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HAT MAKING

BY BLANCHE E. HYDE ✓



CO-OPERATIVE EXTENSION WORK IN AGRICULTURE AND
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Many years ago millinery was a highly specialized trade requiring long training and apprenticeship, and few indeed were the persons who dared to attempt the construction of the elaborate hats then in vogue.

No doubt this is one of the reasons why the feeling has gained ground that a hat is an expensive article and that all millinery is an intricate and mysterious business. To do away with this idea and also because in many of the more remote districts it is a difficult matter to purchase a hat, this little leaflet has been prepared to show that it is quite possible for any woman or girl to have attractive and becoming hats at a small outlay of money.

This leaflet will be supplemented from time to time by mimeographed directions for special types of hats.

HAT MAKING

BY BLANCHE E. HYDE, Clothing Specialist

The equipment necessary for work in hat making, with a few additions, is practically the same as that needed for any sewing.

Some of the supplies used are quite different from those required in sewing, and in case it is necessary to send away for these, it is an excellent idea for a group of people to join together and have one of the number order for the entire group.

Equipment Needed.—Strong thimble.
Needles of assorted sizes.

Milliners' Needles.—These, which are larger than the sharps generally used in sewing, are popularly supposed to be used in making hats, but now that hats are so much more simple, with little or no trimming, it is not as necessary to have a long needle to reach from one portion of trimming to another.

Tape measure, a 60-inch measure of double cloth, with sewed or riveted ends, and numbered in opposite directions on the two sides.

Pins—the best quality of pins, with long, slender points, are necessary in hat making.

Pencil and colored crayons.

Pair of pliers and wire cutters combined. In some places these are sold as milliners' pliers; in other places they are sold as wire cutters. The milliners' pliers are the best for the purpose.

SUPPLIES

Thread.—Strong, smooth thread which does not knot easily is quite necessary in millinery. The brand known as Geneva Luster has come to be almost universally recognized as milliners' thread, and comes in different numbers and a large variety of colors.

Buckram.—A coarse stiff material decidedly rough on one side, used for brims and general foundation work. It comes in black and white, and can be purchased by the roll or by the yard. There is also another grade of buckram called soft buckram which is excellent for rolled brims and many other uses where a softer effect is desirable.

Crinoline.—A thinly woven material with considerable sizing used for foundation work in making soft hats, for covering wire brims, and for adding "body" or stiffness to thin materials. This is sold by the yard, or by the piece of ten or twelve yards. Other materials known as neteen, cape net and twello that are used in trade millinery are sometimes a little difficult to obtain away from large centers, therefore only the

more common ones are listed in this leaflet, and as far as possible these are the ones used in Extension work throughout the State.

WIRE

This is one of the most necessary things in hat making. There are several varieties or sizes, as follows:

Cable Wire.—A large wire, generally used as an edge wire to give a corded effect to velvet, silk or organdie hats. It comes in rolls.

Frame Wire.—Used in the making of wire frames, and as a finish for the edges of buckram or other fabric frames. It comes in rolls.

Lace Wire.—Used for wiring trimmings of lace or ribbon. Lace wire is smaller than frame wire. It comes in rolls.

Tie Wire.—A very fine wire used for winding and holding in position ends of larger wires in frame making. It is also used in making flowers of silk and organdie. It comes in spools in black and white. A small green wire, known as flower wire can be purchased at places where Dennison materials for paper flowers are sold. This is slightly heavier than tie wire, and comes in small spools.

Ribbon Wire.—This consists of two strips of stiff, cotton material between which are glued one or more fine wires, and is sold according to the width as single or double.

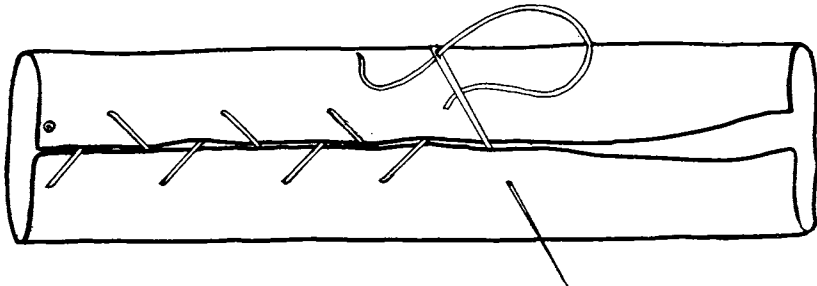
Sprung Wire.—This is of steel, and uncovered. It is generally used as an edge wire on hats where no brace wires are used in the brim, but is sometimes used as an edge wire on an ordinary wire frame. A steel wire always keeps its shape.

Wire Clips.—These are similar to the tags used on the ends of shoe laces. They are used to join the ends of wire where the lapped ends fastened with tie wire would be apt to give a clumsy effect. Clips come in assorted sizes, and are sold by the dozen, or by the gross. When clips are used on cable wire, it is necessary to unwind the wrapping of the wire and fasten the uncovered wire with a small clip, then to rewind the wrapping of the wire over the clip. The clip is adjusted by slipping it over the ends of the wires, so that the ends almost meet inside the clip, then pressing the clip tightly together with the pliers.

STITCHES USED IN HAT MAKING

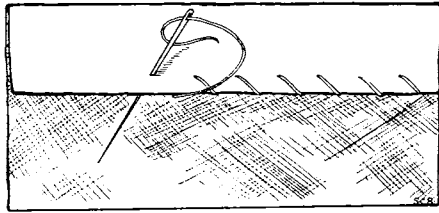
In addition to the regular sewing stitches which are used in hat making, the slip stitch, and an in-and-out stitch, sometimes called a long-and-short stitch, or a milliners' back-stitch are used considerably.

The Slip Stitch.—This is used in making milliners' folds to hold a folded edge in position. It is worked from right to left, and the short stitch into the material from the under side is taken through only one thickness of the goods.



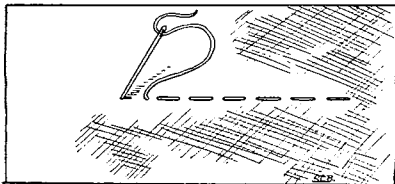
Slip stitch on bias fold.

Slanting Stitch.—This is somewhat similar in appearance to the overcasting stitch except that it is used to fasten an edge to a flat surface, as in sewing the edge of velvet covering the upper brim of a hat to the lower brim just inside the edge wire.

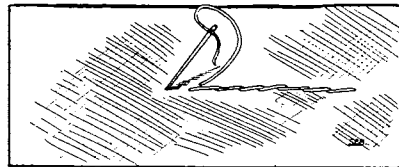


Slanting stitch.

Long-and-Short Stitch.—There are two distinct types of stitches each spoken of as the long-and-short stitch.



Long and short stitch.



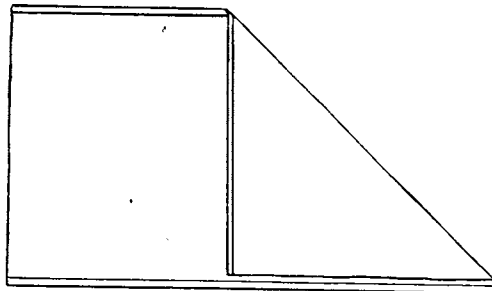
Long and short stitch often called milliner's back stitch.

1. In appearance the first type is similar to the even basting stitch except that in sewing buckram it is necessary to take one stitch at a time.

2. The second type of stitch is really a back stitch, a long stitch forward and a short stitch back.

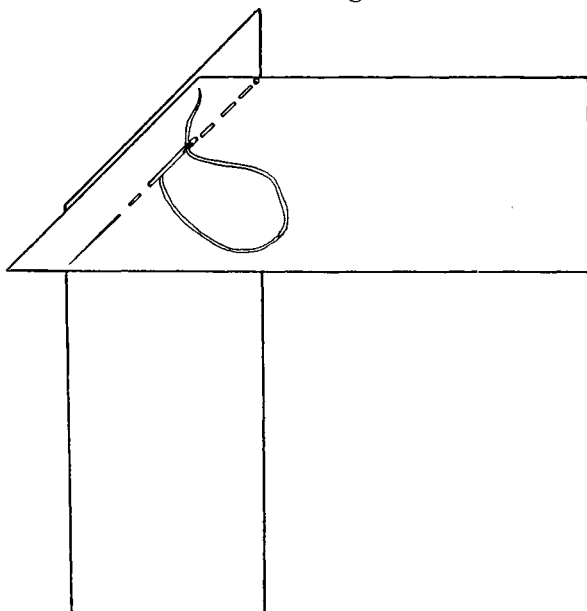
CUTTING MATERIAL ON A BIAS

In hat making material cut on the bias is even more necessary than in other sewing. In purchasing velvets it is wise if possible to get one end cut on the bias.



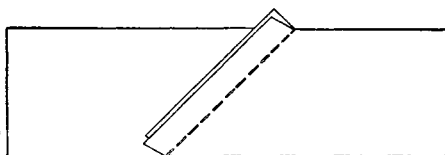
Velvet folded for cutting on bias.

To obtain a bias edge fold over the selvedge so that it will be even with the woof or filling threads. The bias obtained in this way is spoken of as "true bias."



Method of joining bias strips.

sort to another method, and fold the corner over still more, thus giving us a longer slanting edge. This is called a "long bias."



Bias strips joined.

According to the quality of the velvet, it sometimes makes a difference which corner is folded over, as occasionally the pile of the velvet will separate more one way than another and it is necessary to obtain the best effect.

When a bias edge cut in this way would require too many joinings, we re-

sort to another method, and fold the corner over still more, thus giving us a longer slanting edge. This is called a "long bias." Quite frequently too we fall short of material and it is not possible to obtain a true bias. We then fold a corner of the material over very slightly and obtain a "short bias."

TERMS USED IN HAT MAKING

Headsizes.—The measure around the head where the hat will be worn. Headsizes wires are those used as the beginning or foundation wires in making wire frames, and to give firmness to frames of buckram or other fabric. Two headsizes wires are generally used, three-fourths of an inch or 1 inch apart. After cutting one wire, to obtain another wire of the same measurement, measure by the first wire.

Brim.—The flat, curved, round or shaped portion of the

hat extending out from the headsizes is called the brim. The shape and width of the brim vary according to style.

Crown. — The covering over the headsizes which may be round or square is known as the crown. A square crown is flat on top and consists of a side crown and the crown tip or top.

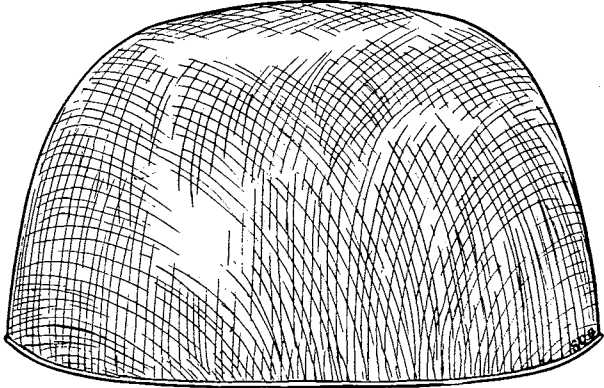
A side crown may extend straight up or

slant slightly, making it smaller at the top. The top of the crown may be soft, either smooth or slightly gathered, or it may be stretched over buckram, giving a stiff, boxy appearance.

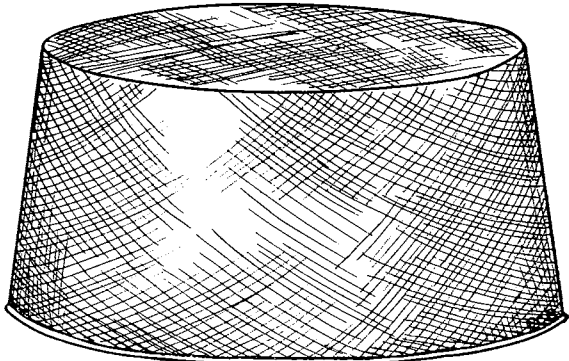
Edge Wire.—This is the outer wire around the edge of the brim.

Brace Wires.—These are also spoken of as “sticks” or “spokes,” and are used in wire frames to extend from the headsizes wires to the edge wire and give strength and firmness to the brim. According to their position on the frame they are spoken of as front, back, right side, left side, etc. The wires between these four diameters are called right side front, left side front, etc. Wire frames are made much more simply than formerly.

Base Wire.—This is the lower loop of wire used in the crown.



A round crown.



A square crown.

MEASURING FOR HEADSIZE

Very accurate measurements are necessary in hat making as the entire comfort and appearance of a hat depend on them. Place a tape measure around the head at the place where the

hat will be worn, slipping two fingers under the measure on the forehead. Add two inches to the measure thus obtained. This is for lapping.

HANDLING OF WIRE

Care is necessary in handling the rolls of wire that they do not become tangled. When opening a new roll of wire, untwist the wire which is used to fasten it, and placing the roll on the left arm, shake it loose, so that it will hang on the arm in a spiral roll.

Before measuring the wire it will be necessary to draw it quickly between the thumb and first finger of the right hand. If the fingers are tender, hold a piece of folded paper over the wire. Be very careful that the movement is quick and certain, in order that no small dents or kinks are made in the wire.

In cutting wire for the headsize and the edge where a full curve is used it will not be necessary to straighten more than to make the curve a little larger and easier to handle.

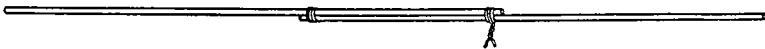
When cutting wires for straight spokes, it is necessary to entirely straighten the wire.

CUTTING WIRE

Measure the required amount, and mark with pencil or chalk. Place the wire between the wire cutters and with a quick pressure and turn, cut at the desired point. Do not pull else the wrapping will become frayed and untidy.

JOINING WIRES

Wires are joined by lapping the ends, and winding with the wire, or by cutting one-sixteenth of an inch shorter than the required measure and joining with clips.



Method of joining frame wire with tie wire.

To join by lapping when a two-inch lap has been allowed, measure in one inch from each end, and mark with pencil or chalk. Lap the ends, **with the markings together** and wind with tie wire at each end. Cut the pieces of tie wire about $1\frac{1}{2}$ inches long and with the ends of the frame wire lapped, wrap the tie wire around one end of the frame wire, then bring the ends of the tie wire together and, with the end of the pliers, twist the tie wire. Cut off the twisted end, leaving just enough to press flatly against the frame wire.

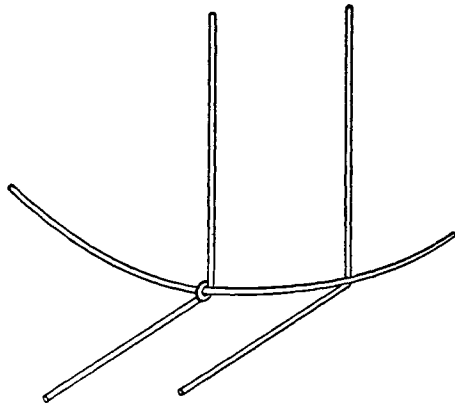
WIRE-FRAME MAKING

While it is not the intention of the writer to go into the intricacies of wire-frame making it is well to consider the wrapping of the spokes about the headsize and edge wires.

An allowance of one-eighth inch to one-fourth inch for winding the wire is necessary for each turning, plus about a two-inch working allowance. The more experienced one becomes, the closer and tighter the turn will be made.

Mark the exact point on the headsize wires where the spoke is to be wound, and also measure in 2 inches from one end of the spoke and mark.

Hold the spoke in the left hand and, with the end of the pliers placed at this mark, bend the short end of the spoke at right angles at this point. Place this angle under a marking on the headsize wire with the short end of the spoke inside, then with the thumb and fore finger, or with the pliers, bend the short end of the wire over, first parallel to its long end, then wrap it one and



Method of wrapping spokes around headsize wire.

a half times around the headsize wire so that the short end is vertical and at right angles to the long end. Press the twist tightly with the pliers. This same method is used on the edge wire also, except that the short end (a portion of the working allowance) is cut and pressed down.

MAKING PATTERNS

For the beginner, practice in making patterns for the more simple types of hats, offers an excellent opportunity to become familiar with the foundation principles of hat making.

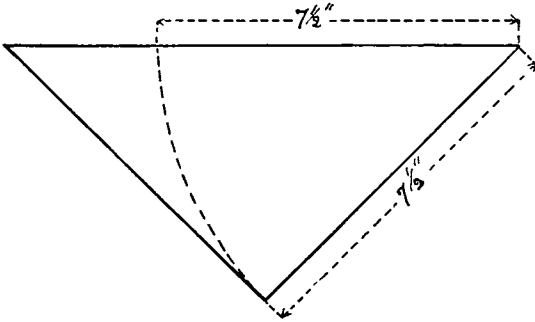
The pattern for a flat sailor is the basis on which the mushroom or drooped brimmed hat is worked out, also the one with the brim slightly rolled.

PATTERN FOR PLAIN SAILOR HAT

Measure headsize according to directions. Cut two wires the size of the head plus the two-inch allowance. Lap and wind with tie wire.

Press lightly into oval shape, then fit on the head.

Cut a circle from brown paper fifteen inches in diameter and fold in halves, quarters and eighths.



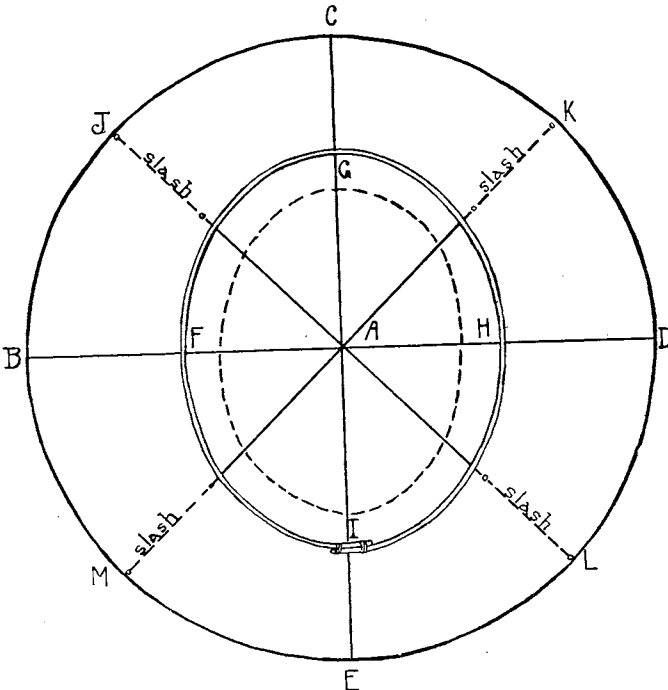
If compasses are not available this circle may be drawn with a pencil and string and a radius of seven and a half inches, testing afterwards to see that the diameter is correct.

Method of folding paper square to obtain a circle.

square into halves, quarters, and eighths, and cut a curve, starting from the shorter edge.

Open the pattern, flatten it out, and mark the creases.

Place one of the headsize wires on the pattern with the lapped ends at the back. Note that on account of the headsize being oval in shape the brim will be narrower in front and back than on the sides.



Flat pattern for sailor hat should be slashed to obtain mushroom shape, or rolled brim effect.

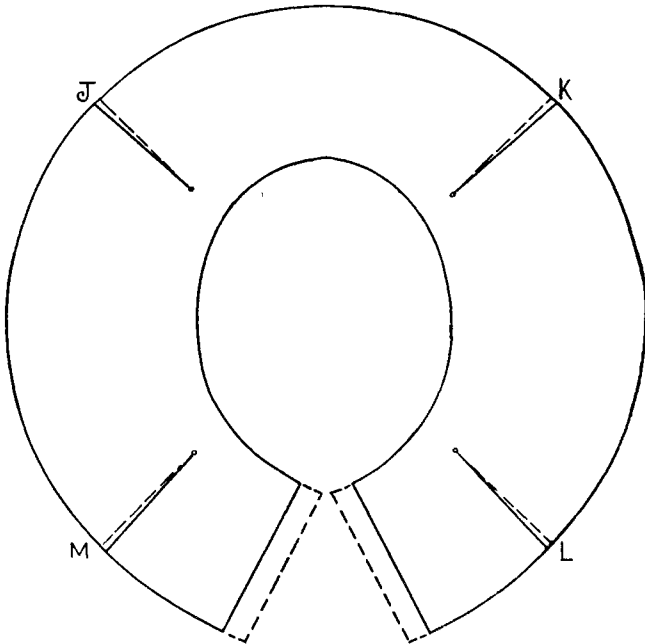
Make sure that the distance from the headsize to the edge of the pattern is the same at front and back, and also that the sides measure alike. Mark inside the headsize wire with a pencil, then draw a dotted line three-quarters of an inch inside of this. Remove the wire and cut away the paper inside the dotted line.

Place the pattern on the smooth side of a piece of buckram and cut around the outer and inner edges. Remove the pattern and press the buckram so that it will lie flat; then place the headsize wire in position three-fourths of an inch from inside edge of pattern and pin. Sew with a close, slanting stitch. Then slash the buckram from the inside edge to the headsize wire and bend straight up.

Sew the other headsize wire to the upper edge of these slashes. Try on the brim at this time and decide on the width, trimming off to the desired size.

It is now ready for the edge wire. Measure loosely around the outer edge, and allowing two or three inches extra cut a piece of wire. Shape the wire slightly and starting at the center back sew on with overcasting stitches working from right to left. Lap the ends and fasten with tie wire.

The hat with drooping brim is easily made from the flat sailor pattern. After the paper circle has been creased, opened



Pattern for mushroom shaped brim showing slashes lapped and pattern cut at back to allow it to be placed flat on buckram.

flat, and the headsize marked, remove the headsize wire, then slash paper on creases at J, K, L, and M nearly to headsize.

Lap these slashes not more than one-fourth inch at outer edge and pin. Remember that the more the slashes are lapped the more the brim will droop.

Next, slash at E up to **inside** marking of headsize and cut around on this marking.

Place flat on buckram and cut, allowing one-half-inch seams as indicated by dotted lines in illustration on page 11.

Press buckram flat with iron.

Lap the back edges one-half inch and sew with long-and-short stitch. Place on the table, smooth side up, and lay headsize wire in position with joining of wire over seam in buckram. Then proceed as in the plain sailor hat.

A rolled brim is made in the same way as the mushroom type, except that it is much more difficult to obtain a smooth roll with heavy buckram, but the soft buckram will be found very satisfactory, especially if strengthened with wide ribbon wire at intervals extending from the headsize to the outside edge and catchstitched to the buckram.

CROWNS

Crowns in millinery are as temperamental as the weather in regard to their remaining with us in one form for any length of time, hence a few directions will suffice in a general leaflet of this type. The entire crown may be soft, or the side crown may be stiffened and the top soft. Another method is to cut the crown in sections and, after joining, mount without any stiff foundation.

A soft crown which is all in one piece may be cut oval and gathered or pleated to the headsize. To cut a crown of this style, mark around one of the headsize wires, which has been bent oval in shape; then cut outside of this enough to give the necessary height and fullness to the crown. This type of crown is not recommended, except for children's hats, or hats of washable material.

When making a hat having a soft crown in which the side crown and top are cut separately, measure around the headsize wire, and cut a strip of material this length allowing for seams, making the width the desired height of the crown, according to the style, or allowing for soft folds.

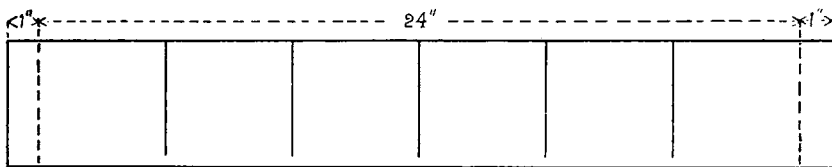
For the top of the crown, place a headsize wire on paper and mark around it. Cut one inch outside this mark, and crease lengthwise. Join this to the top of the bias strip for the side crown. On some thin or soft materials it is necessary to line

the side crown with one thickness of crinoline cut on the bias and seamed with the outside material.

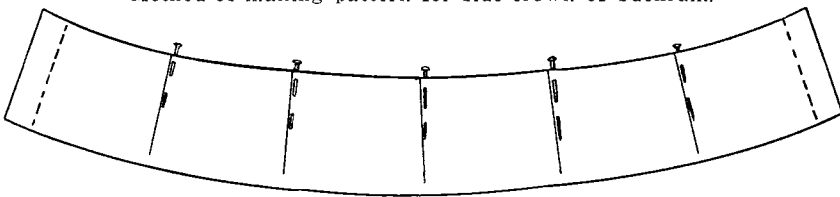
Where the material has enough firmness but where a soft brim and no headsize wires are used, a straight band of crinoline around the headsize gives enough firmness to keep the hat in position. This band should be about $1\frac{1}{2}$ inches wide, folded double, and cut across the crinoline.

When making a hat in which a stiff side-crown is desired the following method will be found satisfactory.

Measure headsize easy around part of head where hat will come and add two inches.



Method of making pattern for side crown of buckram.



Pattern for side crown showing slashes lapped.

Cut a strip of brown paper 4 inches wide and the headsize measure plus the additional two inches. Slash this in four or five places to within one-fourth inch of the opposite edge. Lap these slashes one-fourth inch at the edge and pin. Measure up from the lower edge along entire length $3\frac{1}{2}$ inches and cut in good curve. Lap the ends one-half inch and try on. It should be about 1 inch too large. Open the pattern flat and place on buckram and cut. Then press the buckram. Lap the ends one-half inch and sew with long-and-short stitch. Wire edges at top and bottom with frame wire, and press lightly with the hands into an oval shape. Bind top and bottom with bias strips of soft, thin, cotton material.

Place the top of the side crown on a piece of brown paper and mark around. Cut 1 inch or more outside this marking for a pattern for the top of the crown; then crease this pattern lengthwise through the center. In cutting from material, this crease should be placed lengthwise.

When a sectional crown is desired, the following directions will give suggestions as to the methods of making such a crown.

In many of the sport types of hats the sections are cut with the two long edges equal in curve and length.

Measure easily around headsize; then, using some other hat as a guide, measure over the top from front to back, starting and ending at headsize; then measure from side to side in the same way.

Divide headsize measure into four parts.

Divide front-to-back measure into two parts.

Divide side-to-side measure into two parts.

Example

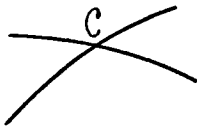
Headsize measure 24 inches; quarter 6 inches

Front to back 17 inches; half $8\frac{1}{2}$ inches

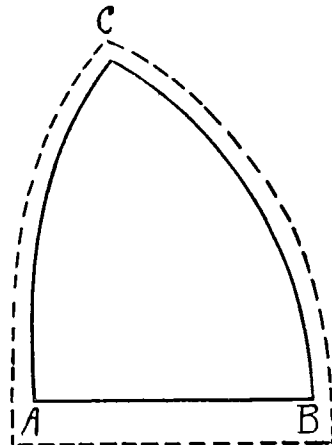
Side to side 15 inches; half $7\frac{1}{2}$ inches

Each section will therefore measure 6 inches at the bottom and $8\frac{1}{2}$ inches on one side and $7\frac{1}{2}$ inches on the other, as the line going from front to back is longer than that from side to side.

If it is desired to have the crown slightly full around headsize, add three-fourth inch to the lower edge of each section, making this line $6\frac{3}{4}$ inches. If compasses are not available, a pencil and string will answer.



Method of drawing arc.



Method of drawing curves.

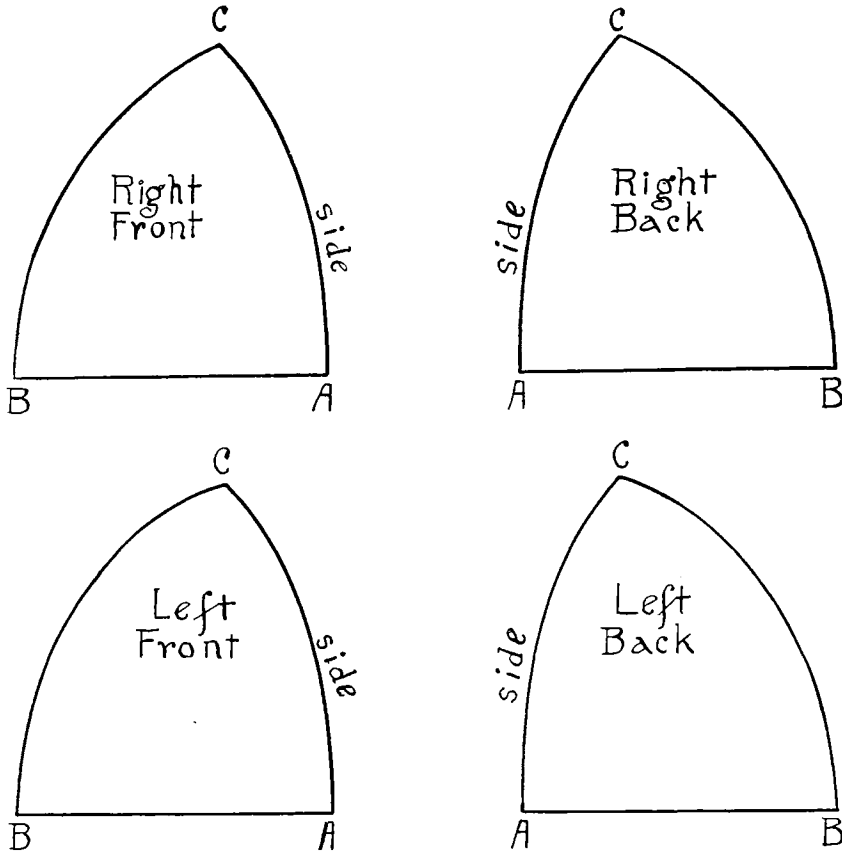
To make the pattern draw a line $6\frac{3}{4}$ inches long, AB in the illustration.

With A as a center, and $8\frac{1}{2}$ inches as a radius, draw an arc.

With B as a center, and $7\frac{1}{2}$ inches as radius, draw another arc intersecting the first at C.

Connect A and C and B and C with full curves.

Allow one-half inch seam on sides and about 1 inch at bottom.



Method of marking sections.

Cut four patterns and in order to prevent mistakes mark them according to their position.

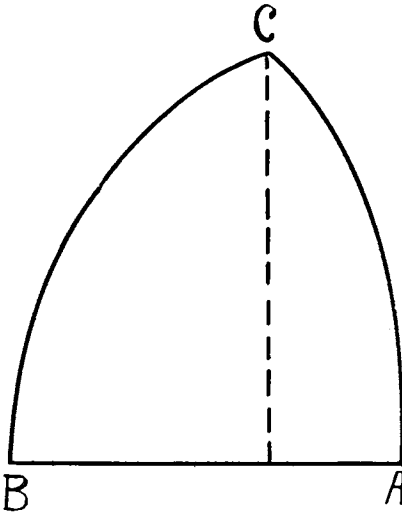
In cutting these sections from material, the pattern should be creased straight down from the point, and these creases be placed lengthwise of the material.

These sections may be put together with plain seams, or the seams may be corded. From these suggestions it will be a simple matter to cut patterns for other sectional crowns.

COVERING FRAMES

In covering buckram frames the edge wires must be covered with a bias strip of thin, soft material basted on to protect the material.

Where the brim has been made from a pattern, cut the covering material by this pattern also, cutting first the top and then the under section from this with the right sides together, and if a joining seam is necessary allow for seams.



Dotted line indicates portion of pattern to be placed lengthwise on material.

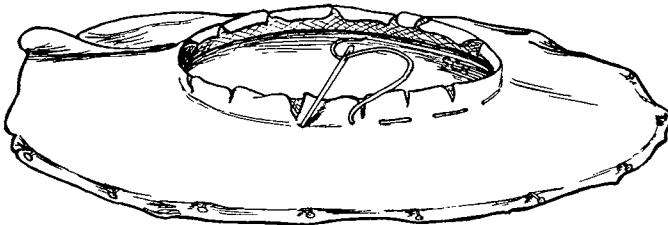
In placing the brim pattern on material, if possible have the straight of the material at the center front.

If the hat frame or shape has been purchased it is a good plan to make a paper pattern for the brim covering. This may be done by measuring the widest part of the brim and cutting a long strip of paper in this width. Pin it around the outside edge, slash from the inside edge, lap and fit the slashes, and cut out at the headsize even with the lower headsize wire. Allow a half-inch seam at the back.

Remove from the frame and cut another pattern allowing three-fourths of an inch at the outside edge and at the headsize.

This method will serve also as a pattern for the under-brim or facing.

The method of placing the pattern on the material varies with the kind and quality of the material and with the shape of the hat. The upper portion of the brim is generally covered



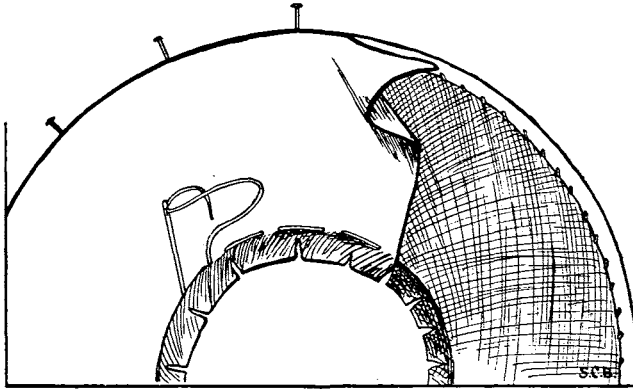
Method of placing covering material on upper part of brim.

first, unless the brim turns up. Place one of the covering sections on top of the brim, center front at center front, allowing the outer edge to extend over about three-fourths inch. Pin around edge beginning at center front, placing the pins in at right angles to the edge, and allowing them to catch into the edge binding of the frame. Pin alternately at outer edge and head-

size, slashing in three-fourths inch at headsize where necessary to make the material lie flat. Turn under the edges of the back seam to right and left so the material will lie smoothly. Sew around the headsize with long-and-short stitch and blind-stitch the seam at the back.

Adjust the pins around outer edge if necessary to make material lie flat. Trim off material around the outer edge to three-fourths inch. Turn and pin this over the edge and sew it to the binding with a slanting stitch. After sewing, trim away any extra material.

Pin the under-facing to position in the same way, starting at the center front. Sew around the headsize and blindstitch the back seam. The outside edge may be trimmed to about one-fourth inch, then turned under and blindstitched, or it may be finished with a wire.



Method of applying facing to under part of brim.

To finish with wire (either frame or cable wire), measure around the outside of the brim and cut the wire 1 inch larger. Trim off the facing around the outer edge, allowing one-fourth inch if frame wire is to be used and one-half inch if cable wire is desired. Starting close to the back seam, pin the wire in position, allowing the frame wire to come just even with the edge, but if cable wire is used it must extend beyond the edge and form a part of the brim.

Sew close to the wire with a long stitch on the under brim which will come so close to the wire as to be almost concealed, especially if the material used is velvet. Catch each stitch into the edge of the upper brim.

The wire may be joined in back by lapping and winding, or the ends may be cut and joined with a clip; then finish sewing as though a single wire.

Brim may also be covered with bias material.

Measure around the edge for the length of the strip, and also measure the widest part of the brim. Allow in addition 1 inch on the width for turn-over at the edge and headsize, and on the length just enough seam to fit smoothly around the edge wire. Join the ends of the strip and pin around the outer edge of the brim with a seam at the back. Gather in at the head-size, spreading the gathers at the sides in fan shape, and sew with a long-and-short stitch.

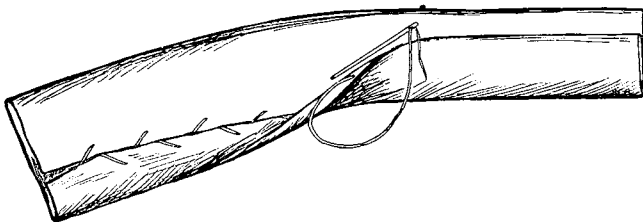
The under facing is fitted in the same way, and may be finished with or without a wire.

Frequently it is desired to cut the bias covering for both upper and under brim in one piece. To do this, double the measure of the widest part of the brim, and to this add $1\frac{1}{2}$ inch for two headsize allowances. Measure for the length of the strip the same way as for an upper or under brim, except that this should fit the outside edge very snugly. Join, then fold the two long edges together and mark with a line of pins along the fold.

Stretch over the brim with the line of pins even with the edge wire. Pin around the edge to hold to position, then gather in the fullness around the headsize, spreading the gathers fan shaped at the sides.

This method is frequently used in making hats of organdie or other materials. It is often necessary to cover the outer edges of such a brim with a fold of the material to soften the hard lines of the edge wire. A brim may be covered in this way much more rapidly than by using separate sections for the upper and under sides.

Bias folds are a very important part of hat making. They may be used not only in the actual construction work, when they become a part of the hat itself, but they may also be used as a means of finishing to cover the joining of the crown to the brim, or to finish the edge of the brim.



Method of making milliner's fold from plain fold.

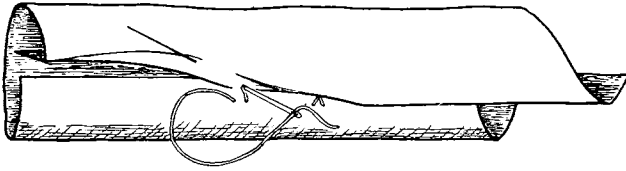
Plain bias folds, and the plain fold doubled, which is known as the milliners' fold, are often used as trimmings.

The plain bias fold should be cut twice as wide as the finished width is to be, then stretched around the hat where it is

to be used and the seam pinned on the outside. Mark the seam carefully and remove the strip from the hat, then join by machine.

To finish the fold, hold the raw edges together and slipstitch; then stretch onto the hat, and blindstitch to position.

In making the milliners' fold, plan first the finished width of the strip, and make the same allowance as for the plain fold, adding to this from two-thirds to three-fourths of the finished width. Make as though for a plain fold; then fold again with the slipstitching inside, so that the second fold will come within a short distance of the other folded edge. To use, fold as desired and blindstitch before placing in position on the hat.



Second method of making a milliner's fold.

A second method of making a milliners' fold requires only one sewing. The edges of the material are folded, and then lapped and slipstitched or blind stitched to position.