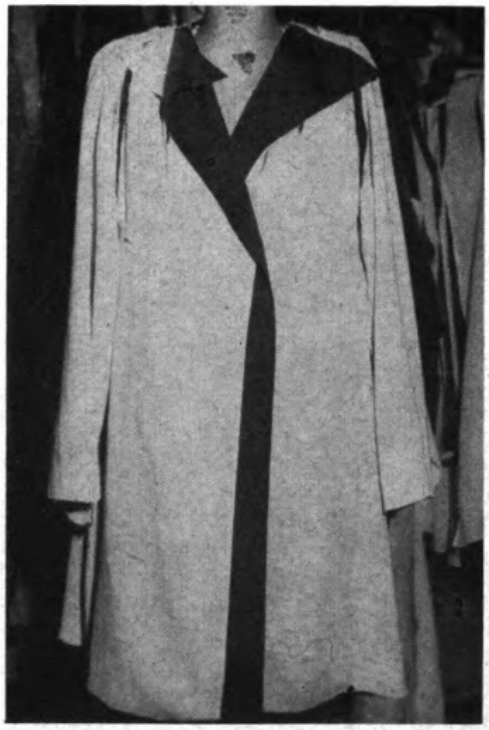


Fig. 52.—Lining shell on figure.

or machine, depending upon the nature of the pattern. The entire lining or shell now resembles a garment in itself and is pressed out as if it were one, with a steam iron if possible. Greater care in the preparation of this shell will result in a better appearing and fitting lining.

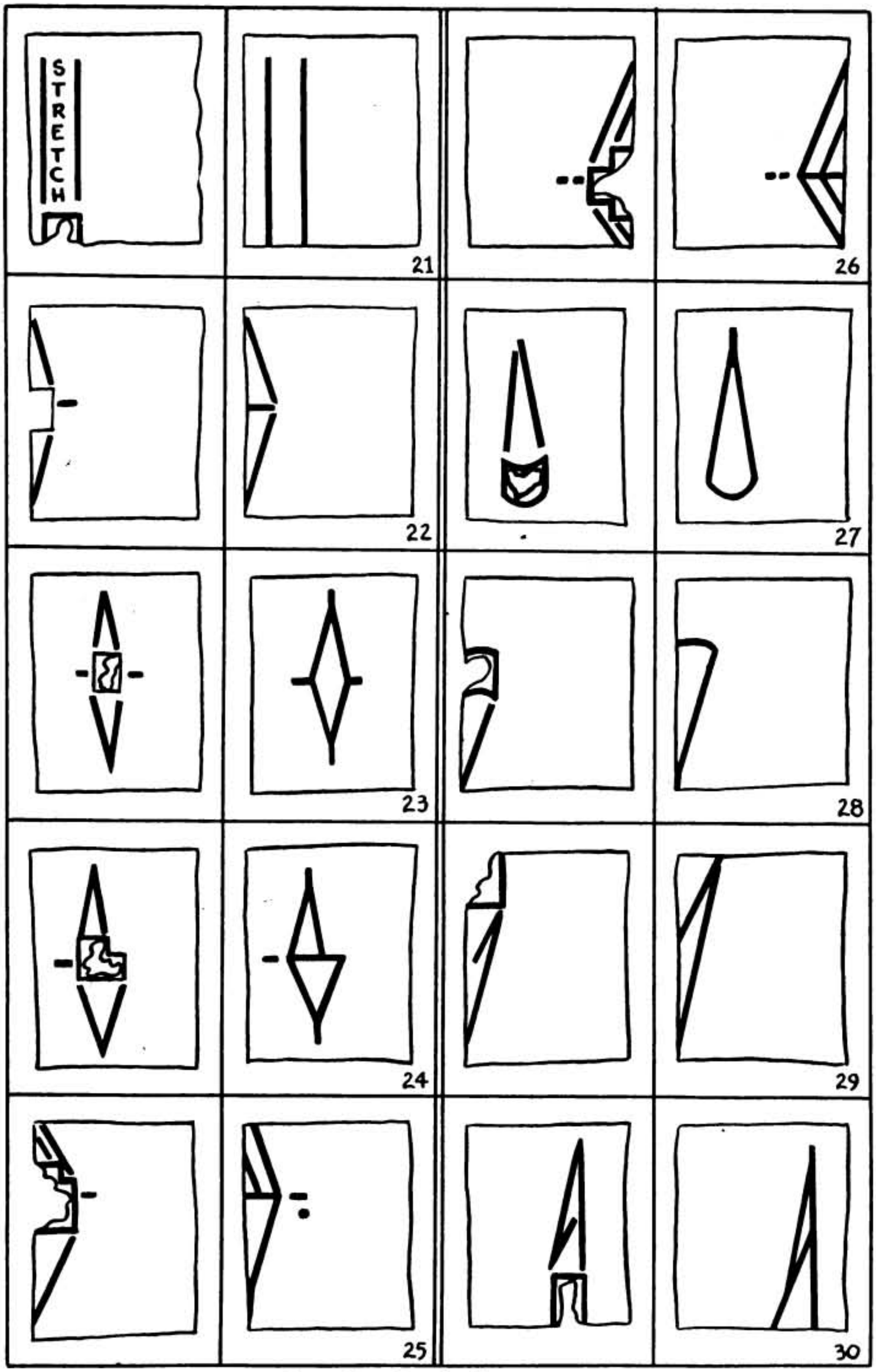


Fig. 31.—Standard tongues.

ment length, with the head and rump trimmed in a curve to fit.

Some skins, such as squirrel, lend themselves to this rounded joining. Other pelts, for example, certain types of coneys or rabbits, may be turned sidewise and cut with the hair running to the center back rather than up or down.

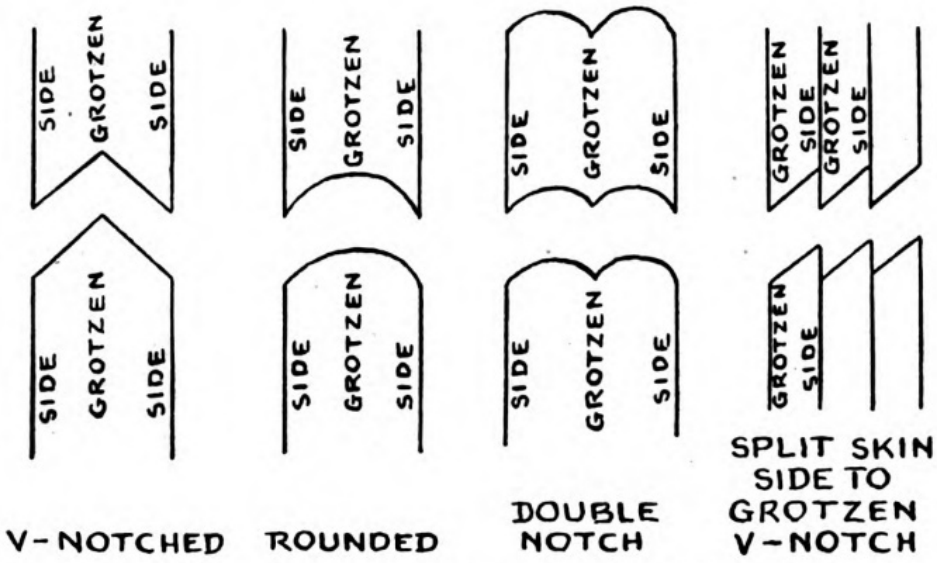


Fig. 54.—Some common patterned joinings.

If the pelt is cut in half or in other segments instead of being treated as a whole, a great many interesting possibilities in layout develop. The first thought might be to use one-half of each skin on each half of a coat by placing the cut half leather to leather on the pattern. The next pelt is cut in the same way and placed next to it.

There are two possible variations of this layout. If the grotzens are placed together, the garments will have the normal full-skin appearance on the hair side, except that the match will probably

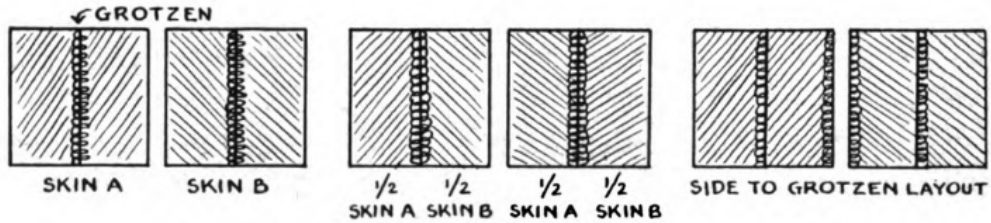


Fig. 55.—Split-skin layout possibilities.

Explanation of Tongues

1. Simple tongue to adjust head or rump edge.
2. Basic damage-repair tongue.
3. Variation of standard tongue for mid-part head or rump.
4. Variation of No. 1 for two adjoining damages.
5. Interior variation of No. 4.
6. Head-rump variation of No. 4.
7. Same as No. 1, angled at top to save area or hide seam.
8. Same as No. 2, angled to save area or hide seam.
9. Variation of No. 2 for V-notch joining.
10. Double variation of No. 2; saves material, minimizes distance of move.
11. Variation of No. 10 to avoid "marking" or "line" in skin.
12. Head-rump variation of No. 10.
13. Variation of No. 10 for V-notch joining.
14. Variation of No. 2, used on flat and sheared furs, to hide joining.
15. Flank variation of No. 14.
16. So-called Hudson seal tongue used to square off Hudson seal skins.
17. Head-rump variation of No. 16; two damages aligned vertically.
18. Interior variation of No. 16.
19. "Shift" of excess material into pelt to fill in damage; can be used on nailed fur.
20. Horizontal variation of No. 19.
21. Stretch-out method of filling damage; can be used only on pelts with elastic leather.
22. "Compromise" tongue for filling in long damage.
23. Interior variation of No. 22.
24. Variation of No. 23 for L-shaped damage.
25. Flank variation of No. 24.
26. Multiple variation of No. 25.
27. Half-moon variation of No. 14 for lambs and damage in this shape.
28. Flank variation of No. 27.
29. Basic principle of let-out, as used to adjust long end damage. Minimizes long move.
30. Head-rump variation of No. 29.
31. Side variation of No. 29.
32. Multiple step "drops" used to square off head or rump of pelt; used often in let-out.
33. Zigzag damage; for flat furs, Persian broadtail, seals, etc.
34. Irregular damage; illustrates principle. Any shape damage can be filled so long as top and bottom edges are made to conform.
35. Variation of No. 2. Object is to avoid some prominent marking on skin.
36. Variation of No. 35; interior of skin.
37. Wide variation of No. 35.
38. "Delayed-action" tongue; point cut into wider part of skin. Also permits stretching. See No. 21.
39. Shortening skin to fill very large damage. Dotted lines show two ways of retaining original length.
40. Basic principle of advanced damaging (combining moves).

into rows, then returned to the cutter. He dampened the lines slightly, stretched over the pattern, made plain chalk marks across the edges of the two rows and cut zigzags to these marks.

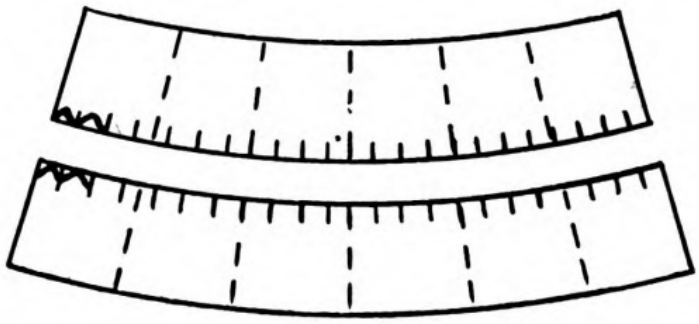


Fig. 64.—Old method of zigzagging sewed lines.

This method is used on the better furs. It is cumbersome and costly, involving several handlings by both the cutter and the operator. Although it may seem to be accurate, this method also has the disadvantage of permitting some variation of the placement of side seams on two adjoining lines. Wherever the side seam of one skin does not fall exactly over the side seam of the skin below or

Fig. 65.—Old method of zigzagging, half-sewed seam.

above, the difference in the density of the furs may cause the resulting zigzag to show more than otherwise.

Because of these two disadvantages, a technique has been developed in which all the cutting, including the zigzag, is done at once. Apparently the first use of this technique was on muskrat-back garments which were being made up for dyeing and blending into the mink shades. Muskrat backs, especially of the better grade,

(sweep, facing, armholes, top) is cut a half-inch to an inch fuller than needed to allow a working edge for nailing. The bottom center back skin will be cut larger in accordance with this rule, as will all the other skins whose rumps will form the sweep. The outside flanks of the two front skins will also be cut more fully for the same reason. In the same way, the head areas of the top row of skins will be cut fuller than the needs of the pattern. This procedure is also followed in cutting the two skins which form the armholes and sides and the half skin or skins which form the bottoms of the armholes.

It is quite likely that at least one of the four rows of this garment will require an even rather than an odd number of skins for the layout. The usual procedure in such instances is to select a large, wide pelt of somewhat poorer grade to place under the arms. This pelt is split in half and each half is used on one side of the coat as if it were a full skin.

The reasoning which determines whether the grotzen or side will be placed toward the back illustrates how such problems are solved by the practical working cutter. A beginner, looking at the pattern, is likely to decide that whether the grotzen or the side of the split underarm skin goes to the front or back makes little difference. The experienced cutter, however, will visualize the natural forward pitch of the human arm and decide that the front part of the underarm will most likely be covered by the sleeve. He will, therefore, place the side of the skin toward the front.

The layout will allow a line of two full skins for each top sleeve. The area which we call the top sleeve is easily located by folding the two underarm edges together so that they meet. The part which shows is the top sleeve, which must receive the better fur. The upper part above the armholes, called the crown or cap, will receive the best fur. The additional skins needed to fill out the sleeve will be laid out with reference to the skins which have already been placed on the top sleeve.

In cutting a collar, the important consideration is to make certain that the best part of the pelt will be placed on the outside edge of the pattern where it will show. The same rule holds true of the outside half of the lapel which is also the prominent edge of this particular part of the pattern. Cuffs, which are generally cut so that their hair direction is from the front part of the sleeve to the back,

stretching may be needed. The zigzag enables the cutter to distribute the difference between the two skins over a greater amount of seaming, thus relieving the strain. It has also been found that under the strain of nailing the zigzag seam expands and does not tear as readily as a plain seam in the same place.

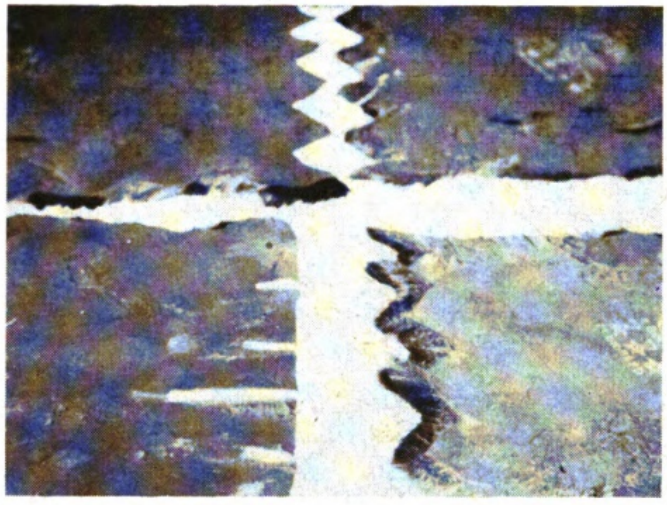


Fig. 67.—New method of zigzagging.

The second complication arises from the uneven edges requiring tongues. However, a good cutter can overcome this difficulty by careful planning. The edge brought up will be so cut as to fit into the pattern of the zigzag of the rest of the pelt. This procedure is far simpler than it sounds and can be done by any cutter with any amount of experience.

B. Zigzag Operating. No special technique is required for the sewing of all the seams other than the zigzag in this type of work. Zigzags, however, are a special problem and require considerable skill and understanding on the part of the operator. Whether the zigzagging is line by line or skin by skin, the handling of an individual cut of a zigzag and the sewing of it are exactly the same.

The most important part of the technique is to have all of the hair properly placed within the seam before the fur is brought to the machine for sewing. The zigzag operator carries on all this work within 2 or 3 inches of the machine—making the seam, tearing the thread, pushing the hair in for the next seam and returning the next side of the zigzag to the machine in a split second.

need have the better fur only on the front half, just as with the sleeves they adorn.

The cut garment, suitably marked, is now picked up for transfer to the operator. The usual procedure is to start from the top and pick up the skins in order from the front, through the center back

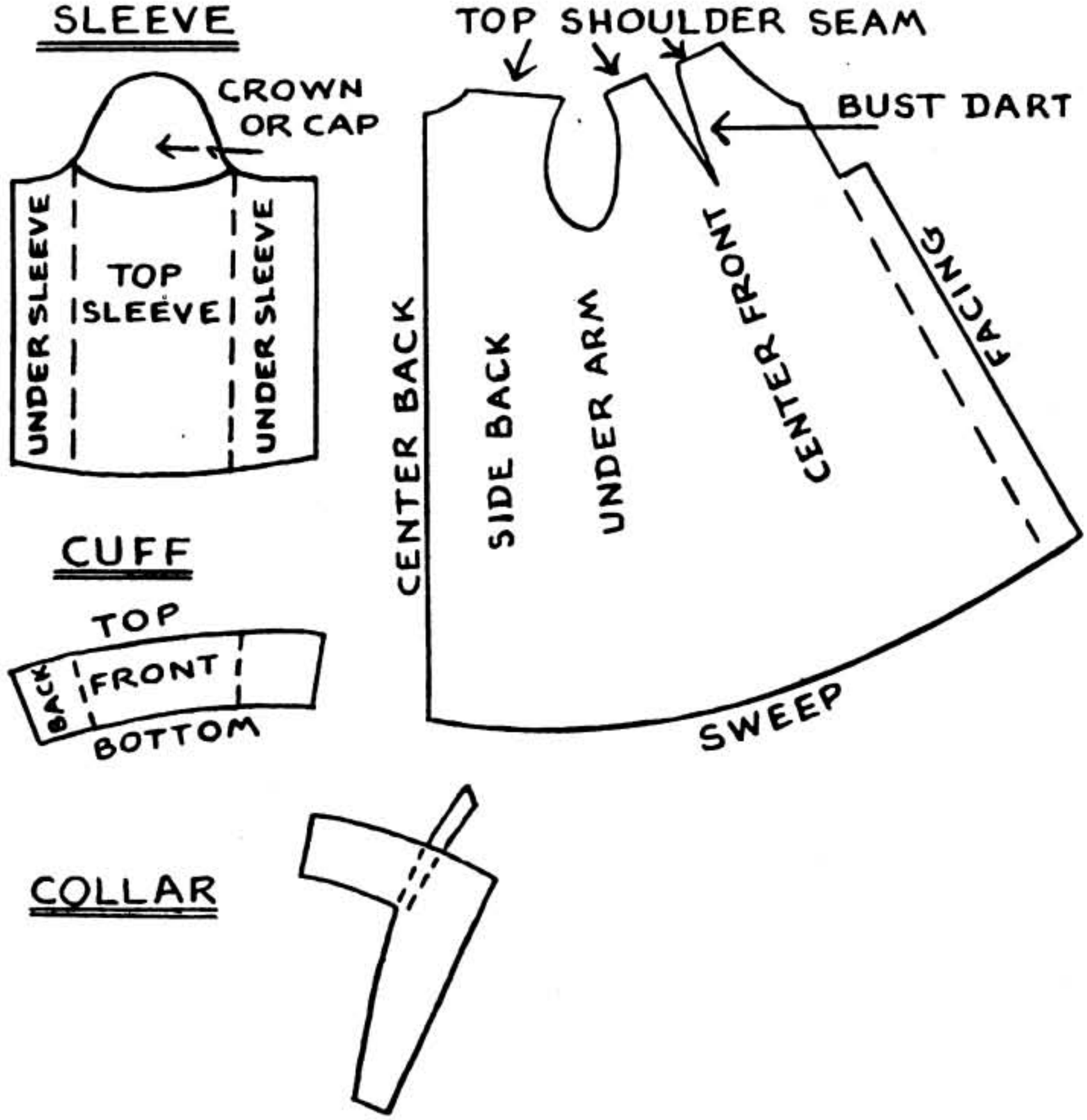


Fig. 34.—Terms used to describe parts of fur garment.

to the other front skin. The next row is picked up in the same order and placed on top of the top row at right angles to it. A separate pile is made of the sleeves, with the rows piled in the same way as those of the body.

4. ***Persian lamb.*** All pelts are more than a week old and have a characteristic full curl.

The determination of the value of Persian lamb by blood line is not an exact science. The term "cross" or "half Persian" is generally used to describe a lamb whose blood lines are only partially Persian lamb. These part Persians at present come from four fur regions:

1. Bessarabian Persian, from Bessarabia in Romania
2. Shiraz Persian, from the south Persian state of Shiraz
3. Metis Persian, from European Russia
4. Dufar Persian, from an outlying Afghanistan section

Pure-blooded Persians are raised in large quantities only in the Soviet Republic of Bokhara near Afghanistan, and in Southwest Africa. Of these the Bokhara is considered the better.

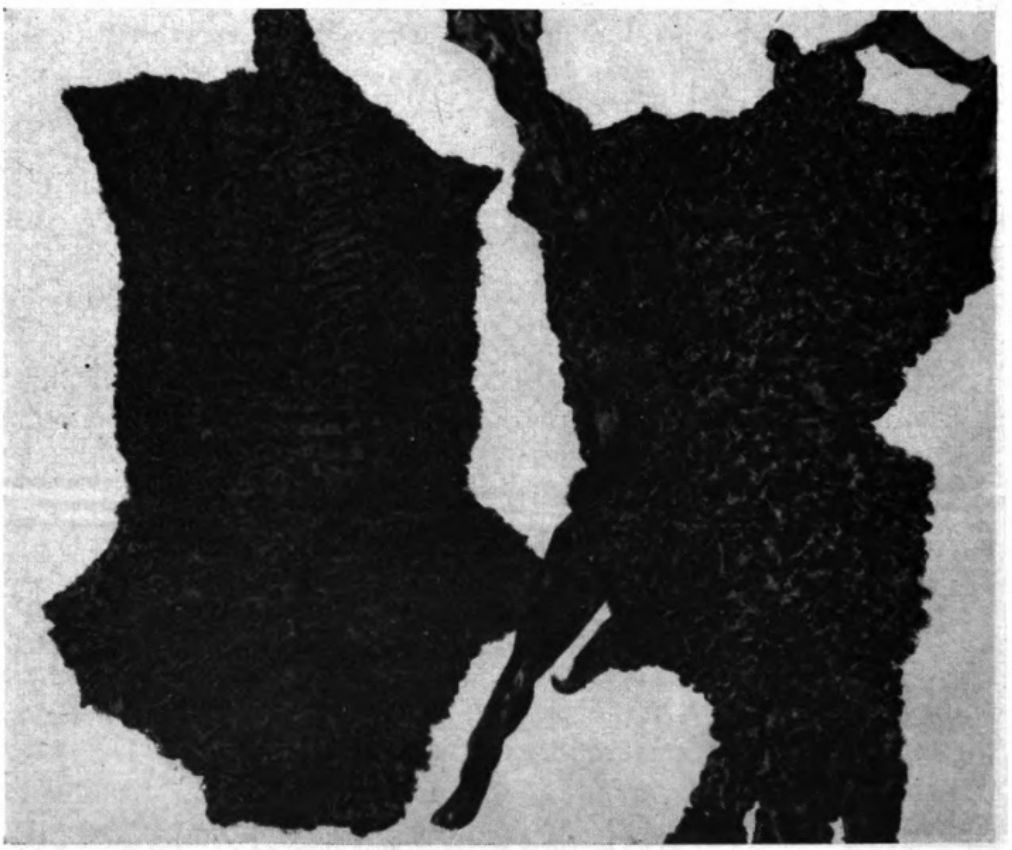


Fig. 70.—Persian lamb variations. With "character" (left), characterless right.

OPERATING

Before beginning to sew any fur, the operator must adjust needles, thread, stitch size and stitch tension to the fur to be sewed. Fur needles for the standard type A machine range in size from size 12, the heaviest, to 14, 16, 18, 20 and 22, the last being the finest. Fur thread comes in 5,000- and 12,000-yard spools or cones. It is two-cord or three-cord, left twist and mercerized and gassed (fuzz burned off). It is stocked in white, cream, neutral, tan, light and dark brown, gray and black. The thread is usually matched to the shade of the pelt leather, which may be in any one of these shades according to whether or not the skin is in its natural, dyed or blended condition.

The fur operator will always use as fine a needle as the leather of the fur being worked will permit without excessive breakage. Comparative thickness of leather is not important in this particular phase of the work. It is softness and pliability which permit the use of a thin needle without breaking off its point.

The tightness or tension of the stitch is directly related to the nature of the hair or fiber of the fur being sewed. The area gained from a loose-tension stitch would tempt most manufacturers to make as loose a stitch as possible, were it not for the fact that such a stitch would show on most furs. The flatter or shorter the hair or fiber, the tighter the seam should be. Sheared furs, for example, such as raccoon, Hudson seal and beaver, require a tight stitch while long-haired furs such as fox and lynx do not require it.

The size of the stitch is a function of the leather. All other factors being equal, a closer stitch is better than an open stitch. However, on most furs a close stitch would result in perforation of the leather, weakening it to the point where it would tear under strain. The operator should test his first seam on a new fur, both for appearance and for strength. Sometimes shifting to a smaller needle and finer thread will make it possible to continue with the desirable close stitch. A tentative guide to machine adjustment for some common furs will be found on page 46.

The operator now begins sewing out the garment, just as it has been marked and piled up by the cutter. If the cutter's directions are clear, the operator needs to use little or no judgment on a job as simple as the one under discussion. He may occasionally find that

Fig. 71.—Working out width.

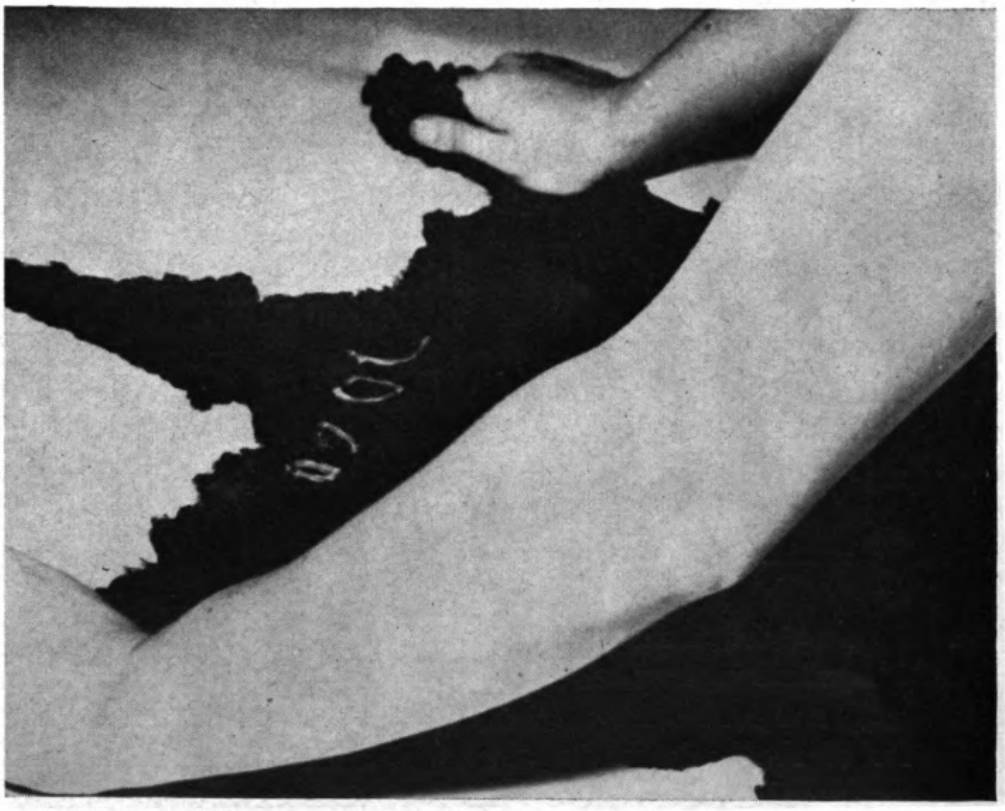


Fig. 72.—Shaping out rump.
Two important steps in stretching a Persian lamb.

MACHINE ADJUSTMENTS FOR SEWING COMMON FURS

Name of Fur	Needle Size	Thread Size	Tension Thread	Stitch Size	Stitch Height	Comments
Beaver	16–18	90–100	Very tight	Pointer ¾″ from front of machine	Medium fine	Seams rubbed out with spool
Broadtail, American	16–18	90–100	Very tight	Pointer 1″ from front	Medium fine	
Coney	14–16	80–90	Medium	Pointer 1½″ from front	Medium	
Fox, Silver	18–20	110–120	Loose	Pointer ¾″ from front	Very fine	Rub out with spool
Kidskin	16–18	90–100	Tight	Pointer 1¼″ from front	Medium fine	
Lamb, Black Persian	16–18	100	Medium tight	Pointer ¾″ from front	Medium fine	Seams rubbed out with back of knife
Leopard	14–16	80–90	Medium tight	Pointer 1″ from front	Medium	
Mink	18–22	110–120	Medium	Pointer ½″ from front	Very fine	Rub out with rubbing iron
Muskrat, Dyed, Skin-on-Skin	14–16	80–90	Medium	Pointer 1¼″ from front	Medium	
Muskrat, Let-out	18	100	Tight	Pointer ¾″ from front	Fine	Rub out with rubbing iron
Raccoon, Dyed, Let-out	14–16	80	Medium	Pointer 1″ from front	Medium	Rub out with rubbing iron
Raccoon, Dyed, Sheared	16	90	Very tight	Pointer 1″ from front	Medium	Rub out with rubbing iron
Seal, Hudson	18–20	110	Very tight	Pointer ½″ from front	Fine	Use size 20 for zigzag sewing

Fig. 71.—Working out width.

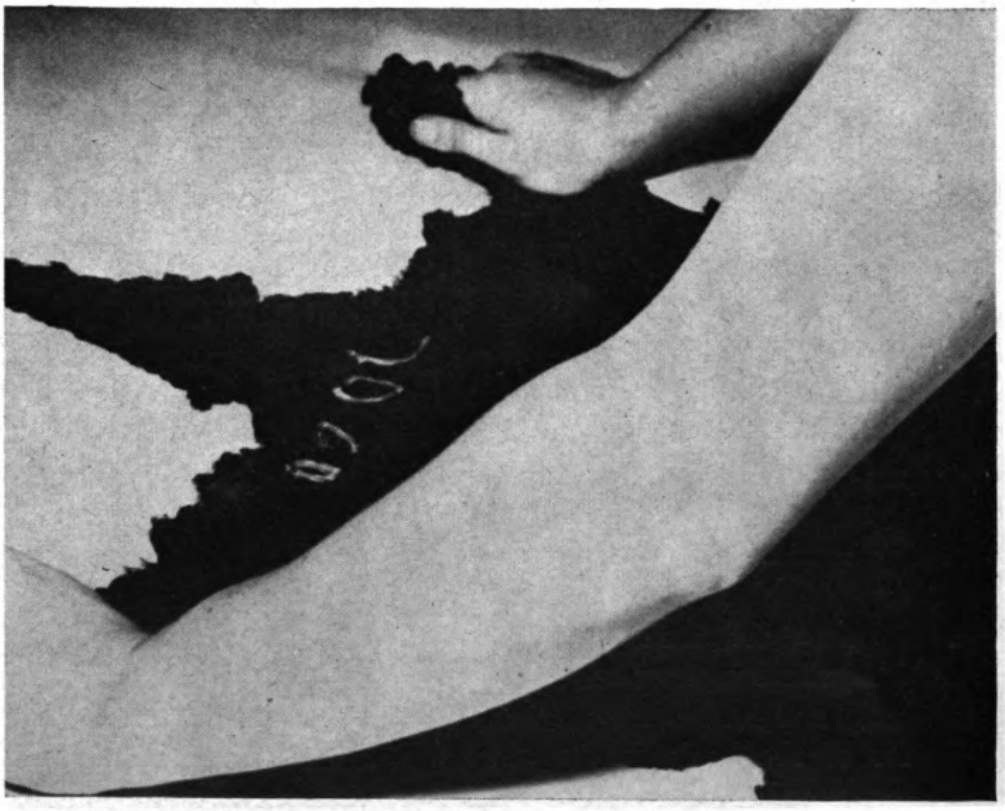


Fig. 72.—Shaping out rump.
Two important steps in stretching a Persian lamb.

possible in order to minimize the narrowing effect their movement will have on the skin. If the tongue is very long and narrow, the careful operator will flatten out the first seam on the long side of the tongue, by rubbing it with the back of a knife or the edge of an empty wooden spool, before making the second long seam. This prevents the sewing up of a portion of the first seam into the second seam.

In joining the rows together, artistic standards require that the seams of the various lines meet to make those very important vertical lines about which we spoke earlier. Sometimes it is difficult to do this under the arm, where a half skin must be made to fit over a full skin. If it does not seem possible to make the seams meet in this particular portion, a slight variation is permissible, provided it is done under the sleeve area where it will not show in wear.

Sleeves, cuffs and collar are comparatively much simpler to sew, consisting as they do of fewer skins with fewer joinings. Most collars need a shirred or shaped seam to make the required pattern.

The sewed garment is rolled into a bundle with the body forming the cover and the other parts inside. The bundle is pinned or tied to hold it in a unit. The work or order ticket cord is sewed to the front sweep about 1 inch in from the edge and rolled so that the nailer can read the ticket before unrolling the bundle.

NAILING

At least an hour and, if possible, a day before the garment is to be nailed, it is prepared by thoroughly soaking the leather with water rubbed in with a horsehair wetting brush. The garment is made wet in sections by folding it in half, hair side to hair side, to prevent the hair from becoming wet. The soaked garment, if it is strong enough, is twisted or wrung to work the warm water into the leather pores. As this is being written, successful experiments are being conducted with water softeners in an effort to find a method of making this step easier.

For proper preparation for nailing the soaked fur should now be refolded, leather to leather, rolled up tightly and placed in a cool place. One of the best gadgets the author ever saw for this purpose was a heavy wood packing box with a weighted cover which slid down snugly inside the box. The soaked garment was placed in

Chapter 1

PREPARING FOR PRODUCTION

DRESSING THE SKINS

The fur coat that adorned the show window of your local department store last October or November was no last-minute product. As far beforehand as the previous February or March the manufacturer specializing in that particular type of pelt had purchased the skins, probably in the raw state, from an auction or commission house or a skin dealer. Manufacturers prefer to buy from auction houses, but frequently a chance to pick up smaller, broken, assorted lots and the possibility of securing credit make them go to the dealers instead.

The manufacturer probably brought the raw skins into his factory where each one was marked for identification. A nailhead initial stamper was hammered on that part of the skin which would later be cut away, leaving perforated initials. If the cost of the pelt warranted it, the manufacturer may have used individual metal seals. The marked skins were then picked up by the dresser.

Fig. 1.—Skin identified with initial stamper.

PREFACE

This volume is a distillation of three decades of working, teaching, writing and lecturing in and for the fur garment manufacturing and allied industries. The basic techniques of the industry as they are currently practiced are described, together with some variations in method developed by the author for his students and readers.

The practicing furrier will find that, while the end result is the same, many of the suggested methods of procedure are new and different. These variations are the result of years of teaching and writing for beginners. The procedures are designed to enable the beginner to do the job correctly the first time. The mathematical method of figuring let-out work and the "pie section" method of plotting style lines described in this book were first used by the author in a trade extension class in 1931.

Throughout, the aim has been to show craftsman and neophyte alike a sure way of arriving at the desired result. The wide acceptance of some of these methods throughout the industry has been most gratifying.

For each working group of furs, the most common and characteristic has received a full, detailed analysis and treatment. Other pelts are described to the extent that they vary from this standard fur in their working groups.

The author firmly believes that only by an exchange and dissemination of methods and ideas, as commonly practiced in progressive industries, will the fur garment trade prosper. Many responsible and reputable furriers share this belief. To them, for their encouragement and help, the author wishes to express his thanks.

nearest the armhole is called the side front, the one over the bust line the center front, and the one nearest the facing of the garment is called simply the front line.

Each of the lines may be temporarily pinned together at the place where the pelts are to be joined and their appearance checked by holding them up against the figure, much as they would appear in the good finished garment. Skins that will meet at the shoulder, undercollars and top back skins, back sleeve and coat back—all must match.

The well-matched line of three skins will show the continuous similar pattern which can be worked together. Whether or not two adjoining lines will blend successfully can be judged by folding under the excess of each and placing them together. If the nature of the hair pattern is the same and the height of hair is even, it can be discerned immediately upon inspection that the lines will blend.

Before the skins of each line are assembled, they are dampened and stretched—the head in the width, the rump in the length. Care is taken not to run the curl over the edge of the table or to rub the skin in any way over the table surface during the stretching.

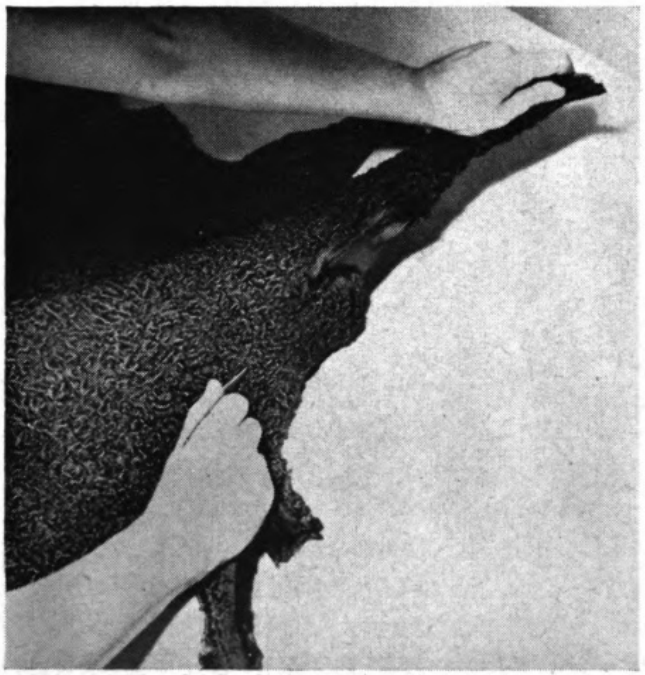


Fig. 73.—Trimming Persian lamb. Flank and paw strip.

The standard nailing sequence is about as follows:

1. Top center back neckline complete.
2. Bottom center back sweep, 3 to 4 inches on each side.
3. Right and left front sweep corner, 3 to 4 inches on each side.
4. Right and left top front corners, 3 to 4 inches each side.
5. Fill in rest of sweep.
6. Complete top center back edges right down to underarm holes.
7. Complete other side of armhole toward the front.
8. Nail out both fronts.

For the average fur, nails are set up about an inch apart; closer for the better furs. These nails should tip out slightly rather than be set in perfectly vertical, so that the strain of the fur as it dries will not pull them right out of the board.

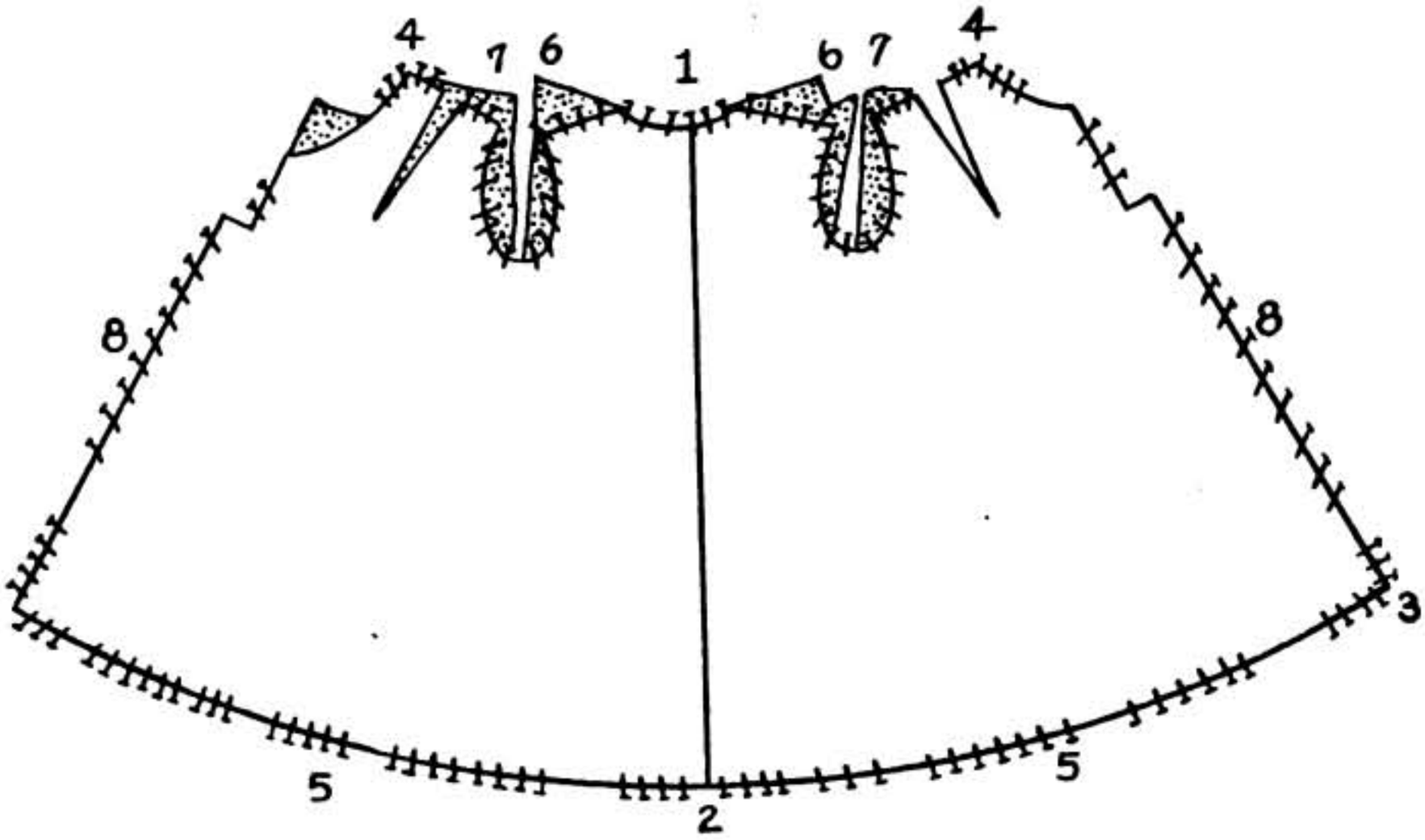


Fig. 37.—Standard nailing sequence.

Corners and crucial edges such as those indicated in steps 1, 3 and 4 may be reinforced, if the tension of the fur warrants it, by a double fold of heavy cardboard, 3 to 4 inches in length and 2 inches in width. The cardboard is folded in half and nailed to the leather right up even with the edge. The half-dozen nails which hold it in

nearest the armhole is called the side front, the one over the bust line the center front, and the one nearest the facing of the garment is called simply the front line.

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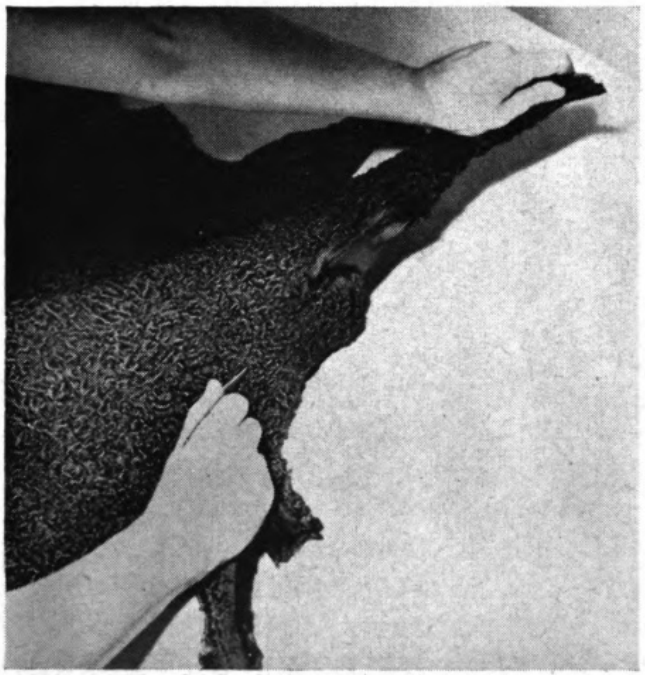

Fig. 73.—Trimming Persian lamb. Flank and paw strip.

tempting to work out a narrow coat to the pattern will start at the center back and, using both hands, force the fur gently but firmly to the front. When he has worked it out to the mark or as near to it as he can get, he will hold it in position there with the forearm and heel of the left hand, while his right hand picks up the nailing pincers. The fingers of the left hand hold the nails while he sets the stretched fur in place. In extreme cases, two nailers or two workers may cooperate, one forcing the fur, the other nailing.

The sleeve is nailed out with the same principle in mind. First, the cap of the top sleeve is worked out very carefully, right to the mark, then the bottom center of the top sleeve. The four underarm corners are then nailed out with the underarm seam left until last.

Collars, irrespective of style or size, are nailed in much the same way. The outside edge is nailed carefully to the pattern edge first and the inside or neck line is worked out last. If any of these fur areas is deficient, the nailer tries to work it out so that the added piece will be in as inconspicuous a place as possible.

As a rule, at this point the nailed fur garment is left without further ado for adequate drying. We will point out in later discussions of nailing what added steps may take place.

Forced drying was more common in the fur trade years ago than it is now. Experience has shown that the fur leather dried in a drying room may become brittle and weak. Only in extreme emergencies are these drying rooms used now, and then only to start the process. The garment is allowed to dry out normally in a cool dry spot, with a half or three-quarters of an hour in the drying room to give it a good start.

The dried leather may require tipping or dyeing, if the natural leather is to match the fur fiber in color. These processes normally take place before the nailed garment is removed from the board, from 24 to 48 hours after nailing.

To assist the squarer, the center back line is carefully marked out on the nailed fur body before it is removed from the board.

SQUARING

The next major step, squaring, may be compared with cutting as it is done in the garment trades. The main problem in squaring is to trim the nailed fur to the pattern so that as little adjustment as possible will be necessary.

The beginner should mark out on the hair side with a needle-point tracer the paw and side strip to be removed. The paw strip from either side of the skin should be removed cleanly because it represents about 5 percent of the value of the pelts on the open market. The experienced cutter removes the paw by holding one paw between himself and the table at stomach height and stretching the skin, hair up, away from him slightly off the table. With his knife reversed and its back held practically parallel to the hair, he inserts it at the paw line about 1 inch away from the rear paw. Moving away with the knife he follows the outline of the skin as he wishes, to cut it away until the paw at the far end is reached. A short slit of 1 inch then severs the section still hanging near him and the entire paw strip is thus removed. This technique obviates the necessity of turning the skin over and marking off the paw laboriously before cutting it away, a time-consuming operation when coats are mass-produced.

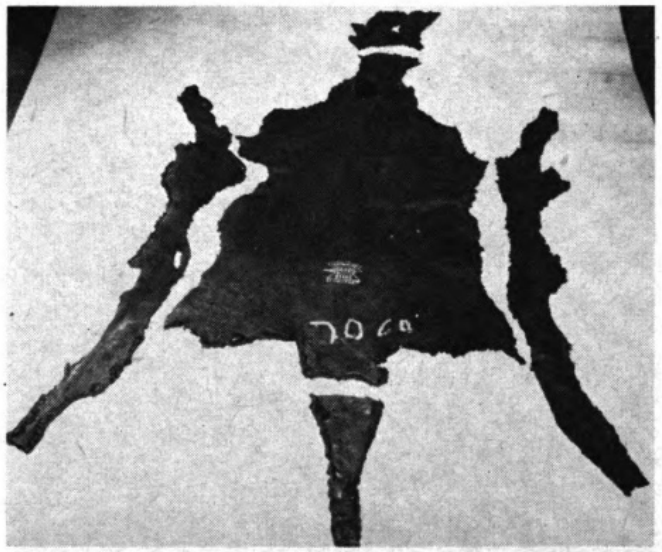

Fig. 74.—Trimmed Persian lamb pelt.

The rump of the middle or second skin is carefully trimmed to remove the half inch or so of unusable fur. Wherever possible the trimming is made in straight cuts which will normally result in a W-shaped edge with wide wings and a small V center. This naturally formed W edge at the rump is placed over the head of the skin above it; that is, the top skin. It is moved back and forth

By means of pushpins, trial fittings of the pattern over the fur are made, using the center back line as the base for setting the pattern. If the pattern fits all around there is no problem. It is marked out, including the fitting darts and all major marks, in chalk or soft crayon, prepared by shaving the end to a quarter-inch wedge rather than a point. The fur is then cut in long continuous strokes through the middle of the quarter-inch-wide chalked line. This extra width of fur is a combination seam and shrinkage allowance.

When the nailed garment is deficient in area in some respect, the following rules will help in making the adjustments:

1. For nailed garments that are short in relation to the pattern:
   a) Make garment ½ inch or 1 inch shorter if it is for stock. Remember that most patterns are made for the taller figure.
   b) If the length is necessary, plan to add pieces at the neckline, especially if the collar will cover such pieces. This procedure will not be satisfactory for a collarless or cardigan neckline since the added pieces will be prominent.
   c) Avoid adding pieces more than ½ inch deep vertically to the sweep.
2. If the nailed garment is narrow in relation to the pattern:
   a) Plan to add pieces to the facing, provided the deficiency is less than the width of the facing.
   b) Pivot the pattern to narrow the back at the sweep if the garment has a full back or a very large sweep but no kyles. This is done by overlapping the pattern an equal distance over each half of the center back line at the sweep. The maximum that may be overlapped in this manner is about 1 inch.

In squaring sleeves, missing areas are added at the bottom and sides rather than at the top or crown. The outside edges of collars and cuffs are always squared clean. Missing areas are placed on the inside neck or cuff line where the patching will be less visible.

The most important part of the squarer's job is the repair and replacement of deficient portions in the nailed garment. His job differs from the cutter's in this one important respect: The garment has been nailed and therefore no tongues can be drawn, since they

lambs require a greater time than other furs for a complete drying out. For really close fitting on fur garments a period of 24 hours should elapse, after the removal of the garment from the board, before squaring to allow the fur to shrink a little, as it probably will.

E. Squaring. The custom of squaring Persian lamb with heavy shears has become more common in recent years. Many squarers use the shears on all edges which will not be joined to other fur,

Fig. 78.—Squaring Persian with scissors.

such as the sweep and fronts. Expert use of the heavy shears can make a fine, clean sewing edge. To avoid cutting the fur hair, the shears are angled away from the fur. If a knife is used for this purpose, it must be exceptionally sharp to prevent "flaking" of the edges.

At this point the better-grade Persian lamb coats are given to the hand sewer, who flat-tapes all edges by blindstitching half-inch black twill tape right up against the edge. The popular-priced coats are reinforced by ironing friction tape to the edges. As the garment is closed, the tape is sewed right into the seam to give it strength and to prevent the fur from stretching while it is being closed.

A comparatively recent development in the inspection of Persian lamb is the use of a special curling iron to impart a semipermanent

would destroy the flatness of the fur by their tension. He must fill in the missing areas with perfectly matched nailed patches which will not show when sewed in. The following major considerations guide his work:

1. The patch to be added must be of nailed fur.
2. It must be cut from the same relative part of the pelt as the location of the missing part. That is, a rump section must be used to fill in a rump patch, the head section must be used to fill in a head patch, etc.
3. The patches must be of triangular, arrow, diamond, flowered or zigzag shape at the top and bottom. The object here is to avoid straight seams running across the fur, the type which will most easily show.

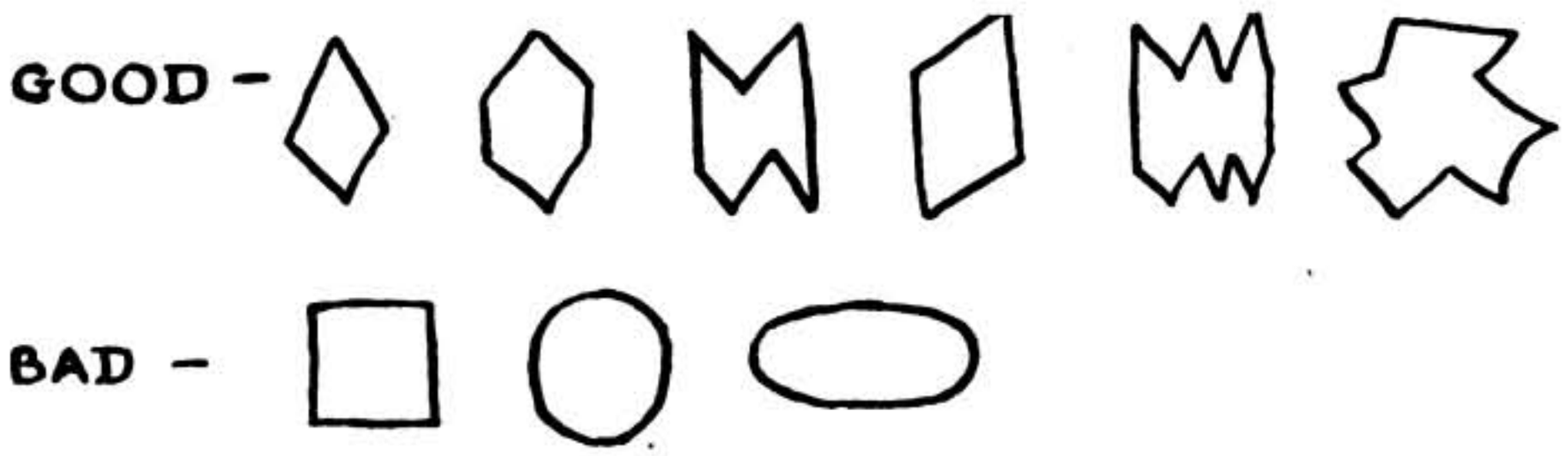

Fig. 39.—Desirable and undesirable shapes for squaring insertions.

4. The patch must be cut to exactly the same shape and size as the missing area except that it ought to be a seam's width ($\frac{1}{16}$ inch) larger all around.
5. Corresponding corners on patch and damage must be marked to assist the closer.

The full-time squarer learns to hoard his squarings, assorted for easy handling, against future needs. All extra fur cut away during the squaring should be carefully saved even after the squaring is completed.

There is one exception to the no-tongue rule. Tongues or moves may be used to move extra material beyond the pattern mark, provided the cuts which move this piece in are perfectly parallel. (See tongue No. 19, page 38.) The pieces are pinned next to the hole or damage they are to fill and passed on to the closer.

pattern to substandard parts which have escaped early examination and cannot at this point be removed. Trimming or barbering of wild hair and curls at the finished edge of the garment is also part of

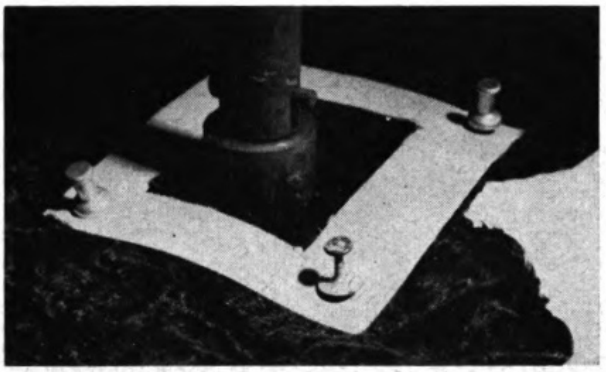

Fig. 79.—Persian curling iron in action.

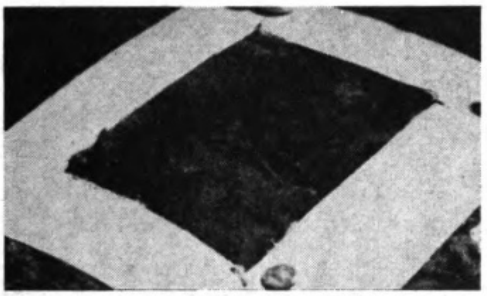

Fig. 80.—Before curling.

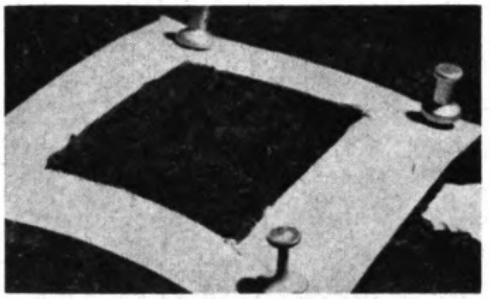

Fig. 81.—After curling.

the final examination. Barber's snips, with points pointing directly into the fur, "thin out" the wild curls.

Another brush-up technique, not so ethical, is that of spraying the Persian lamb coat with any one of several compounds which impart a temporary to semipermanent gloss to the fur. At the time of writing no evidence has yet been presented that any of these sprays or finishes will impart a desirable finish which will permanently enhance the gloss and appearance of a Persian lamb coat. Several, however, do seem to give the garment a temporarily glossy finish, a fact which has been utilized by less ethical manufacturers.

ASSEMBLED FURS

One of the really interesting developments of the fur industry is the increased utilization for fur garments of what were formerly

or darts are closed together much as they are in cloth. The underarm edges of a fur pattern are often unequal in length. When this occurs the excess must be worked into the middle third of the seam at the elbow to allow more freedom in wear. When the seams of the sleeve have all been closed, it, too, can be improved in appearance by pressing with a warm iron. The underarm seam is centered on the undersleeve and the edges and crown are worked out into shape.

Most patterns are made so that the circumference of the sleeve armhole is from ½ inch to 1 inch larger than the body armhole to which it must be fitted. On a properly made pattern both the center underarm of the body and the top center of the cap of the sleeve are plainly marked. These marks should be carried over to the squared garment by means of chalk marks.

Very often these marks are not apparent or the squarer neglects to carry them over. In such a case the closer must find these two points for himself. The sleeve is folded over and flattened so that the underarm seam forms one edge of the fold. The sides of the sleeve armhole are then drawn at even tension to define the other or top edge of the fold. This same procedure works for the body armholes, except that the shoulder seam is used as a guide.

For the sleeve to hang properly, care must be taken so that the shoulder seam and the top center of the armhole of the sleeve meet exactly. The starting seam is made about 1 inch back of this point with the larger edge of the sleeve on the inside wheel for the usual reason. Most of the fullness or excess width of the sleeve, if there is any, should be worked into the middle third of the armhole seam. This leaves the more prominent part of that seam, the top, fairly even.

If the sleeve has been properly sewed in, with the right sleeve in the right armhole and both guide points on the shoulder and underarm meeting, it should hang forward just enough to give it the natural pitch the human arm requires. No true estimate of the hang of a sleeve is possible without the necessary shoulder pads to hold the top shoulder of the garment in the designed position.

The closer's final job is to machine-tape certain edges of the garment so that the finisher can turn them back later. These edges are the sweep, cuff, pocket edges, and the tuxedo front or facing,

the waste cuttings of fur. The amazing variety and range of these assembled furs is a tribute to ingenuity and craftsmanship. The production of this material is a specialized field, and a detailed description is not pertinent to this presentation.

Fig. 82.—Mink chevron.

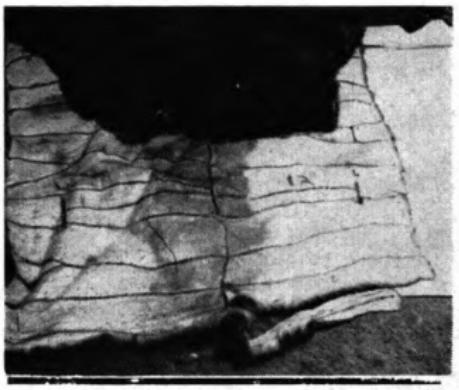

Fig. 83.—Fox paw.

Fig. 84.—Persian paw.

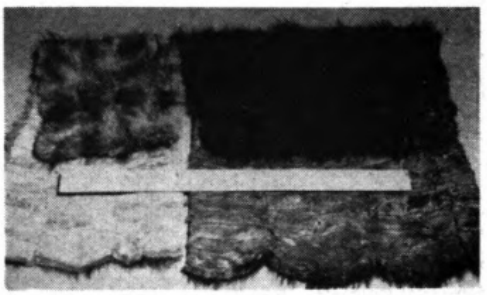

Fig. 85.—Muskrat heads, natural and dyed.

Figs. 82, 83, 84 and 85.—Four examples of assembled furs.

For a long time a practical monopoly in the production of certain types of "piece plates," as they are called, existed in Greece and China. In both countries a combination of craftsmanship and comparatively cheap labor made it possible for the workers to laboriously assemble waste cuttings into plates which could be made up into garments.

While originally pieced garments or assembled furs were and, for that matter, still are considered to be among the cheaper popular-priced garments, it is interesting that in recent years a fur garment appeared on the market which had been made from Kohinoor mink parts. This mutation fur was most expensive and the fur garment

if any, up to the collar. White or black 1-inch plain woven tape is used. It is sewed right to the edge of the squared fur so that it lies on the fur side.

This would appear a simple operation, but in practice it is extremely difficult. The aim is to sew the tape on so that it neither stretches nor pulls the nailed fur. Certain furs, such as Persian lamb and squirrel, stretch so easily that it is almost impossible to do this job without first reinforcing the nailed edge. For this purpose either adhesive tape is applied with a warm iron or hand-sewed twill tape is stitched to the leather side of the garment right up to the edge.

The closer places the fur on the inside wheel and the tape nearest him on the outside wheel. As he feeds these into the machine, he is very careful not to exert any pull which will stretch the fur; at the same time he must hold the tape back just enough to produce the desired edge.

Sometimes in closing the center back seam of the collar it is found that the design or layout of the fur is such that the hair runs away from this seam in both directions. A normal fur seam used here, no matter how tight the tension of the thread, will not produce a satisfactory joining on the hair side as the seam is likely to show.

The joining that may be used in such cases is called a French seam. On fur this means that the fur is placed in the machine in a position opposite to the normal; that is, with the two leather sides together and the hair side out. A thin tight seam which just catches the edge of the fur is made this way. The fur is then reversed and the heavier seam is made on the usual side; that is, on the leather. This second seam should enclose the first. When the seam is made in this way, it will not show on the hair side.

Before taping the pocket, it is customary to face each edge of the slit with a strip of fur 1 inch wide, procured from the squarings. The finishing tape is sewed not to the pocket edges but to these fur facing strips.

Many closers will tape the cuff of the sleeve even before they begin to close it, for it is easier to handle in this stage.

A final all-round pressing with a warm iron to bring out the wanted shape and hang of the garment will complete this stage of the work. The garment is now ready to be passed along to the finishing department.

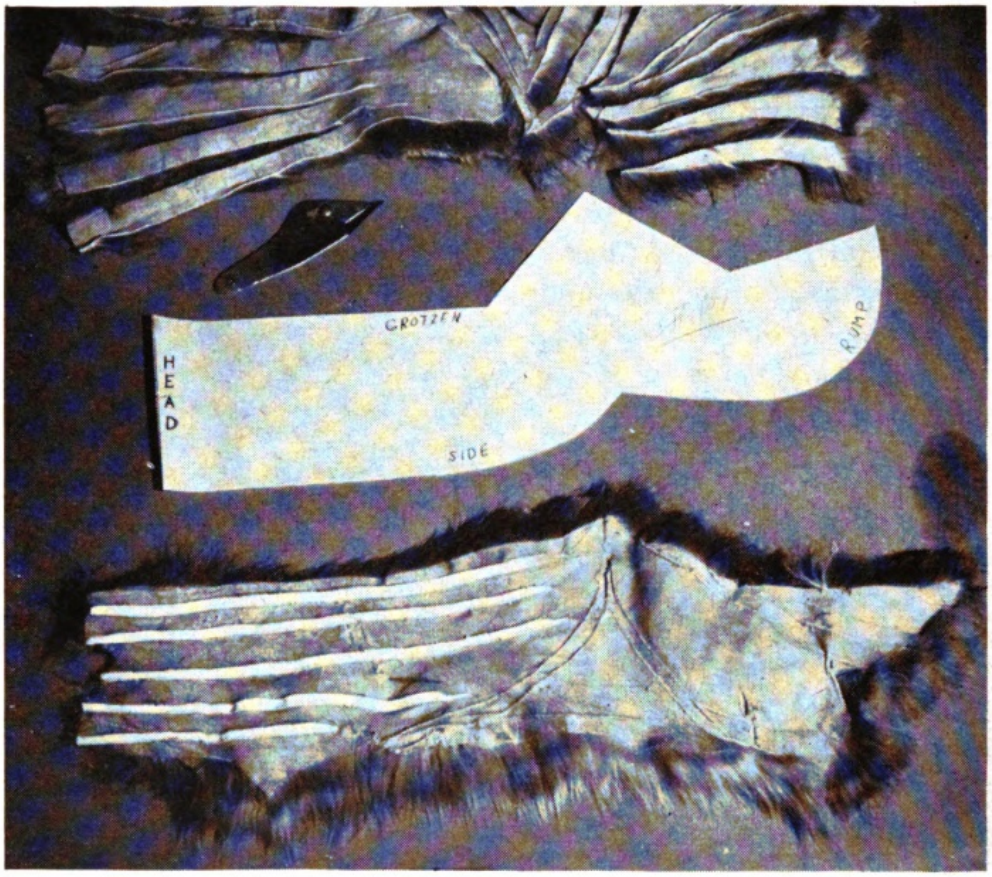

Fig. 87.—Example of typical leathering including shaping job on a fox trimming.

The cut nearest the grotzen may be described as a "through" cutting since it goes completely through the skin from end to rump, actually separating the piece of fur from the rest of the skin. The second cut may be described as "semipointed" since the leather strip that will be used to fill it will have to be pointed on the upper, head side. The "fill-in" cut which filled in the narrow area is described as a "double-pointed" cut for obvious reasons. It should be noted that as the area being cut gets further and further away from the full and dense-haired grotzen, less and less leather is set in per unit area.

These three techniques of leather insertion represent the gamut of plain-leather cutting technique. Leather can be used in connection with other techniques, such as resetting and let-out, but while the fur is handled in different ways the use of the leather remains the same.

The lining shell is now set into the coat and basted into position so that it will not slip during the sewing. The matching side seams of lining and fur, if any, are tacked together, also the complete armhole, so that cloth and fur seams are identical throughout the job.

To prevent the flannel from stretching and sliding away from the lining during the handling, it must in turn be tacked to the lining. This is usually done with a thread of contrasting color so that it may easily be removed later on. These precautions insure a perfect fit of lining and garment.

"Felling," the name given to the fine blindstitch work which holds the edge of the lining in place, is the final important step. A good felling stitch is invisible yet catches the lining, the piping, if any, and enough of the fur to insure strength. Good felling stitches are about ¼ inch in length and very tight, but on popular-priced garments stitches several times this length are often used.

Part of the felling job is the setting up of the pleat. Two French tacks are made at the middle and three-quarters of the way down on the bust pleat. The full-length center back pleat may have as many as six or seven of these French tacks: two at the neck, one at the level of the shoulder blade, two at the seat, one 2 inches from the hem and another 4 inches from the hem.

This last step completes the job in most cases except for the marking, fitting and sewing of the open or French type of bottom which is placed on luxury furs to prevent the lining from pulling as the garment is worn.

to tack the second strip immediately behind the first one, rump to head. With these first two strips strung together in a kite-tail fashion, the third strip can be sewed to the first, the fourth to the second, and so on.

Care should be taken to see that the guide lines match as the strips are joined and that the strips are not sewed on the wrong side, or "reversed."

Short furs can be laid on the table with the rump toward the machine, so that each strip can be picked up in order. On longer furs, it may be necessary to drape the cut pelt over the table with the rump nearest the operator.

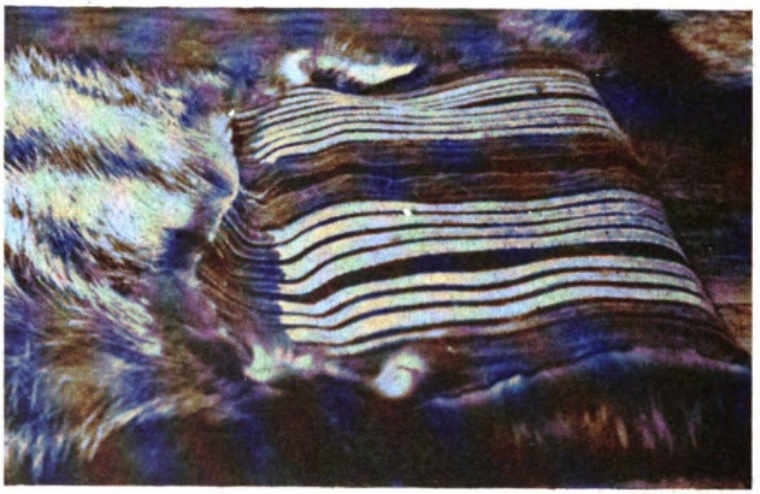

Fig. 90.—Typical leathering work in silver fox, in combination with resetting technique.

Because of the softness of the side areas, it is difficult to handle the left half of the cut skin as described above. It may be necessary to stitch two strips of sides together before tacking them at the end in the usual manner. By doing this, it is possible to follow a sewing sequence that will enable the operator to keep the strip being sewed last nearest to him as he joins. This procedure is desirable since it enables the operator to watch the strip as it is being added and thus makes possible a very fine seam, also the matching of the guide lines.

When the resetting is completed, the operator will have before him two right and two left quarters. By joining any right half to

Part II

PRODUCTION METHODS

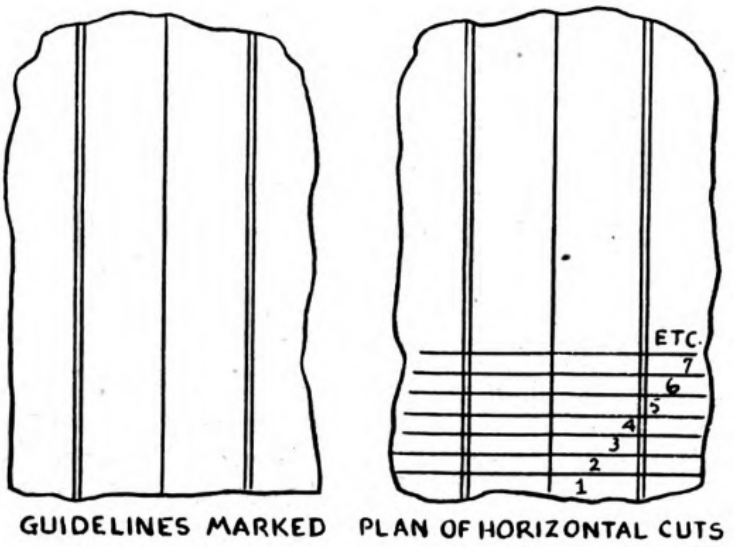

Fig. 93.—Horizontal reset.

Reversing

Occasionally an inexperienced operator will sew a reset job on the wrong side, reversing the quarter or half of skin. This error can be adopted as a deliberate technique when two right heads or two left heads are needed for some special reason.

Another use of this technique is found in the repair of a badly damaged expensive skin. Occasionally a high-priced skin will come back from the dresser with an extremely large damage on one side, so large that it cannot be repaired by any tongue or series of tongues.

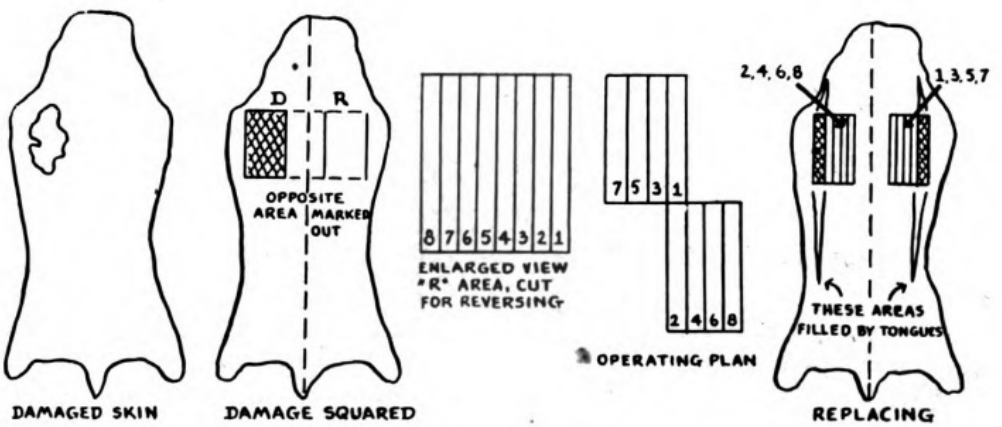

Fig. 94.—Reversing.

Chapter 4

PELT LAYOUT SYSTEMS

PATTERNED LAYOUT

An entire division of fur pelt layout and cutting is based on the fact that certain skins, especially in their natural state, are not adaptable to assembly into a unit-like whole by any method of cutting. Such pelts as squirrel, natural muskrat, muskrat flank, kidskin, Jap weasel, ermine and others must be worked in what might be called a bricklike fashion, in which each pelt forms a visible part of a pattern ensemble when viewed from the hair side.

Much ingenuity has been used to develop these layouts to take advantage of both the coloring of the pelt and its natural shape. Some of these layouts utilize a full skin, others half or even a lesser part. They may be worked up or down, diagonally or otherwise so far as the direction of the hair is concerned.

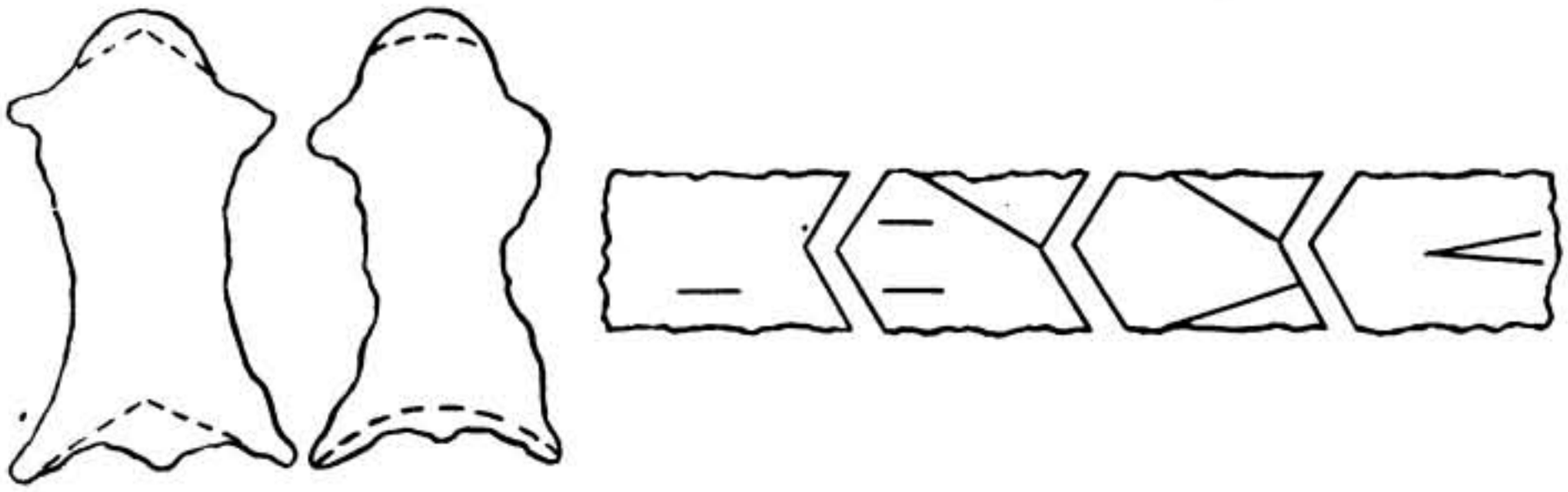

Fig. 53.—Squirrel or weasel-type four-skin V-notch.

Many variations are possible, even with a full normal skin and even when it must be worked only vertically; that is, with the hair running downward as it does on the animal. Within this limitation, the head may be cut to a point or a notch and the rump in the opposite way to make a fit. This method is most advantageous when the type of cutting that must be done happens to conform to the natural shape of the skin. For example, a four-skin line might be trimmed and set together vertically to make up the gar-

18 needle or smaller. The same method of tacking is used except, of course, that the first three strips are set up in line. Joining the resulting "sixths" into three skins will involve careful matching to insure balance. The first left is usually joined to the third right and reversed, while the two middle sixths are joined, but this order may be varied to give a better balance.

2. ***Leathering and resetting combined.*** This combination is the basic technique which makes possible the short fur jacket of the higher-haired furs.

A. Cutting. The preliminaries for cutting are the same, up to and including the marking of the side and the guide lines. The introduction of leather into the job, however, makes it necessary to space the reset cut with regard to the density of the furs. For the nonexpert, preliminary plotting of cuts will solve the problem. Most experts do the same thing on better furs, anyway.

On the half skin, the cutter begins by making a line about an inch long a scant half inch from the grotzen. He then divides this space in half by eye, marking off the divisions with a slightly shorter

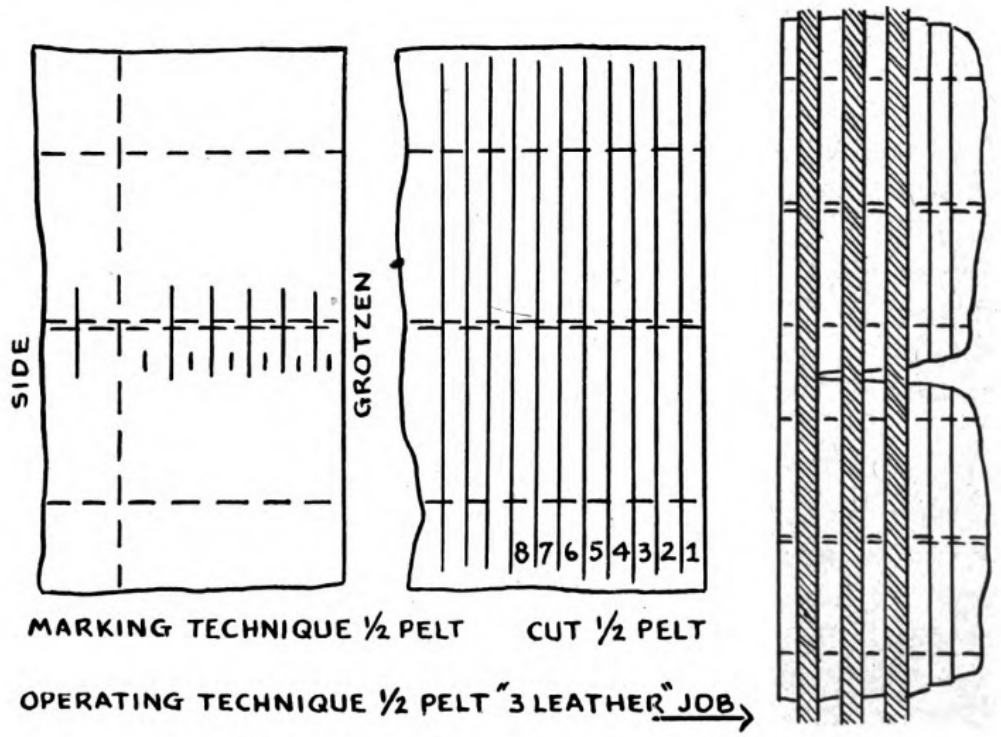

Fig. 97.—Leathering and resetting combined.

be improved, since one-half of each skin will be on each half of the garment. The other possibility is to set the sides of the next pair of halves against the grotzen, which is the method used on red and silver foxes and on weasel. This layout accents the coloring and gives the garment the appearance of having a greater number of pelts in it than is actually used. In addition, the flat-haired flank is covered by a full-haired grotzen.

If the angle of the flow of hair is changed to a diagonal, a number of additional variations of layout are possible. By setting either full or split skins in a chevronlike pattern an interesting effect, still popular on muskrat flanks, is achieved.

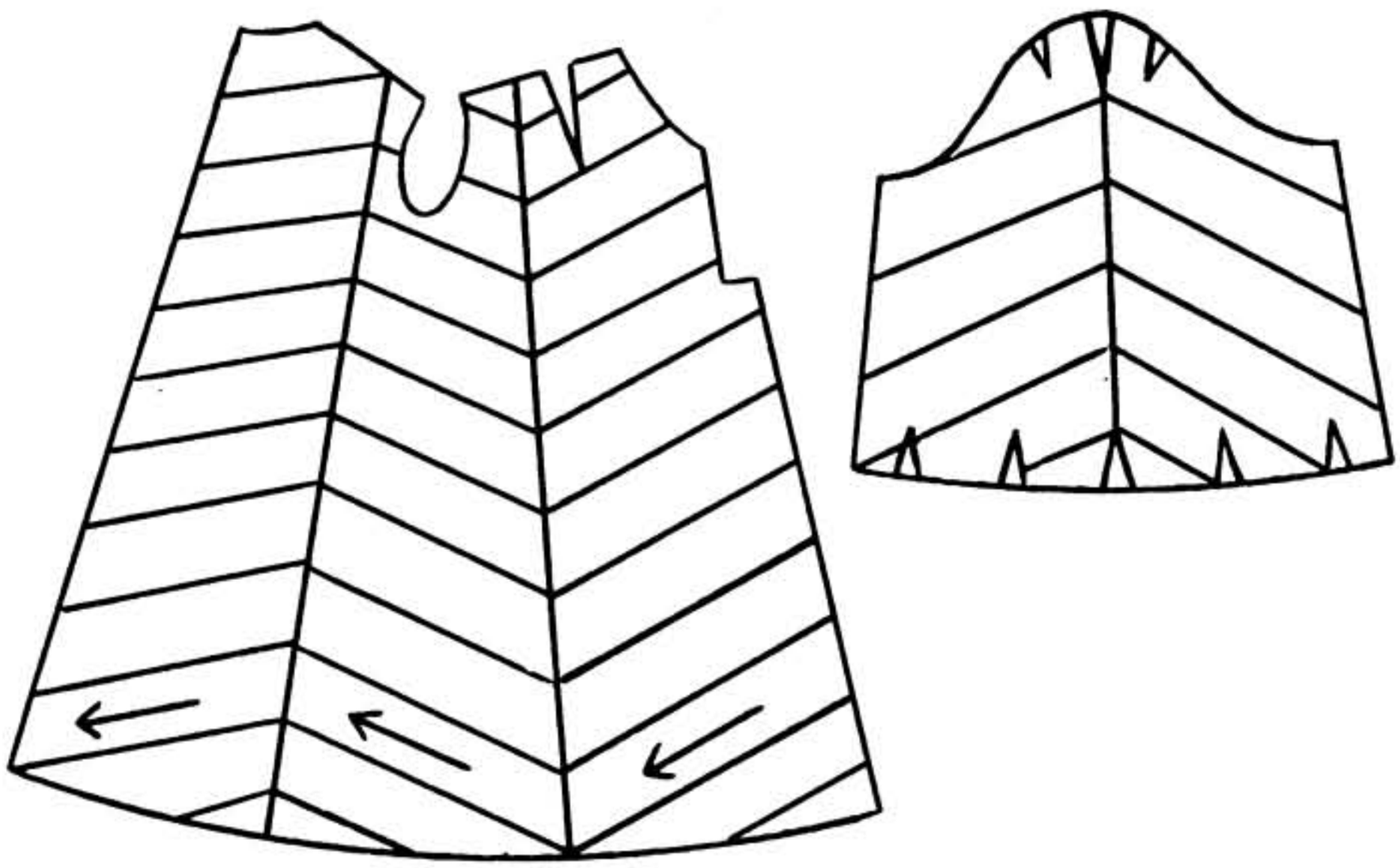

Fig. 56.—Chevron layout, split skin.

The width of a panel of diagonals is determined by placing the larger skin at somewhat less than a 45-degree angle and measuring the horizontal space it occupies. Subsequent skins are cut and placed at the same angle, allowing the panel to grow gradually narrower, just as it would taper if it were cut from natural skins. In the chevron plan described, the usual pattern is to have the hair flow run through the diagonal toward the center back, where the angles meet.

By far the most intriguing variation of these angled patterns is

Fig. 2.—Assorter at work in fur factory.

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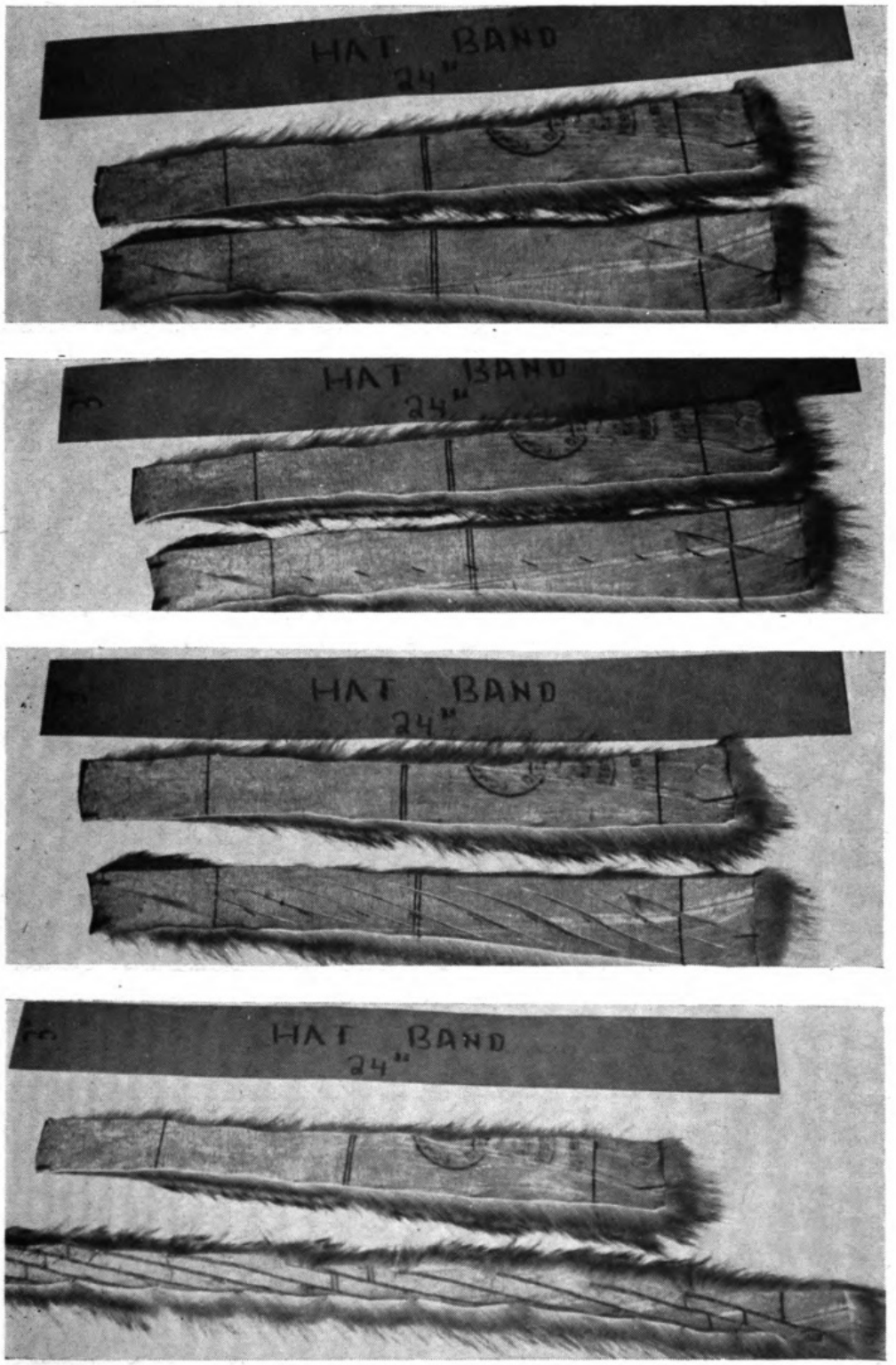


Figs. 98, 99, 100 and 101.—Basic plotting principle as applied to skunk hat strip.

the interlock type. The heads of two rows of skins are interlocked to form a pattern which has the advantage of turning the poorest part of the skin, the head, into the most interesting section of the

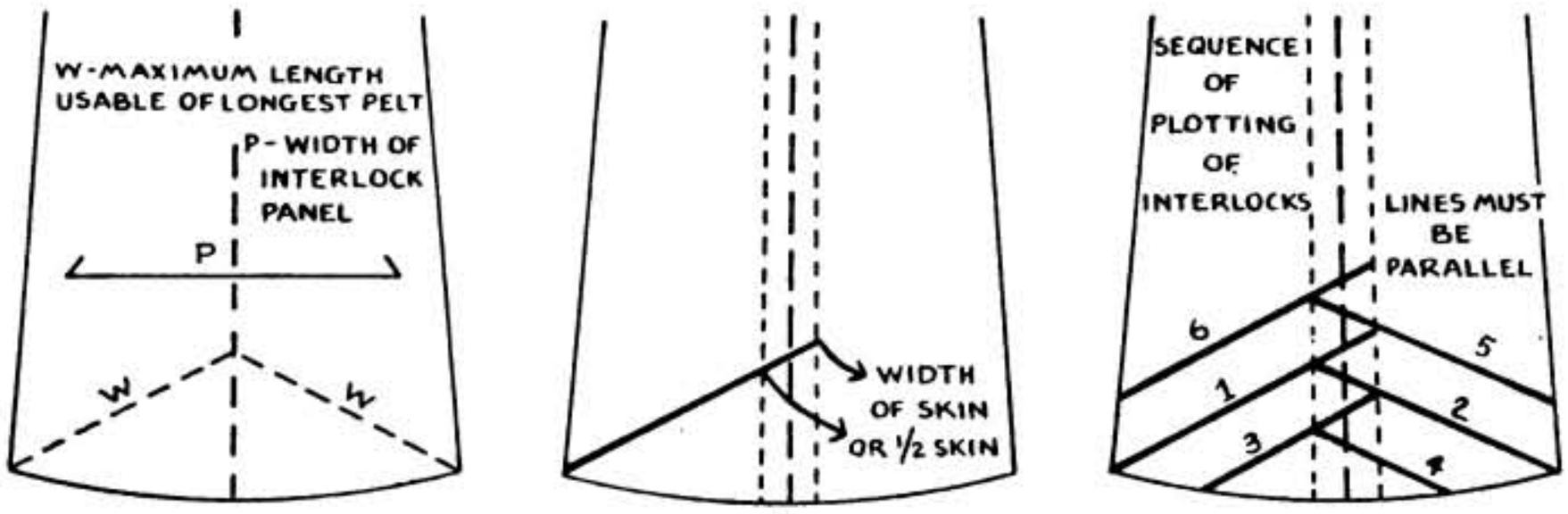


Fig. 57.—Planning an interlock panel.

garment layout. This layout also has the advantage of covering the flat head seam. The key to the proper planning of an interlock panel is the careful placement of guide cutting lines on either side of the panel center line. These guide lines make possible the plotting of the interlock pattern in the form which is illustrated in Figure 57.

A. Vertical and Horizontal Cutting Lines. At this point it may be advisable to review and enlarge upon the principles which determine the proper position of vertical and horizontal seams in any

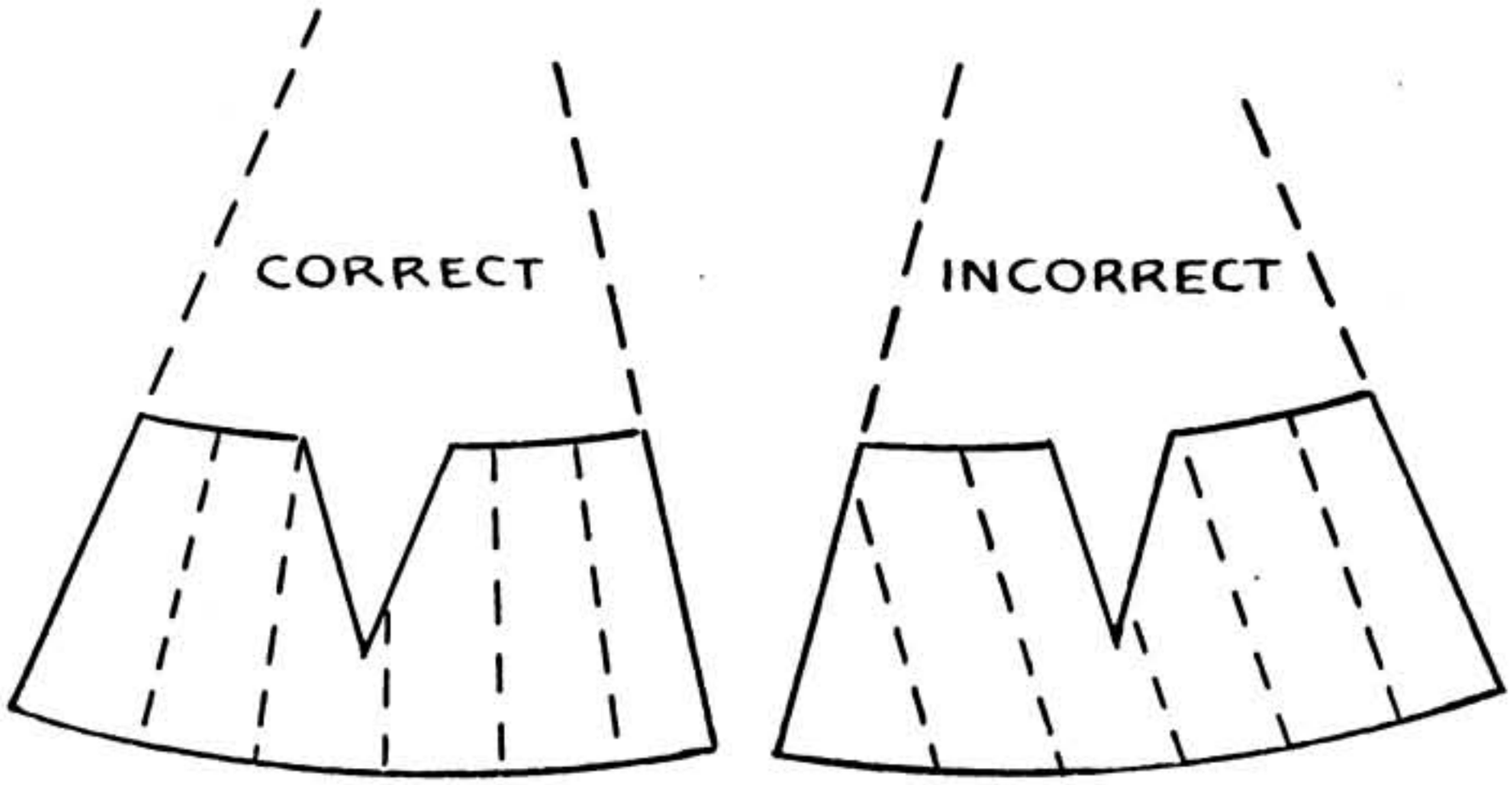


Fig. 58.—Principle of pelt shaping illustrated on simple cape-collar.

The simple technique demonstrated here divides the space into equal distances and can be used for any problem from two or more cuts. Any convenient division on the ruler—½ inch, ¾ inch or 1½ inches—can be used just as it is needed. The only consideration which must be followed is to add one divider unit more than the number of cuts wanted to the distance being placed between the two marks.

For example, if 15 more cuts need to be plotted, and ½ inch is the most convenient unit, 16 units are needed. The ruler is placed

Fig. 103.—Illustrating plotting system on sample split skin.

fur garment. This has long been a subject of much discussion in the trade.

The principle involved is best illustrated by the small plain cape which was popular in the 1930's. When worked with solid skins, the vertical lines in the cape were correct but only when they followed the principle illustrated in Figure 58.

As can be seen from the diagram, the pattern resembles somewhat that of the vertical pole lines of an Indian tepee. In principle, therefore, the vertical lines must all meet in a common center, this point being determined by projecting the center back and the center front line until they meet. When this is done, each skin will taper in exactly the same proportion as the garment. Any other vertical lines in the garment are also made to slant to this same center point.

The same principle still holds whether or not the garment is to have 3, 5, 7 or 30 vertical seams. It can be worked out by following these steps:

1. First find the center meeting point of the center back and center front line.
2. Determine the maximum width obtainable from your largest skins.
3. Lay this dimension out from the center back, starting with a half width as the center back is to be a folded skin.
4. Any extra material may be allotted to the underarm, front or both, since a very large half skin under the arm may be used to make necessary adjustment.
5. The lines which are projected up the pattern, based upon the maximum measurements along the width, are projected by measurements or by finding the common center, whichever is easiér. This particular technique is illustrated in Figures 58 and 59.

The planning of the horizontal lines in any garment is simple, once the important vertical lines have been set up. The heights that are being used are measured on each vertical line and joined in an arc parallel to the sweep. For example, in a 40-inch, four-line garment, the horizontal and vertical lines would be plotted out as shown in Figure 59.

so that the end is on the first cut and the 8-inch mark on the other line. Marking off each half inch with the ruler in place will give 15 equally spaced cuts. The unit division used is immaterial. The author has found that a hard-paper divider upon which 5/8-inch and 3/4-inch units are numbered all along the length is a most useful device which meets most of the common needs you are likely to find on any let-out job.

Users of this method are prone to confuse the width of the let-out strip with the amount that the strip will be let out. The divisor unit is merely a convenience for dividing a certain area of fur, and has nothing to do with the amount of let-out, which is a characteristic of the fur which is being worked.

B. Making the Cuts. Once the let-out cuts have been plotted, the actual "slicing" is comparatively simple. The first cut made is the original first cut plotted at the head of the skin. A very sharp knife is used, usually the half-razor-blade type. The beginner should

Fig. 104.—Knife and hand position, operator opening let-out sheared raccoon half pelt.

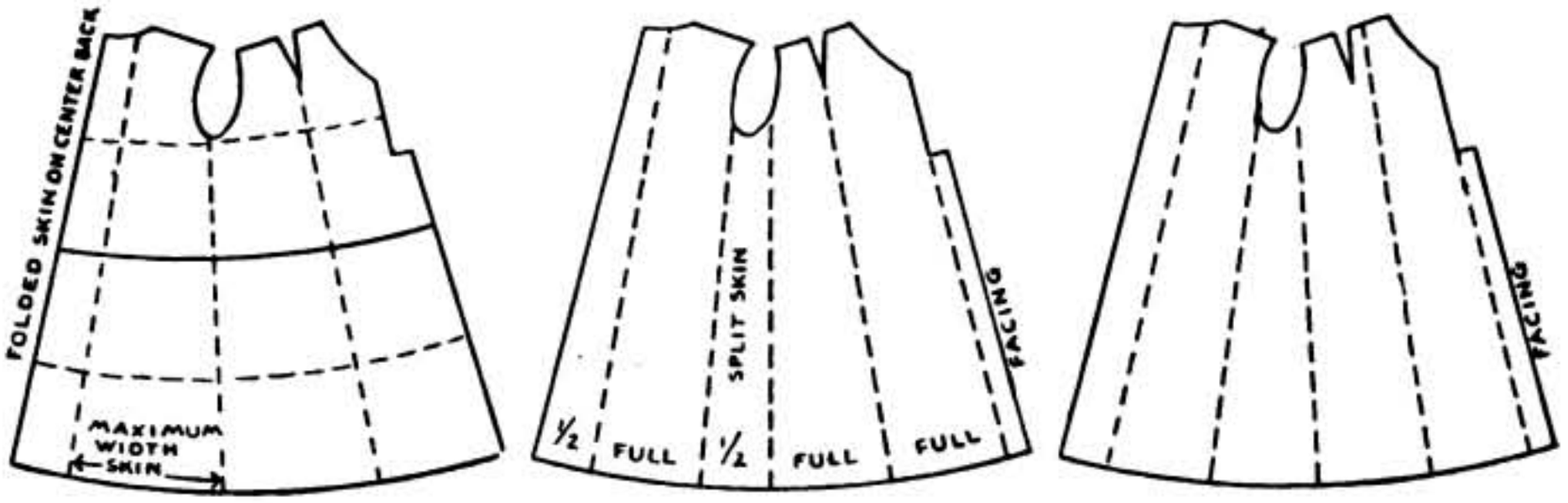


Fig. 59.—Illustrating pelt layout principles. Left: seven-skin layout; center, eight-skin; right, nine-skin layout.

The only time when this principle is inoperative is on multiflare coats where the back or front is extensively flared while the other part is not. In such instances the flared section, back or front, must be handled individually as a unit. Sometimes these patterns are so complicated that the only true method of finding the style lines is to work from a previously prepared canvas of the pattern.

A full-length coat body may require four skins in the height. Two long skins will probably be needed to make up the top centers of the sleeves. These skins, four to eight of them, were put aside during the matching if the proper system was followed.

The most important factor in the laying out of a sleeve is to make certain that the four top skins lie over the exact center of the top of the sleeve, which can be found in the manner previously

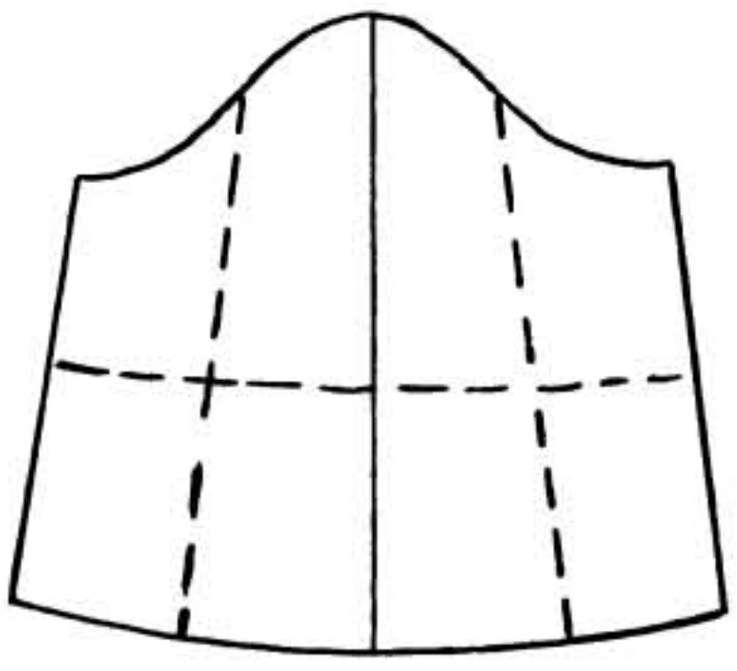


Fig. 60.—Sleeve pelt layout.

described. No seam should lie along this top center sleeve unless it is unavoidable. (See Figure 60.)

It can be seen from the foregoing presentation that the success

either mark or imagine a half-inch margin around the perimeter of each skin and start and stop his cuts at this line, thus keeping the pelts as a unit and not separating the slices. The guide marks indicate where the other let-out cuts are to be made, parallel to the first cut. In the triangular last piece at the rump, the length desired is usually written with indelible pencil or crayon which will not rub off as a result of handling. On multiple-skin jobs, the number of the skin is placed at the head.

The pelt is now ready for the operator.

Let-out Operating

A. Preliminaries. The operator looks at the length desired and measures the original length by means of a yardstick which is nailed to the front end of his machine. He now knows the amount of length missing which he must make up by letting out the pelt.

He places the pelt upon the operating table, the rump nearest him, at a slight angle toward the machine. He next separates the strips by completing the cuts made by the cutter. In doing so he alters the pitch of the cuts so as to lengthen them and make the points of each strip as long and tapering as possible. This technique will produce a straight, unserried edge when let out.

The upper points are cut with the knife held in the reverse posi-

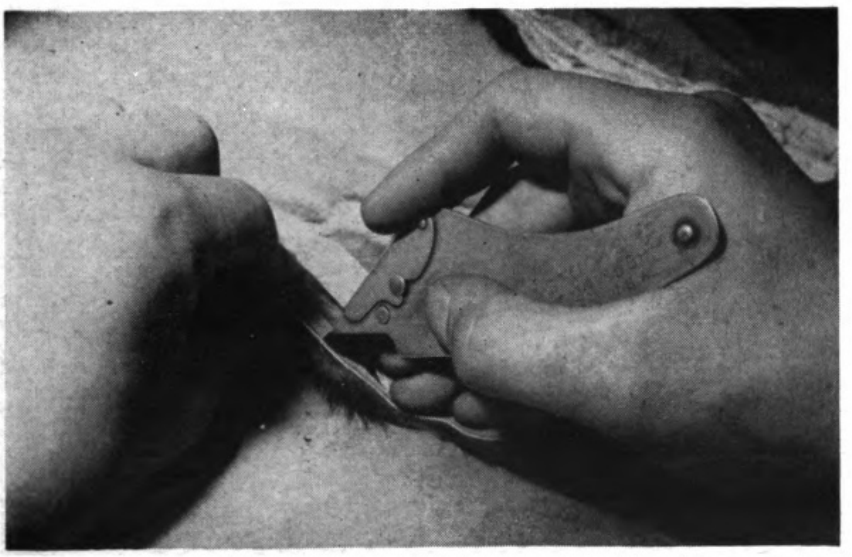


Fig. 105.—Operator finishing let-out cuts; rump of mink skin.

of any layout, no matter how intricate, depends upon the careful plotting of vertical lines on the garment. Once these lines have been correctly plotted, the layout pattern can be cut very easily by anyone who follows these instructions.

In all of these layouts, it will become apparent that maintenance of the same number of skins right up the coat to the waistline and beyond will definitely necessitate too much waste. Even though the smaller skins have been carefully placed under the arm and for the top of the garment, wastage will ensue. The best solution of this problem of narrowing the coat to fit the pattern is to fit one skin over two under the arm.

On furs which utilize the rounded-head layout this is accomplished by what is known as "doubling" a skin. Actually this means that a wide skin is set over two narrow skins, usually under the

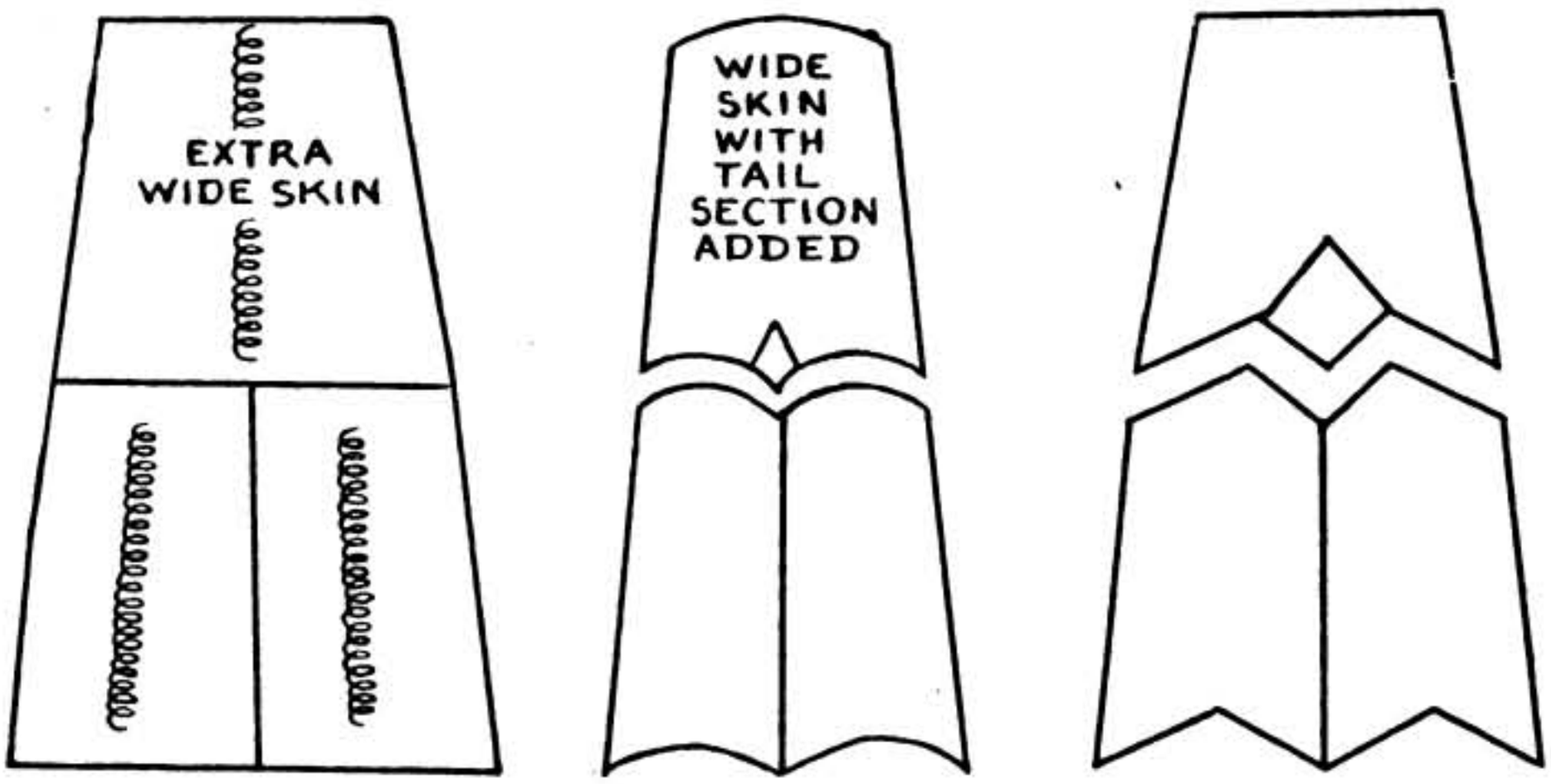


Fig. 61.—Doubled skins.

arm where such an arrangement will not be apparent. The tail area of the wide skin is not cut away as much as usual but is left to form parts of the double curve necessary to fit over the heads of the two narrow skins. Sometimes this tail is split open and an extra matched section added to make the necessary wing or tip. The rump of this wide skin should have two complete rounded curves, each one nearly as big as the head of the skin to which it is to fit.

This same principle can be adapted to diagonal or interlock patterns by folding a long skin in half on both sides of an interlock

side is accomplished on the left half by pulling up the last half-inch of the strip being added. With a little practice, the operator can learn to retard the outside wheel for the last third to produce this desired effect.

C. Trimming. Joining of halves, whether the right and left half of the same skin or, as is often the case, a mixed pair, cannot be done without trimming off the steps made by letting out the rump

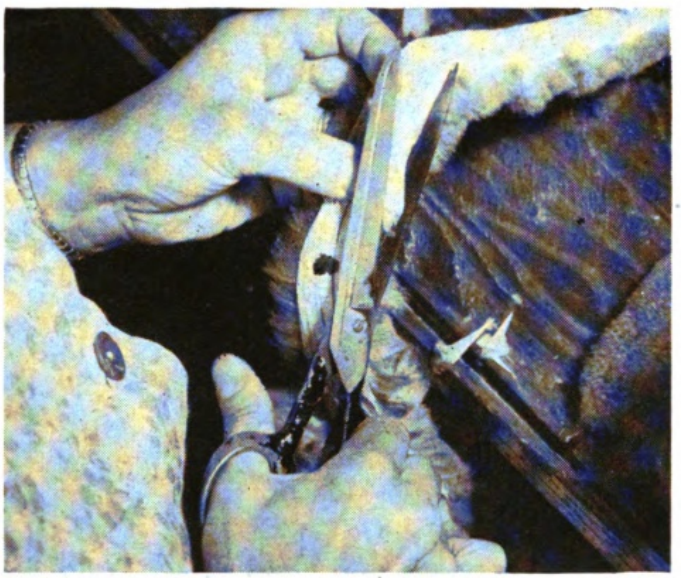


Fig. 109.—Operator trimming let-out skin with scissors.

of the skin or, in side-cut skins, the steps at the head. Only enough of these steps are trimmed to permit joining. No attempt should be made at this point to even off the outside edges of the half skin. Joining presupposes halves of exactly the same length and at least as long as required by the cutter. Usually a needle one size heavier than has been used to let out the skin is used to join the two halves together. Sometimes black thread is used on white fur or the reverse so as to mark off the grotzen for easy nailing.

When the halves have been joined, the unevenness of the sides is trimmed off as little as possible. Where the return and labor cost warrant it, the pelts may even be dampened slightly and stretched out by hand before trimming off any excess fur. The trimmed skin should have smooth edges and a constant width, straight or tapered according to the needs of the pattern.

and interchanging the quarter sections to get the proper flow pattern.

The technique of doubling is illustrated in Figure 61.

While we are still on the topic of layout, it may be advisable to point out an interesting variation of the straight notch and V pattern layout described above. This variation utilizes what is known as a lapped seam. This novelty effect embodies basically the same method that is used in laying shingles on a roof; that is, the upper section laps over the next lower one in some regular manner. On muskrat flanks where this technique is most commonly used, the flank is cut just like a plain notch sewing job except that an extra ¼-inch loss in height is allowed for each head and rump joining.

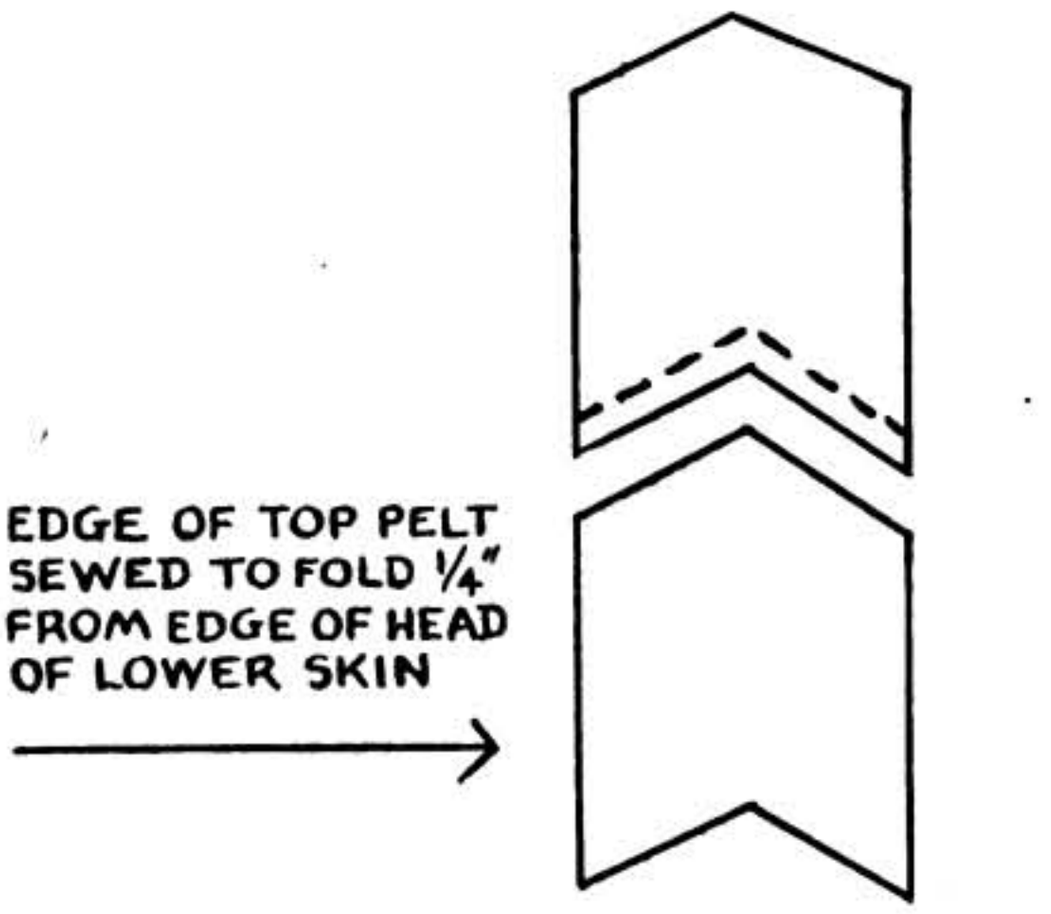


Fig. 62.—Lapped seam.

In the sewing, the operator folds the rump point edges about ¼ inch from the end and sews this fold to the head edge notch. When examined from the hair side, the rump will lap over the head in shingle fashion, making an attractive pattern.

Such a novelty as the "ombré" muskrat, which is simply a utilization of the color variations of sections of a muskrat skin to make a shaded garment, represents only one of many unexplored fields in this particular fur technique. Merely to arouse interest, the author has sketched in Figure 63 an idea for a combination of previously described layouts to the sling cape popular at the time of writing.

B. Operating. There is no particularly new technique involved in sewing out these layouts if they have been correctly marked.

inch in mind. Let-out cuts are made in the rest of the skin without touching this grotzen tongue.

In letting out a skin cut in this manner, the operator cuts the tongue free and puts it carefully aside. He lets the half skin out as

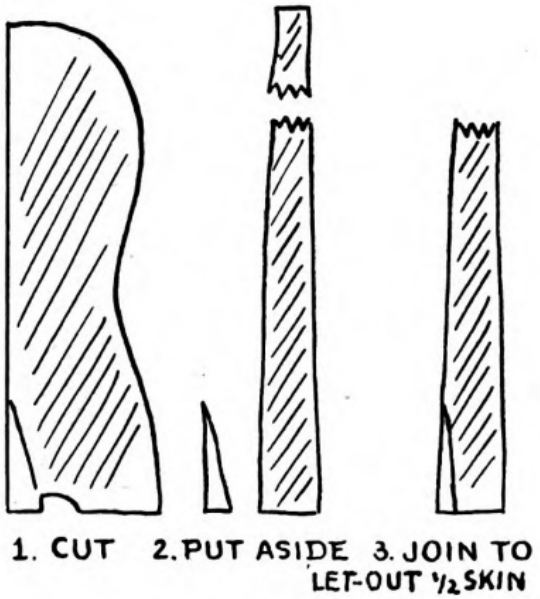


Fig. 112.—Grotzen tongue (refinements of let-out work).

usual, allowing the rump area to remain about a half inch narrower than desired. He then trims the steps away and sews this tongue back in place, thus giving the pelt a grotzen at the rump.

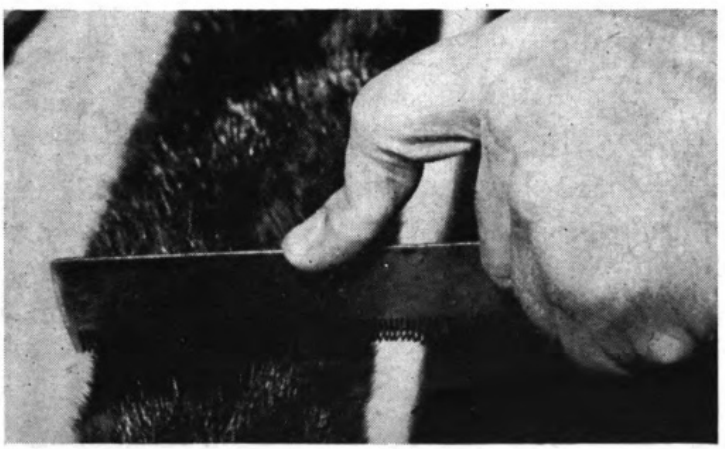


Fig. 113.—One method of marking shoulder (by comb).

If the seams meet at all joinings, the job is bound to have the correct appearance. Interlock panel pairs are usually stacked in one bundle alternating left and right just as they were cut, with the base triangle

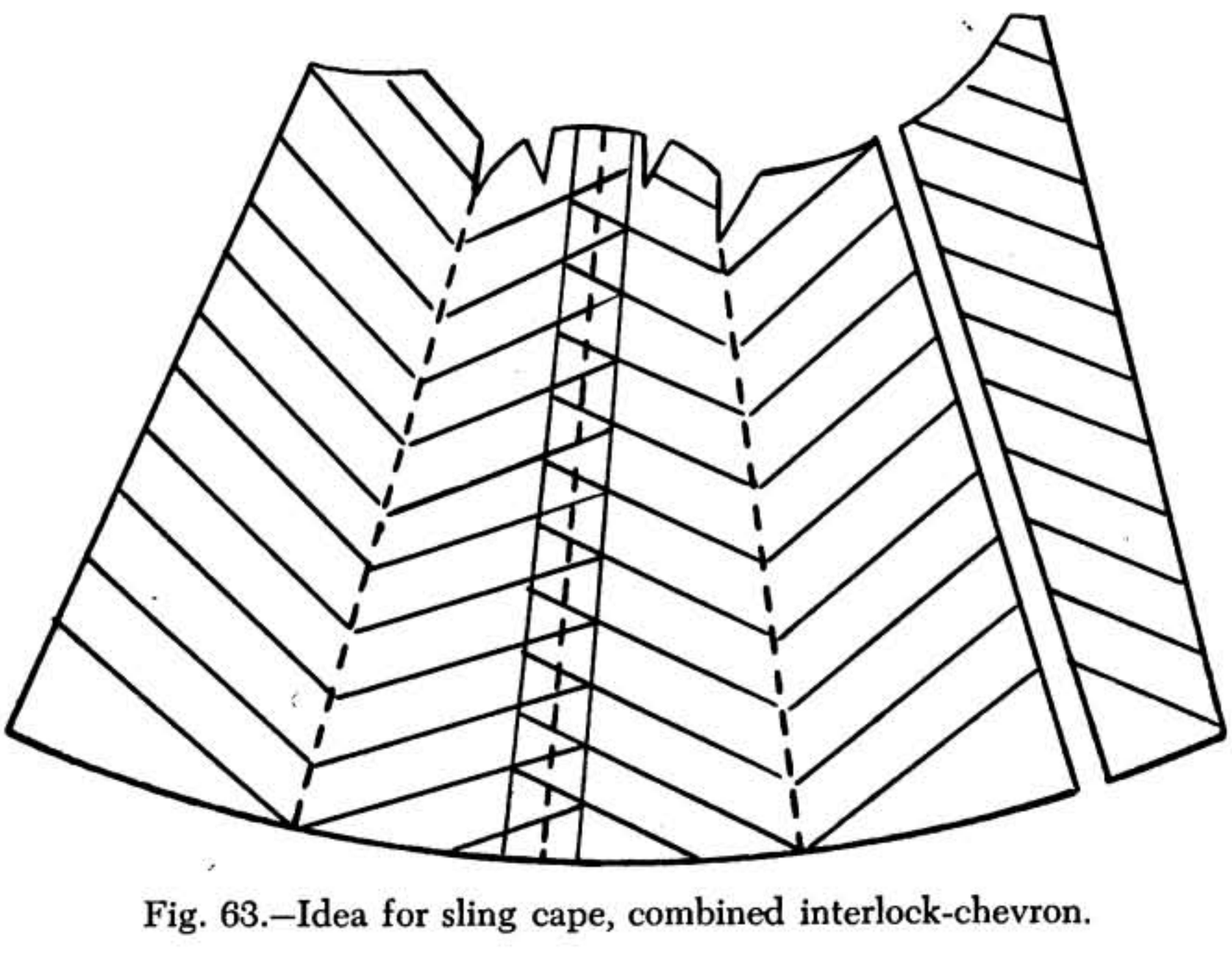


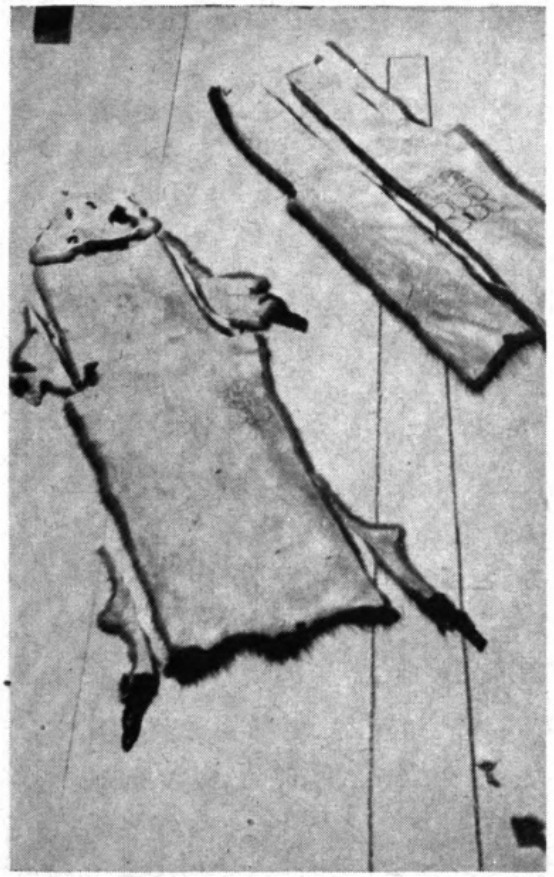
Fig. 63.—Idea for sling cape, combined interlock-chevron.

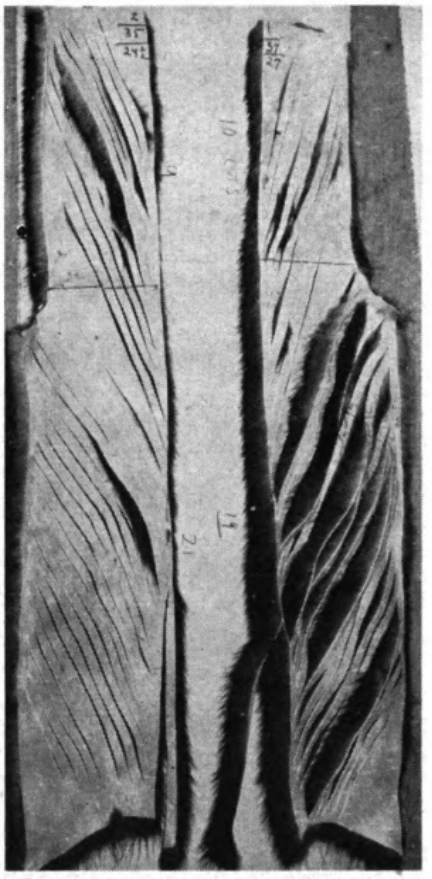
piece on top. In sewing this particular type of work, the entire interlock pair is joined up at once, completing the panels in one job.

C. Nailing. Nailing follows the same general pattern layout previously indicated. The only added factor is that of keeping the vertical lines in proportion and in place.

CONCEALED-SEAM LAYOUT

In direct opposition to the patterned layout described in the previous section, there is a very important part of fur garment cutting which has for its purpose the concealment of the skin joinings as much as possible so as to produce a single platelike, fabriclike unit. Two outstanding examples of this idea are the seals and the lambs, Persian and others. In this entire group various means are adopted to accomplish this purpose. All evolve from the same principle—utilization of some type of seam which will





Figs. 115 and 116.—Steps in trimming and letting out a mink skin. Note grotzen tongues in Fig. 116 (at right).

might have used 10 cuts to have produced 10 inches in the main area of the pelt, he may make 10 cuts in the head to produce only seven additional inches of length.

D. V Let-outs. It will not take the fur worker who is doing considerable let-out work long to discover that a pelt does not need to be split in order to be let out. This variation of a let-out technique was at one time far more common than it is now. It was once used almost entirely on beaver and even today finds considerable use in certain foxes, fitch and special problems.

The basic difference between V let-outs and split-skin is that the grotzen is not split in the V type. Unquestionably, the result is superior in this latter form, simply because the pelt is cut up less. The calculations are much the same as on any split-skin work. Each of the base triangles is measured off just as it would be if the

minimize to the eye the fact that the skins have been joined and give as much as possible the appearance of one unbroken unit.

Part of the art of military camouflage is based on the fact that the human eye will easily follow only those lines which run fairly straight in a vertical or a horizontal direction. The camouflager breaks up these lines into a zigzag, wavy or irregular pattern, making them difficult to follow. This same principle enables furriers to assemble multiskin garments which seem to have been made from a single sheet of fur.

Zigzag Seam

By far the most common of these concealed-seam systems is the plain zigzag. This is used for the seam most difficult to hide, the one which joins the head and rump of a pair of skins. Size, angle and cut of the zigzag depend upon the quality of the work and the nature of the leather of the skins.

In all of the seal-type furs, such as beaverette and Hudson seal, the layout and trimming are made with the hair flow running up; that is, with the pelt heads toward the sweep. Experience has indicated that in all of these flat sheared furs, working with the hair in this direction makes it fall back and stand up. This gives a fuller appearance and hides the zigzag better than it would if the hair were made to run down.

The layout for a sealine garment is much the same as that already described, with the exception of the hair flow and the placement of the densest pelts on top rather than at the sweep. After dampening, the upper or head half of the pelt is stretched in the width (after cutting off a half-inch strip of the rump to "free"* it), while the rump half is worked out in the length as much as possible.

The trimming of the skin follows the system already described except that it is done with an eye to the shape desired. Whenever possible, tongues are drawn from the rump section for the same reason; that is, so that the skin will be narrower at the rump and wider at the head, in direct opposition to its natural shape.

A. Zigzag Cutting. Until recently zigzagging on these skins was invariably a separate procedure. The skins were cut and sewed

*A great many pelts when dressed have head and rump edges which are not as elastic as the rest of the skin. When a half-inch or so of these two edges is removed, the skin can be stretched and manipulated.

where controlled shortening and widening are wanted. The let-in V cut differs in form from the let-out cut in that one side, after reaching the center of the skin, is continued in a straight line down

Fig. 119.—Single and V let-in cuts.

the grotzen for as long as the let-in distance is to be. The other half of the V cut stops ½ inch from this first cut.

When the rump or head of the pelt is to be widened, the let-in

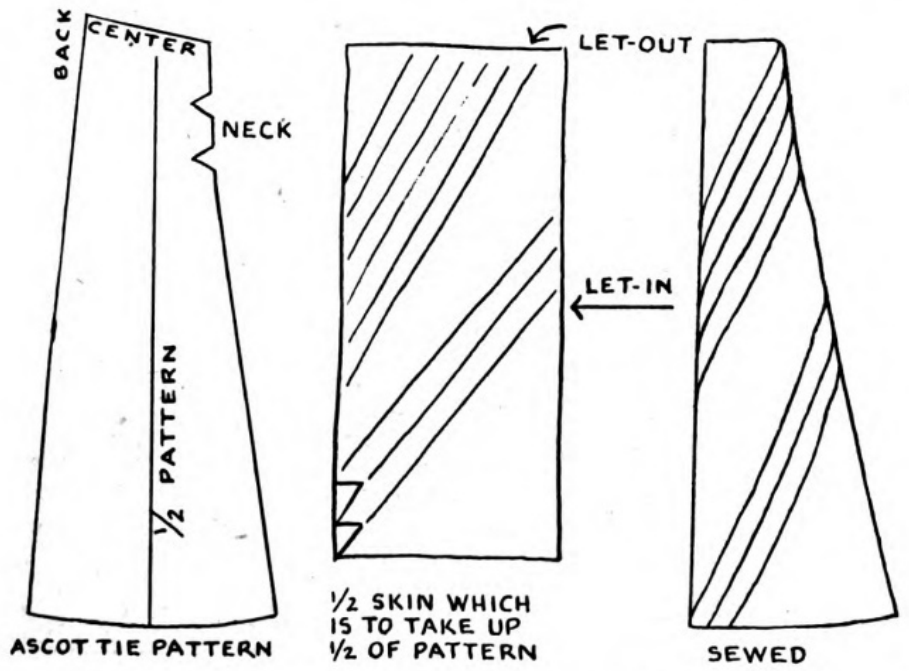


Fig. 120.—Combined let-in and let-out. Center and right enlarged to show detail.

are clean and regular in size, lending themselves readily to this type of cutting.

When cut all at once this way, the skin is trimmed and damaged as usual to the size and shape allotted to it in the layout. The number of zigzags per skin is determined in advance by a consideration of the standards of quality and the average width of a skin. A good quality job will utilize one complete zigzag per inch of width in cutting this type of work.

At first, the cutter will have to make sample guide marks on the skin to assist him. They are made as follows:

First divide the width in half, then subdivide as needed. On odd-numbered zigzags the center of the middle zigzag falls on the center mark. As this procedure is repeated the necessity for making elaborate guide marks gradually disappears. An experienced cutter can cut zigzags of this type absolutely freehand, selecting the size by eye and coming out with a set of zigzags which are surprisingly accurate and even in size.

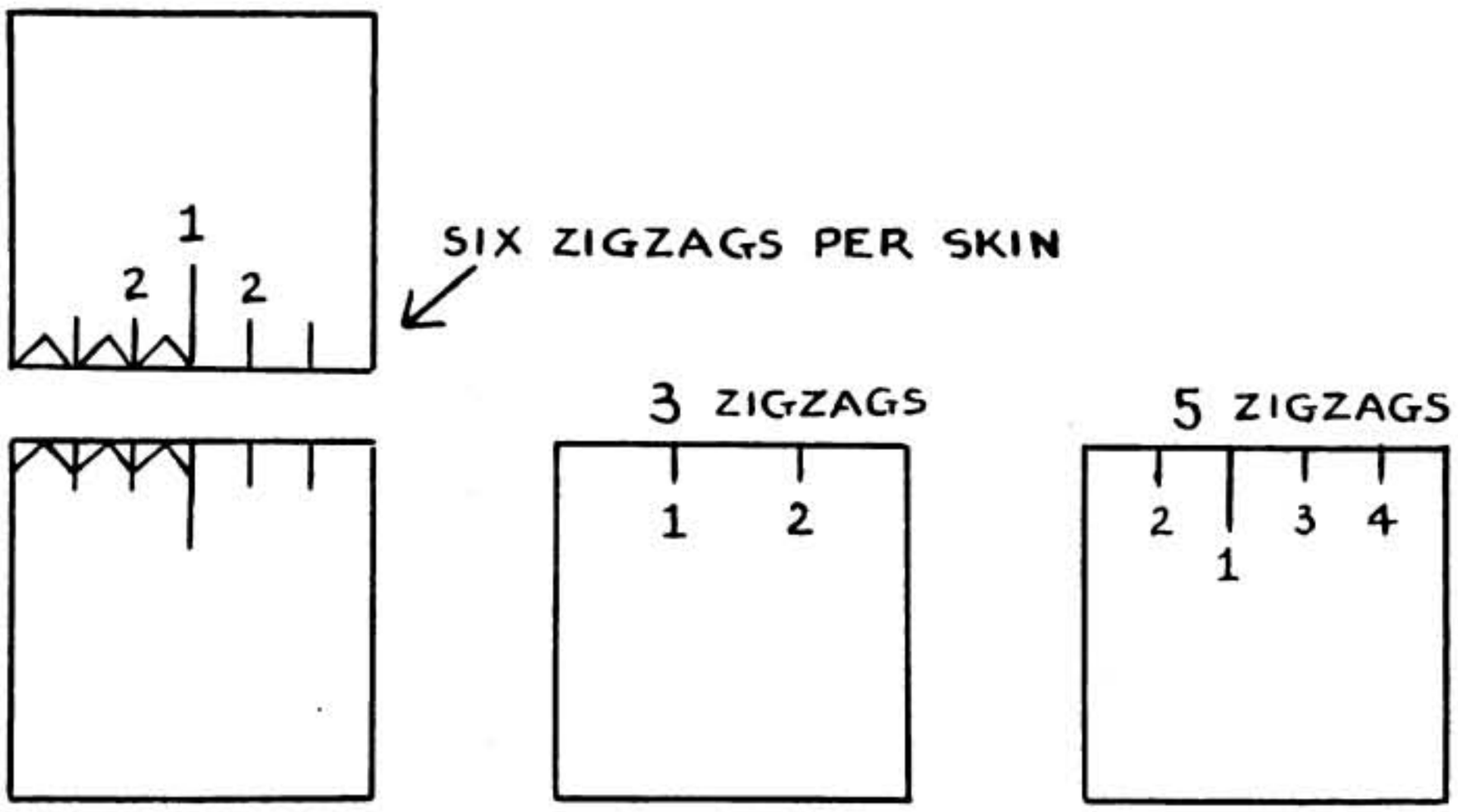


Fig. 66.—New method of cutting zigzags to skin. Numbers indicate sequence of zigzag guide marks.

Two complications may make this type of cutting difficult for the beginner. The first involves the problem of doubled skins under the armhole, where a half skin must be zigzagged to fit a whole skin. Actually, zigzags of this kind are an advantage where

I. Reset and Let-out Combined. Very often the job requires that two let-out skins be produced from one pelt. The pattern or parts of it may be short or the pelt may be very large or it may be simply more desirable from the esthetic point of view to produce these two skins or to give the effect of two skins. Any technique which will produce this result in one step is desirable.

Reset and let-out combined is a variation of split-skin let-out. It is cut in exactly the same way as plain diagonal resets, the cutter

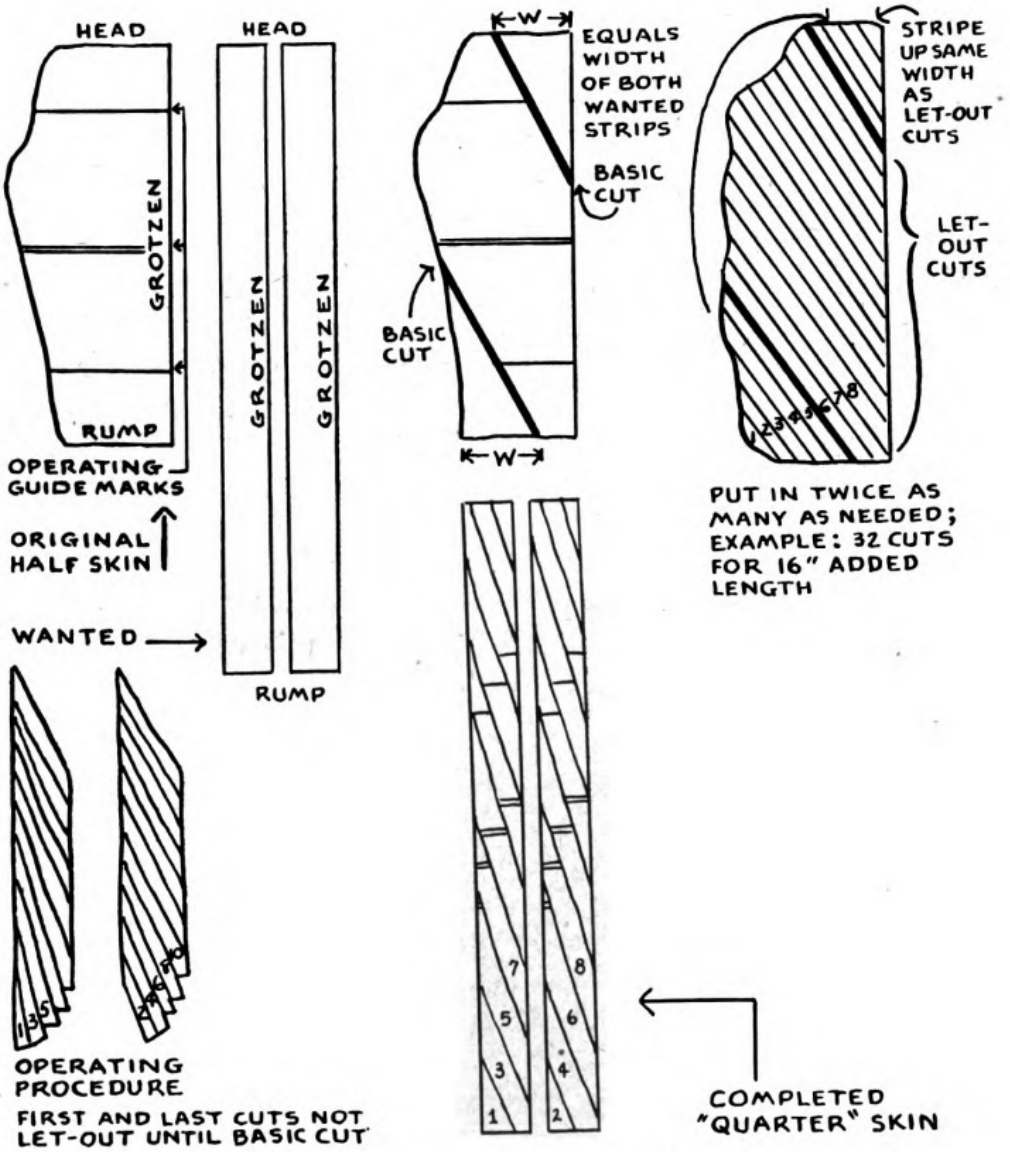


Fig. 124.—Reset and let-out combined.

Zigzags can be made with a fine needle, probably a size or two finer than one that is normally used on the garment, and thread to match. It is wise to have the rump side of the seam on the inside wheel because this makes it possible for the thumb of the left hand to hold the fur in shape. If one side of a zigzag is larger than another, this excess should be worked in before the fur is brought to the machine.

Zigzag seams should be anchored to each other by a stitch or two of cross seaming, rather than having them just meet. Connected this way, the zigzag seam will not open up as a result of the strain of nailing.

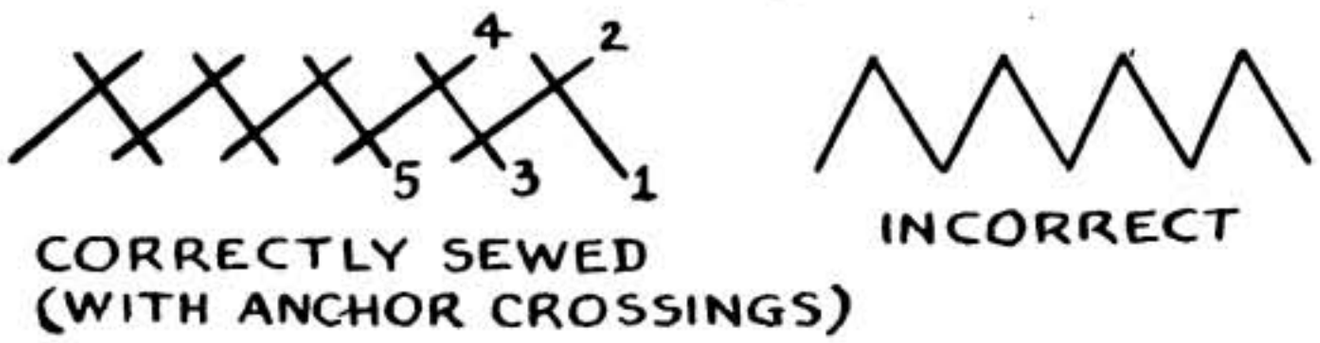


Fig. 68.—Sewing zigzags.

No other special techniques are required for this type of operating, which is also used on muskrat backs, beaverette, sealine, and muskrat flanks. On this last type of pelt each half of the flank receives a full zigzag, the heads getting the notch while the rump is cut to the point, in conformance with the natural shape of the flank. In this way a minimum of material will be lost in cutting the pelt to this pattern.

Hudson seal utilizes a finer zigzag, as small as a half inch on each side of the zigzag triangle. These zigzags are usually cut after the lines have been sewed by what has previously been described as the old method, because of the necessity of drawing up the flank of the pelt to square off the skin. On the other hand, the so-called tongueless Hudson-seal type of garment manufacturing, in which the sides are cut away, can probably be cut by the new method. The word "probably" is used deliberately because up to the time of writing there has been no information of any manufacturer attempting to cut Hudson seal in this manner. No doubt it will be attempted in the near future because of the potential saving. Except for the special handling of the pelts during trimming, especially

The most difficult form of setting up is required by the weasel family, especially mink. The idea here is to add sections of a skin to the original so that the area is increased to the required extent without, of course, altering the appearance or essential proportions of head area to rump area in the pelt. The pelt is first split down the grotzen; then the sections are added in on each half skin in turn by straight incisions. The success of the operation depends upon a knowledge of the character of the skin and a careful alignment of the section to be added with the place where it is to be inserted.

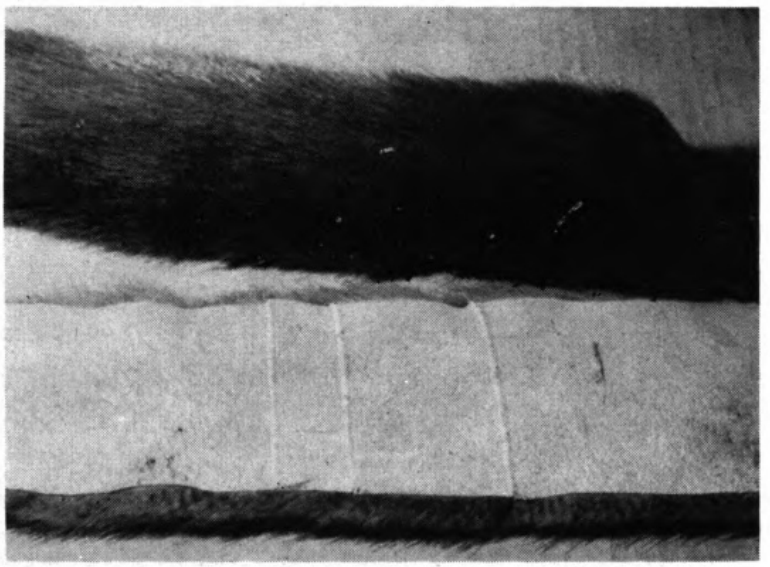


Fig. 127.—Close-up of set-up mink skin, seam and fur section.

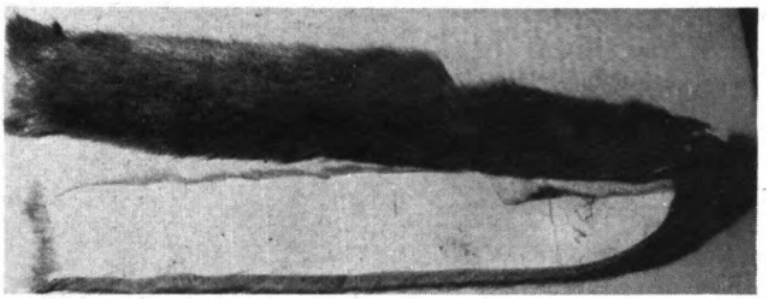


Fig. 128.—Full-length view of set-up mink skin.

When examined along the grotzen, a split half skin is found to have a varied hair height. It starts flat at the head, rises a little in the middle of the head, dips again at the shoulders, and then

the dropping of the double Hudson-seal tongue (No. 16, page 38), the production technique is essentially the same.

Scallops and Natural Zigzags on Lamb

Another group of pelts utilizing concealed seams are the lambs—the Chinese, Russian and processed types. The last are sold as "American broadtail," "Tingona lamb" and other commercially acceptable names. Beyond this particular similarity the manufacturing techniques for lambs and the seals are not at all alike. The Persian lambs will, therefore, be discussed in a separate section.

A. Assorting. In the lamb family the most desired characteristic is what may roughly be described by the word "character" or pattern. Most desirable is the rib or wave marking which is found on the better lamb. A book could be written on the various problems of assorting the different types of lamb. No attempt will be made at this point to do so. The reader is referred to the following section on Persian lamb for a lead in this direction.

B. Layout. After the bundles have been made up the skins are set out on the pattern. The best skins are brought to the most prominent parts, on the same basic idea as in matching or laying out garments previously described.

It cannot be emphasized too strongly that there is no secret as such to matching. In the case of lamb the matcher, using ordinary common sense, must see that each pelt grades off to its neighbor above, below and beside it, and that at no point is there a very sharp differentiation between one pelt and another. It is possible to match out a coat with pelts that have considerable difference yet produce a most attractive garment. The art lies in making the change from skin to skin so gradually that at no point is it obvious.

C. Cutting. Two main differences in cutting methods distinguish the lambs in general from the seal family. In the first place, skins are first set up in vertical lines rather than in horizontal rows. Secondly, with the lambs these lines will be split up in half and shared to each half of the garment. The layout of the skin is folded to make the estimation of the material needed easier. With the exception of the center back, all lines are split and are joined side to side and grotzen to grotzen, or side to grotzen (see Figure 76 on page 95).

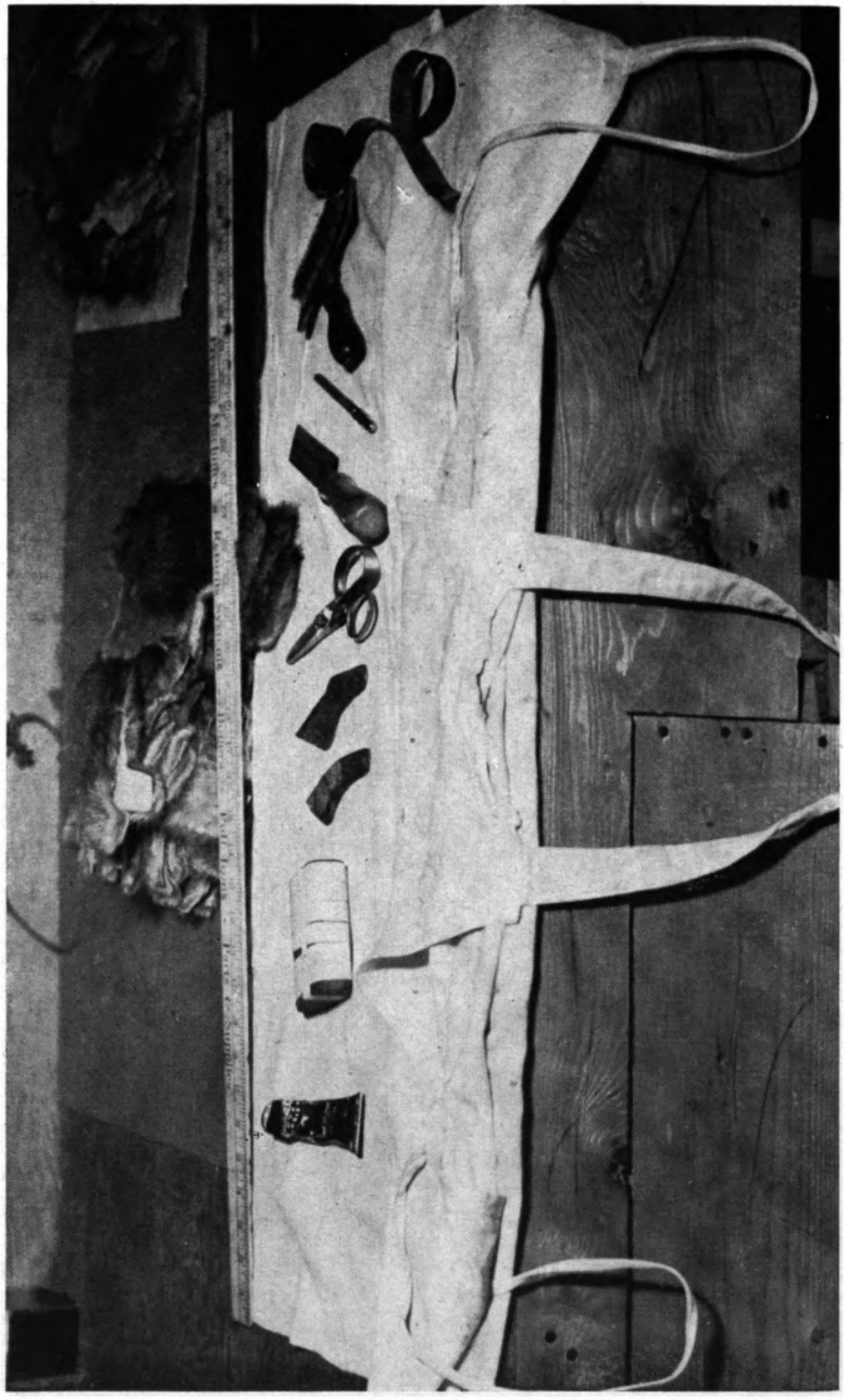


Fig. 3.—Cutter's tools: marking tube, scraper, two knives, scissors, metal comb, ballpoint pen, metal brush, tape measure, apron and ruler.

Fig. 130.—Typical appearance of leather side of let-out body—nailed muskrat coat.

This technique of splitting the pelts in half and using one side of each half in corresponding parts of the garment is probably the outstanding technique for the successful production of lamb-type garments. It is used to a large extent on many furs totally different from lamb pelts which can also utilize this most important and valuable technique to advantage.

An extensive variety of possibilities exists in the joining of head and rump on lamb. They range from plain zigzag of the different types described to the so-called "natural" zigzag (see Figure 69). This last technique refers to the method of joining head and rump of any two skins by placing the trimmed rump over the head areas in which it is to be zigzagged, and tracing the outline on the head in chalk or by a needlepoint tracer. The rump is placed on the head rather than the reverse because the rump area is usually the

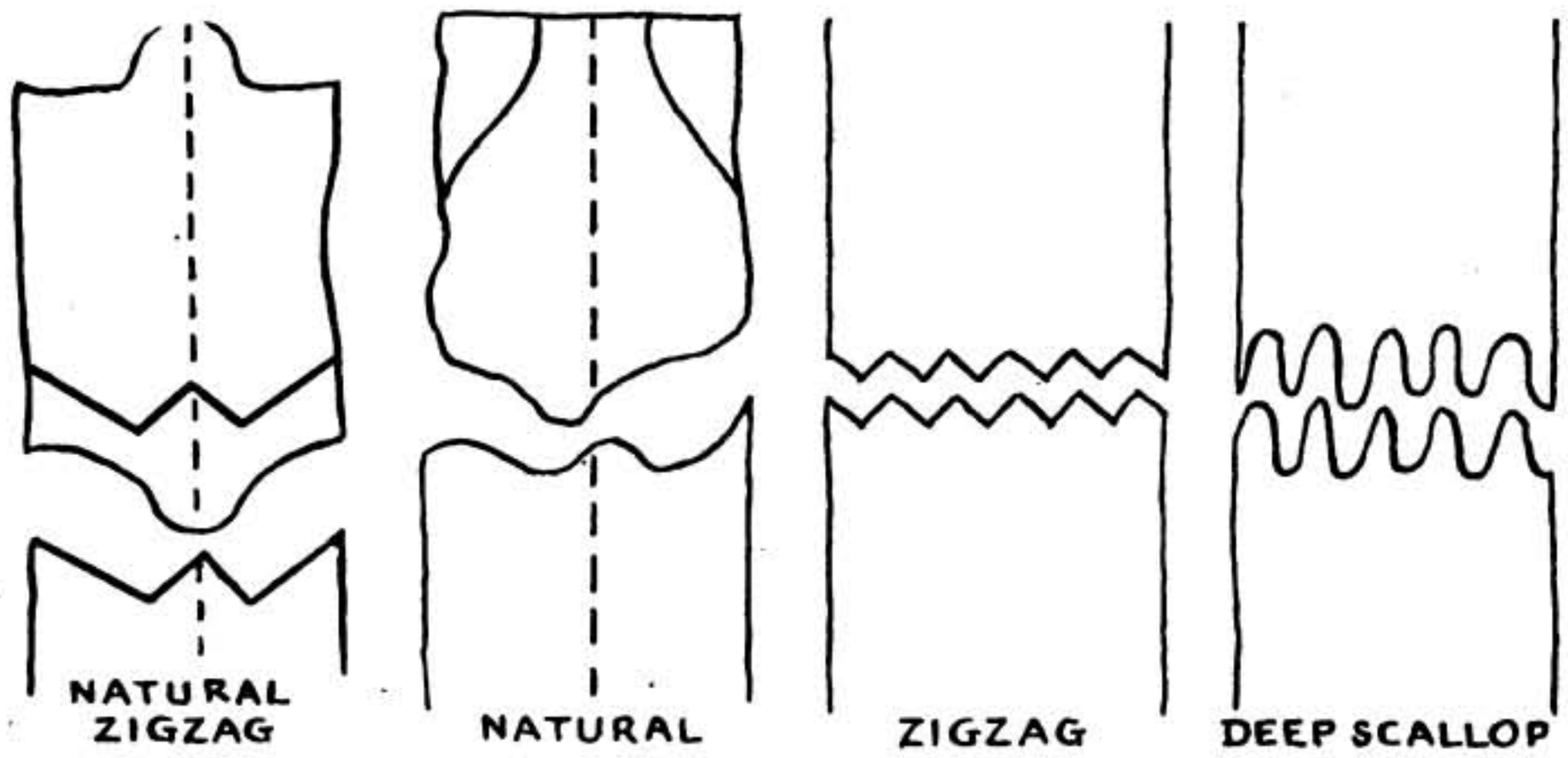


Fig. 69.—Some common head-rump joinings.*

more desirable and should be cut away as little as possible. After the tracing has been accurately made the head is cut away. The resulting outline, irregular as it is, should match exactly to the natural outline of the trimmed rump and the two should fit together. When successfully done this zigzag, by its very irregularity and lack of pattern, is very hard to distinguish and makes the most effective joining of the head and rump of lamb and other types of skins.

By means of joining and patching, each set of two, three or even

slant of the scissors as each clip is made so that the sheared effect will not be flat or even. The object here is to imitate the natural flow and curl of the fur in clipping off the excess hair.

No clipping should be attempted on furs which have been sheared and dyed. It has been found through experience that clipping with a scissors produces a spot which stands out alarmingly because of the difference in the reflection of the light.

Another use for the mechanical clipper is to "unhair" the leather side of pelts where the hair has been forced through by drumming.

I. Shearing (Grooving). Many furs formerly used in their natural long-haired state are now sheared. Among the outstanding furs in this respect are beaver, opossum and raccoon.

The effect of shearing on raccoon is particularly remarkable. The normal skin has long gray hair with a brown underfiber. When this fur is sheared, the full, dark brown underfiber is revealed and when let out the skin bears a strong resemblance to such furs as nutria and beaver.

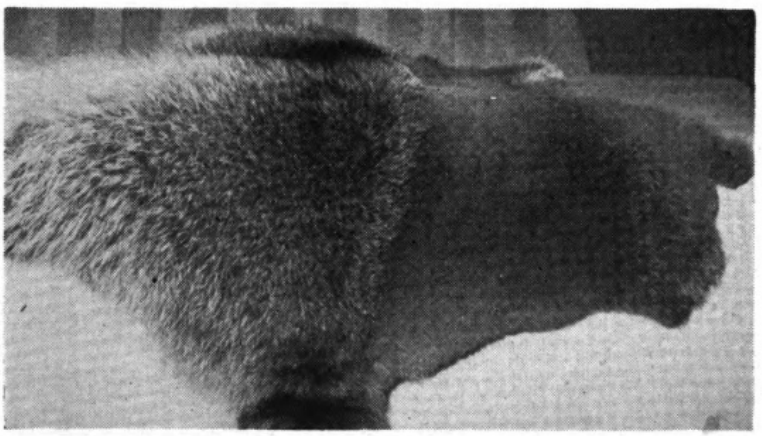


Fig. 132.—Raccoon skin half sheared (right), half unsheared.

The reasons for shearing are twofold. In the first place, it is assumed that sheared furs will be softer, flatter, lighter and more flattering. In the second place, the shearing of many of these furs gives them a novel appearance and, as in the case of raccoon, makes them resemble a more expensive fur.

This shearing is done by a commercial shearing plant geared to this purpose. It is not as simple a process as it sounds. In the

four skins is set up in vertical lines to the proper length and shape in accordance with the layout plans. The proper length and shape are not determined by guess. The lines should be checked accurately by placing the skins on the pattern in their folded position and determining just about how much of the pattern they will cover when nailed out. When all the lines are complete, all but the center back are split vertically, using the particular scallop or zigzag decided upon.

The use of a paper pattern for this work has become accepted in the past decade although it was at first considered confession of a lack of skill. For scallops, especially, the paper pattern is used. A satisfactory pattern can be made by ruling two lines about ¾ inch apart on the 36-inch strip of heavy pattern paper and marking off 2-inch intervals. A complete wave or scallop is drawn in each space smoothly. The proper pattern should show no interruption or break but it should be capable of being used in a complete wave.

The beginner would be quite likely to split the lines as needed and then apply the zigzag or scalloped pattern to each of the ends to be joined. This would result in loss of a section of furs from 1 to 1½ inches wide down the center of each skin, probably the most desirable material in the entire pelt. The experienced cutter makes a light center line down the middle of the skin and then sets the scalloped or zigzagged pattern halfway over the line on each side (see Figure No. 76). Using a dusting bag, which is simply a small piece of canvas into which a piece of chalk has been tied and crushed, he quickly dusts the pattern. He then cuts the skin apart on this marked pattern instead of cutting the skin first, thus saving the extra material indicated.

There is some question as to the basis for choosing whether a zigzag or a scallop is to be used in joining heads and rumps or, for that matter, side to side. The writer from his own experience can make the following suggestions:

First, if the fur is rather full, heavy and weighty, such as lamb, and the hair itself has a wavy pattern, he would suggest using a zigzag of one form or another. On the other hand, if the fur is flat and thin, like Indian lamb, and does not have too much hair, the chances are that a fine scallop would hide the seam most successfully.

of these fine instruments enables him with very little practice to do a far better job on the average fur than could the very best old-time ironer without the use of the steam iron. By means of the steam iron, properly used, and with two or three simple variations depending upon the nature of the fur, any skin from the sealine to the lordly mink can be given a fluffing treatment which will greatly enhance its appearance.

It should be mentioned at this point that a group of fur-conditioning machines has appeared on the market, all based on the principle of the application of a revolving heated surface to matted furs.

All the techniques described above are more or less mechanical. There are also manual processes designed to improve the appearance of fur which involve in some way the use of simple chemicals, beginning with the very simplest—water—as it is used in glazing. These processes are described later in this chapter.

B. Steam-Gun Glazing. Volume manufacturers and processors of long-haired pelts such as silver fox, lynx and wolf make use of high-pressure steam to impart a final very effective glazing to these furs. The unit customarily used by furriers is a gas-fired tank

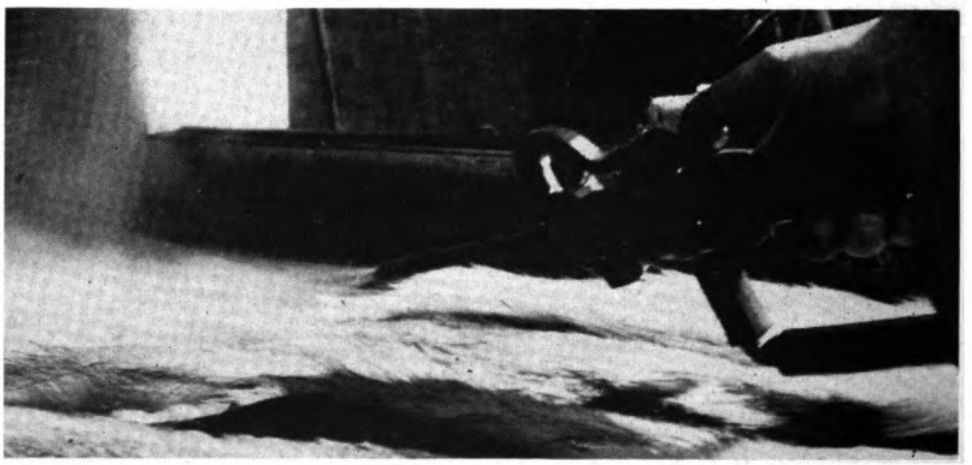


Fig. 134.—Steam-gun glazing.

generating up to 30 pounds pressure, to which has been attached a long rubber hose with a hand-trigger nozzle. The steam is applied at high pressure through the fur.

D. Operating. Theoretically, a well-cut scallop can be sewed in one continuous seam, but in practice on a deep scallop the operator breaks his thread on each full scallop, or about half as often as on a zigzag seam.

A fine thin seam is not especially desirable on most lambs. Rather, a tight-tensioned seam will give assurance that the stitch will not show on the hair side. Nor should the stitch be close for most of the processed lamb, since the leather is not strong enough to support perforations which are too close to each other.

BLACK PERSIAN GARMENTS

A recent census of the wholesale fur trade showed that more wholesalers were making garments of black Persian lamb than of any other single fur. The variations and advances in this field have come so fast and extensively that it deserves the separate attention given here.*

For no fur is preliminary assorting and grading more important than for Persian lamb. The wholesale manufacturer will spend a great deal of time and money in assorting the purchased lots into carefully matched bundles. The entire success of the manufacturing season depends upon this one step. The retail fur-skin dealer sells these bundles made up into units for a single garment and charges a considerable sum for this service.

Assuming that the bundle has been properly assorted, the cutter will first go through it to get an idea of the run or general average of the skins. Essentially the matching technique is the same as that described for other skins. The best skins are placed on the same parts of the garment. What constitutes the best Persian skins is a matter of taste and fashion among other factors. Up to the outbreak of World War II a closely curled, tight, bright and even pelt was considered the most desirable. In the postwar years the customer's taste shifted to the patterned moiré open curl of the skin which furriers have been accustomed to call a broadtail-like Persian.

Although pelt-grading evaluation is not the primary function of this book, an explanation of some of the major divisions of Persian lamb would seem to be in order. Perhaps no other fur has so many grades, sections and kinds as does Persian lamb.

*The following section is a complete presentation on production of a Persian lamb garment.

Fig. 135.—Leather side of sheared raccoon coat being stained.

The Persian lamb is one of the family of ungulata, or hoofed animals, a most prolific source of commercial fur peltry. Unfortunately, the differences between different members of this family are hard to define and confusion often results. Some of the fur pelts in this family are:

1. ***Caracul and Eurasian lamb,*** with an open wave or curl. The hair is naturally white, brown or black or mixtures of these colors. This pelt is usually dyed in a brown or black shade.

2. ***Krimmer,*** a southwestern European lamb. Each lamb has black, white and gray hairs, the gray concentrated along the grotzen. The curl is flat and forms a circle.

3. ***Chinese lamb,*** a small pelt. The hair is generally white and silky and lies flat against the skin. This pelt is always dyed for commercial use except very, very rarely when it appears in the natural white in evening garments.

4. ***Persian lamb,*** originally from Central Asia, now mainly from Russia and neighboring countries. The hair is coarse and the curl is tightly formed. Pelts are generally black. Another natural color is gray; the hair is all iron gray as distinguished from krimmer. Occasionally brown pelts are found and marketed.

The Persian lamb itself is classified by two distinct systems. One of these systems is based upon the age of the animals when killed and the other on breeding purity. By age, Persian lambs are classified as follows:

1. ***Galyak,*** a prematurely born Persian lamb. The hair is short and straight. The pelt usually shows a ribbed design down the center back. The pelt is so fine and thin that by comparison with other furs it is almost hairless.

2. ***Broadtail or broadtail lamb,*** a new-born lamb three days old or less. The hair grows in patches, short and thick, each patch reflecting light differently to give a moiré or watered effect.

3. ***Persian broadtail,*** a Persian lamb up to a week old. The hair is longer than on broadtails and a design is beginning to show down the center back. The most desirable pelt of this nature has what is known as a tree formation. The moiré pattern may be said to resemble the branches of an evergreen tree running across the skin in opposition to the grotzen. This is most eagerly sought.

H. Pointing. The value of a silver fox, according to recent style preferences, is determined almost entirely by the amount of silver guard hair in the pelt. Such classifications as quarter silver, half silver, three-quarter silver and full silver are simply another way of stating this fact. It long ago became apparent that if a silver fox could be made to have or to show more silver hairs than it was given by nature, the value of the skin would be increased. Furthermore, other pelts similar to silver fox in nature but lacking these silver guard hairs might be made to resemble the silver fox by the addition of the silvered hairs. When silver foxes were very expensive, it was not uncommon to dye a Russian or Sitka fox black and then add silver hairs to it.

The process by which these guard hairs are added to a skin is called "pointing." It is nothing more or less than a mechanical process of gluing selected badger hairs into the skin where needed

Fig. 136.—Enlargement shows knife pointing to base of pointed hair cluster attached by glue.

to give it the desired silvered appearance. Working from a model, the "pointer," as such a technician is called, carefully glues the hairs, one by one or two at a time, to the spots desired on the skin. She uses a prepared glue, selected badger hairs and a fine pair of tweezers. With great skill she blows the hair away from the spot desired so that the base areas of the natural hair are exposed. She then glues these badger hairs to the base of the natural hairs.

A good pointer can increase the value of a poorly silvered silver fox by a great deal. The market value of a good pointing job has ranged from $7.50 to $15 per skin. When silver foxes were high, the cost was warranted and the expense often undertaken.

It is interesting to note that so far as can be determined from history the introduction of the Persian lamb into Russia came long after the lamb had been in full commercial production in its native Persia. A parallel exists here with the introduction of the Melton lamb to Germany where it thrived far better than it had in its original home. Persian lamb, too, produces a far better grade of skin in Russia than in its native state of Persia.

Gray Persian, while differing from the black only in color and luster, is worked in an entirely different manner which will be explained in the section on let-out work.

The mass-production methods used on the more popular Persian lamb are practical only with highly expert help. The most skilled specialists, however, modify these methods to a more leisurely, careful technique which, with some modifications, may be used by beginners in this particular field of the fur trade.

A. Matching. After the bundle has been studied, it is broken up into three or four grades, the fewer the better. As usual, the best are distributed over the center back, top sleeve and collar area with the hair direction running up. Experience has shown that most of the lamb family, especially those having a smooth curl, appear to better advantage when turned around and worked hair up; that is, with the rump up and the head down.

Here again the more individual of the best skins are utilized for collar or tuxedo, if either is part of the pattern. The entire garment must be fully matched up—body, sleeves and trimming—before a single cut is made. Every pelt and every line of the pelt must blend into the skin above, below and to either side.

Nowhere in fur craftsmanship is a good match more important than in working Persian lamb. Even the height of hair must be carefully considered. The change from one skin to another must be most gradual, flowing from the flat thin skin at the tops and back to the heavier skin at the lower front.

For a standard pattern, the back is made up of two lines of three skins each, one folded for the center back and the other split for the sides of the back. A 1½- or 2-skin line will make up the underarm panel. The front is made up of three separate panels, usually of three skins each on longer garments. These are named, for the sake of clarity, from the armhole out to the front. The panel

Fig. 137.—Part of stock of wholesale fur matcher.

over this top skin until a spot is found which seems to match the rest of the middle skin perfectly. A tracer or pin is then used to mark the edge onto the head underneath. It does not matter if half of the head skin is cut away, since it will be used to fill out the sweep area of the lines at the bottom.

Here again the experienced cutter saves tracing time by simply placing a pin through that part of the top skin and the head which he has determined will make the best match to the rump as he has cut it out in the W formation. He turns the skin over and traces the W freehand through the head skin at the point where he wishes the joining to be made. While a timesaver, this is not quite as accurate as tracing with the tracing wheel.

Again, it must be remembered that the center of these skins must match perfectly so that the grotzen, or pattern, if there is one in the skin, will run continuously from one skin to another without a break.

When the trimmed area can be most conveniently cut into a straight line, a zigzag may be used to set it into the end of the next skin. The more difficult the match, the deeper the zigzag used. Even scallops have been used to work two comparatively dissimilar skins together.

Another interesting and useful concealing seam, the "lightning" or "mixing" cut, can be used to blend head and rump of two skins together. The beginner should first mark two lines, one on each edge, about ¾ inch from the edge right across the skin. The width to be mixed together is marked up in three units just as if three

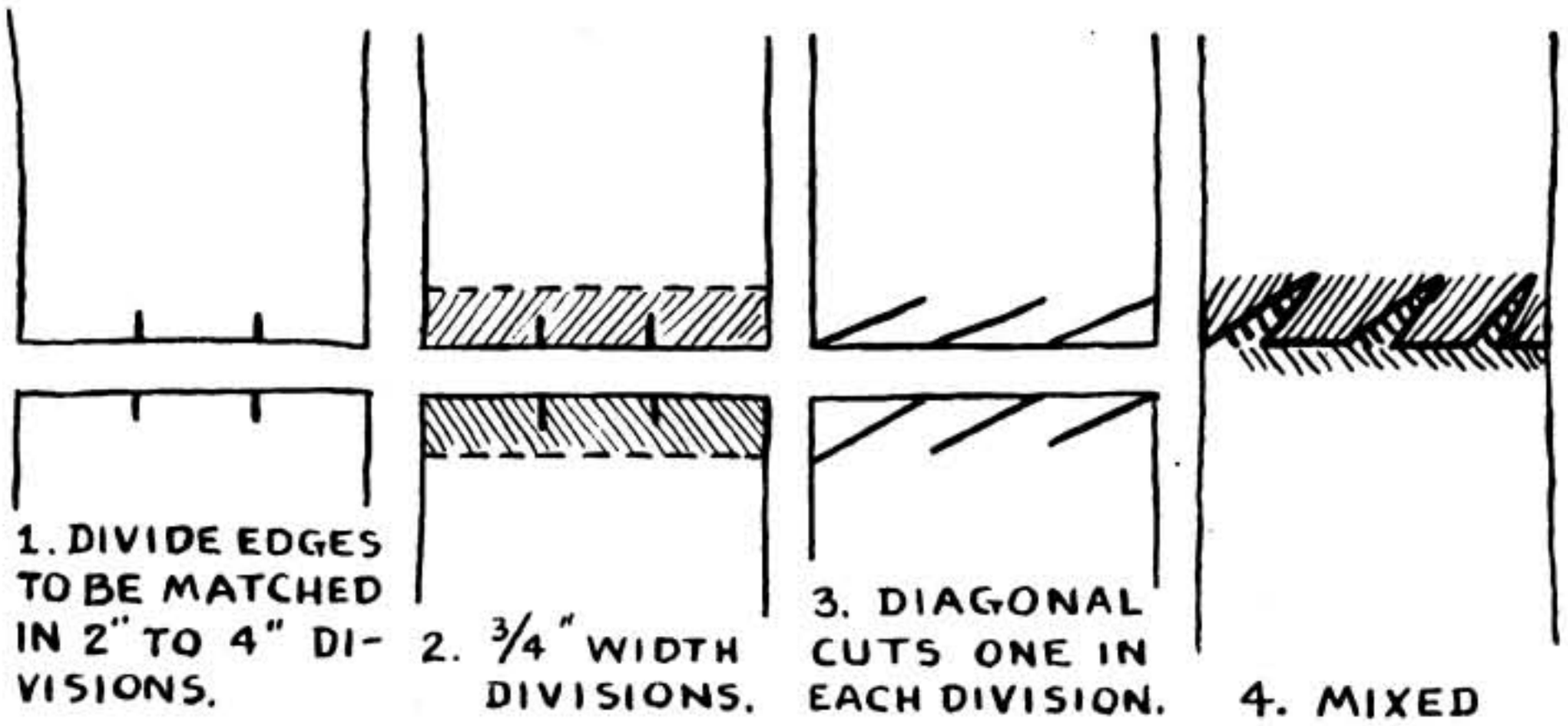


Fig. 75.—Lightning or mixing cuts.

in for repair becomes full of damages after it has been repaired. It may be worth your while to go over in the customer's presence the exact areas which require repair so that both you and she understand exactly what is to be done. The areas most commonly requiring repairs are cuff edges, facing edges, pocket fronts and the button areas.

B. Opening the Lining. Cut open the stitches of the facing and cuff lining with a fur blade or razor blade. Peel the lining, stiffening and looping well back of the edges to be worked. Turn the

Fig. 138.—Opening the lining.

sleeve lining back until it is well above the elbow. Processors who are not quite familiar with the special techniques of fur lining should note the type of stitching, location of buckram and similar details to be copied when replacing the lining.

Usually the fur needs to be replaced around the buttons and loops. To make certain that they will be resewed in the proper place, mark the original opening by means of large ruled X's in pen or in crayon, drawn so that they will extend well beyond the area to be replaced.

C. Locating Damaged Edges. The surface to be examined is laid out flat, hair side up. In the case of cuffs, you will have to open up the underarm seam to the elbow. The experienced processor will

zigzags were going to be cut to join these two edges together. However, instead of a zigzag, a long diagonal cut is made from the marked-off thirds across each area on each edge (see Figure 75).

Where these mixing cuts have been completed on any one edge of the skin, there should be three long diagonal cuts starting from the upper right-hand corner of the unit area marked off and ending in the edge of the skin. These three cuts should be parallel. The matching edge of the other skin is cut in exactly the same way with the cuts made parallel to the first strips. The completed cutting job of both edges should therefore have two sets of three cuts each, each the same length, at the same angle and parallel to each other.

In joining, the thin wedgelike points are opened and the opposite wedges are placed in the spread-open spaces. In effect, therefore, the last ¾ inch of each of the skins has been interchanged. This method is also used on a long seam, such as under the arm where a layout sometimes makes a side-to-side joining necessary.

Another good concealed-seam variation is a very deep zigzag, 2 inches or more in depth, which serves to weld two skins together. This deep zigzag is used only on the side center back or the center front where the intermixture must be perfect. When such zigzags are taken out of the skin, the waste of both seams can be set together to make a 2-inch strip that may be used for facing or undersleeves, or for flowering.

While this assembling has been going on, the cutter has also been utilizing those pieces which fall off from his zigzagging and other work to fill out and even out the edges of the skins so that the completed line will have the long, even, tapering shape needed on the pattern. The cutter will also use some of these zigzag waste sections to fill in damages or flaws of the skin, a point which will be discussed in more detail later on.

Now that the lines for the back, the three front sections and the sleeves have been assembled, they are dampened slightly and pushpinned over the pattern, leather side up, to check whether each will cover its assigned part. As has been indicated, pieces are added or taken away as needed, allowing at least a half-inch margin for nailing.

B. Joining Lines. Nowhere in the fur field is the technique of slitting a skin or line of skins in half and placing each half in op-

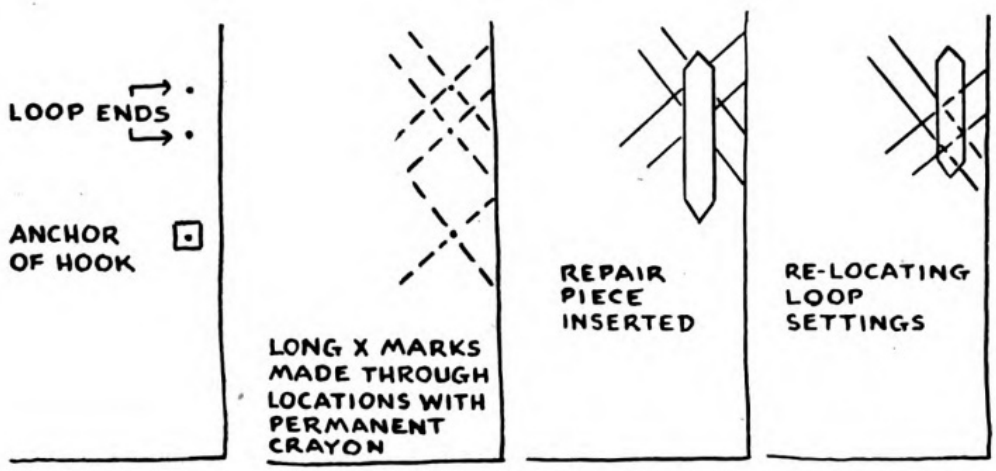


Fig. 139.—Resetting buttons and loops.

now mark out the damaged areas by making slight incisions from the hair side with a fur knife. The beginner, however, would do well to use several pins as markers, pushing them through the hair side at the edge of the worn area.

The extent of damaged areas may not be too easy to locate. The examination will be facilitated by dampening the areas lightly with a brush in the direction of the hair and then glazing back or blowing dry. The damaged areas will then stand out.

Fig. 140.—Method of repairing odd-shaped damages by use of traced paper pattern. O-original worn fur; D-damage spot from which worn fur was cut; N-new fur, and P-paper pattern.

posite sides of the garment more important than in Persian lamb. It might be said that the entire success of the Persian lamb industry depends upon this technique, which makes it possible for a fairly well matched line of skins to make a perfectly symmetrical garment. No other technique, no amount of matching will make a garment with the left side and right side exactly the same, except this particular process.

The same statement applies to a pair of Persian lamb sleeves. No matter how well matched two sets of skins might be, if one set were put into one sleeve and the other into another, the sleeves would quite likely turn out dissimilar in appearance. Only by setting a half of each line in each sleeve can a perfectly symmetrical set of sleeves be made.

The actual joining technique is very similar to that which has already been explained. The lines of skin which have been matched to the patterns, straightened out and tapered off as indicated above, are set together by splitting, usually with a long flat zigzag which has become common on Persian lamb. On the back,

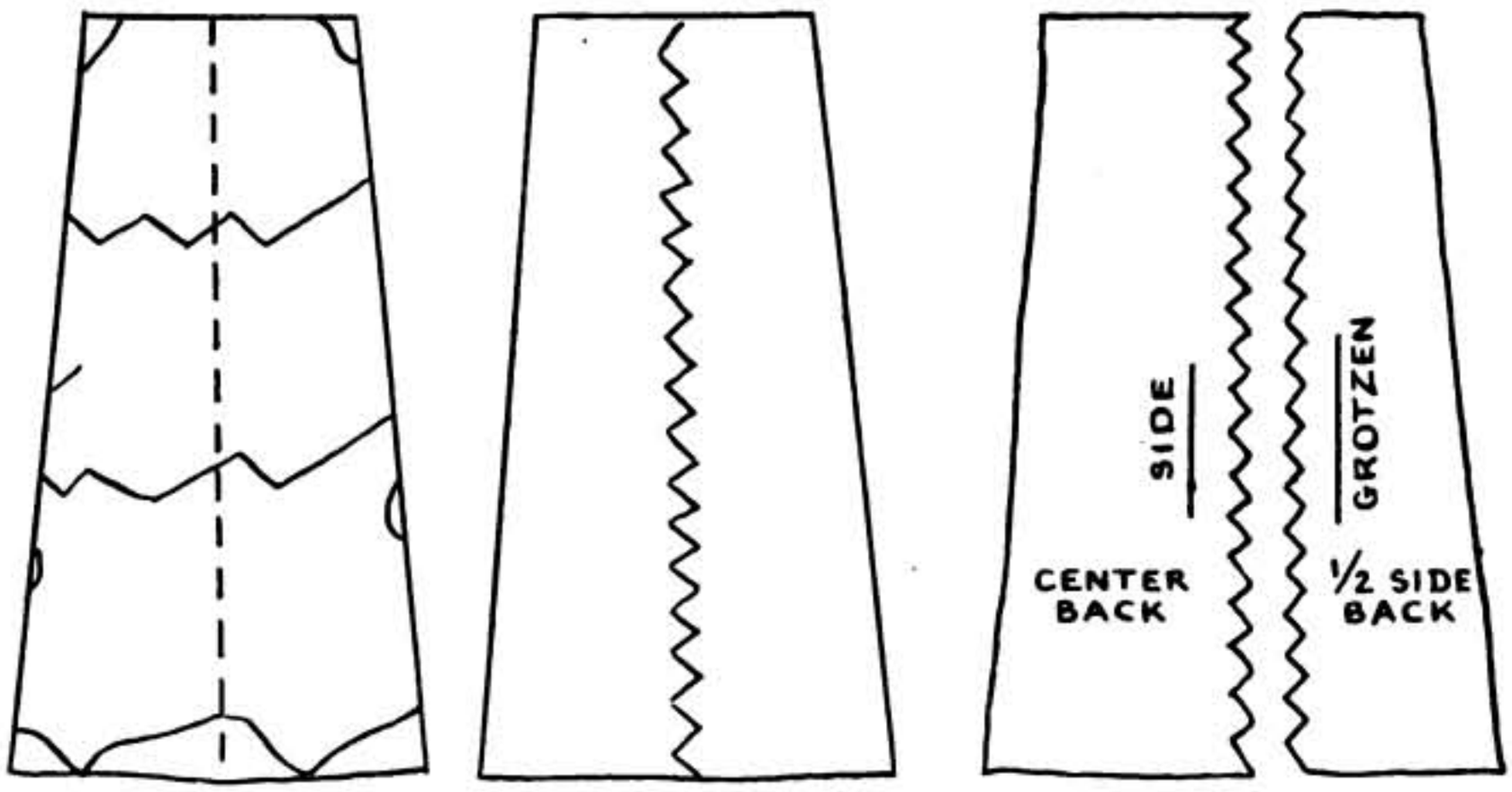


Fig. 76.—Left and center: Splitting a line. Right: Setting two lines together.

the grotzen of the side center back line is set into the side of the center back line. A line is drawn exactly down the center of the grotzen of the side center back line. The zigzag pattern is traced or cut, depending upon the cutter's experience, over this line so that one half of the zigzag is on each side of the grotzen all the way

so that it lies flat except for the seat area which needs adjustment. Next nail or staple a frame of heavy cardboard, at least 24 inches on the side, around the seat area. Looseness in the skin which produced the sag should be confined within this area. The rest of the garment should lie flat.

The sag area is now under control within the cardboard frame. Wet the area down moderately well with a plain wetting brush, using lukewarm water. The fur is now ready for the actual shrinking. The shrinking operation is the only part of this whole job which requires a little skill.

First, heat an electric iron to moderately warm temperature. It is probably best for the nonskilled or inexperienced worker to use an iron which has an automatic control, setting it at the lowest heat.

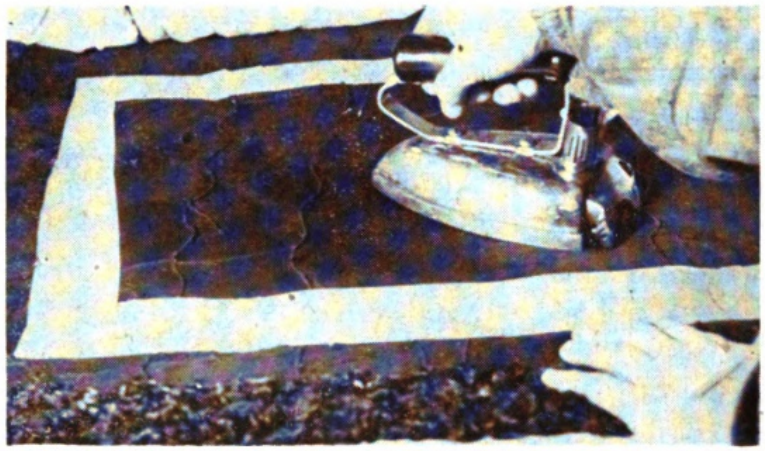


Fig. 141.—Shrinking in.

Pass the warm iron over the loose area with quick light strokes which barely touch the leather. Stop between each stroke to let the steam pass off and the shrinking action take place. Wait as much as one to two minutes between strokes. Six to twelve strokes of the iron will serve to complete the shrinking process.

When the fur has shrunk to a fair degree of flatness, the leather should still retain some slight moisture. It is not advisable to attempt to do all the shrinking with the iron, as the leather may be scorched by overheating.

The fur is now allowed to dry overnight. Probably the best thing to do is to allow it to dry in the flat position. However, if the

down the side center back until the skin line comes apart. The two halves are set over the side of the center back line and a matching zigzag pattern traced on either side of it so that the two lines can be joined together (see Figure 76). Once more, the waste which falls away from this zigzagging should be carefully saved and used to improve and fill out the lines from which it came.

C. Flowering. Flowering is the name given to the technique by which some substandard spots on lamb garments are improved by transplanting, replacement or changing of direction. The name is derived from the elaborate, petal-shaped pieces used on black caraculs and broadtails in employing this technique. When a more

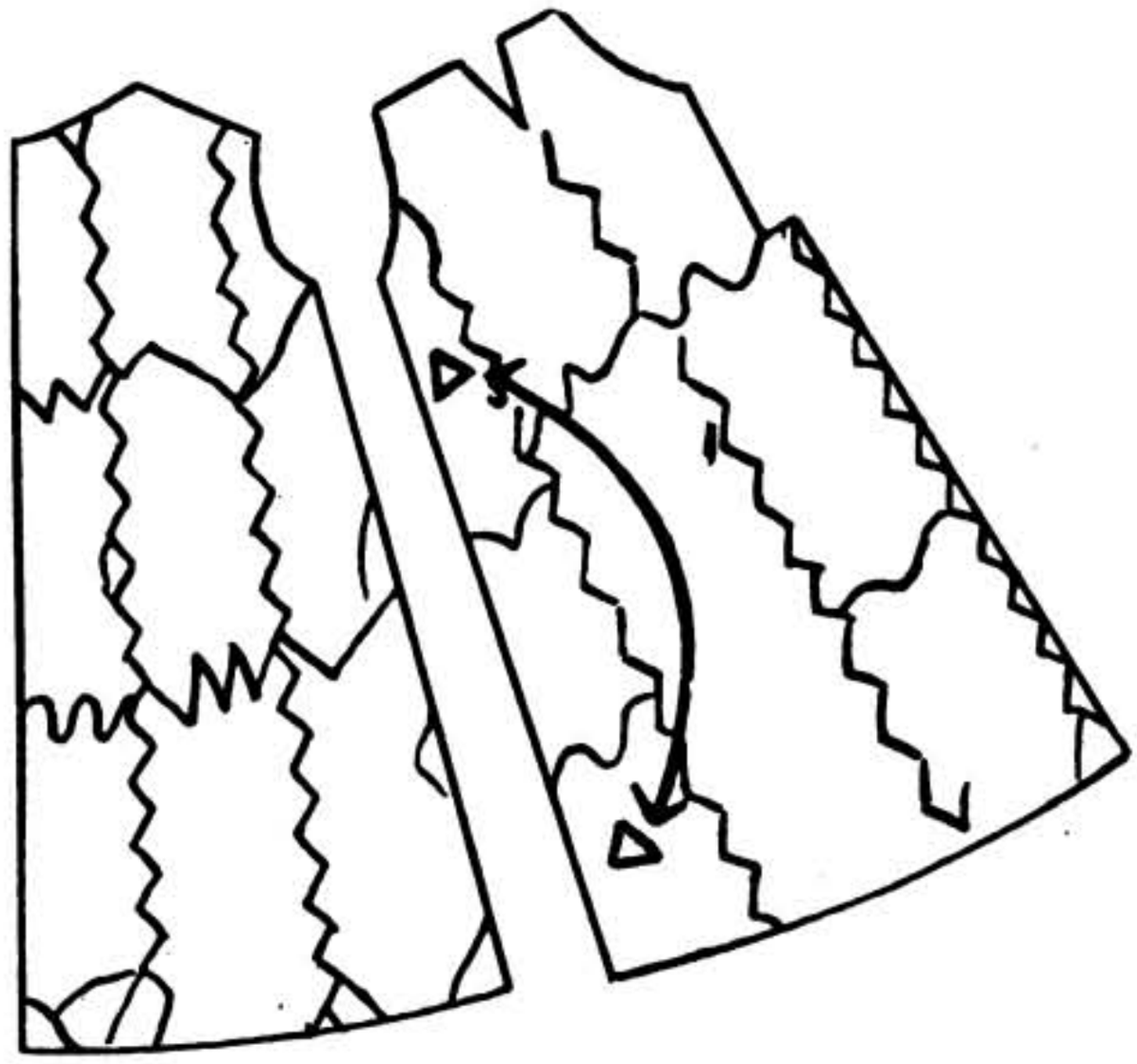


Fig. 77.—Flowering interchanging (six-line layout).

important or prominent area of a garment seems to be substandard, the less important areas under the arm or other inconspicuous places are examined for a section of the same size which might look better if interchanged with the substandard section of the prominent part. The experienced cutter will interchange these sections, cutting them by eye. For the beginner, however, it is safer to follow the indicated technique:

A piece of heavy paper is placed under the leather of the area to be cut and a triangular shape as needed is traced through the fur

Sometimes, if you cannot get fur to match well enough, it will be necessary to use a transplanting technique. This involves cutting a section of fur out of the undersleeve and working it into the seat.

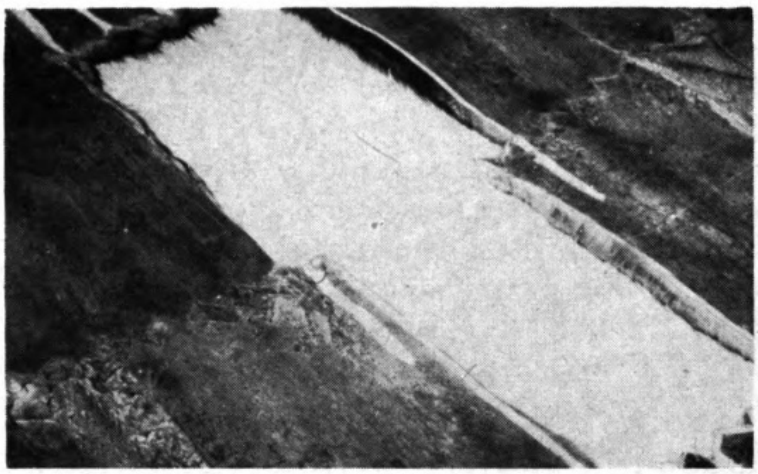


Fig. 142.—Method of indicating grotzen stripes so that fur may be added correctly.

The undersleeve section which does not show is then replaced with the added fur.

After the lining is opened, a series of plain pins are pushed through from the hair side to indicate on the leather side the boundaries of the worn area and the location of all stripes.

In cutting out the worn area, great care must be taken to cut the fur along the dyed grotzen line. Much has been said previously about the necessity of matching to the grotzen of any skin whenever

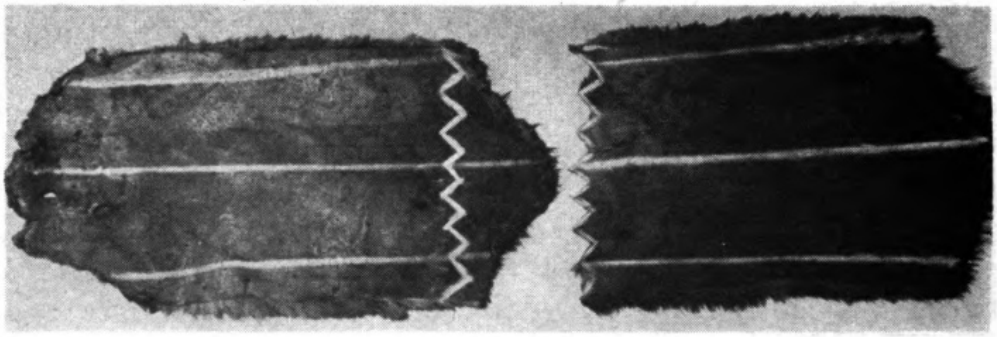


Fig. 143.—Method of aligning two skins when zigzagging so that stripes coincide.

on to the paper. The paper and fur are cut out and the paper form used to remove the needed alternate piece from the underarm or other less prominent area. If among the squarings or wastes a section is available which it seems will improve the area, this may also be used in the same way. Occasionally a poor piece can be cut out in the shape of an equilateral triangle, given one turn and resewed. The change in hair direction sometimes gives the triangular piece so moved more pattern and luster.

After the size and appearance of each major section of the garment have been checked as indicated above, the back and fronts are joined. The garment is now ready for nailing.

D. Nailing. There is just enough difference in the nailing of Persian lamb to warrant a full description. The preliminary wetting of the leather should be complete and thorough. For proper penetration at least a couple of hours should elapse between the wetting and nailing.

The average Persian lamb garment is cut so closely to the pattern by virtue of the several preliminary checks that the regular nailing sequence can be followed in most cases. However, the nails should be set in rather more firmly than on other furs and on a nearly vertical angle rather than tipped out away from the fur.

After the garment has been nailed down, the fur is lifted away from the board surface halfway up on the nails. The main purpose of this technique is to prevent the curl of the pelt from being crushed or flattened. (It is interesting to contrast this with the technique followed on flat caraculs where the garment is stapled to heavy wax paper so as to flatten the curl and give it greater luster.) Steel combs, fur pincers and even ordinary table forks are used to lift the fur up on the nails as efficiently as possible.

If the Persian lamb garment happens to be ample in relation to the pattern, the nailing sequence can be varied by nailing the top edges of the garment out first and drawing as much of the heads of the garment at the sweep over the pattern as possible. By doing this the poorer fur areas; that is, the heads, can be squared away from the garment. Some retailers nail their Persian coats hair up and lift up the leather from the board for the same reason.

Many furriers, with good reason, advocate a 48-hour drying period for Persian lamb. The three layers of leather characteristic of

difficult. For proper fur cutting, the pelt section being cut must be held clear of the cutting-table surface.

For most of his cutting the fur cutter uses a hand position somewhat resembling a pencil grip. He may hold the knife with his forefinger on top or with all four fingers opposite the thumb in a position similar to that taken in writing. The other hand is used to hold the fur clear of the table. If the fur cutter is right-handed, the fur is gripped between thumb and forefinger of the left hand with the fist resting on the table. The point of the knife is forced down through the fur and then drawn through the skin as required.

Fig. 4

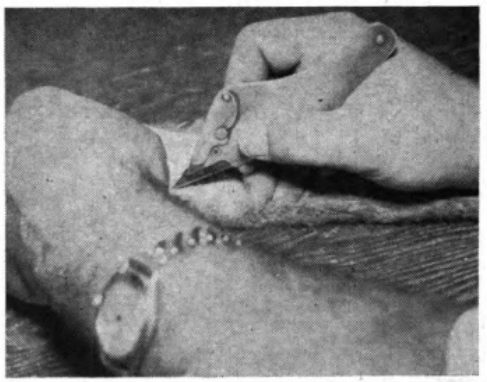


Fig. 5

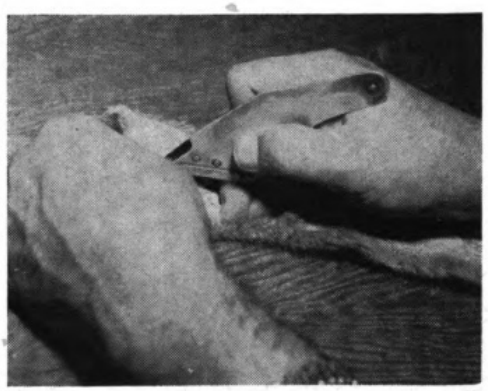


Fig. 6

Fig. 7

Figs. 4, 5, 6 and 7.—The four cutting positions.

The palm of the cutting hand and the tips of the last two fingers slide along the fur, forming the necessary opposing tension to keep the leather taut for cutting. The position described above serves for most plain long cuts.

LIST OF ILLUSTRATIONS

Fig. 144.—Typical damages on spotted fur with matching replacement.

flank for left flank, right paw for right paw. In estimating repair jobs on spotted furs, remember that at least twice the amount of fur which is apparently needed must be used to secure the perfect matches indicated.

In cutting out the damages on spotted furs it is advisable to use the basic technique that is successful on most repair jobs; that is, the pointed or zigzagged cut on all edges going across the fur. The best way to match any of these pieces is by direct comparison. Take the area that seems to match and place it directly under the cut-out damage. If the area selected seems suitable, a pin is placed in its upper corner corresponding to the upper corner of the damage. It is then cut out as nearly as possible to the shape of the damage, using a tracer if necessary.

A careful examination of the stenciled furs will disclose that the stenciler or dyer has gone to the trouble of recreating the specially colored grotzen sections which would be found on naturally spotted furs anywhere from 3 to 6 inches across the center back of the animal. In joining any skin or skins of this type, in addition to aligning the center backs in perfect symmetry, this darker colored stenciling must also be matched exactly and carefully to the same area of its adjoining skin.

produced from the assembled paws which were cut away from the skins was made to retail at close to $1,000. Assembled garments of mink tails or sides at the time of writing run into several hundred dollars in cost, a price which is far above the medium price range of most skins.

Assembled Persian Plates

Nowhere has more work been done or greater ingenuity developed than in the utilization of every waste cutting from a Persian skin. These cuttings are classified as ears, head, paws, pieces and tails. Each of these different types of cutting is worked into a separate type of plate, for it is impossible to work any one type into a plate of another type without destroying the even appearance.

Each type has its own particular manufacturing technique. The paws, for instance, are sorted out into rights and lefts and worked out into strips many yards long. These strips are cut into equal lengths and joined into plates suitable for making into garments. The length and width of these plates is dictated by the pattern current at the time. For instance, if a 44-inch length is desired for the garment, the plate will be 44 inches long. In the same way, the width of the plate will depend upon its use in a garment.

It is not practical at this time to list and describe in detail the very many cuttings in waste products which are related to commercially used plates. Among the more prominent are the Persian lamb, probably the most common and successful, various mink cuttings such as the mink ears, heads, fronts, front paws, back paws, tails and sides, and others. Another material which was very successfully used for trimmings many years ago is skunk whites—the heavy white stripes which are cut out of skunk skins because they will not take dye in the same way as the rest of the skin. Those who have much experience with furs will also find passing through their hands certain plates such as squirrel bellies, a material which is very successfully dyed into pastel and other shades for everything from baby-carriage covers to evening wraps.

There is a great deal of variety in the way these plates are put together. Not always are the strips or pieces simply sewed together in an effort to obtain a patternless effect. In the mink family, for

common fur nail. The nailing board upon which a fur garment is to be stapled must be completely covered with heavy, strong wrapping paper, fastened to the wood with a few staples. The pattern is marked out on this paper. The wet and softened garment is stretched to the pattern in the usual sequence: center back, bottom front, top shoulders, sweep, underarm and facing.

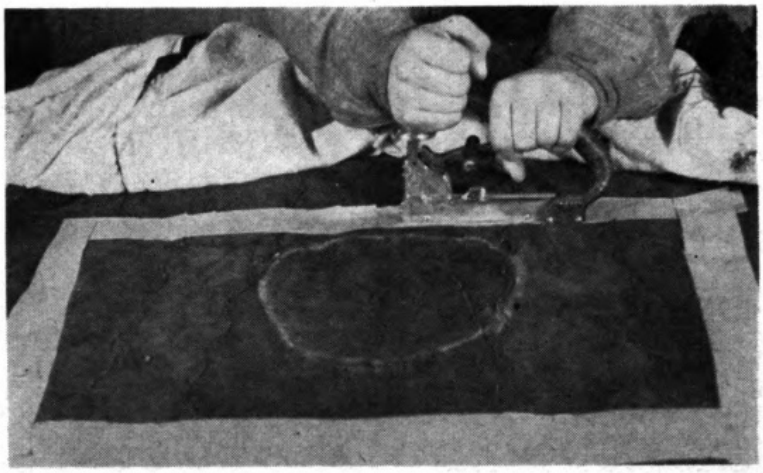


Fig. 145.—Stapling—in this instance for local nailing purposes.
(See footnote on page 193.)

There is little difference in the actual procedure except that the fasteners used are fine, thin wire staples instead of nails. The stapling machine is used to drive them through garment and paper into the wood at the edge of the fur at intervals of about an inch. Any good wire stapler using an open staple can be used, although fur staplers have been perfected which are heavy-duty, do not clog and do an especially good job.

The stapled fur will usually take 25 percent longer to dry than the nailed, because it is closer to the nailing surface and paper and there is less opportunity for air to get in underneath the fur. After 36 to 48 hours of drying, the stapled fur garment may be removed from the board.

This is where the heavy wrapping paper plays its part. The staples holding the paper to the board are removed. The fur garment and paper together are gently but firmly lifted from the board. The staples then can be lifted out from the leather. If, however, the leather has been reinforced, the staples are removed from the

instance, a deliberate chevron effect is worked out in some of the paw plates. Almost every common fur which is successful on the market has for its substitute or replacement in the lower-price bracket a technique of plate manufacturing.

In general, it must be pointed out that these plates are neither as expensive nor as durable as the furs from which they came. By and large they are at least semidelicate if not actually fragile and must be handled accordingly. This does not mean that a mink-paw-plate garment is not stronger than, let us say, a fragile coneyskin garment. In fact, there is good reason to suppose that in many cases the piece-plate garments represent a better investment dollar for dollar than the full-skin garment for the customer with a limited purse.

ENLARGING FUR AREA

Leathering

In the late 1920's the natural squirrel coat trimmed with platinum-dyed white fox was at the height of fashion popularity. The dyed white foxes were even at that time extraordinarily expensive. The type of collar used on these coats represented roughly one-half the area of a dyed white fox. This would have meant that from each skin only two collars could have been made, costing too much at prices then current for the type of garments involved. By leathering, a process which increases the area of a fox or other full-haired skin without any apparent effect on the hair, eight instead of two collars were made from each skin.

The process of leathering, or inserting leather strips into the leather to increase the area, is limited to foxes, wolves, lynx and similar high-haired, full furs. The leather tape that is used for this work comes in spools of 50, 100 or more yards, in widths ranging from $\frac{3}{16}$ up to 1 inch. This tape is produced commercially in all standard fur colors, including white, gray, several brown shades and black. It comes in a continuous ribbon of thin leather, shiny on one side and with a dull suedelike finish on the other.

A. Cutting. Through constant experiment, the experienced fur cutter has learned just how much leather he can place in a given pelt and where. In general he places the leather wherever the fur hairs and fiber are most dense; that is, nearer the grotzen and

armhole height. When the lengthened sections are set on the pattern, they will probably be narrow as against their original width. The missing fur can now be added under the arms to fill out.

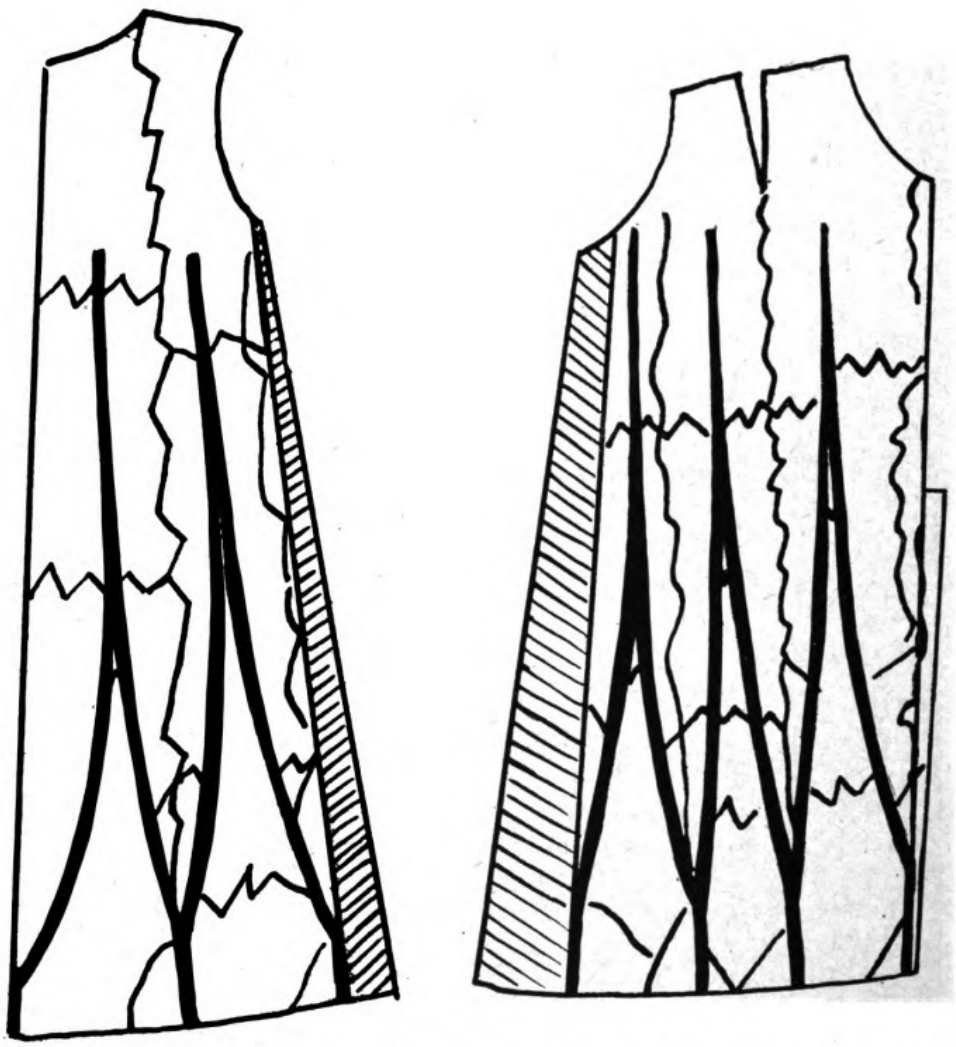


Fig. 147.—Result of dropping of tongues shown cut in Fig. 146. Shaded areas show where additions are made.

3. Let-out: The group of furs which will be the most troublesome and probably most often presented is the let-out type—skunk, muskrat, raccoon, weasel and mink. The last are the most expensive and since they represent a considerable investment for your customer, they cannot be discarded. Originally the only way to accomplish a job of this nature was to take the entire coat apart

the rump. Little or no leathering is done at the heads and sides.

A good example of the uses of plain leather can be found in the making of a popular-priced red fox sleeve, natural or dyed in any of the common fashionable shades. The platelike top which, with the cloth under the sleeve, makes up the sleeve of the popular-priced jacket is usually about 12 inches wide. The fox pelt is normally more than long enough even after the head has been cut away to cover the pattern and allow the head to be used for the cuff. Usually, however, it lacks 2 to 3 inches in width to cover the required pattern size.

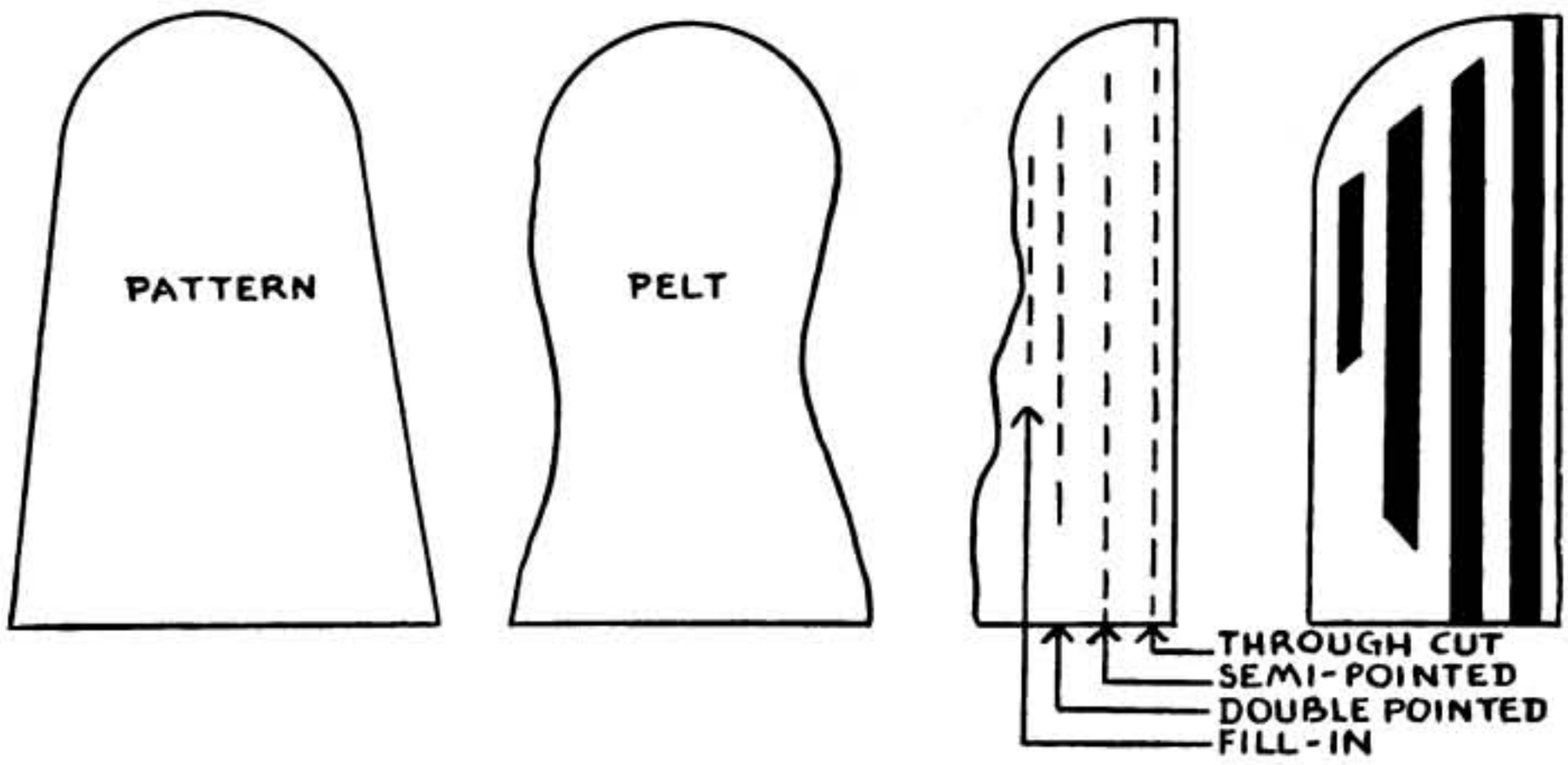


Fig. 86.—Leathering a red fox sleeve.

The flat unusable grotzen of the red fox skin is cut out down the center and thrown away, leaving the pelt in two halves. If the fox is very full, a lengthwise cut is made the full length of the skin about ⅜ to ½ inch from the grotzen edge. About an inch from this first cut a second is made. This second cut does not start at the top of the skin as did the first but 2 to 3 inches from the top, avoiding the thinner head area. It does, however, go right through the rump. If a third cut is necessary, it is made about 1½ inches out from the second cut, starting even further down in the head. It may or may not end at the rump, depending on the width of the skin at the bottom. If any section of this pelt seems especially narrow by comparison, an additional cut can be made up and down the skin in a line parallel to the missing areas and the same length.

The fur is now cut apart on this pattern, separating it into five triangular sections. These are placed on the paper pattern. The side pieces are moved down one skin on the center back section. If this does not result in sufficient length, another move is made to the next notch, which should be more than enough for any additional requirement. The excess sections of the rump are removed carefully, leaving only a half skin on each side to be joined so as to lengthen the center back skin. At the other end of each diagonal, under the arms, excess sections will protrude. The rump section cut away from the bottom in the back can be used under each arm, leaving only the middle section to be filled in to complete the armhole skin.

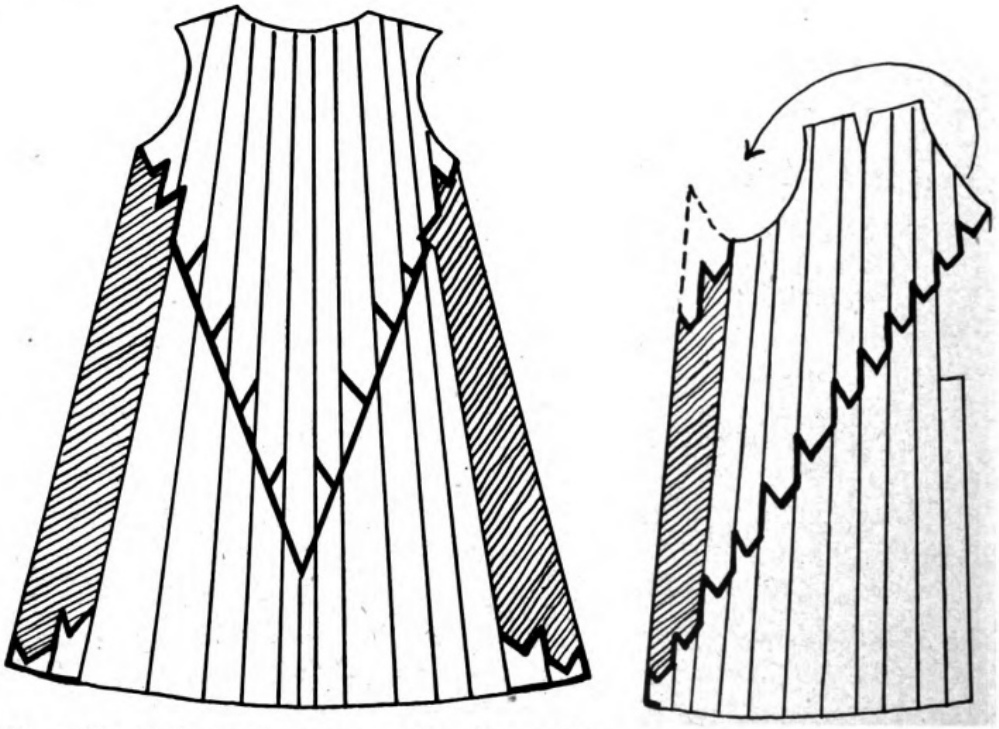


Fig. 149.—Left: Back section—sides dropped two notches; shaded area to be filled in. Right: Lengthening a front—transplant indicated by arrow. Shaded area filled in.

The single diagonal from the bottom front to the base of the armhole will serve for each front. The adjustment V pattern is made in the same way described for the back. When the pattern is cut apart, two triangles of fur will result. They are placed on the paper pattern and shifted as needed, like the back. The excess

B. Operating. The operator who does much leathering adds to his worktable, at the left side of his machine, a supplementary short spool shelf with wooden or metal spikes. On the half-dozen spikes of this shelf he keeps the several colors and widths of leather that he may need for his work. On the sample job described above he uses a light tan leather to match the underfiber of the pelt and the leather. If the fox fiber is full he will probably use a ⅜-inch leather which he will sew into the cut with a slightly looser tension than the fur itself. The dull side is sewed into the fur fiber and the shiny side up, with the fur leather.

For the semipointed second cut the same width of leather or, on a thin-haired pelt, possibly the next narrower width (5/16 inch) might be used. The leather is sewed to one side of the cut without any trimming. When the first seam has been made, a scissor is used to cut a long point about 1 inch on the diagonal right from the head end of the leather where the seam ends. The second joining seam completes the job.

The third or filled-in (double-pointed) cut is usually made quite far out in the pelt and usually allows only a rather narrow leather, ¼ or even 3/16 inch. Before sewing the leather into the cut, it should have the necessary point described above. When the first seam is made, the opposite point is cut and the insertion completed. After repeating the process on the other half of the skin, the operator joins the halves together with a ½- or ⅝-inch leather. He repeats the procedure at the cuff as he joins the split head to the rump of the skin. After adding a pair of extra flanks, taken from the body, to the sides of the skin to fill it out, he rubs all seams flat with the edge of an empty thread spool or cone and checks the dimensions of the sleeve. If an additional width is needed, he may make the cuts himself or ask the cutter to make them.

Ribboning

The early 1930's saw the first use of skunk as a garment fur. Previously it had been used only for trimming. The change in manufacturing technique which made skunk coats possible was the sewing of half-inch ribbon between skins as a sort of divider. These ribbon skin joinings saved material, lightened the weight of the coat, and enhanced the appearance of the hair sides by allowing the fur to lie a little flatter, thus giving a less bushy or bearlike

three years old, where the owner has put on enough weight to make it about an inch too tight on each front. The back still fits well enough to require no alteration.

The first step is to remove the lining and flatten the garment by opening all the closing seams. Then a careful tracing is made of the coat outline on paper, when the original pattern is not available.

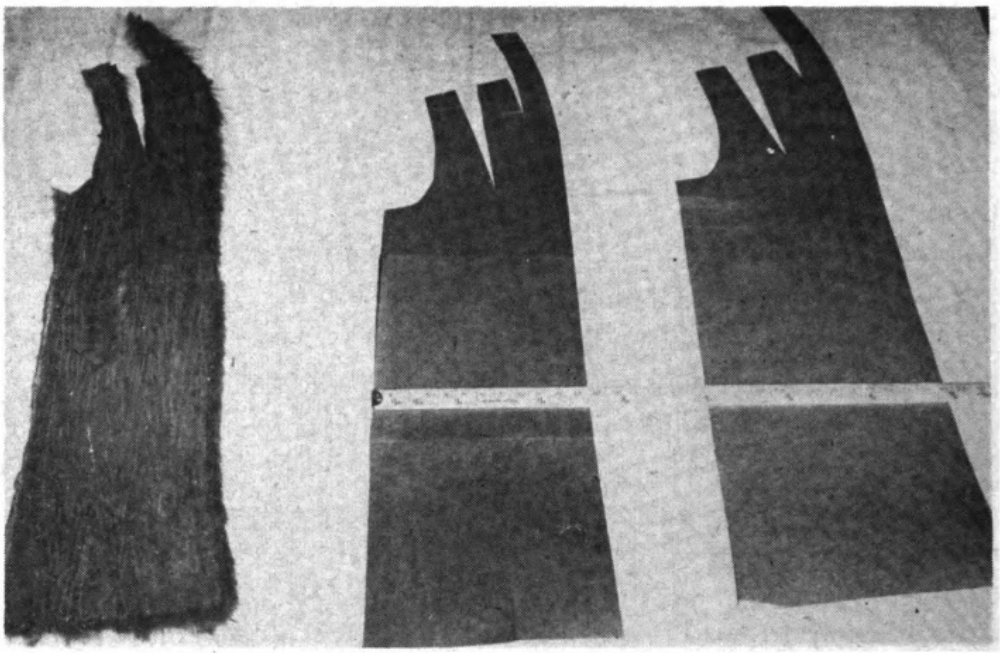


Fig. 150.—Steps in production of enlarged front.

In order to straighten the pattern properly, each part of the garment has to be tacked or stapled out just as flat as possible over suitable pattern paper. A needlepoint, fur-type pattern tracer is used to enable the worker to follow around the leather edge of the fur right down through the hair which might otherwise make the tracing inaccurate.

After the tracing has been made and checked, one half against the other, the pattern is cut in half along the center back. One of the halves is put away with the collar and sleeve pattern. The other half is split under the armhole, making two pattern sections, one representing the back and the other the front of the original garment. The back is put away, since it is to remain the same with very little alteration.

appearance. Since then grosgrain ribbon as a separator in fur garments has been replaced by leather but the term "ribboning" lingers. It is confusing to the beginner to have the leather strips which separate the two halves of a skin in a long jacket called ribbon while the same leather used within the pelts to increase the area is called leathering.

The usual procedure for inserting ribboning leather in a fur garment is to start it with a regulation point 2 to 3 inches from the rump and sew it up to a distance ranging from 8 to 12 inches from the neckline, depending upon what part of the garment is being

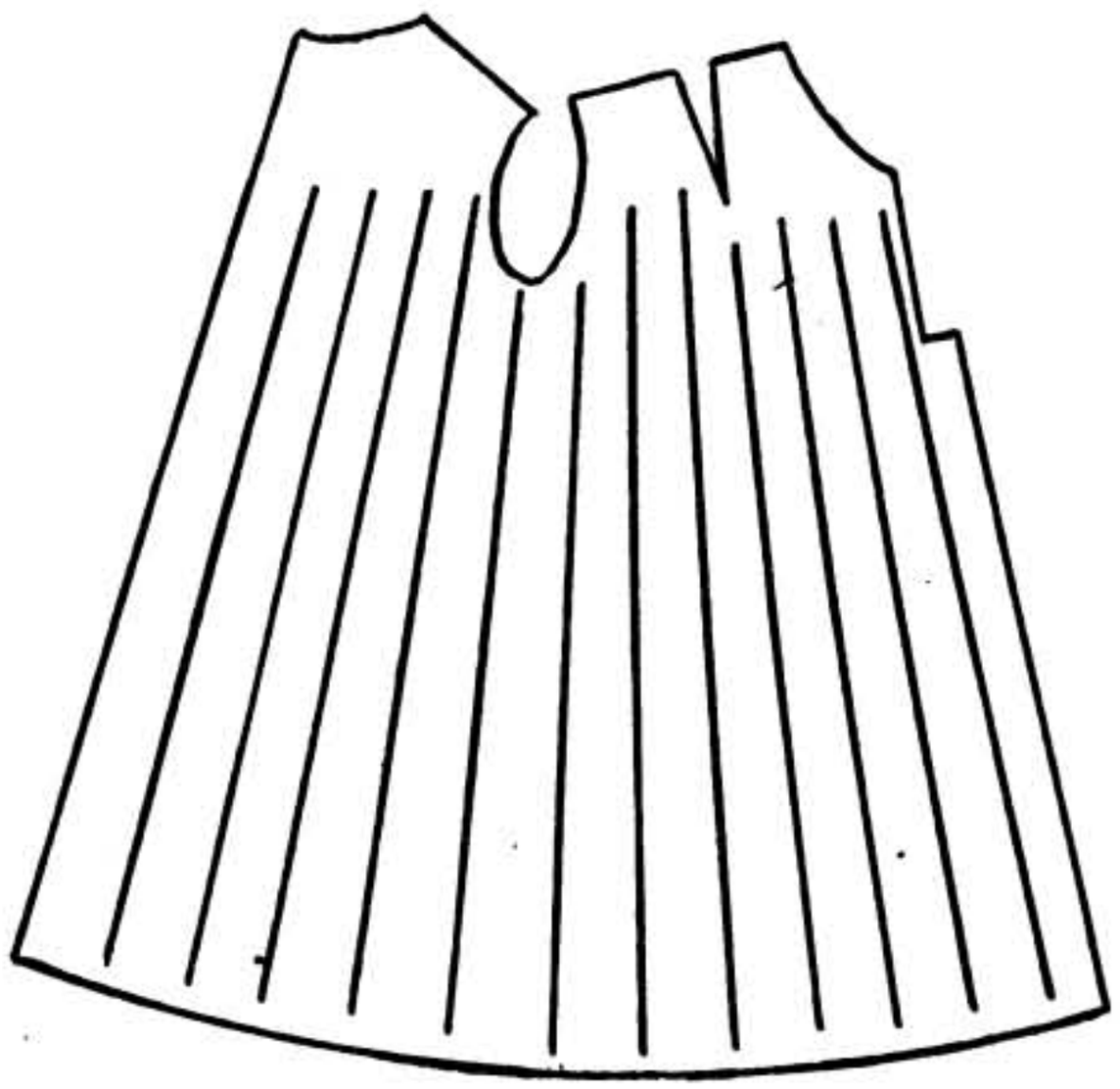


Fig. 88.—Ribboning.

ribboned. The back, for instance, will be ribboned less while the underarm areas may receive ribbon leather all the way up under the arms. The reason for this is logical. Leather should not be inserted in prominent parts of a garment where the wind or the shape of the body may expose it. On the other hand, leather can be freely inserted in areas of a garment which will not show, such as the underarm and undersleeve.

To revert to the dyed white fox collar which was described in the beginning of this section, it may be of interest to point out that the tremendous increase in area was accomplished by actually leather-

the new front will be the same size as the old at the shoulder and thus fit the unchanged back when joined to it. Most of this tapering is done on either side of the bust darts, making the front darts just a little fuller and deeper in accordance with the needs of the wearer. The armhole is left just a little larger and the sleeve pattern is also widened at the underarm to fit.

The result of this grading is a pattern with a front approximately size 18 and a size 16 back. If the fur were valuable enough to warrant the extra work, a canvas would be assembled and fitted to check the grading.

The fur is now altered to fit the changed pattern. Back and front are carefully separated under the arm along the straight side seams in much the same way as the pattern was traced. A trial layout of the original fur front on the graded pattern indicates that the addition of one full pelt strip on each front plus a little "side" added

Fig. 153.—How fur is added.

to the underarm edge will be enough. The crux of the job, however, lies in the fact that the curve of the pelt over the bust dart will have to be changed.

ing both ways—first vertically, then horizontally—in accordance with the principles indicated above. There is no evidence that these techniques are followed to any extent today, but the handler of furs and fur collars may occasionally come across an older fur collar which has been leathered to increase its area in this way. Furriers who originally used this process on white foxes claimed that it improved the appearance of the fur because it made it less bushy, more sleek and flat. Needless to say, it certainly did save material and bring the collar down to the popular-price class.

Resetting

Many years ago an unscrupulous retail furrier was accused of misleading advertising when he offered "twin silver foxes" for $98. At that time this offer represented an impossible value. Competitors found upon investigation that the twin foxes were really one fox which had been reset; that is, actually made into two complete foxes so that each pelt looked like a complete skin. The advertiser contended that by using the term "twin" he was in reality explaining the true origin of the two foxes; in other words, to use his expression, "born of the same skin."

The multiplication of one skin into two, three or even four complete pelts, each a half or third or quarter of the original width but each complete in itself and in its pelt characteristics, is a technique which makes possible the commercial production of such fur items as popular-priced collars and cuffs and jackets. The small 20- or 22-inch silver fox jacket which apparently contains six complete skins has in reality utilized as few as two fox pelts. The larger jacket is usually made from three skins, although it seems to have many more. By resetting and adding leather in one operation, the area of fur is increased to the extent indicated. It must be emphasized that the increase in area, besides bringing the price down to a reasonable figure, also tends to make the garment lighter, less bulky and more wearable.

Almost any fur except the very loose flat skins can be reset. This technique can be used on all the high-haired foxes, beaver, gray and black Persian lamb, mink and others.

A. Cutting. Surprising as it may seem, the process is not particularly difficult. The skin to be reset is trimmed slightly and

layouts in the coat, even to the detail of the zigzag seam used in the original manufacture of the garment at the head-rump joinings.

Fig. 154.—Sling-cape remodel—original problem.

The principal difficulty of the job lies in the fact that the lines of the body are too square; that is, they have too little taper to fit the sharply sloping lines of the cape. Merely cutting a block of

adjusted to the proper length by tongues or even let-out tongues, if necessary. It is tacked out overnight to flatten the leather and stiffen it for easy cutting preparation, especially if the leather happens to be soft and pliable. Silver foxes and some minks are often dampened with water to which plain starch or gelatin has been added in order to stiffen the leather for workability.

The leather is made damp, not too wet, and nailed out by placing a half-dozen nails down the center of the skin and pulling the sides out to give the pelt as nearly a rectangular shape as possible. When dry, the pelt is ready for resetting.

As a preliminary the cutter usually makes indelible guide lines across the pelt to assist the operator in his work later on. A single line is made about 3 inches from the head across the skin, from side to side. On longer pelts a double line in the middle completes the setup for the operator.

For resetting, the cutter opens the skin down the center grotzen to a point about a half inch from the rump. He next slits or marks off the boundaries of the side area, either through the hair or through the leather with a tracer or with the back of his fur knife. On silver fox it is customary for the nailer-tacker to attempt to square off the dark side areas as much as possible so that they will be even in width all the way down the skin when worked out.

Once this line has been marked out on the leather of the skins, the beginner can divide the area in between into even strips. The width of the strip depends upon the quality of the work desired and the nature of the pelt. For most plain resets of one into two a strip about $\frac{3}{8}$ inch wide is satisfactory. The narrower the strip, the better the results; in other words, the less chance there will be of the work showing on the hair side.

The beginner might attempt to use a ruler directly for the measurement of these strips, marking off $\frac{3}{8}$ inch at intervals from the grotzen to the line marking off the sides. While this method will work so long as the $\frac{3}{8}$-inch measurement is the one under consideration, it is useless when a slight variation either way is desired.

An adaptation of a geometrical theory which will permit the cutter to vary the width with his vertical reset cuts will prove most helpful here and in other processes. The same ruler is placed at

fur around to fit the pattern would result in a cape fur block with lines running askew (see Figure 155).

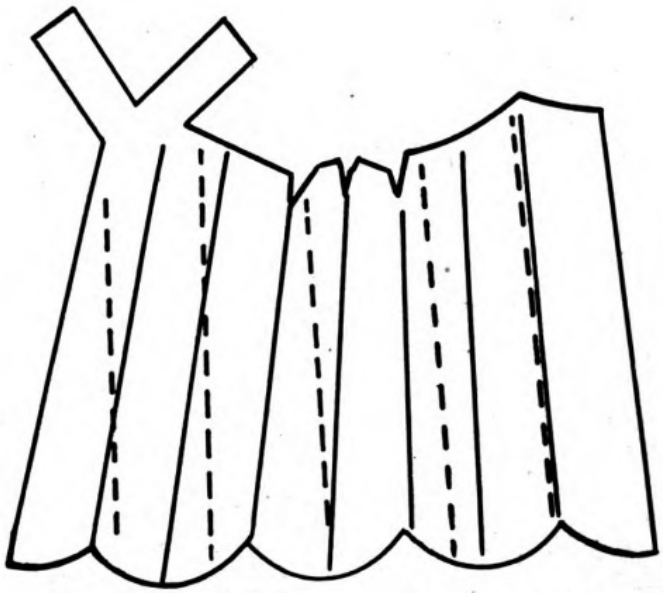


Fig. 155.—Result of parallel skin edges on appearance of sling cape.

The desired slenderizing or tapering of the fur block at the top is accomplished by removing narrow wedges at regular intervals from between the blended stripes. Pins are placed through the center of each stripe, on the top and bottom, from the fur side to the

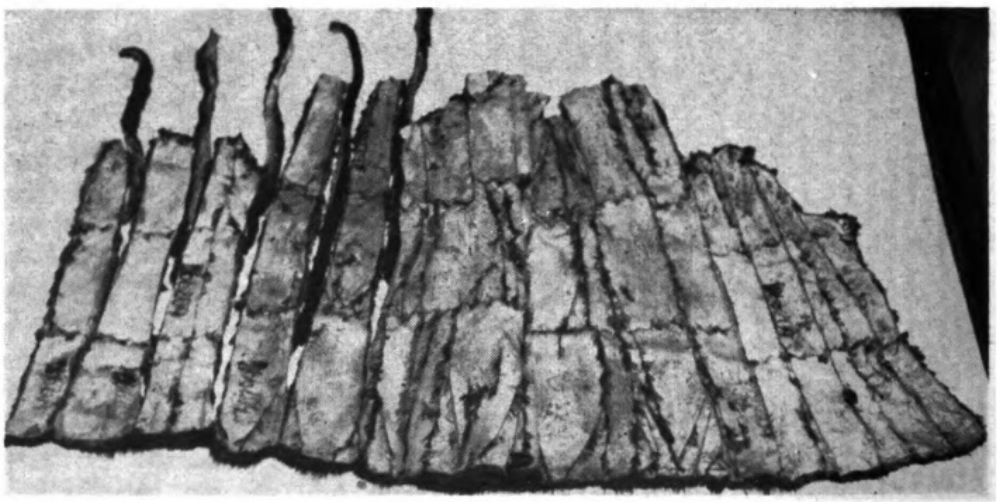


Fig. 156.—Shaping wedges removed.

a 45-degree angle between the same two lines, the grotzen and the line marking off the area. Half-inch intervals are marked off parallel to these two main lines. The ruler should be shifted so that the half-inch interval at the end which falls on the side line

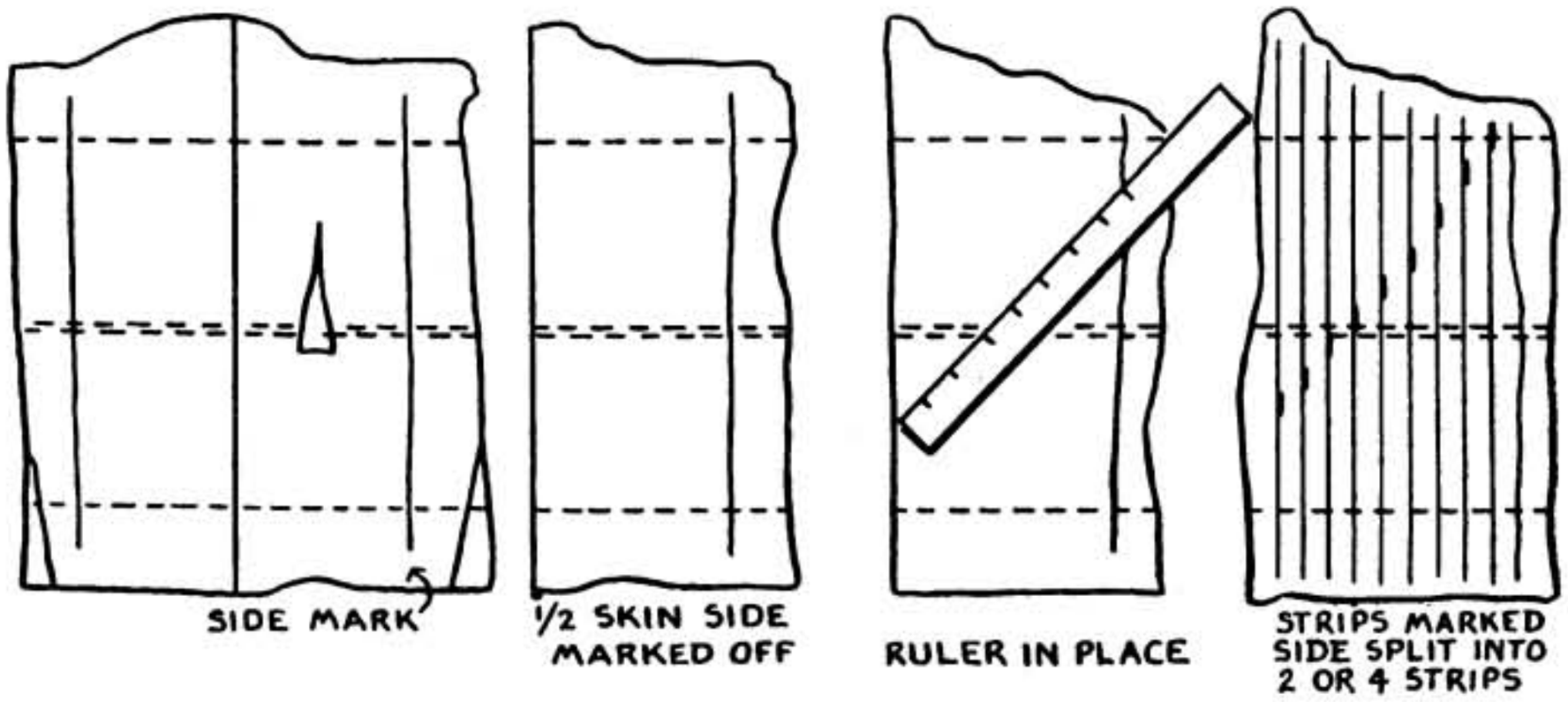


Fig. 89.—Pelt ready for resetting.

should be a whole number. This will produce an even number of strips. For instance, placing the 7-inch mark on the side line will produce 14 strips.

By increasing the angle slightly, as many strips as wanted can be added without complicated measurements. On the other hand, lessening the angle of the ruler will increase the width of the strips and lessen the number of strips.

The actual cutting involves only mechanical skill in making the cut exactly parallel to the grotzen and passing through these marks. The beginner should rule up the entire skin for his first reset cuts. Since the sides have rather weak leather and are comparatively uniform, they can be split in half, although breaking them up into four strips will improve the job. These cuts begin and end about a half inch from the head and rump edge respectively. Some cutters will mark a single guide line on the outside edge of the strip nearest the grotzen and a double line on the corresponding edge of the second strip to prevent any mixup for the operator.

B. Operating. Basically the operating job on reset skins is simple. The operator must sew alternate strips together and keep the guide lines aligned in sewing. The best method for accomplishing this is

leather. A guide mark is made on the leather side over each pin, then the pins are removed. A thin straight line is drawn through each set of pin marks. Another line is drawn starting from the same point at the sweep and swinging off until it is an inch to the right of the first line at the neck. These lines are drawn for five of the stripes on each half of the block. The number was selected on the basis of the estimated difference wanted between the top and bottom on each half. In this case 5 inches in each half seemed desirable. Wedges are cut out and marked and the fur resewed.

The original collar is taken apart and set into the body to make the new neckline required by the pattern. The adjusted body is then folded exactly in half and checked with the pattern. Pushpins hold the fur in place. If the sides and seams are correct, the fur block is ready for nailing.

The old fur in this case has to be stretched dry. As in old mink and some other furs, wetting the leather while it is under strain causes it to disintegrate. This explains the necessity for making the fur large enough to cover the pattern while dry.

The fur is stapled in place over the pattern, which has been marked on doubled heavy pattern paper. Just enough stretch is used to make the fur fairly flat without wrinkling. A dampened cloth is rubbed lightly over the fur to give it just enough moisture to assure its shrinking flat overnight.

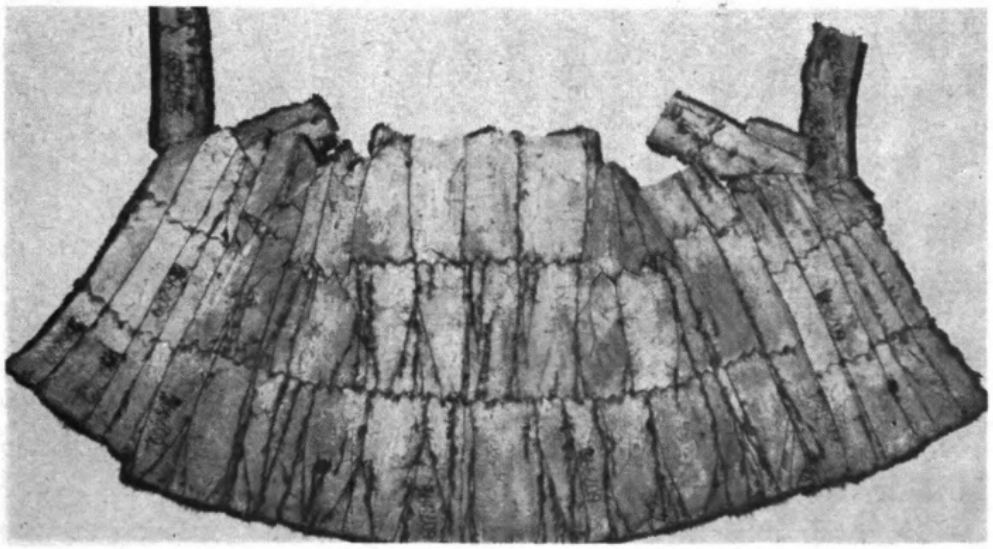


Fig. 157.—Stapled cape.

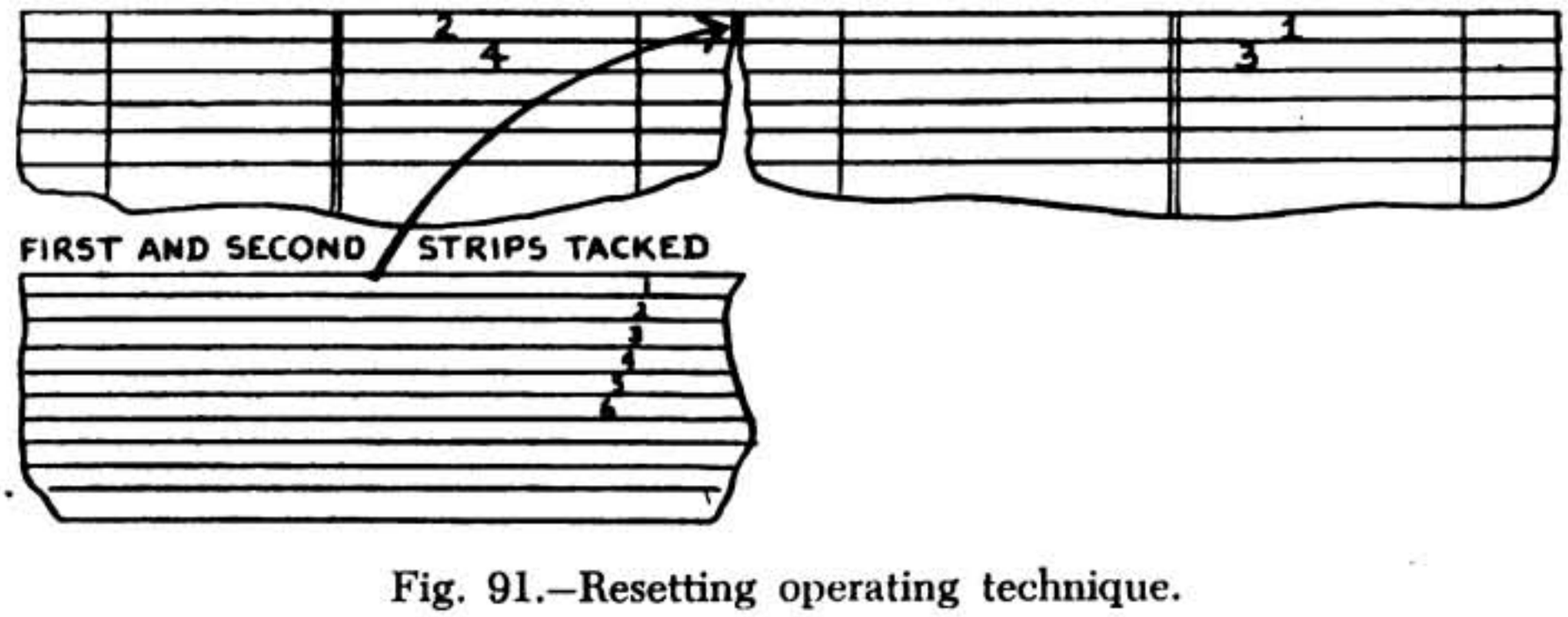


Fig. 91.—Resetting operating technique.

any left half with the guide line to match, a smaller complete skin will result. The usual procedure is to match the halves so that size and color are balanced. A larger right is joined to a smaller left, a lighter right to a darker left, so that the resulting reset skins are balanced.

Diagonal Reset

On very fine pelts with a comparatively narrow grotzen, the same effect can be achieved by diagonal resetting. This variation is more expensive since it consumes more labor, but it produces an even better appearance than the plain vertical reset.

The preliminaries to cutting are the same up to and including the marking of the skin. The cutting is on a diagonal, the right half being cut down to the grotzen from the head toward the rump. The first cut made should be from the point where the side meets the

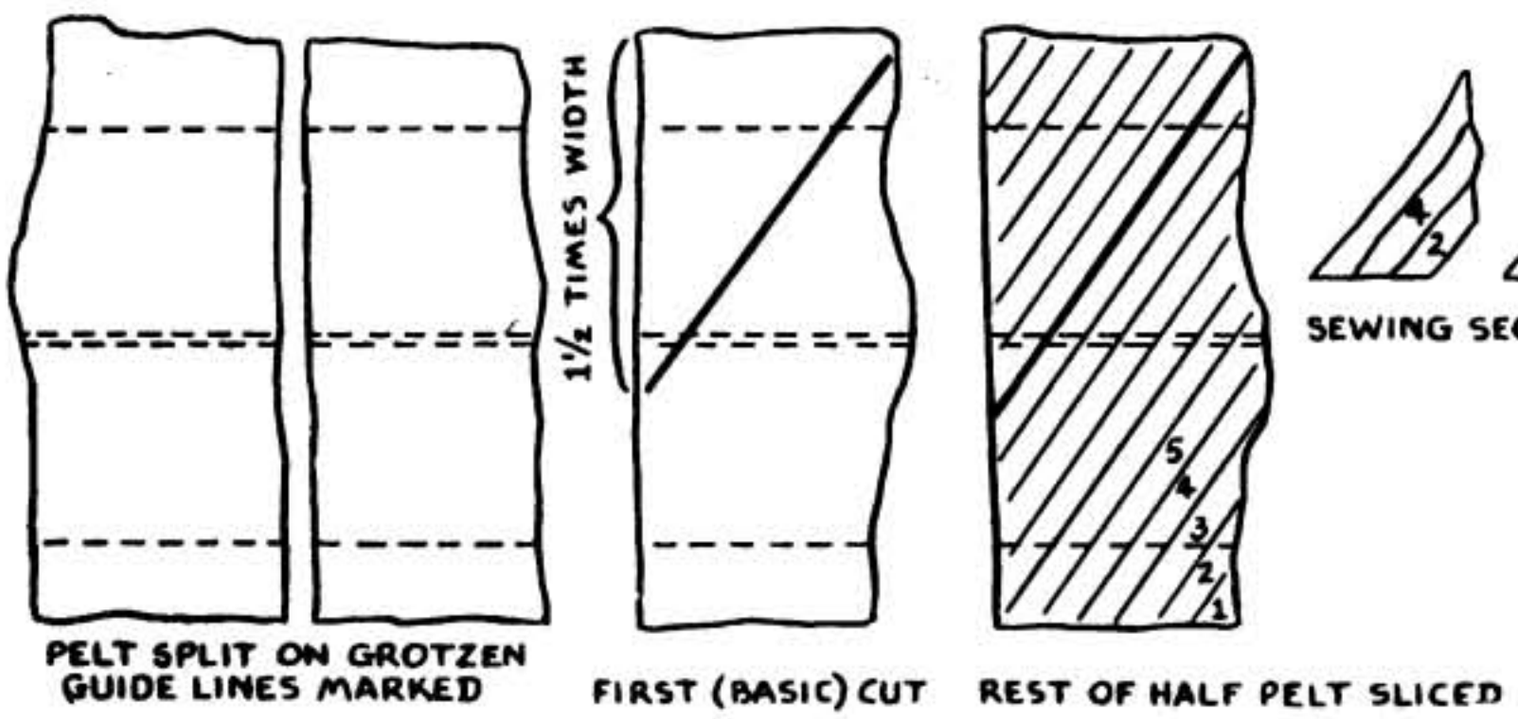


Fig. 92.—Diagonal reset, cutting and operating.

The next day the leather may be chemically reinforced, if necessary. Another day is allowed for the drying out of this stage. Then the heavy base paper is lifted bodily from the board, the fur peeled away from the paper and the staples removed from the fur side, as usual. The cape body is then stapled back on the paper, hair up this time, in preparation for the reblending of the colors of the furs.

A light coat of dye, a standard brown fur blend used in accordance with the manufacturer's instructions, is applied once over all the fur. It is allowed to dry overnight, with the fur fiber hanging

Fig. 158.—The completed garment.

down on the flat board. Local lighter spots are then touched up and "ironed off" with a hot iron wrapped in kraft paper, until the color is even all over the fur. The stripes are then renewed with striping dye, using an artist's brush.

While the fur is still flat it is given a glazing by wetting the hair slightly with a brush and then turning the hair over with a glazing

head down into the grotzen. The cut should reach the grotzen at a distance down the skin of about 1½ times the width of the skin. For example, this first basic cut on a skin 4 inches wide would reach the grotzen 6 inches down the skin. All other cuts are made about ⅜ inch apart, parallel to this first cut.

Because these cuts are short, they do not need to be plotted. The cuts are made up and down the skins parallel to this first cut until the last strip is no wider than ⅜ inch at the top or the bottom of the skin. The left half of the skin is cut in the same way, except that the cuts are naturally in the opposite direction, running to the grotzen at the right.

For diagonal resetting the operating must of necessity be different; it is not possible to tack the alternate strips in order. In opening the cuts, the operator tries to make as long and tapering a point as possible on the ends of each strip. In sewing the strips up alternately, he is careful to see that the guide lines meet, even though a gap is apparently left in the edges of the skin. This gap will be minimized by the long tapering points if they have been properly cut.

The resulting quarter skins can be joined together as were the quarters of the plain vertical reset. The results will be much the same as the plain vertical reset, except that the grotzen will be wider and the result a little cleaner. It is hardly worth the extra effort, however, except on expensive furs.

Horizontal Reset

Assume a gray Persian skin which after damaging and adjusting is the same width as a gauntlet cuff pattern and twice as long, or just enough for the two cuffs which constitute a pair. The effect desired is that of a full skin for each cuff, with a grotzen running vertically through the center of each cuff. Cutting the pelts either horizontally or vertically across from side to side or end to end would result in an uneven pair of cuffs from the viewpoint of the character of the hair. One solution to the problem of producing two perfectly matched cuffs in this situation is horizontal reset. The pelt is prepared in the usual way, except that the three guide lines are made up and down the skin instead of across. The pelts need not be split in half but the cuts may be made through the entire skin. The operating is as usual with the minor variation necessary.

Reversing the knife so that the cutting edge is up puts it in position to make short snips or cuts in the direction away from the body. A flip of the finger serves to open cuts and is used when the operator must complete let-out cuts. When the knife is held completely in the palm so that the handle rests across the palm, short trimming cuts can be made, as in cutting the head away from the skin. The same position can also be used in making a cut from right to left, as when the side of a skin is trimmed away. The beginner will find that a few hours of practice on plain paper, first following lines and then freehand, will give him sufficient control to begin to cut furs.

The cut fur—marked, numbered and piled up in rows or sets—now goes to the fur operator.

FUR OPERATING

From the viewpoint of sheer manual dexterity, the fur operator is supreme in the fur factory. Yet he is usually paid less than and takes orders from the cutter. Except for let-out work and some types of leathering, he is rarely required to exercise individual judgment.

Fig. 8.—Tools used by fur operator.

On the operator's machine stand will be found a fur knife, a fur tweezer, a screwdriver and a box containing minor items. The machine head itself will most likely have been manufactured either by Bonis or Singer, with stand to match, unless the machine is more than 10 years old. If the reader has any acquaintance with the progress made in the needle-trades field on sewing machines in

Fig. 159.—Detail of layout. White line shows where triangular underarm skin (second from left) was removed.

The full front has to be reconstructed in its entirety. Three good matched skins are selected and these are connected up and manufactured just as if they were being made for a new garment. In fact, the procedure is much like the manufacture of a new tuxedo front.

After the three skins have been connected and filled in at the sides and joined into a line, the section of fur is folded over and laid over the tuxedo pattern. With the aid of a little water the leather is stretched out to see how it fits the pattern. If, as is common with three-skin Persian lines, it is found that the line is a little longer than needed, a let-in V cut can be used to shorten and widen it at the sweep.

The folded line is then carefully split down the exact center to give two parts of the tuxedo. It is necessary to do this before nailing only when the tuxedo is curved. It is far better to nail the tuxedo section as a unit and split it after nailing, but this can only be done when the joining or outside edge of the tuxedo pattern is a perfectly straight line.

Ordinarily the sleeves present no particular problem. The layout of the old sleeve on the new pattern will generally disclose the necessity of adding a total of one to three skins to both sleeves. When the skins are added extra material is so placed so that it will not show if it is poorer than the sleeve. On the other hand,

When this situation is found on such a skin as beaver, fox or sable, it represents a considerable loss unless a balance can be restored.

The cutter squares off the damage and draws lines across the skin extending the top and bottom edge of the damage to the other side of the skin. By measurements, he marks off the area equal to and opposite to the damage, and exactly the same distance from the other side of the grotzen. This opposite section is cut out and cut up for fine resetting. This little section is reset except that one half is deliberately reversed, giving the operator one right and one left half as needed. The resulting sections are sewed back on each half of the skin. Although they are not sufficient to fill the damaged area and the cut area, they enable the cutter to drop tongues and balance out the skin so that it will have some use and not be a total loss.

Variants of Resetting

1. ***One into Three.*** Any thin-leathered full pelt can be reset into three skins, provided the cuts for reset are about ¼ inch apart or less. The operator must be able to sew these strips with a size

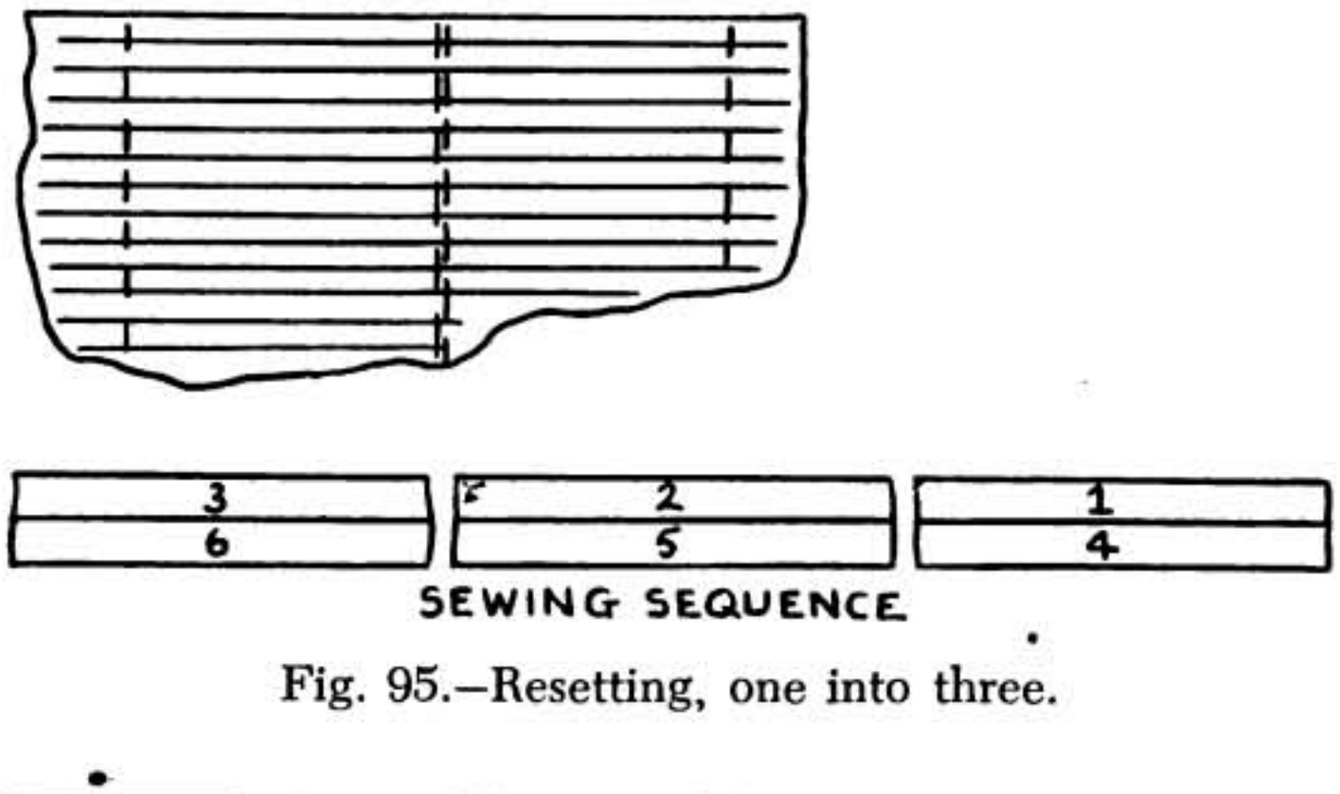


Fig. 95.—Resetting, one into three.

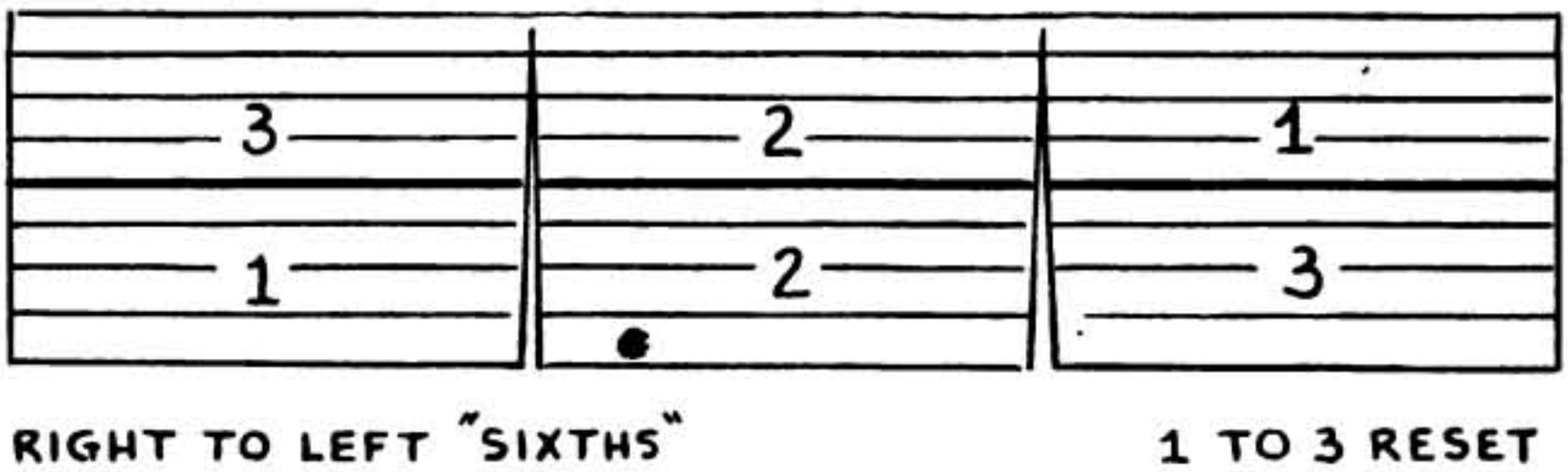


Fig. 96.—Joining procedure.

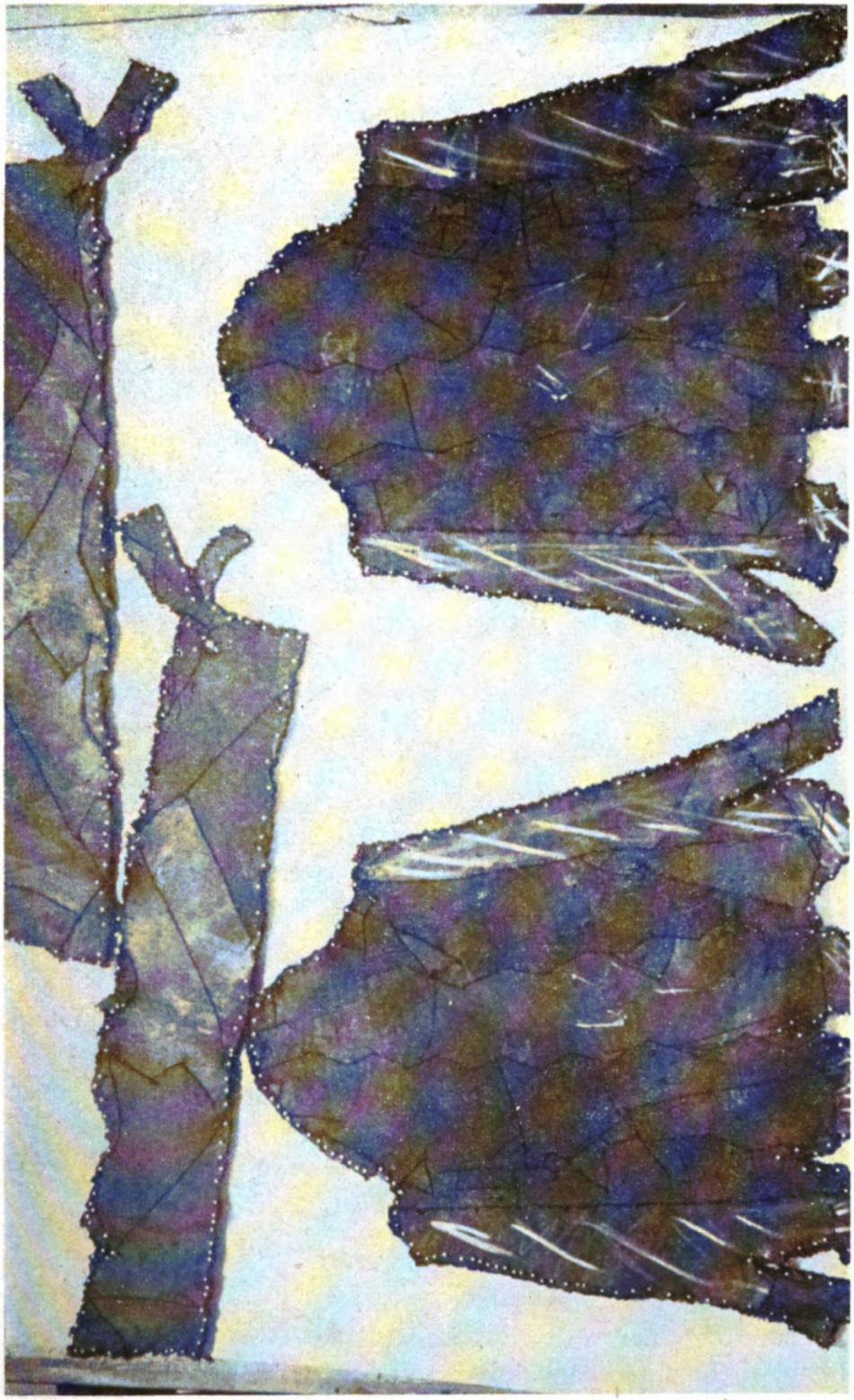


Fig. 160.—Nailed trimming showing added fur.

line. These first two lines, the shorter and the longer one, represent the first two strips, each about ¼ inch in width. The next longer guide line is drawn a full half inch from the first and is also divided as was the first. The third guide line is usually ¾ inch from the second, because on about this area of the skin the full heavy grotzen hairs begin to loosen up. The fourth guide line before dividing might be as much as ¾ inch in width or slightly more. Any remaining strips cut from there on to the side may be cut as narrow as ½ or ¾ inch or less because the leather would rarely be used beyond the first set of cuts. The side is divided as usual.

B. Operating. The cutter's oral or written instructions to the operator in work of this nature are limited to such phrases as "three leathers," "two leathers," "three 5/16 and one ¼." This refers to the number and kind of leathers to be inserted in each quarter skin as the half skin is reset. An experienced operator may be allowed to use his own judgment as to how much leather and what type to insert into the skin.

Usually 5/16-inch leather is used for this work, with an occasional shift to 4/16- or ¼-inch on less dense skins or in less dense areas as indicated above. The operator is allowed considerable freedom of judgment in this respect; he may change leather sizes as he thinks best.

Occasionally, when a very full and wide fox is available and there is a need for it, such skins have been leathered and reset one into three. The cutter will plan his cut by dividing the areas as above into three's instead of two's, with correspondingly thinner strips. The operator will use a very fine needle with thread and stitch to match and may use leather as thin as 3/16 inch in some parts of the skin.

Fox Jacket

With the basic techniques of leathering and resetting understood, it is now possible to explain the layout by which fur jackets such as silver foxes are produced. For the average jacket three skins are used. The largest and best is used for the front or possibly for the sleeves, the next best looking for the sleeves and the poorest for the back. This reversal of the usual matching sequence is in line with the nature of the garment and its uses. The heads of the

neglected by anyone who wishes to engage profitably in this part of the fur business. The following pages present a set of standard fur jobs which are likely to be met throughout a season or two of fur remodels and repairs.

Fur Buttons

The periodic range of fur styles will bring with it a revival of fur buttons for use on fur garments and even on cloth coats. The fur man is likely to be asked to make a set of three, four or more buttons from some fur the customer may have or which must be supplied. Figures 161 to 165 illustrate how a set of three fur buttons is made to order from fur supplied by the furrier.

Besides the fur itself, the job requires the following materials: button molds made of wood, fiber reinforcements, a small square of buckram, flat tape (about a yard) and a yard of twill tape.

Fig. 161.—Materials for making buttons.

Three circles (one for each button ordered) are marked out on the leather side of the fur. The diameter of the circle should be about a half inch less than twice the diameter of the mold, to allow for enough fur to cover both sides of the mold. The circles are cut out and taped around by machine with plain tape. Care must be taken to see that the tape overlaps at the ends.

A 1-foot length of strong twill tape is doubled and led through the holes in the bottom mold from the round side to the flat. The

front and back skins are removed, filled out with leather and worked out for the underarm of the jacket. The entire pattern is made up of a series of fur plates, each of which will be mounted in its place on silk or cloth.

The center back consists of two quarters, joined side to side, and the other two quarters next to them, grotzen to side or grotzen to grotzen. Each front is usually made up of a pair of quarters joined grotzen to grotzen. The sleeves are made up of pairs of quarters joined grotzen to grotzen and worked hair up. Most long-haired jackets are worked in some variation of this basic layout.

As has been indicated, the heads of these skins are valuable and are used to complete and dress up the jacket, while the head of the third skin is often used to make up the cuffs or collar.

Cloth-Coat Trimming

Very little has been said up to this point about the furs used as cloth-coat trimmings. Although the manufacture and production of these trimmings is a large and separate industry, supplying the needs of the immense fur-trimmed cloth coat industry, the techniques of production are basically the same. Leathering, resetting and other techniques already discussed are used as needed to produce the desired results. Most of the better trimmings involve some use of let-out techniques which will be presented in the following chapter.

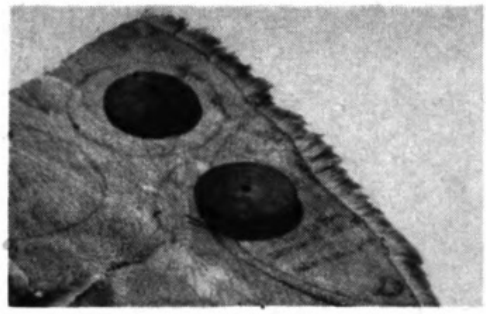


Fig. 162.—Marking out fur.

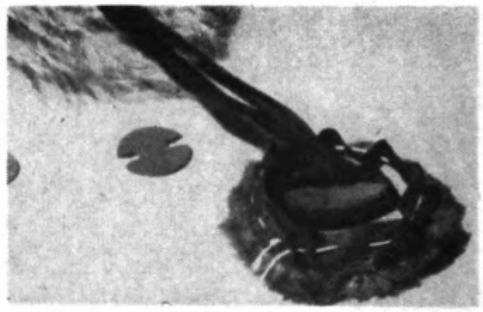


Fig. 163.—Drawing fur around mold.

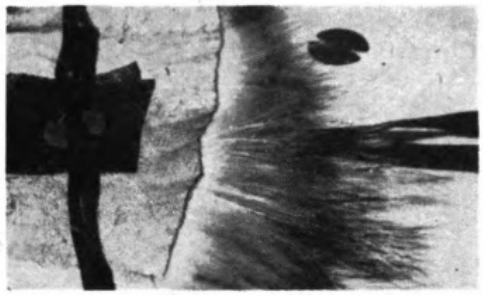


Fig. 164.—Method of anchor reinforcement.

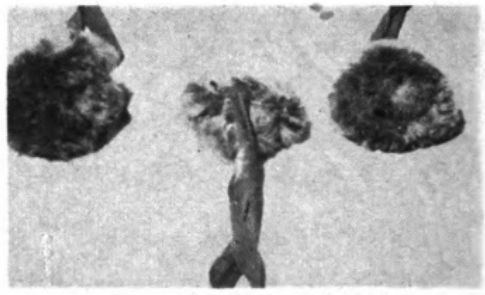


Fig. 165.—Completed button.

ends are then separated and brought back, one on each side of the mold, through the loop end of the tape. Finally they are drawn tight, giving the button a firm anchor.

A strong thread is now doubled and basted through the middle of the machine tape on the button, all around the button. The anchored button is placed within the tape circle of the button, the fur to the round side of the buttonhole and the basting thread drawn tight. The thread is then used to stitch the tape and anchor the twill tape in place.

A small hole is made in the fur of the garment at the point where the button is to be placed and the twill tape is drawn through. The twill tape is then threaded through the center hole which has been made in the buckram square, and tied over the fiber anchor. Finally, each corner of the buckram is tacked down in place.

Persian Lamb Collar

Persian lamb is as popular for trimming as it is for a complete garment. One of its common uses is for simple fur collars which are most often found on the better grade of cloth coats.

Chapter 5

LET-OUT WORK

LET-OUT FUNDAMENTALS

There is an ancient, apocryphal anecdote that furriers love to tell, about a customer who charged into the retail store with fire in her eyes. "By accident," she screamed, "I opened the lining of that so-called mink coat you sold me, and all I see is little pieces sewed together! Four thousand dollars you charged me for a coat made of pieces!" The judge is supposed to have called this "justifiable homicide" after the half-mad furrier had explained why he had exterminated the customer.

Nowhere in fur craftsmanship is there more misunderstanding and greater ignorance than with regard to let-out work. The technique which transforms a 13-inch muskrat skin into a long thin strip 2 inches by 44 inches represents some of the most accurate workmanship in any skilled trade or craft.

Why let out a pelt? A 15-inch mink pelt is beautiful in itself, but when correctly let out to a length of 40 inches or more, the color scheme of the pelt is accentuated. The rate of change of color from side to grotzen and back to side takes place within a width of 2 inches rather than the original 8, thus enhancing the appearance of the pelt. Secondly, the lengthening and narrowing of the pelts gives them and the garments which they make up long, unbroken, slimming lines, accenting the height and slimness of the wearer, a consideration which is desirable for 99 percent of all the women who will wear the garments. In the third place, by making one skin do for the full length of the garment, unsightly horizontal seams and joinings are eliminated. Customer acceptance is such that they will pay well for the immense amount of careful skilled labor that is part and parcel of let-out work.

A partial list of the furs that are worked let-out reads like a who's who of furdom. Beaver, foxes, nutria, wolf, raccoon, muskrat, mink, opossum, sable, marten and others are let out, although

The following is a step-by-step outline of the manufacture of a typical collar of Persian lamb:

A. Estimating. Before a price for a collar can be set the pattern must be examined. Persian lambs vary in price and size and season by season, but you can expect to get from 175 to 200 square inches of usable fur from an average skin. The price in the past years has ranged from $10 to $25 a skin.

B. Pattern. The pattern can be copied from the old collar supplied by the customer or taken from stock. Make a hard-paper copy

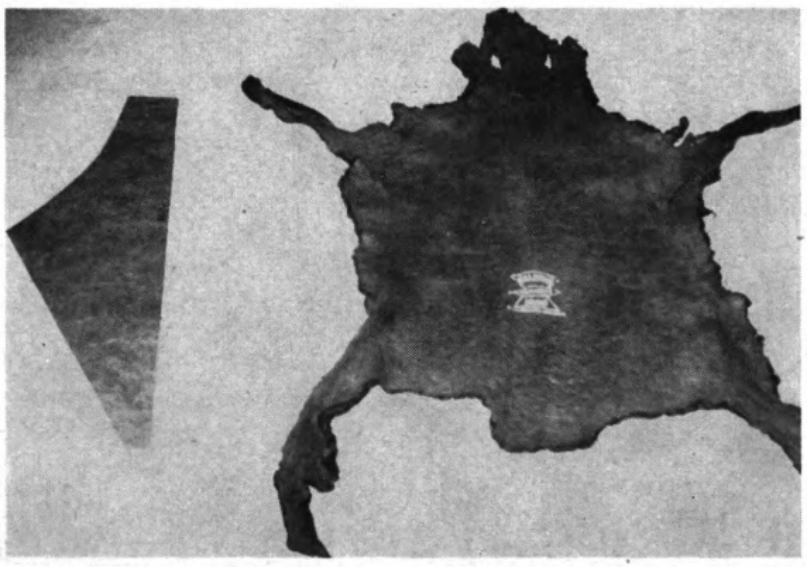


Fig. 166.—Pattern and skin.

of the traced pattern about ¼ inch larger on all edges to allow for bending in. If you are sure of the layout of the pattern indicate it on the neckline and the center back.

C. Dampening. Before anything else can be done the pelt must be dampened and stretched. The leather needs to be dampened rather well, because the water must penetrate the three layers which make it up.

D. Stretching. Hold the dampened pelt hair down against the edge of a fur cutting table. The left hand holds one flank of the pelt, that is placed against the edge of the table, while the right hand firmly stretches out the other flank. Reverse the pelt to the other

one or two of these are also sometimes worked skin-on-skin. Any good, full, long-haired pelt can be let out.

The basic idea behind the let-out technique stems from the all-important tongues which were described in our earlier chapters and upon which our fur work is based. If a fur pelt can be damaged there is a possibility that it can be let out, for let-out work is simply a regular series of tongues, made to alter the shape of a skin. The let-out technique in general can be described as a process which makes it possible to alter the shape of certain pelts as desired, without changing the essential color scheme of the hair or having any of the work show in any way on the hair side. Although the term tends to indicate only lengthening of the pelts, let-out may be used to shorten, shape or otherwise alter the original skin, without in any way destroying the natural color scheme.

The matching, cutting, operating and nailing techniques are many and involve many knowledges and skills. These techniques have been handed down by word of mouth and learned by trial and error, as they were learned by the author. The principles presented here are those in use in the trade plus certain simple mathematical concepts developed and taught by the author for the better part of two decades. These mathematical techniques will enable the beginner to cut and operate a let-out skin correctly the very first time he attempts it.

In normal circumstances, the standard sequence of matching, cutting, operating and layout would be followed, but the matching would depend upon a previous knowledge of the amount of pelts the garment would require, a fact that can only be determined from a layout of a completely manufactured garment.

In order to avoid a complicated presentation, let us consider first a sample let-out job involving no matching, such as might be encountered in making a fur hat strip from a small half skin of natural gray Persian. We shall suppose the original measurements to be about 5 inches in width and 14 inches in length. Assuming that the hat strip is to be 24 inches long and as wide as permitted by the amount of fur supplied, the following are the basic steps which are taken to produce any let-out skins. It should be understood that most of these steps are avoided or minimized by the experienced cutter, but by following them carefully the beginner can let out a pelt correctly the first time he attempts it.

flank and repeat. Never permit the fur to slide against the table surface.

Both hands are used for the final step in stretching and smoothing out the pelts. The cutter holds the head of the pelt in place by pressing his abdomen against the edge of the table. While the head of the skin is held by this pressure, stretch the paws; then hold the paws and stretch the head. This common operation is one of the reasons why fur cutting tables are made belt high.

E. Damaging and Trimming. The stretched pelts can now be trimmed to remove the substandard parts. On Persian this means most of the head, about ¼ to ¾ inch at the rump, the paws and sides. The experts cut these away after a quick glance at the hair

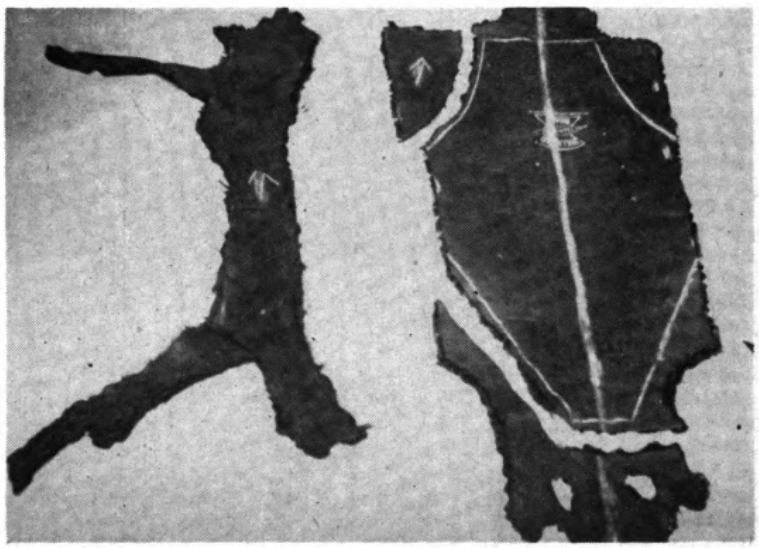


Fig. 167.—Trimming skin.

side. Beginners would do well to use pins pushed through the hair side at proper places or a tracer to mark it off for trimming. Or, the paws could be cut off from the hair side with a fine fur knife held in reverse position. The pelt is held by belt pressure and one hand while the other hand cuts the fur directly from the hair side.

F. Matching. What is left after the trimming is the usable fur area. It is now necessary to figure out how to use the available fur so that it will appear to the greatest advantage and involve the

Let-out Cutting

A. Plotting. The basis for figuring let-out work is a grade-school formula: length times width equals area. The measurements of the original half skin after damaging and adjustment were 5 by 14 inches which gives an area of 70 square inches. Allowing an approximate 10 percent loss as a result of trimming and other work gives a working area of about 63 to 64 square inches. Since the new length desired is 24 inches, the new width would be about 2⅝ inches.

On a half pelt such as this, simple diagonal let-out cuts angling down to the rump and into the grotzen would be satisfactory. The new width, 2⅝ inches plus ½ inch for trimming, is measured off in from the flank at the rump, and a mark is made. This same distance, doubled (5¼ inches), is measured off along the side and another mark made. These two marks, joined, indicate the location of the first let-out cut. The same procedure is repeated at the head of the skin, except that the measuring is done from the grotzen instead of from the side (see Figure 102).

With these two lines drawn, the first and last let-out cuts are placed. What now remains is to figure out the total number of let-out cuts required and to place them. Subtracting the original length (14 inches) from the required length (24 inches) leaves 10 inches to be made up.

The number of let-out cuts used in any pelt depends entirely upon the pelt being let out. The object of all the let-out cutting is to change the shape of the skin without allowing any of the work to show on the hair side. You will recall in the presentation of tongues that limits upon the distance a tongue could be moved were set and that these limits, too, were based upon the amount of move that could be made with a tongue before it would show on the hair side. The same principle applies here. Some furs, such as flat ranch mink, cannot be let out more than half an inch over most of the skin. On the other hand, gray Persian lamb can be let out as much as 2 inches on each cut. Between these limits, it will be found that most pelts can be let out about 1 inch, more or less, with the larger, fuller grades allowing more of a move and the smaller flatter pelts less of a move per let-out cut.

In this instance, let us use a let-out of 1 inch for convenience. This means that eight additional cuts have to be planned, since

least work. Keep in mind that Persian lamb shows to best advantage when it is worked hair up; that is, with the head of the skin pointing down.

Lay the folded pelt out on the pattern. In the job being described it is evident that only one shifting of fur needs to be made to fill out the lapel point. The pattern is marked out so that the center lines of the pelt and pattern coincide.

G. Cutting. Now cut the fur around the pattern, well outside the lines on all edges except the center fold. In this case the peak of the lapel of the collar pattern is larger than the skin on both sides. The best of the excess fur is matched in to fill out the area.

In matching, take care not to reverse the hair flow or nap direction of the added pieces. This can be insured by marking a chalk arrow to indicate the hair flow of the larger pieces before moving them. If the pieces are added from an area near the original, special joining seams such as the zigzag will not be needed. If there seems to be a difference in pattern, the zigzag or mixing cut might be used.

H. Nailing. Check the fur area after a slight dampening to see that it is of sufficient size, then go on to the nailing. This time the leather must be made thoroughly wet. If it is possible to allow the pelt to lie around for an hour, folded leather to leather with plenty of water between, so much the better.

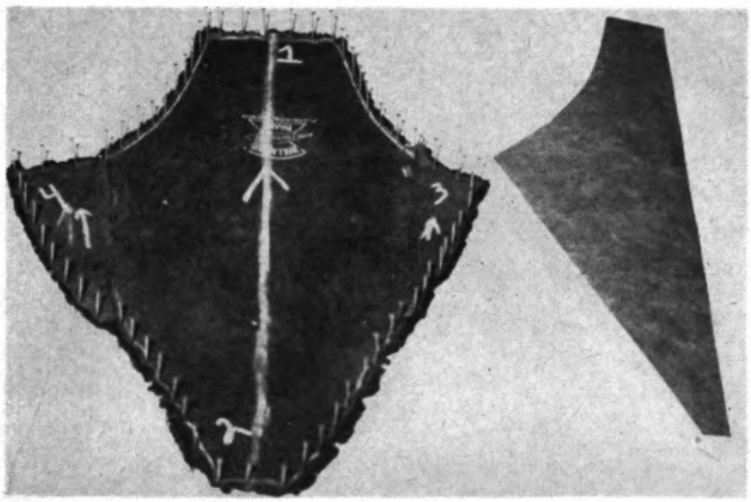


Fig. 168.—Nailed collar as unit.

two (the first and last) are already in place. Using a ruler as a divider, the end of the ruler is placed on any convenient spot of the top (last) cut and the 9-inch (one more than is required) mark is placed on the other cut. The ruler is moved until these two points are in place. It is immaterial where on these first two lines the points of the ruler are placed.

With the ruler in place, 1-inch lines are made parallel to the first and last cuts, at 1-inch intervals from the 1-inch mark to the 8-inch mark on the ruler. These eight short guide lines, plus the first and last already made, indicate exactly where the 10 required let-out cuts are to be made.

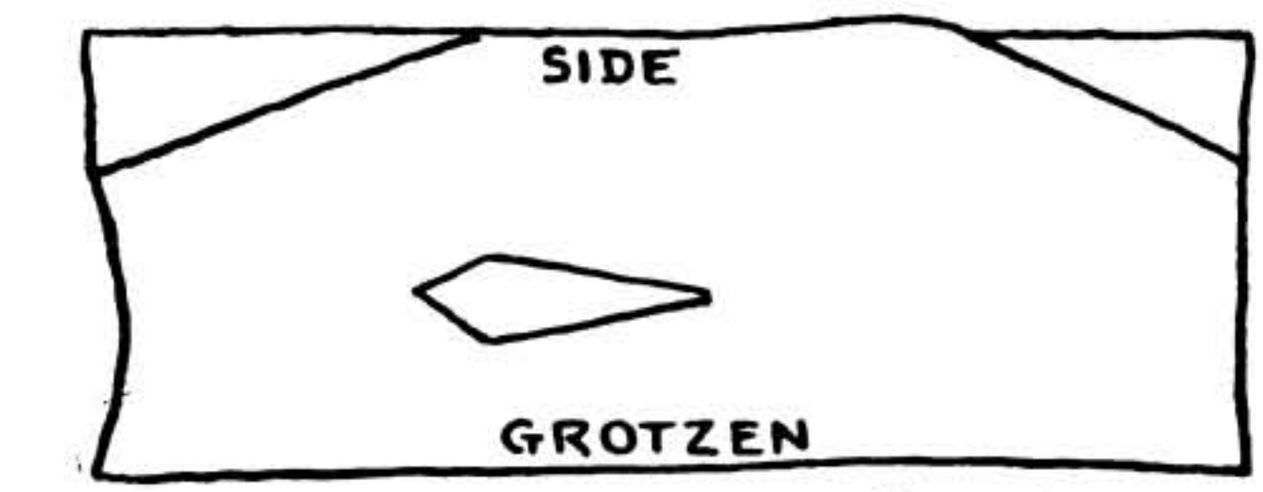


Fig. 102.—Elements of let-out, natural shape skin.

In the meantime, the pattern can be marked out. Whenever the pattern representing two halves has a straight edge like this one, work both halves together without cutting them apart so that they can be nailed in one piece. When the edge is not straight, such pattern halves must be split and nailed separately, using the technique already described.

I. Squaring. Allow at least 24 hours for drying; more if the humidity is high. When dry, remove the pelts from the board.

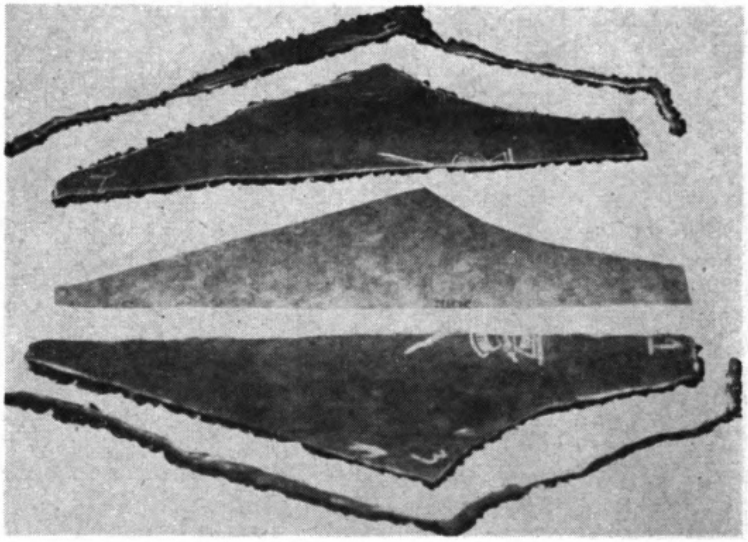


Fig. 169.—Squared collar.

Once more mark out the pattern on the fur, this time very accurately. Cut the fur carefully to the pattern. The excess may be enough to cover two or three fur buttons.

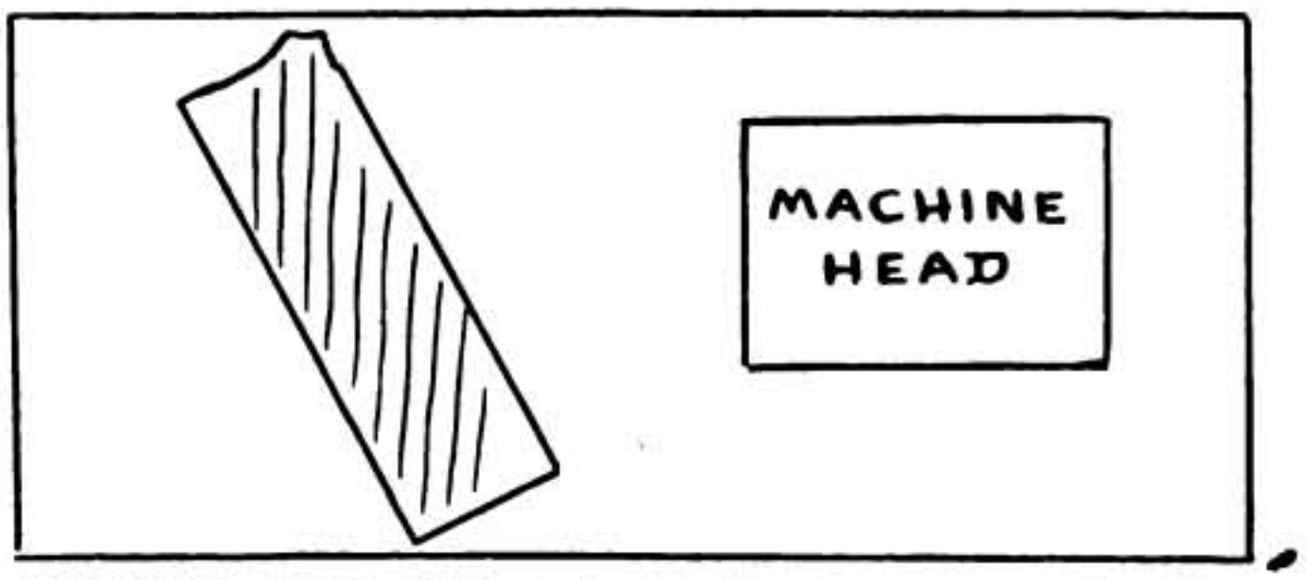
J. Finishing. Nailed Persian edges should be flat-taped to keep the fur in shape, then machine-taped around the edges with 1-inch tape. This tape is drawn over padding cut through the pattern. Turn in about ¼ inch of fur with the tape to make a clean edge and to equalize the extra ¼ inch added to the pattern.

Fur Hat Trimming

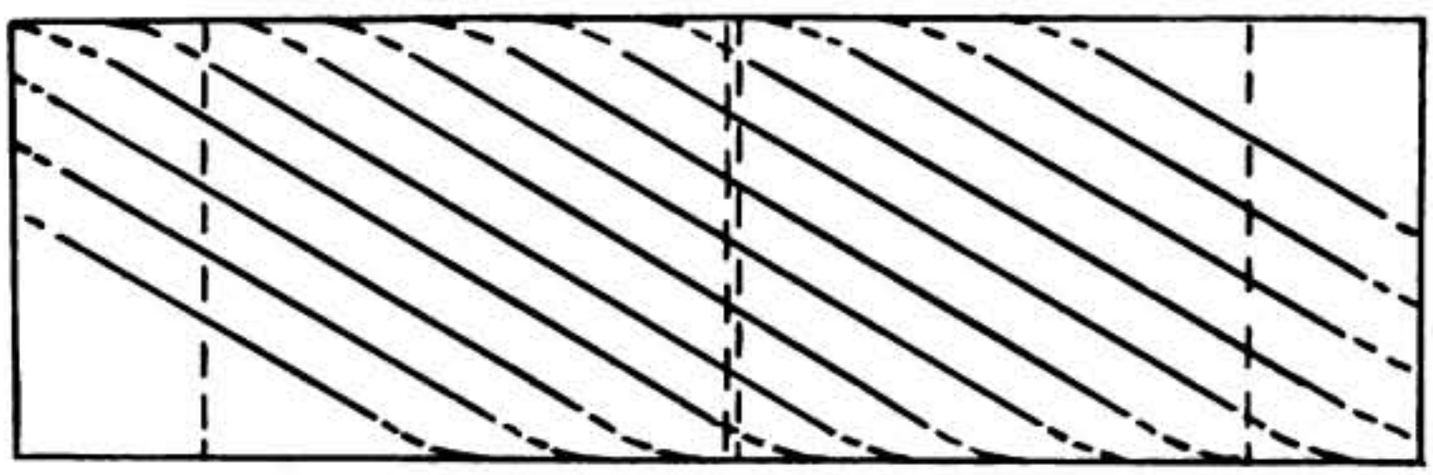
The fur garment processor and repair man may be asked to make fur hat trimmings, either as part of a repair or remodel job or as an added job to complete a purchase made by a customer.

tion. The nearer cuts are made with the knife held in the usual manner. The left thumb and forefinger hold the fur in the cutting position, the right hand making the cut.

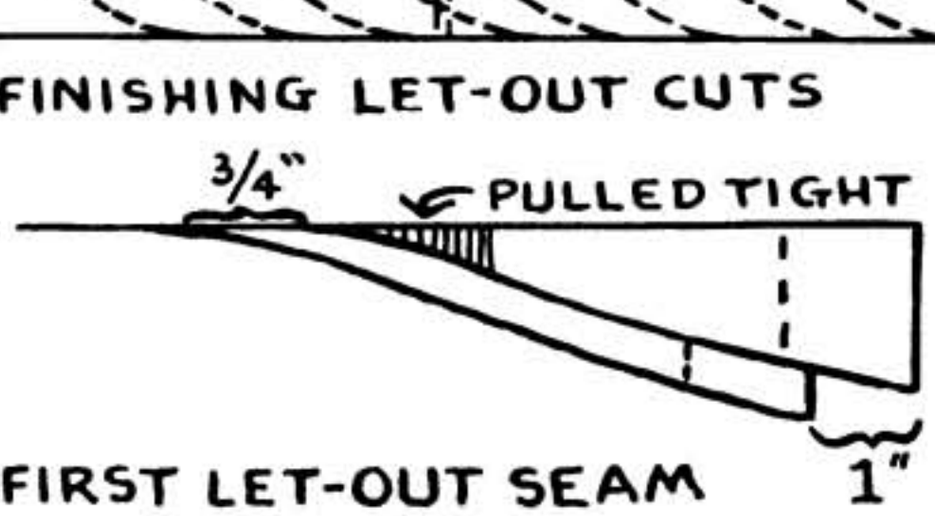
As he separates the strips, the operator counts the number of



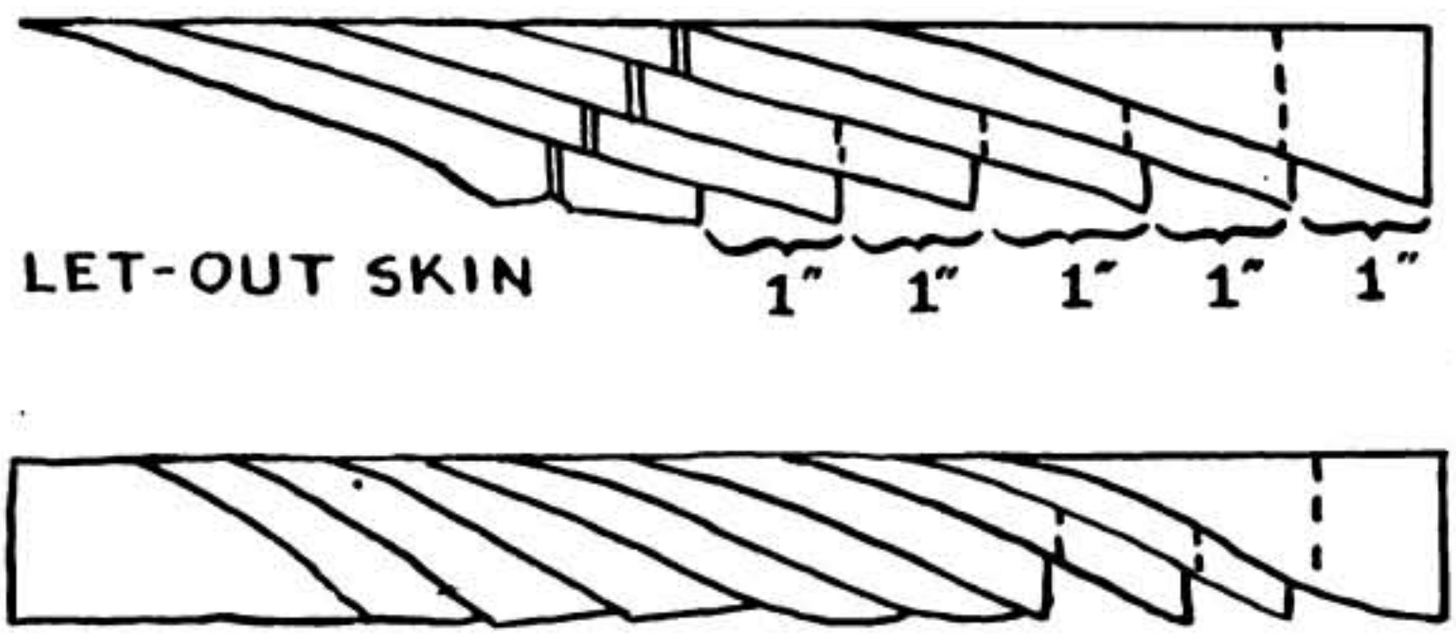
PROPER POSITION-STRIP ON MACHINE



FINISHING LET-OUT CUTS



FIRST LET-OUT SEAM



LET-OUT SKIN

Fig. 106.—Operating technique.

She may have purchased a fur coat in the regular market plus an amount of fur sufficient for a hat trimming. She would secure a pattern for the trimming from her milliner and you would then be requested to make it up from the fur. Your ability to fulfill such requests is a necessary and lucrative part of fur processing work.

In jobs of this nature make certain that you know exactly what the pattern, or the buckram which the milliner may have given to the customer in lieu of a pattern, represents, and how it is to be placed on the hat and worn. A half inch of margin all around the fur pattern—buckram or paper—must be allowed to give a clean edge to the job.

In the sample job described here a mink hat trim to match a coat was wanted. The fur for the hat had been purchased along with the coat. The customer then visited her milliner and received the hat pattern.

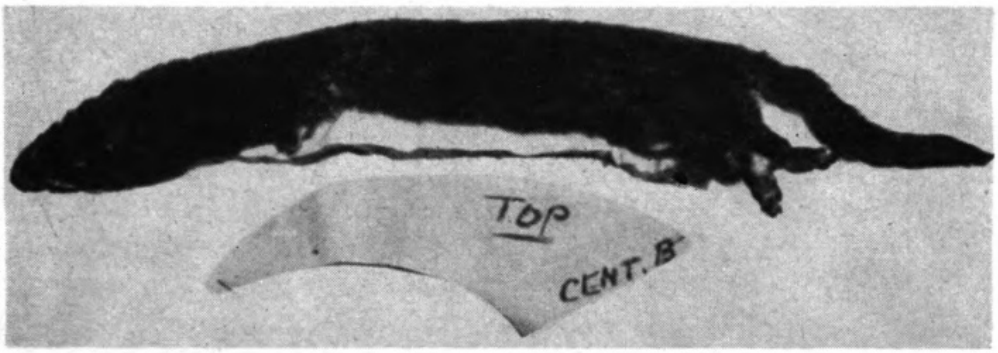


Fig. 170.—Original problem—skin and pattern.

The furrier who handles one of these millinery patterns must first determine the best possible layout. With flat furs such as black Persian there is no real problem but with natural pelts like mink, with their range of shading, the problem is more difficult.

The layout finally decided upon for the job described was one which would have the fur run together at the front peak of the hat, with grotzen up. This last decision was a compromise with the fact that the fur had to be shaped, so that the possibility of shaping cuts disfiguring the side of the pelt had to be taken into consideration.

Small as the job was, it required a varied range of fur techniques

cuts made by the cutter. A simple arithmetical calculation enables him to figure the amount he must move or let out each cut. For instance, a fur 17 inches shorter than marked and containing 17 cuts would allow for an average let-out of 1 inch or slightly less on each cut.

A screwdriver, ruler or other convenient weight is placed over the cut pieces to prevent them from being dislodged, blown away or in any other way displaced and put out of order.

B. Operating. The let-out operator usually acquires a carefully adjusted machine with the jaw wheels and fine needles and thread to match. The seam must be thin yet tight so that the fur will not "break" over the seam on the hair side when examined, a most undesirable feature of poorly let-out furs.

The rump base triangle strip and the one nearest to it are picked up. The second strip is moved back 1 inch from its original position and the two strips are sewed together from that point. The seam is made perfectly straight with just enough normal tension to maintain it in a straight line until the last third is reached. At this point, without stopping the seam, the point of the first strip is pulled up ("stretched") so as to narrow the gap at the flank. This stretching up of the points makes the edge smoother, tightens up the normally loose sides, and minimizes the difference in fur at the sides, where the let-out move is most likely to show. If the let-out distance is 1 inch at the grotzen, the skin should be let out at the side about ¾ inch or a little less.

Assuming a perfectly cut let-out job, the operator can safely let out each succeeding cut in the same way, moving the strip up an inch from its original position. A cut or two from the end, at the head, the operator automatically checks his work against the ruler. Allowing a half inch or so for stretch gained by "rubbing out," he lets his last two pieces out—never more than the 1-inch limit—to give him the desired final measurements.

The completed let-out strip is usually rubbed out on the rubbing iron, a metal strip attached to the right side of the machine and protruding out 6 to 8 inches. The rubbing-out process is performed much as if the iron were being "shoe shined" by the leather side of the fur. The fur is held under just enough tension to rub the seam flat. Sometimes an empty fur spool is used for this same purpose.

The main responsibility for the final result lay in the operating. For a job this complex, the operator usually works directly on the pattern, checking the results of each seam on the pattern as he sews.

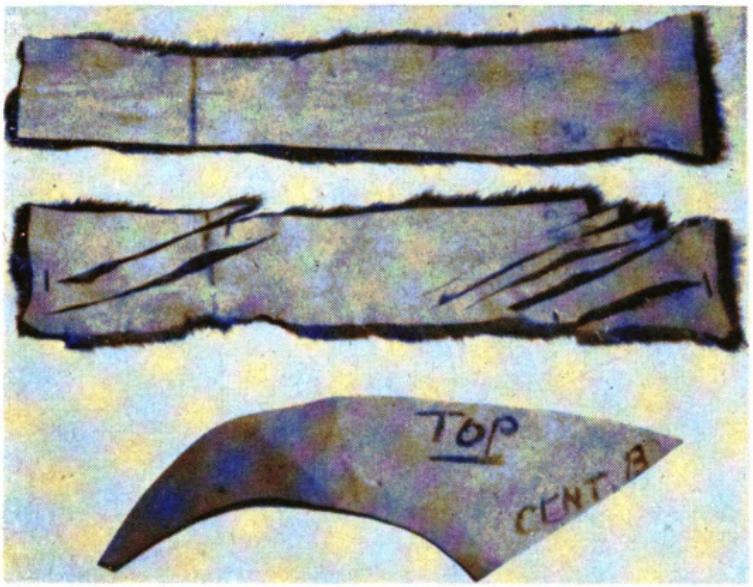


Fig. 172.—Let-in and let-out cuts.

He adds a little shirring to each let-in or let-out cut in order to help the shaping along. When the first set of cuts is sewed out it may be found that one more cut of each type is needed to give the pelt exactly the size and shape wanted.

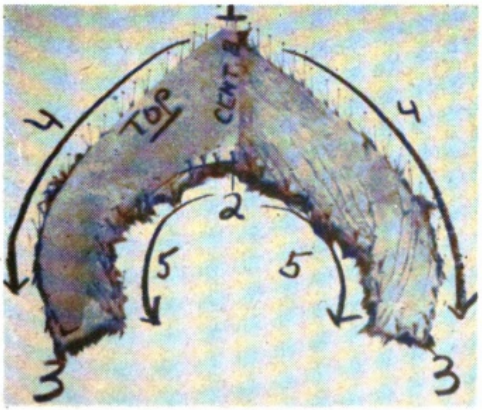


Fig. 173.—Nailing sequence.

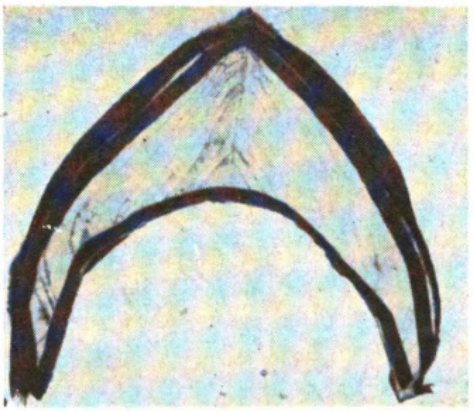


Fig. 174.—Leather side, completed hat trim.

C. Adjusting Sewed Let-out Work. The chart opposite indicates the common faults found in simple let-out strips and the standard methods of adjustment.

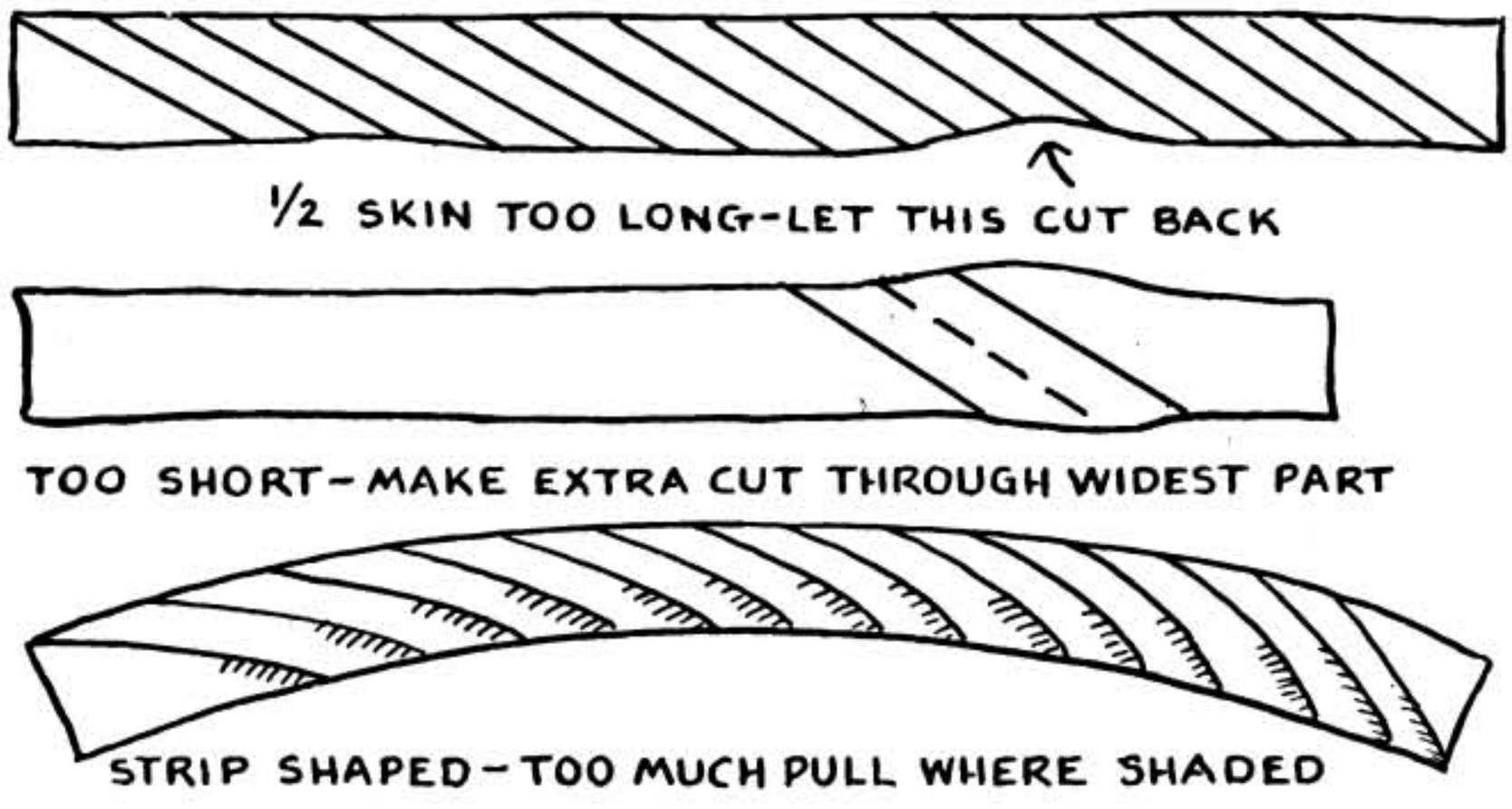


Fig. 107.—Adjusting let-out work.

SPLIT-SKIN LET-OUT WORK

About 90 percent of all let-out work is cut split-skin fashion; that is, the pelt is split in half and each half is let out separately. Sometimes the same halves are rejoined, but the matching requirements may make it necessary to vary these joinings according to some other plan.

A. Cutting. Assuming a trimmed and damaged skin rectangular in shape, the three guide lines are marked and the pelt is cut apart down the center. Each half skin is calculated as a unit and cut individually. Usually the let-out cuts slant down to the rump and towards the grotzen on both halves. This means that the left half of the pelt (as seen from the leather side) is cut in mirror image of the first, or its direct opposite in angle but exactly the same otherwise.

The split-skin method has the advantage of permitting maximum let-out cutting and operating and comparative economy of labor. For such common pelts as mink, skunk, muskrat, gray Persian and others, it produces a satisfactory let-out job without complicated manipulation.

Reversing the knife so that the cutting edge is up puts it in position to make short snips or cuts in the direction away from the body. A flip of the finger serves to open cuts and is used when the operator must complete let-out cuts. When the knife is held completely in the palm so that the handle rests across the palm, short trimming cuts can be made, as in cutting the head away from the skin. The same position can also be used in making a cut from right to left, as when the side of a skin is trimmed away. The beginner will find that a few hours of practice on plain paper, first following lines and then freehand, will give him sufficient control to begin to cut furs.

The cut fur—marked, numbered and piled up in rows or sets—now goes to the fur operator.

FUR OPERATING

From the viewpoint of sheer manual dexterity, the fur operator is supreme in the fur factory. Yet he is usually paid less than and takes orders from the cutter. Except for let-out work and some types of leathering, he is rarely required to exercise individual judgment.

Fig. 8.—Tools used by fur operator.

On the operator's machine stand will be found a fur knife, a fur tweezer, a screwdriver and a box containing minor items. The machine head itself will most likely have been manufactured either by Bonis or Singer, with stand to match, unless the machine is more than 10 years old. If the reader has any acquaintance with the progress made in the needle-trades field on sewing machines in

Appendix I

FOURTEEN TYPICAL FURS

AMERICAN BROADTAIL
TINGONA LAMB, LINCOLN LAMB, BOMBAY LAMB

Sections: Mostly from South America. Some from Mediterranean area, Mongolia.

Appearance of skin: Natural lamb sheared and processed to resemble Russian broadtail, Persian broadtail and gray Persian. Comes in white, usually dyed black or gray, sometimes brown. Pelt 14 to 18 inches long, 10 to 13 inches wide.

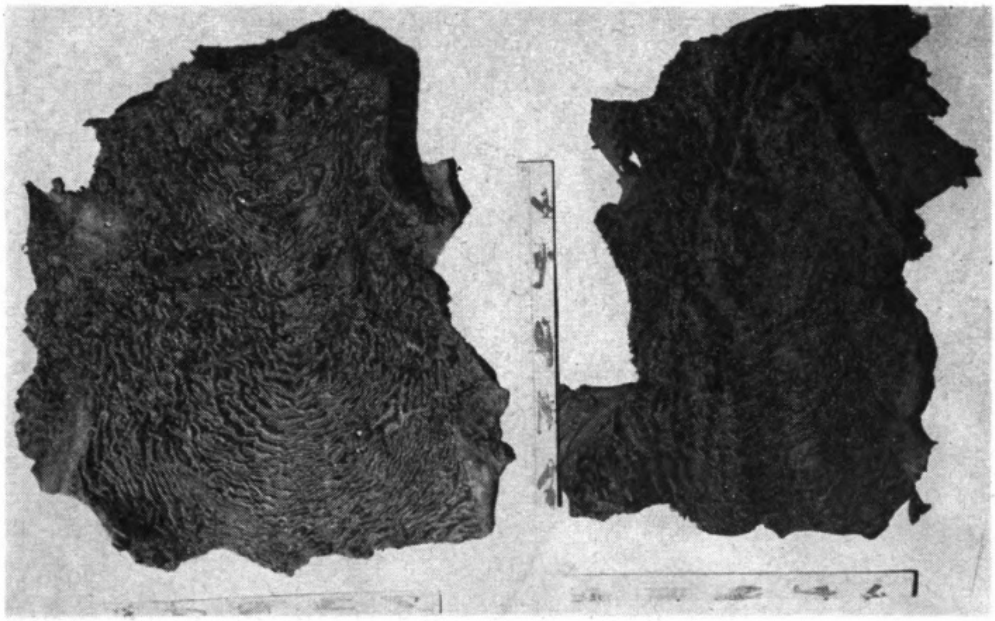


Fig. 175.—American broadtail.

Uses: Coats, jackets, linings, trimmings.

Working methods: Head and rump joinings zigzagged with 1-inch zigzag. Worked hair up. Cracks slit and resewed. Sides scalloped or zigzagged on expensive garments.

COMMON FAULTS IN SIMPLE LET-OUT WORK

Fault	Cause	Adjustment
1. Too long	Too great amount of let-out on each cut, too much stretch, too many cuts made.	Open cut at place where skin is narrowest and move one or more cuts back to adjust.
2. Too short	Not enough let-out cuts; sufficient cuts but cuts not let out enough.	Find widest part of skin. Make an additional cut halfway between two original cuts and let out to adjust.
3. Uneven width	Incorrect width of let-out cut or uneven width of skin.	If skin is short, correct as in (2) through widest part of skin. If skin is too long, correct as in (1) through narrowest part of skin.
4. Uneven, serried edges	Not enough pitch on original let-out cut or failure on part of operator to round cut off into long tapering edges, or failure to draw up sides of pieces being sewed.	By trimming, although this means loss of fur.
5. Bearded edges	Hair sewed into seam at end of seam.	Greater care in handling fur is needed. Fur seams should be finished off by holding hair itself as control.
6. Cuts show on hair sides	Seams are cut too flat, or too great amount of let-out, or too loose or too long a seam, or failure of operator to draw up sides.	Correction of causes as indicated.
7. Loose sides	Failure of operator to draw up last inch of piece being sewed.	Adjustments indicated.
8. Strip is shaped	Too great or too little tension during making up of seam, especially in first part near grotzen.	Seam should be perfectly straight with just enough tension to keep furs in straight line.
9. Base triangle piece not on right angle to edge	Excessive amount of pull exerted on point or side of first triangular piece.	Release seam holding base triangular piece in place and sew it back a little more loosely.
10. Strip reversed	Strips not picked up in proper order or fur itself not placed on cutting table properly or no weight used to hold strip in place.	As indicated.

Repair: Coat needs repair after one season. Fur is difficult to patch. May often be too weak after only one season.

Remodel: Only cut-down remodels and only after one season.

Fig. 176.—Bombay lamb.

Cleaning: Only very light drumming in a bag advisable, on strong coat. Cloth garment lined with dark American broadtail will often bleed on to cloth, ruining garment.

Glazing: Ironing with warm iron and wax paper will improve gloss.

Appearance in use: American broadtail—very short-haired, moiréd, curled fur; brown, black and dyed shades. Lambs—curly, like poor gray Persian.

Occasionally the direction of the split-skin let-out is reversed so that the cuts run down to the rump with the head out to the side, as on beaver and raccoon. The special nature of certain skins seems

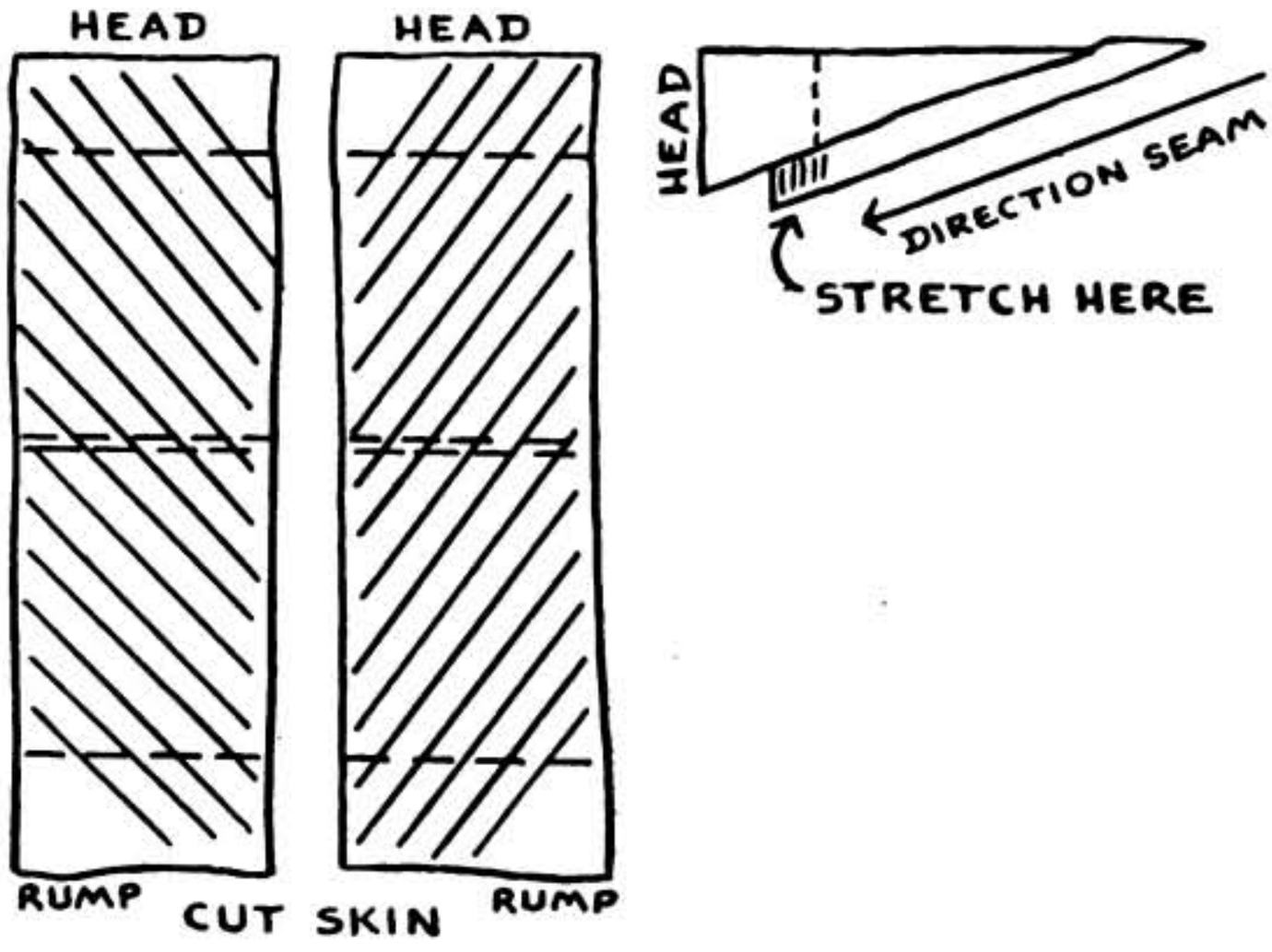


Fig. 108.—Split-skin let-out.

to respond to this change. In fact, experimentation has suggested that all split-skin let-out work cut this way produces a better appearance. There are no exact rules for choosing what plan of split-skin should be used except that the skin with the poor rump will generally be found to respond to the second type of split-skin work better than it does to the first type described.

B. Operating. The right half of a split skin is handled by the operator in the same way as the introductory pelt described above. Letting out the left half of a split skin is another matter. If let out seam by seam beginning at the rump, the individual strip being added is against the inside wheel. In an effort to maintain a straight seam, the operator tends to stretch this single strip with the result that the entire seam is curved. Then, too, as the let-out half of skin develops, the last piece being joined is hidden behind the let-out mass, making control difficult. For this reason, let-out operators commonly reverse the sequence of seam of the left half of let-out skins in work, sewing the seam at the head first and proceeding down the skin rather than up. Stretching up of the points at the

Fig. 177.—Tingona lamb.

Durability: One of least durable furs. Garment will last up to four years with very great care. Grays turn yellow in two to four years; can be redyed.

Imitations and substitutes: Fur is itself an imitation of Persian lamb types. Variation in processing makes it good substitute.

BADGER

Sections: Europe, China, Japan, North America.

Appearance of skin: Large pelt, up to 36 inches. Coarse, dull, thick underfiber of pale beige or stone color, covered with longer black and white hairs and sides. White stripe on face. Flank hair darker than back. Asiatic badgers yellower, flatter and coarser. White line from tip of nose over head the "badge." Canadian badger pale white, United States type light cream color.

Uses: Mainly for trimming cloth coats. Guard hairs removed and used for "pointing" and for shaving brushes.

Working methods: Split-skin and V let-out. Leathered.

Cleaning: Usual drum cleaning. No rubber pieces as guard hairs may break.

D. Cutting Natural-shaped Let-out Work. For ease of presentation, we have thus far assumed that the pelt being let out is conveniently rectangular in shape, an assumption that is contrary to nature. Nor can the normal fur pelt be trimmed from its original shape to this rectangular shape. The loss in area would be too great, and in trimming the pelt some of its most desirable area might have to be cut away.

By means of certain of the common tongues and techniques used in damaging a pelt, the usable area of any normal-shaped pelt can

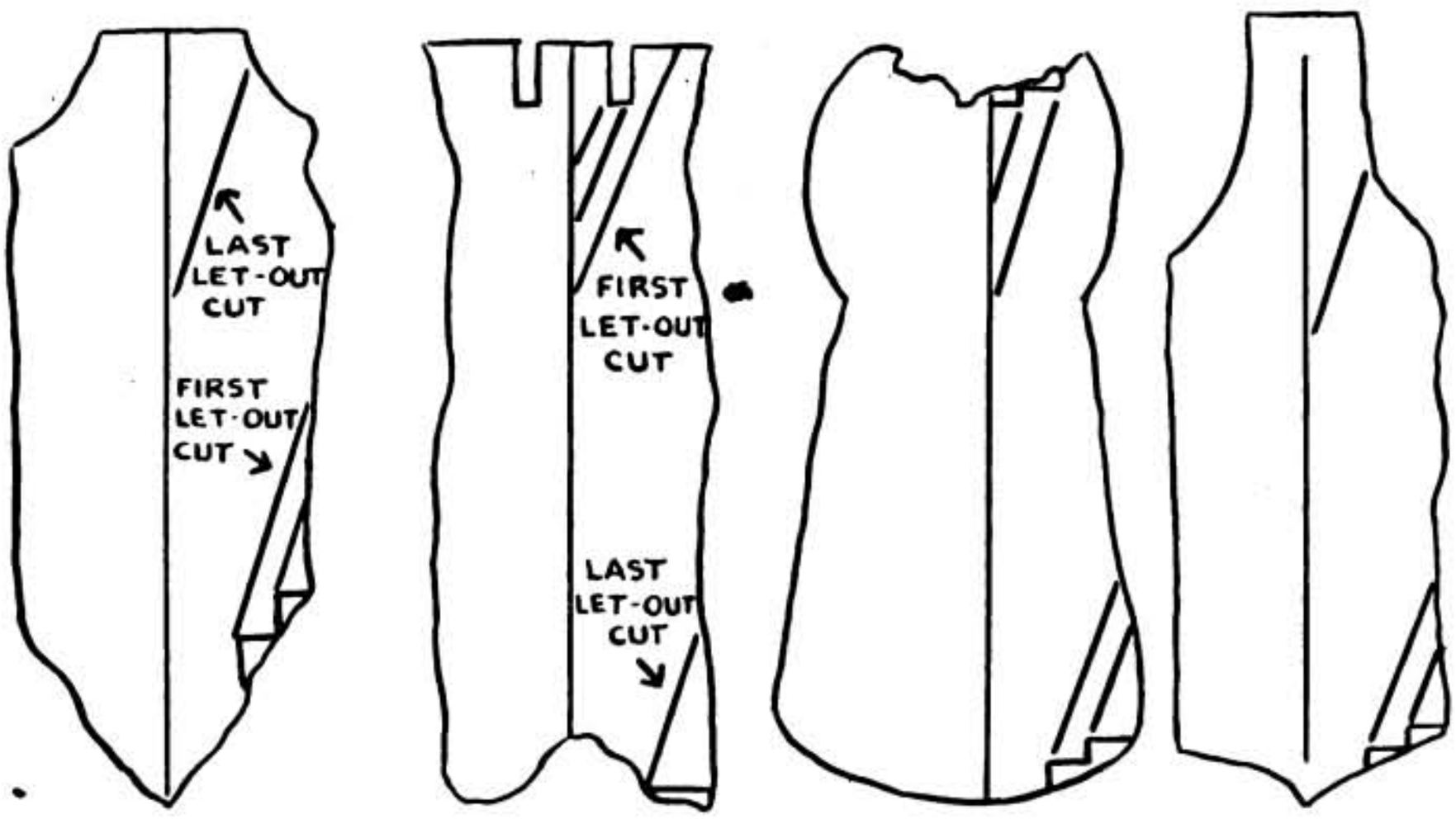


Fig. 110.—Natural-shaped skin let-out.

be worked out by the basic method described above. Figure 110 illustrates some of the common problems that are met.

The calculations, in the case of these pelts of varied length and width, are based on the average of these dimensions. The important fact to note is that all these adjustments in cutting are made as part of the let-out work so that the pelt will not be handled twice.

E. Controlling Width in Let-out Work. The variation in the width of the vertical lines in a standard full-length fur garment has already been the subject of considerable development in this presentation. The same problem of producing vertical lines of pelts which will taper in the same proportion as the garment itself

Glazing: With steam iron. Iron with and against hair flow alternately. Beating will fluff out. For underfiber, soft strokes. Steam gun may be used. Stick glazing also improves appearance.

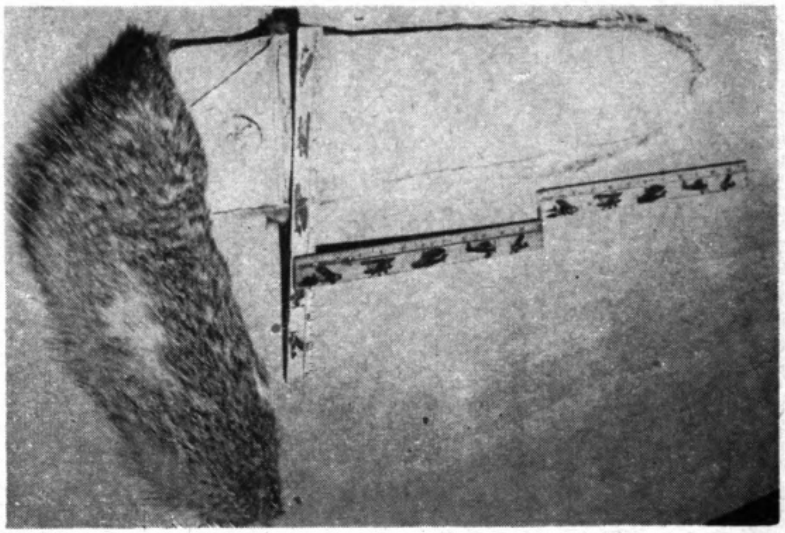


Fig. 178.—Badger.

Repair: Only if new pattern is smaller than original; adding fur is impractical.

Remodel: In collar form.

Appearance in use: As above. Never dyed.

Durability: Very durable.

Imitations and substitutes: Artificially pointed wolves, foxes and coneys. Natural black and white hair with grotzen tip coloring ("mask") is best guide to genuine badger.

BEAVER

Sections: North America. St. Lawrence, Great Lakes and Mississippi regions of United States, Hudson Bay region of Canada and Rocky Mountains. Province of Quebec (P.Q.) best.

Appearance of skin: Large oval pelt, 16 to 24 inches wide, 20 to 40 inches long. Guard hairs plucked before use as furs. Underfiber thick and full, almost an inch in depth. Sheared and grooved along sides when used as fur. Color rich brown, almost purplish; sides have blue cast.

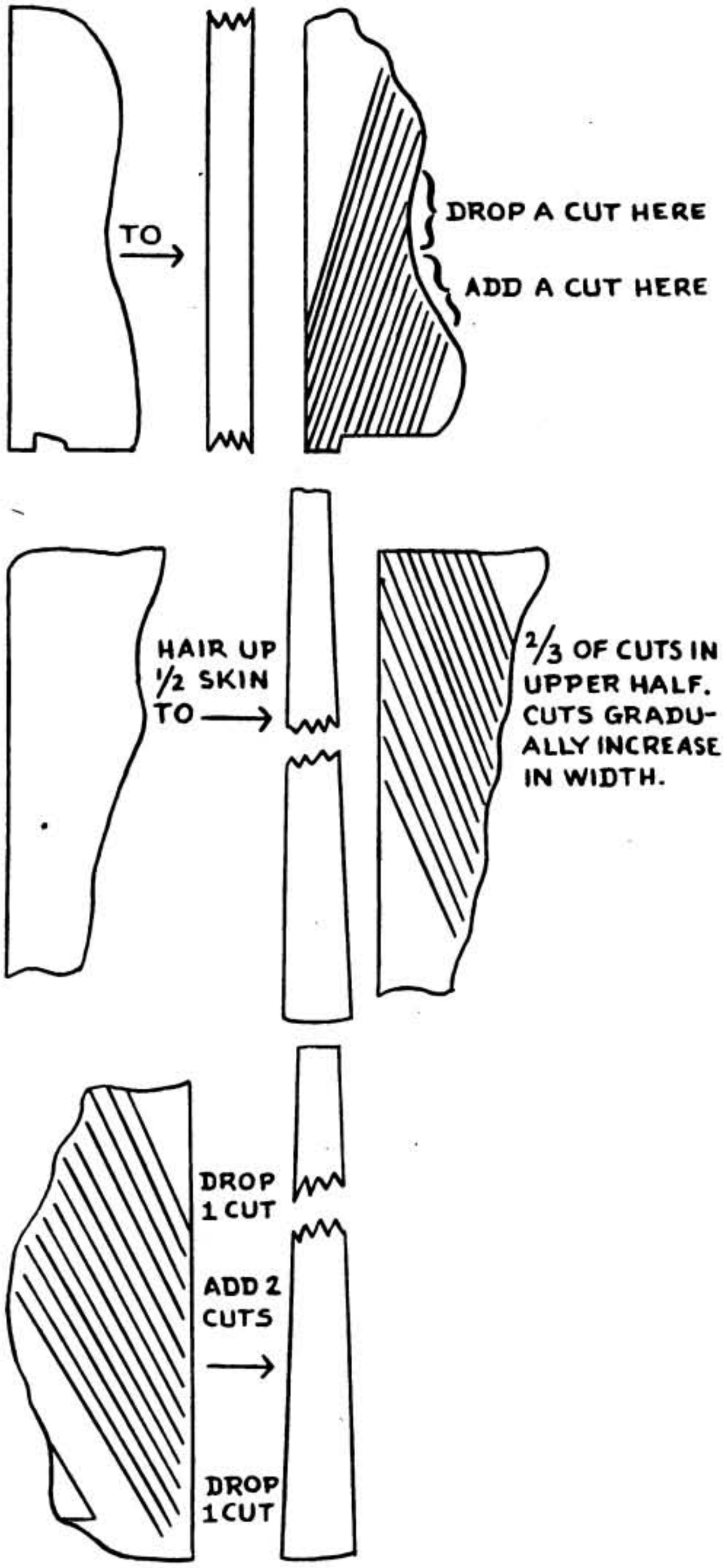


Fig. 111.—Controlling width of let-out work by varying cutting.

Uses: A versatile fur, useful for cloth- and fur-coat trimmings as well as for fur garments. Fiber makes superb felt.

Working methods: Split-skin let-out on modern garments. Occasionally V-cut let-out used on trimmings; cuts are made out to side, 1 inch drop. Sides pulled out during sewing at least halfway back.

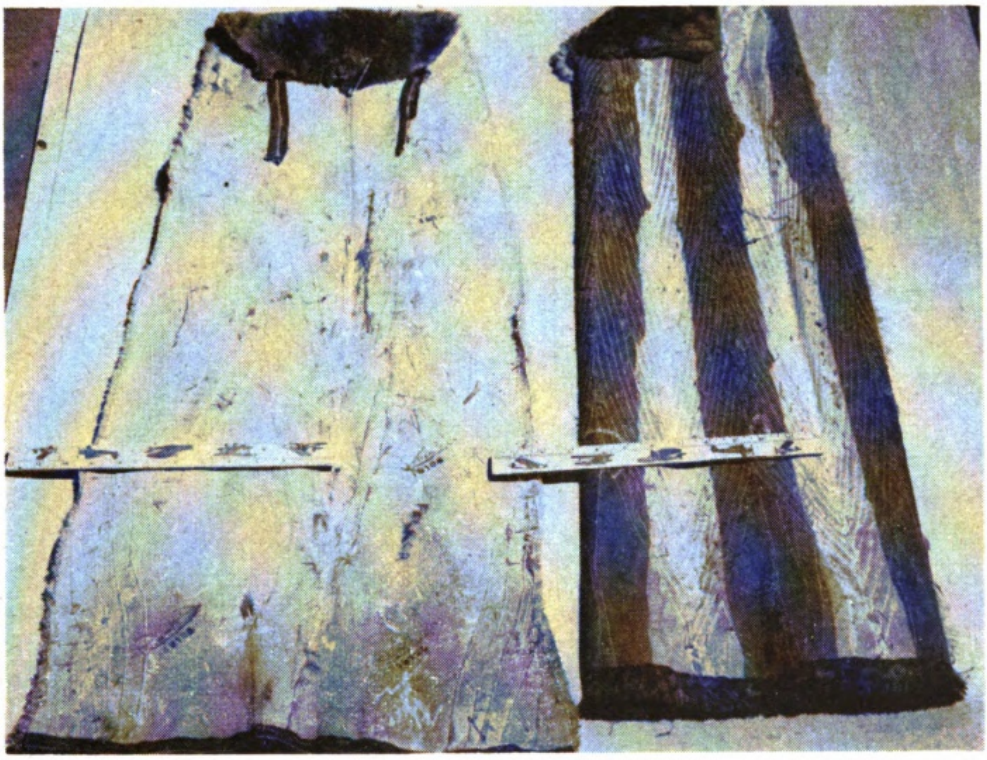


Fig. 179.—Beaver. Left sample cut V let-out without tipping. Right sample cut split-skin let-out with tipping.

Cleaning: Beaver fur fiber has tendency to mat in use. Beaver garment requires at least one good cleaning and glazing a season. Some beaver peltries shed "dandruff," which can be hand-vacuumed out.

Glazing: Considered one of the most difficult of fur glazing jobs. Traditional method is to use hot iron wrapped in kraft paper, ironing back and forth until fiber is glossy and separated. Wet glazing followed by air blowing will help.

is even more important in let-out work. When the pelt lines of a let-out garment fall even slightly askew it is unmerchandisable.

Fortunately for furriers, most pelts which are to be let out are naturally wider at the rump, in about the proportions required in most let-out patterns. When a pelt is worked hair up, as with beaver, this natural proportion is useless. In such a case, and wherever the width design differs from the normal, both the cutter and the operator must vary their work accordingly.

The rule for the cutter is comparatively simple. Where the extra width is desired he will make fewer; that is, wider let-out cuts. Where narrower width is wanted, he will make more; that is, narrower let-out cuts. The operator bears the brunt of the responsibility for controlling the width of the let-out skin, since he can let out more or less on any given cut. A few sample problems are illustrated in Figure 111.

Having plotted his first and last let-out cut, he may add a third, halfway between, dividing equally the area to be let out. The way he apportions the let-out cuts would depend on the original shape of the skin and the shape desired. A perfectly rectangular skin could be made twice as wide at the rump by placing 10 cuts, for example, in the rump half, as against 20 in the head half.

The indicated method of varying the amount of let-out is standard operator's technique in all let-out work even when the strip is to be made perfectly even all the way up the length. This technique counteracts the imperfect let-out cut which is either too wide or too narrow as against its required width, and takes advantage of small differences in the width of the original pelt by letting out more or less. All this variation must still remain within the let-out tolerance limits of the skin involved.

REFINEMENTS OF LET-OUT WORK

A. Grotzen Tongues. A special problem arises in letting out a pelt of the weasel family and others with comparatively narrow grotzens. When this let-out strip is trimmed off at the bottom of the skin, 3 or 4 inches at the rump are left without a grotzen. In order to correct this fault, the cutter makes a long, very narrow tongue on each grotzen from the rump line up 4 to 6 inches. This grotzen tongue is ½ inch wide and tapers very slowly up the grotzen. The new width of the pelt is calculated with this half

Fig. 180.—Typical dyed red fox garment.

Repair: Wear on foxes usually shown by loss of guard hairs, exposing underfiber. Small damages may be tongued out. Large areas must be repointed, if possible.

Remodel: Remodeling of scarves into jacket by addition of skin possible, if not worn.

Appearance in use: Typical three-skin jacket may show six to eight stripes. Essential appearance of most foxes unchanged, except as white or red foxes are dyed to resemble more expensive types.

Durability: Fox scarves will last because there is no stress in wear. Coats, jackets and collars are vulnerable to friction.

Imitations: Vicuna, hares, long-haired coneys and cheaper foxes used to imitate better grades, sometimes even pointed in simulation.

KIDSKIN

Sections: A kind of goat. Gray from China, black and mottled from Africa. Some from India.

B. Shoulder Area. On many pelts, ranging all the way from the foxes to mink, the front shoulder line is distinct from the rest of the pelt in color and direction of hair flow. When hairs of such skins or, for that matter, when two skins are joined, these shoulder areas must be on a line with each other. On the pelts where this is important the front shoulder line is carefully and permanently marked off across the skin before cutting it up.

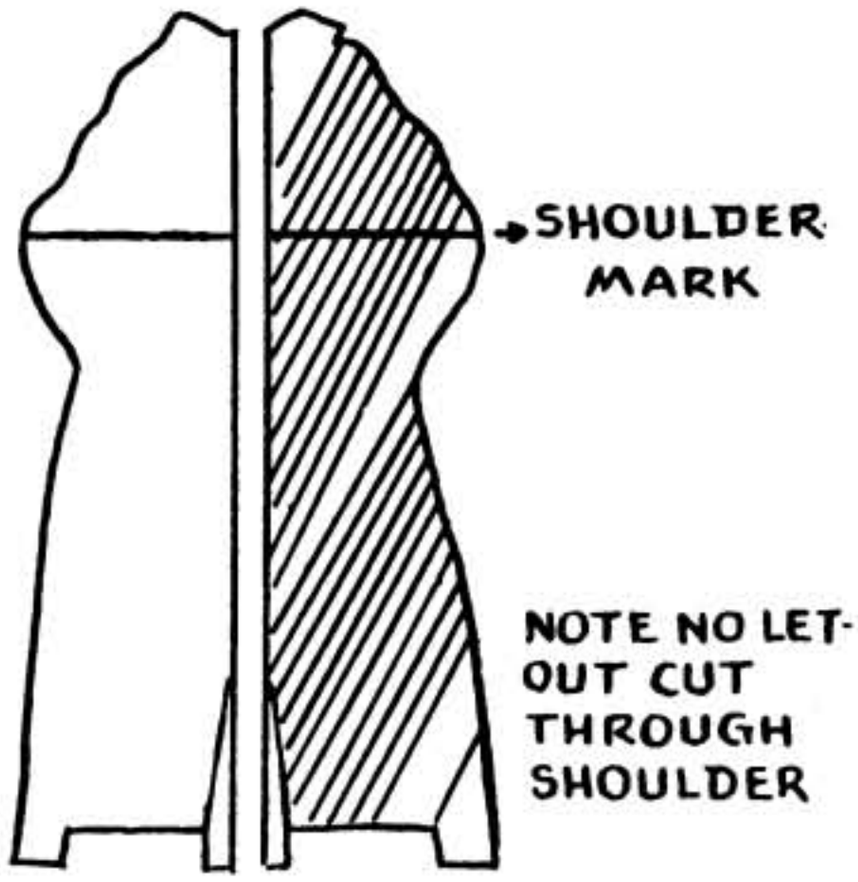


Fig. 114.—Shoulder area (refinements of let-out work).

The change of hair height and color at this front shoulder line presents another problem. If the skin is very flat, a let-out cut cannot be made through it, for the change in hair direction will show on the hair side. Sometimes, as with certain foxes, no let-out can be made through any part of the shoulder line at all, so that a totally different technique must be used. On other pelts, such as mink, the poorer area of the shoulder line must be left severely alone. The cut must detour this area, cutting above and below it.

C. Head Area. Most fur pelts are characteristically flat and less dense throughout their head area. Whatever let-out the skin will cover below the shoulder line it will probably permit 25 to 50 percent less as the flat area of the head is reached. A muskrat skin that is let out 1 inch or more through the rump area up to the shoulders can be let out only ¾ inch in the head area.

The cutter who wishes to utilize all of the head area will, therefore, put in more and narrower cuts for a given result. Where he

Appearance of skin: Skins are from 12 to 17 inches long, 5 to 9 inches wide. Hair short, sparse. In all shades of gray, occasionally with thin black grotzen. Leather naturally white, thin, soft; in use tipped gray. Fine skins have beautiful wavy marking.

Uses: Jackets and coats.

Working methods: Usually double-rounded head (two half-circles) for each skin. Jackets two-skin height, coats three- and even four-skin height; split-skin construction. Leather is tipped.

Fig. 181.—Kidskin.

Cleaning: Generally a tender pelt. Drum cleaning breaks and loosens hair. Small-bag (to prevent much tumbling action) cleaning for 10 minutes with soft wood carrier and little solvent sufficient. Light hand-rubbing of collar will help.

Glazing: Light-heat ironing with wax paper will improve dull skins. *Do not* glaze or turn hair

Repair: Kidskin requires edge repairs within two years. Replacements must be well matched.

Remodel: Remodeling inadvisable except a cut-down job, or perhaps into sling cape.

pelt were split. The head triangle is marked off on each side of the grotzen with the usual extra for trimming.

Much of the present use of V let-out work is on special parts of pelts in conjunction with regular split-skin let-outs. When used

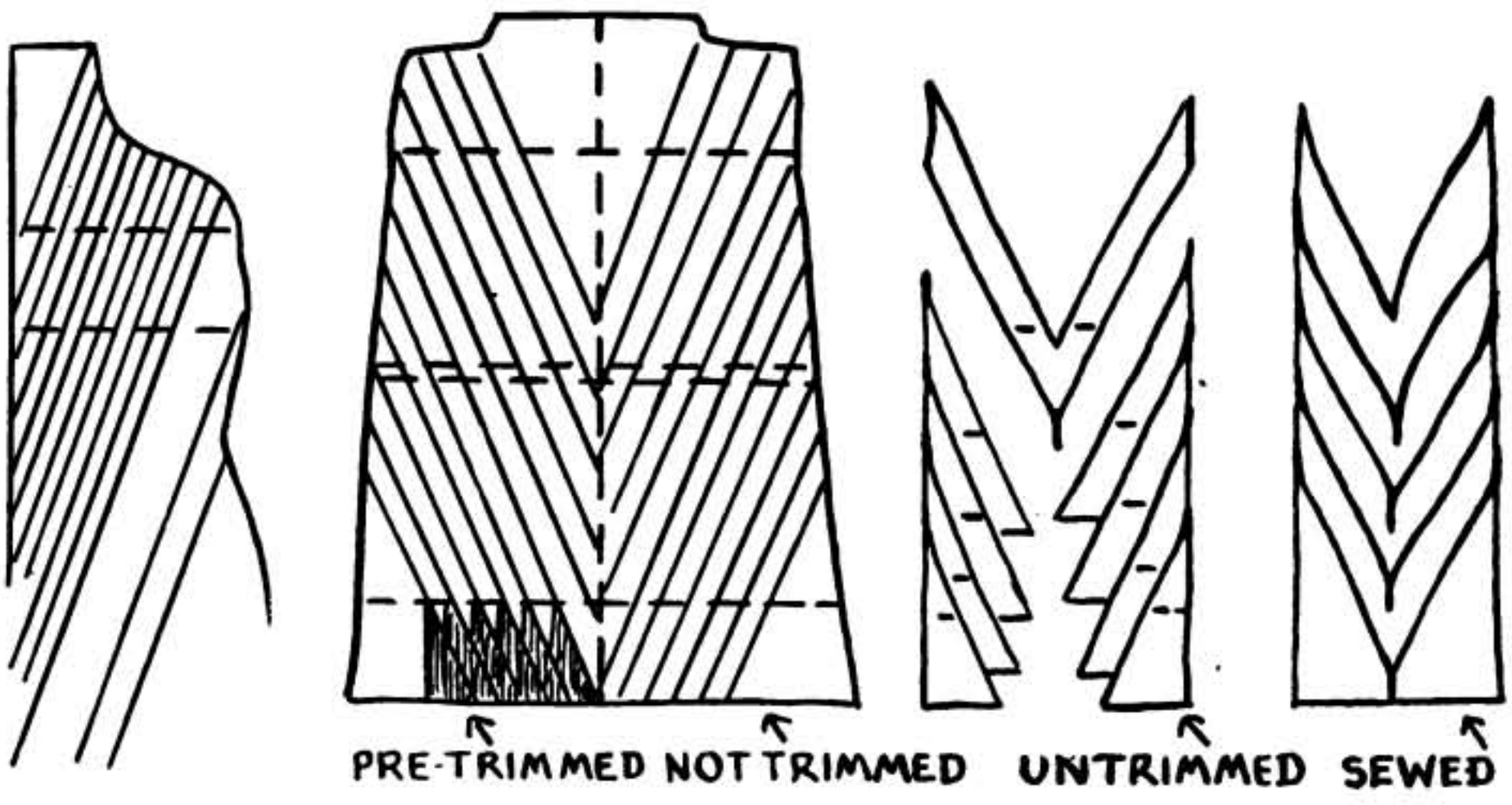


Fig. 117.—Head area (refinements of let-out work). Fig. 118.—V let-out.

on a half skin, it compresses the effect of the let-out work into a narrower length. It is also superior to split skins for shaping a let-out pelt.

The only special factor in the cutting as done by veteran cutters is the pretrimming of the steps at the rump in order to permit the operator to start the let-out. The let-out operator who has done split-skin or plain let-out will have no difficulty with this type of work.

E. Let-in Work. Occasionally patterns require that a part of the pelt be made wider than its normal width. Patterns of this type often occur on shawl collars, cuffs and ties. If a part of the middle area of the skins is to be widened, a cut similar to a let-out cut is made, except that the knife is lifted free from the pelt about 1 inch from the end of the pelt, about ⅛ inch is skipped, and the knife set in again, completing the cut. The cutter usually makes a mark indicating the point to which he wants the let-in cut drawn.

Let-in cutting is also most useful in the V form on full skins,

Appearance in use: Skin-on-skin layout, double-rounded head joining. Two or three skins in height. Colors as indicated above. Sometimes stenciled.

Durability: Poor wearing qualities. Needs repairs after two seasons' wear.

Imitations and substitutes: Kid caracul (lamb) very similar to kidskin (kid goat).

LEOPARD

Sections: Africa, North Africa, Asia. Best from Somaliland, Abyssinia, Uganda.

Appearance of skin: Leopard distinguished from imitations only by size. Best have small dark rosettes on brown, tan-cream background with clearly marked grotzen, white sides. Asiatic types have larger pattern, more "red" in skin shading. From 30 to 72 inches in length; "baby" Somalis only 30 to 36 inches.

Uses: For coats, jackets, fine cloth-coat trimmings, hats.

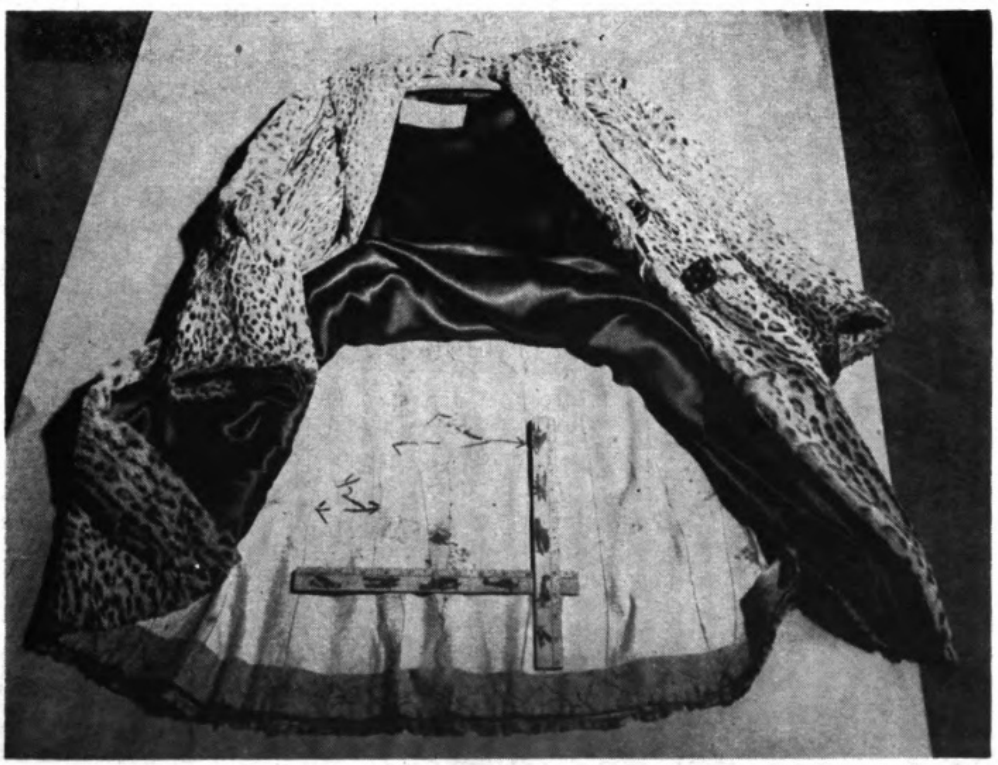


Fig. 182.—Leopard cat.

cut must be finished off with an appropriate step which will clearly indicate to the operator just what is wanted. These steps will be either in the grotzen at the base of the V cut or at the side.

F. Combined Let-in and Let-out. The more common use of let-in work in combination with let-out work is to produce special shapes. On small pieces the resulting combination of cuts is so hard to visualize accurately that it usually requires repeated cutting and sewing and refitting, unless the job itself is to be made over many, many times. On jobs of this type, the operator usually works directly with the pattern, making simple adjustments as needed.

G. Shaping Let-outs. There are three general ways of producing shapes in let-out work. They vary in difficulty and labor required, the most difficult producing the best results.

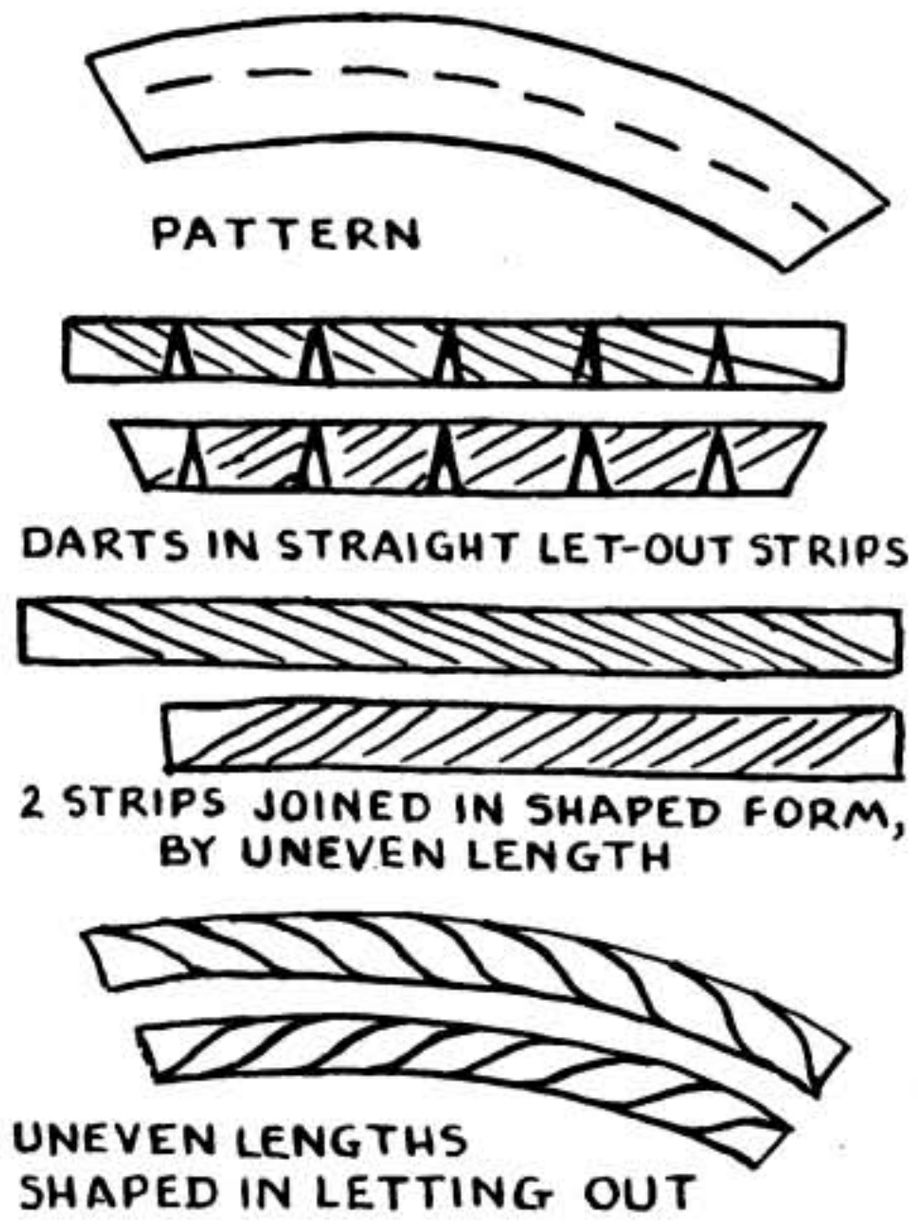


Fig. 121.—Shaping let-outs—three alternative methods.

The simplest way of producing a curve is to let the strip out to the length desired and then cut darts into the skin where needed. This method is crude but effective. On popular-priced furs and on older pelts which are being remodeled, it is probably the most practical and useful.

Fig. 183.—Stenciled rabbit imitation ocelot.

Working methods:	Split-skin in full-skin effect. Skin runs length of coat, hair down. Pieces zigzagged in—five to nine skins used in full garment, depending on section, size, etc.
Cleaning:	Only light bag cleaning with "soft" tumbling advisable. Clean collar by hand.
Glazing:	Medium-cold iron, with hair flow, lightly. Brush in direction of hair with vacuum cleaner to remove loose hairs. Do not beat.
Repair:	Repairs possible if perfect match is available. Because of necessity of matching color, spots, etc., much wastage.
Remodel:	Remodels extremely difficult. Depends on relation of new pattern to old.

There is another method of shaping fur which is superior to darts in that it does not waste any area at all. Its use is, however, limited to fur items in pairs, such as halves of a collar, a pair of cuffs, etc., where the two halves or sides to be curved are identical in nature. Depending on the angle or curve desired, a slanted cut is made right through the two fur pieces, which have been placed together hair to hair. If the cut sections are then interchanged, and carefully resewed so that grotzens and sides match, the rejoined parts will be shaped.

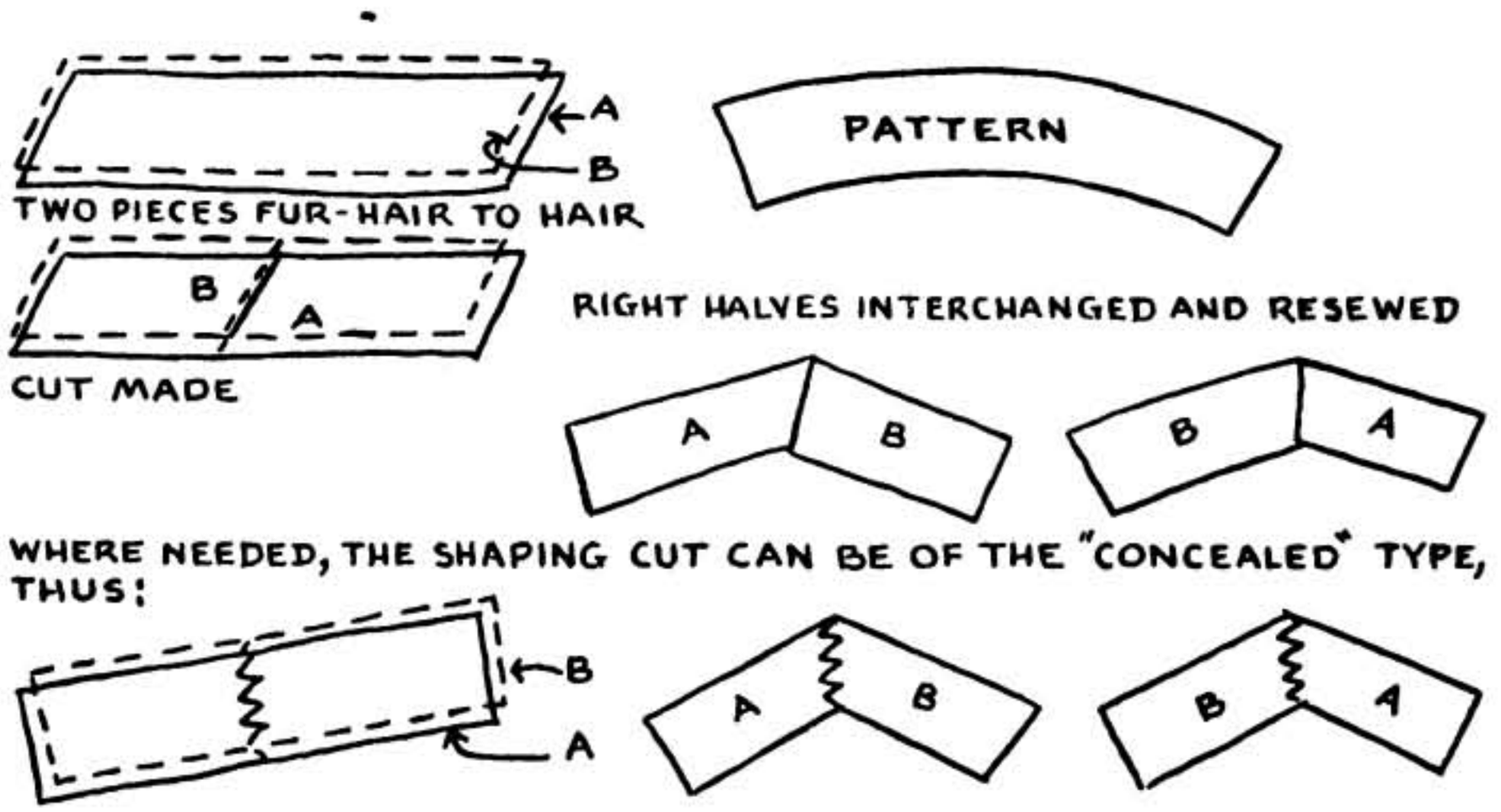


Fig. 122.—Shaping fur in pairs.

The second method assumes at least two halves of a skin, or more than one let-out pelt, which are to be shaped. The varying lengths each part is to cover on the curved pattern are measured as if each half strip were to be let out perfectly straight to the measured length. The skins or half skins are sewed together by shirring the longer part so that the ends come out even. This uneven seaming will, as shown earlier in our work, produce a curve in the material to fit the pattern. This method is fairly effective on most furs but will result in tears during the nailing if the fur worked in this manner is not extremely elastic.

By far the best way of producing a shape is to work the desired curve within each half skin as it is let out. On simple shapes, the operating problem is a matter of elementary arithmetic, the let-out seam being shirred in all along as needed. Shaping in two or more

Appearance in use: Natural.
Durability: Leather durable. Hair tends to break off in areas where rubbed. Garment as a whole durable.
Imitations: Tremendous range of excellent stencil dyeing on rabbits, calfs, gazelles and others. Patterns copied exactly from leopard and ocelot.
Substitutes: Whole range of cat family from ocelot, with its closely spaced elongated markings, to leopard cats and spotted cats. None of these as large as leopard. They require at least two skins in height to make length of garment. Pattern formation and coloring different.

MINK

Sections: Today largely a ranch-grown fur, occasionally trapped. Ranches in United States, Canada and Scandinavia. Ranch mink in general thin-pelted, dense, walnut brown and flat. Wild mink (mostly Canadian) honey-colored, higher-haired; leather a little heavier.

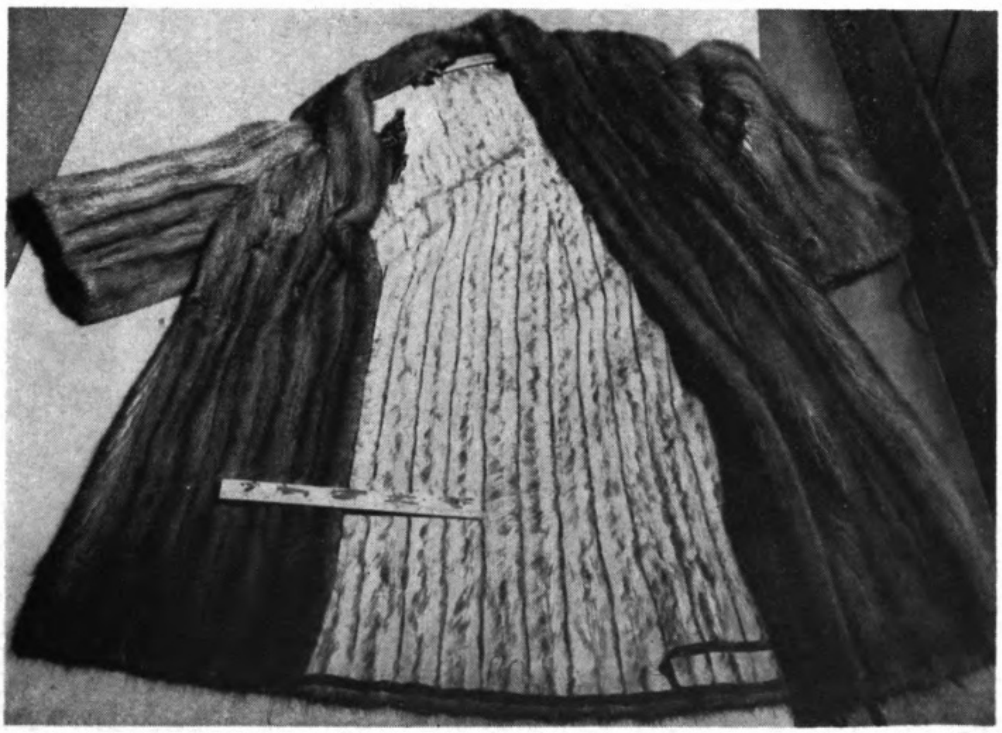


Fig. 184.—Mink.

directions must be done by working on the pattern, the operator shirring and forcing the fur into shape as he needs it.

The cutter's job in shaping let-out work of this type is a minor one, since he has only to measure the outer or long curve of the space the pelts or half pelts are to occupy, and let it out as if it were a straight let-out job.

The nailer, on the other hand, must exercise a high degree of skill in blocking out the let-out work. Not only must the garment fit the pattern but each let-out pelt must be perfectly even and proportional on the pattern. On all let-out work, the nailer uses a ruler or guide to assist him in straightening out the edges of the seam joining to conform to the plan of the garment. Fine nails or pins are used to hold or force these seams into place.

H. Semi Let-out. Occasionally a half pelt or a full pelt will be found which fits the pattern on one side but lacks the length or shape on the other. This happens quite often on shaped fur cuffs or fur borders for cloth or fur coats. The cutter will make let-out cuts from the deficient side into the grotzen as usual, making one cut

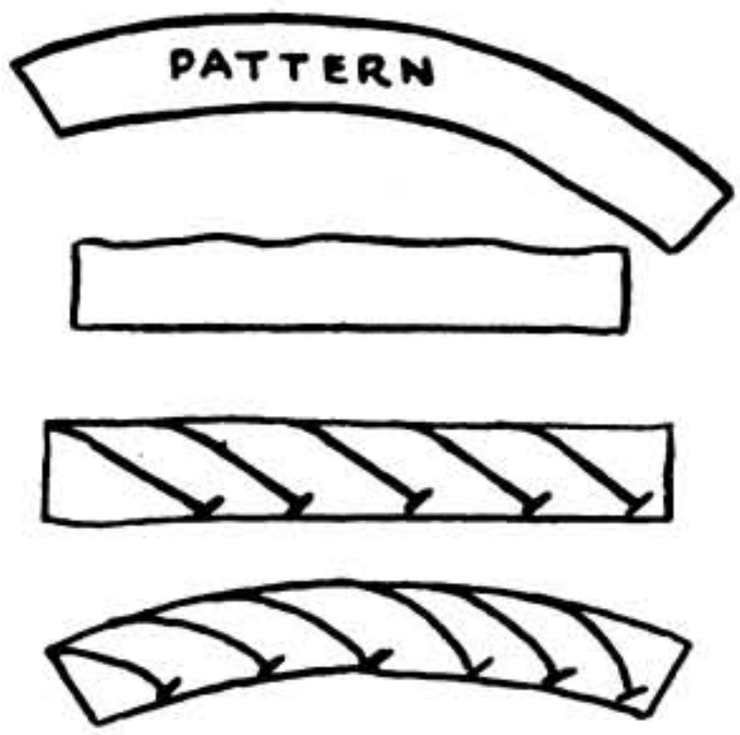


Fig. 123.—Semi let-out.

for each half inch of length missing. About an inch or less from the grotzen on the other side of the pelt, he will stop the cut and make a short mark at a right angle to the cut as a "stop" mark. Either by oral instructions or by the mark, he will indicate to the operator that the cut must be shirred in a half inch or less as needed. This type of work gets its name from the fact that the second side of the let-out strip is not cut through to the outside of the skin.

The FUR BOOK

DAVID G. KAPLAN

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