UNIT II
FINISHING PROCESSES
UNIT II. JOB 15

MEASURING, CUTTING, AND JOINING TRUE AND LONG BIAS STRIPS
A PREREQUISITE FOR ANY JOB USING A BIAS

Read this job sheet and then, before starting to do the work of any particular section, reread that section.

Reason for Job.

A straight piece of material will not stretch, but a bias piece will. Look at Figure 1. The bindings on the edge and on the scallops on the crown are done on the bias. If a straight piece of material had been used for these bindings, they would not be smooth. Facings, side crowns, folds, and a variety of other parts of hats are also done on the bias.

We are going to learn how to measure, cut, and join true and long bias strips of material. A true bias is the diagonal that cuts the straight threads of the material when it is so folded that the warp (straight lengthwise threads) and the woof (straight cross-wise threads) are parallel. Line $E'B$ in Figure 3 (page 64) is a true bias. We shall first work with the true bias; then we shall see the difference between a true bias and a long bias. A long bias is used, when a bias is needed that is from 2 to 6 inches longer than a true bias is or can be stretched to, in order to avoid putting two seams in it. In a long bias, the warp and the woof threads are no longer parallel (see Figure 9A and B page 65). Every girl who wants to learn millinery must understand how to measure, cut, and join true and long bias strips, which are the two kinds of bias strips that are most frequently used.

Materials Needed.

1. Two pieces of practice material 14 inches by 5 inches.

Tools and Equipment.

1. The usual milliner's tools.

Things to Do.

1. Prepare to cut a true bias.

   a. Before beginning the following, examine the model of a true bias on the wall chart. Note grain of material at seam carefully.

   b. Straighten the edges of the material (if not already straight).

      (1) Pull out the threads at each edge, until one unbroken thread runs along each edge.

      (2) Cut off all fringes. (If you are using full width material, there will be a selvage running along the two longer edges, and you will only be able to pull threads across the width of the material).

   c. Lay the material on the table with the right side up and the longer edges (selvage in full width material) parallel to the edge of the table nearest you (see Figure 2).

1 Students should be thoroughly trained in cutting and joining true bias strips before being permitted to cut and join long bias strips, page 65.
d. Take the lowest right-hand corner C and turn it up and over the right side of the material, so that it touches the edge A B, forming a right angle (see Figure 3). In full width material, A B and D C are selvages, therefore the turned-over selvage edge D C is exactly parallel to the crosswise threads of the material.

2. Cut a true bias.
   a. Cut very evenly on the fold E B, which is the true bias edge (see Figure 3).

3. Cut bias strip.
   a. Measure 1 1/2 inches from the bias edge at three or four places on the larger piece of the material.
      (1) To do this, use your tape measure exactly as shown in Figure 4. The end of the tape measure must be even with the bias edge or, in other words, the tape measure must be at right angles to the cut bias edge.
      (2) Put a pin in each place that you measure as is shown in Figure 4.

   b. Test your bias strip.
      (1) Measure from E to F, and then from B to G (see Figure 5). These measurements must be exactly alike.
      (2) If EF and BG are not exactly alike, move the pin at point F toward point D, so that they will measure alike. This is necessary because, when measuring at right angles from point E, as shown in Figure 4, point F extends beyond the cut bias edge B E, and unless you have a very good eye for measuring straight, you might run your strip off a bit. Unless BG and FE measure exactly alike, you will not be able to join your strips correctly.

   PRECAUTION I. Turn your material so that the wrong side is up. This will enable you to see all of the pins on the right side when you fold the material over to cut on the fold.
   c. Fold down the bias edge exactly on the line of pins, and pin it, as shown in Figure 6.

   PRECAUTION II. Show your work to your teacher at this point, to be certain you are doing it correctly.
   d. Cut very carefully on the folded edge (see Figure 6).
   e. Cut another strip exactly like the one that you have just cut.
      (1) Read and follow Section 3 a through d above so that you cut the second strip exactly like the first.

4. Join these two strips with a 1/4 inch seam.
   a. Pin these two pieces together exactly as in Figure 7 A. Be sure that the cut edges extend to either side, and that the distance from X to Y and from Z to V measures 1/4 inch (or that it is the width of the seam if a wider seam is desired).
b. Baste your seam on a line with the pins (see Figure 7 B).

c. Backstitch your seam right on the basting, using small stitches. Note that your backstitching must begin and end exactly where the two pieces of material cross each other (see Figure 7 B).

![Fig. 7A-B.](image)

![Fig. 8.](image)

d. Open the joined strips so that they lie flat and in a straight line. Open the two parts of the seam and press flat with your thumb nail (see Figure 8).

**PRECAUTION III.** Show your work to your teacher, but do not read beyond this point (except for the questions page 66) until your teacher approves your work.

5. Cut a long bias.

a. Examine model on wall chart. Compare it to a true bias. Note the grain at the seam of each.

b. Fold over a long bias on the second piece of material.

(1) The only difference between folding over a long bias and folding over a true bias is that when point C is turned up and over the right side of the material, it is not placed on the selvage (in this job, the longer cut edge), but it is brought over and beyond the selvage, as is shown in Figure 9 A. This makes the bias T B in Figure 9 A longer than the bias E B in Figure 9 B. This is a long bias that still has sufficient stretch, but the straight crosswise threads are no longer parallel to the straight lengthwise threads.

c. To measure, cut, and join the strips, read and follow all of sections 3 and 4 (pages 64 and 65).

6. Cut a long bias on the piece of material that already has a true bias cut.

a. Fold the lower corner E up and over, as shown in Figure 9 B. Now the bias B T is longer than the bias B E’. The piece B T E’ is practically wasted.

b. To measure, cut, and join two strips, read and follow all of Sections 3 and 4 (pages 64 and 65).

7. These are the most outstanding facts to remember in cutting bias strips:

a. Always fold and measure with the right side of the material facing you.

b. Always keep the selvage (or the lengthwise threads) parallel to the edge of the table nearest you.

c. Always take the lower right-hand corner and fold it up and over the right side, as shown in Figure 3 or 9 A or 9 B. In this way the grain of the material will always run the same way and will match when the strips are seamed. In materials which have a decided rib this is very necessary.

d. Sections a, b and c apply to a true bias as well as to a long bias.
e. When measuring a bias, we speak of three measurements, namely, *through the bias, on the bias* (which in reality is on the selvage or on the straight of the material), and the *length of the bias*.

1. The tape measures in Figure 4 (page 64) indicate through the bias (see Figure 10 also). That is the way we usually measure a bias.

2. The tape measures testing the bias in Figure 5 (page 64) indicate *on the bias*, or, in reality, *on the selvage or on the straight* (see Figure 10 also). This is the measurement for which you are charged when you purchase material that is cut on the bias. (The straight does not stretch when it is measured.) The measurement on the bias is always more than the measurement through the bias.

3. Bias *E* to *B* in Figure 3 (page 64) and bias *T* to *B* in Figure 9 *A* and in Figure 9 *B* (page 65) are all *length of bias* (see Figure 10 also).

8. Suggestions for true choice bias.

There is a third bias known as a *true choice bias*, about which it is important to know, but which is not used a great deal in millinery, since so few millinery materials are woven with a twill weave. A true choice bias is always cut whenever the material has a twill weave, that is, a weave with a decided diagonal stripe. To cut a true choice bias, the right side must be kept up, and the selvage must be parallel to the edge of the table nearest to you. Fold over a corner of the material, so that the cut bias edge will be at right angles to the twill weave (see Figure 11 *A*). Mourning crêpe, one of the few millinery materials with a twill weave, is cut on a true choice bias. Figure 11 *B* shows how a bias with a twill weave looks when it is joined.

Questions. Use complete sentences for all answers.

1. If you needed a piece of material that would stretch, would you use a straight or a bias piece?
2. Does the grain of the material at the seam in a true bias run on the straight or on the bias?
3. When would you use a long bias?
4. Draw an outline sketch showing the difference in cutting a true bias and a long bias. Label each bias correctly.
5. Copy all of Section 7 (pages 65 and 66) and draw Figure 10; label it correctly. Study each section as you write. Take your copy of Section 7 home, if your teacher approves of your work. If you remember these points, you will never make a mistake when cutting bias strips.
UNIT II.  JOB 16

A QUARTER-INCH BIAS BINDING

Read this entire job sheet and then, before starting to do the work of any particular section, reread that section.  Be sure to follow the sections of other jobs to which you are referred.

Reason for Job.

Bias bindings are used for a decoration, or to gain a special effect, particularly to soften edges, or to outline a part of a hat (see Figure 1).  A good milliner makes her bias bindings narrow, and keeps them so throughout.  The slightest impression of her stitches does not show on either side. This is what you are going to learn to do in this lesson.

Materials Needed.

1. A bias strip of material 1½ inches through the bias, and long enough to go around the edge of the hat.
2. A brim to be bound.

Tools and Equipment.

1. The usual milliner’s tools.

Things to Do.

1. Prepare to cut bias.

a. Before doing the following, examine the models of bias bindings on the stock hats.  Note the width of the bindings, the placing of the seam, and the lack of visible stitches.

b. Measure the edge of the brim.

(1) Pin tape measure to the edge and draw it smoothly around the edge of the brim, until you reach the pinned end (see Figure 2).

(2) Subtract 1½ inches from this measurement, for the material will reach farther as you stretch the bias.

(3) Write down the final measurement.

c. Fold over a true bias of material (if one is not already cut).

(1) Read and follow Section 1 a through d in Job 15 (page 63).

d. If the measurement that is written down in Section b (3) is not any longer than the true bias that is folded over in Section c (or already cut) use a true bias; but if it is from 1 to 6 inches longer, then you must fold a long bias, as described in Section 5 or 6 of Job 15 (see Figures 3, 9 A and 9 B of that same job, page 64).  If it is more than 6 inches longer, then instead of folding a long bias, you must use two true bias strips.

e. Tell your teacher what kind of a bias strip you need and how many you plan to cut.

2. Cut and join bias strips.

a. Cut a bias of material that is the length of the measurement you wrote down in Section 1 b (3), and that is 1½ inches wide.  Read and follow Job 15, either Sections 2 and 3 for a true bias (page 64) or Section 5 or 6 for a long bias (page 65), and see Figures 3, 4, or 9 A and 9 B of that same job.

Always cut a bias 1½ inches wide for a ¼-inch binding.  This allows for shrinkage, due to stretching, and for turning in of the raw edges.
b. If more than one bias strip is needed to give the measurement written down in Section 1 b (3), join these, using small combination stitches \textit{before} starting to make the binding. (See Section 4 of Job 15 and Figures 7 A, 7 B and 8 of the same job, pages 64 and 65.)
c. If two seams are needed, plan to place each at an equal distance on either side of direct back.


a. Pin one end of the bias, wrong side up, to the edge of the brim on the side that will show most (see Figure 3). In a drooping brim the top facing shows most. The edge of the bias should be even with the edge of the brim. For a bias with one seam, be sure that it will be pinned so that the center of the bias will be at direct back, when the binding is finished. For a bias with two seams, be sure the seams will be an equal distance from direct back, on both sides of the brim.

\begin{center}
\begin{figure}
\centering
\includegraphics{fig3.png}
\caption{Fig. 3.}
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\begin{figure}
\centering
\includegraphics{fig4.png}
\caption{Fig. 4.}
\end{figure}
\end{center}

b. Stretch the bias around the brim letting the raw edge come just to the edge of the brim, and put in a pin about every 3 inches (see Figure 4). Be sure the wrong side of the material is up.
c. Prepare to make seam.

\begin{enumerate}
\item When you reach the place where you started, turn back the end of the strip you are working with, so that it will just meet the first end (see Figure 5). If you used a true bias, be sure that you fold back the end exactly \textit{on the straight thread} of the material, so that the folded edge slants in the same direction as the end of the strip which it meets. If you used a long bias, the folded edge should \textit{slant in the same direction} as the first end which it meets, but the threads of the seam will not be straight.
\item Measure and put pins 3/4 inch from the folded edge to allow for the seam (see Figure 5).
\item Show this to your teacher before cutting to be sure you are correct.
\item Cut seam allowance on the line of the pins (see Figure 5), removing each pin as you come to it.
\item Remove the pins from both ends of the bias strip so that there will be about 2 1/2 inches of material hanging loose on each side (see Figure 6). This gives just enough room to join the seam without removing the entire strip from the edge of the brim.
\end{enumerate}
d. Make the seam.
(1) Pin the two ends of the bias strip together in a seam with the raw edges towards you (see Figure 7). You may have to bend the brim a little out of shape to do this. Be sure the bias fits the brim tightly.
(2) Sew the seam with small combination stitches. If you needed more than one bias strip to make your binding, be sure to place the seams evenly on both sides of direct back, and be sure both seams run parallel.
(3) Open the seam and press it flat.
c. Do first stitching in binding.
(1) Sew bias to brim with an even row of $\frac{1}{2}$-inch forward stitches and $\frac{3}{4}$-inch back stitches. These stitches should be $\frac{3}{4}$ inch in from the edge of the brim (see Figure 8).
There should be one continuous line of $\frac{1}{2}$-inch stitches on the side with the bias strip, and the $\frac{3}{4}$-inch stitches should be on the opposite side of the brim, otherwise your stitches will show, and there will be an uneven line when you turn over your binding.
(2) Show your backstitching to your teacher, when you have finished about 3 inches of it.
(3) As soon as your teacher approves of your work, finish backstitching the bias strip to the brim.

f. Turn the bias over and in.
(1) Turn the loose edge of the bias over the edge of the brim, so that it will come on the opposite side of the brim (see Figure 9).
(2) Turn the raw edge in $\frac{3}{4}$ inch and pin, as shown in Figure 10. This side of the binding should now be the same width as the part on the other side of the brim.

g. Slipstitch the second edge of the binding to the brim.
(1) Put a tiny knot in your thread and take a small fastening stitch in the brim just under the edge of the binding (see Figure 11A). Be sure that this stitch does not come through to the opposite side of the brim.
(2) Directly opposite where your needle came out of the brim and just under the folded edge of the binding, take a $\frac{3}{4}$-inch slip stitch (see Figure 11A).
(3) Exactly where this slip stitch comes out of the folded edge of the binding, take another $\frac{3}{4}$-inch slip stitch in the brim (see Figure 11B).
(4) Continue to slipstitch, by taking a stitch first in the binding and then in the brim, until about 3 inches of binding is slipstitched in place.
PRECAUTION I. No stitches should show on either side of a finished binding.

(5) Show your work to your teacher, and finish slipstitching as soon as she approves of it.

Questions. Use complete sentences for all answers.

1. If more than one bias strip is used for this binding, where would you place the seams?
2. If more than one bias strip is used for this binding how shall the seams run?
3. When do you use a long bias for a binding?
4. Name the various stitches used in 1/4-inch bias binding?
5. If you have really learned how to bind the edge of a brim, you should be able to apply that knowledge to a binding such as appears on the headsize of the brim in Figure 1, page 67, and, therefore, you should be able to answer the following questions:
   a. Would you start the binding at the inside or outside of the headsize of the brim?
   b. Would you turn in the second side of the bias binding and slipstitch it? Give your reason for your answer.
UNIT II. JOB 17

A QUARTER-INCH BINDING—WITH RIBBON ONE-HALF INCH WIDE—WITH BOTH SELVAGES SHOWING

Read this entire job sheet before starting to do any work and then, before doing the work of any particular section, reread that section.

Reason for Job.

Many raw-edged fabric brims, and many cut edges of felt and of straw brims are finished with ribbon bindings, as shown in Figure 1. One-half inch (or \#3) is the best kind of ribbon to use for bindings. This ribbon gives the hat a thin tailored finish. Skill is required to sew both selvages, so that no stitches show.

Materials Needed.

1. A brim, to be bound (either a straw, felt, or raw edge fabric brim).
2. Enough ½-inch (or \#3) ribbon to go around the edge of the brim, plus 2 inches to allow for seams and fraying.
3. Fine cotton or sewing silk to match the ribbon.

Tools and Equipment.

1. The usual milliner’s tools.

Things to Do.

1. Examine bindings on stock hats and on wall charts.
   a. Note carefully that no stitches show in the selvages.
   b. See that the seams are at the back, or that they are hidden in a pleat or by the trimming. **Always hide seams if possible.**
   c. Note how the seam is sewed and finished.

**PRECAUTION I. Be sure your hands are clean.**

2. Measure the edge of the brim.
   a. Pin one end of the tape measure over the edge of the brim.
   b. Draw the tape measure right over the edge of the brim (see Figure 2) until you reach the starting point.
   c. Jot down that measurement with 2 inches added to it. This allows for the seam and for fraying.

3. Cut a piece of ½-inch or \#3 ribbon the length of the final measurement which you wrote down after reading Section 2 c.

4. Place the brim in the best position for binding.
   a. Hold the brim so that if the top side shows most when on the head, that side faces you, or if the under side is going to show most, then the under side should face you.
   b. Hold the back of the brim (if the seam is going to be at the back), or the point where the seam is to go (if the seam can be hidden), closest to your body. This will enable you, as you sew, to work on the edge without spoiling the shape of the brim, to hold the brim easily, and to watch the line of brim.
5. Prepare to bind the brim.

a. Fold in one end of the ribbon \( \frac{1}{4} \) inch to the wrong side, so that it will not fray, and in order to make a neat joining.

b. Pin this folded end of ribbon over the edge of the hat at direct back, (or pin it where the joining will be hidden) so that one half of the ribbon extends beyond the edge to each side of the brim, and so that the \( \frac{1}{4} \) inch that is turned to the wrong side is against the brim (see Figure 3).

**PRECAUTION II.** Belting ribbon is made up of a series of ridges and grooves. The selvage is not a straight line as in most ribbons, but a series of tiny loops, one at each end of each groove. The secret of hiding your stitches in belting ribbon is to make a tiny vertical stitch in the groove directly under the loop. The closer you come to the loop, and the smaller the stitch, the more certain you will be of hiding your stitches.

6. Sew binding on brim with invisible stitches in the selvage.

a. Put a very small knot in the thread.

b. Bring your threaded needle up from the wrong side of the ribbon through the two selvages at the folded end of the ribbon, at one edge only (see Figure 4). Pull this thread through and up to the knot.

c. Fold the ribbon over the edge so that it lies flat, and one half of it is on each side of the brim (see Figure 5).

d. Take a tiny stitch and stick down through these same two selvages (see Section b directly above), continue through the brim and come out on the opposite two selvages, at the folded end of the ribbon (see Figure 5).

e. Take a tiny stitch and go back right through these two selvages, continue through the brim and then through the ribbon again (see Figures 6 and 6A). This brings your needle back to the side from which you started. This will hold the folded end of the ribbon firmly to the brim of the hat. (Sections 6 d and e are really fastening stitches.)
f. Draw the ribbon smooth, but be careful not to pull your brim out of shape. Put a pin in the selvage about 4 inches away from the starting point, keeping one half of the ribbon on each side of the brim, and pinning from starting point toward the left-hand side (see Figure 7).

g. Continue to sew binding, being sure to hold the side of the brim that is going to show most, so that it faces you, and sewing from back to front via the left-hand side. Be sure to take tiny vertical stitches, in the grooves directly under the loops.

1. Take a tiny stitch in the selvage farthest from you.
2. At that point, stick the needle through the brim of the hat.
3. Slant your needle towards you so that it comes out in the opposite selvage, about ¼ inch away (see Figure 7).

4. Turn the binding toward you so that you can watch where the stitch is to go, and at exactly that point (see Section (3)) take a tiny stitch right back through the selvage, the brim, and the selvage on the opposite facing of the brim (see Figure 8).

5. Now start again, stick your needle through the brim (see Section g (2)); then slant the needle toward you, and come through the opposite selvage again, ¼ inch away (see Section g (3)); turn binding toward you and take a tiny stitch back through the selvage, (see Section g (4)) the brim, and selvage on opposite facing of brim (see Figures 7 and 8).

6. After you have completed about 3 inches of your work, show it to your teacher for her approval.

7. Continue to sew in this manner until you come to a pin.

a. Remove pin, and pin again another 4 inches away.

b. Continue to sew until you come within 1 inch of the end from which you started.

8. Cut ribbon for seam.

a. Bring loose end of ribbon over folded edge that is already sewed.

b. Put a pin in the loose end exactly over the folded edge.

c. Allow ¼ inch more for seam and cut (see Figure 9).


a. Fold the ¼ inch of ribbon allowed for the seam back against the brim and over the edge, so that the two folded edges and four selvages just meet (see Figure 10).
10. Sew seam.
   a. Slipstitch these two folded edges together (see Figure 11).
   Now your binding is finished.

11. For a lapped joining, which may be a little quicker process but a
    good deal thicker, see below.

   A lapped joining may be used to join this binding, but then,
   it is started with a raw edge which is sewed firmly, so that it does not
   fray. To finish up the binding, turn the ribbon in \( \frac{1}{2} \) inch and bring the
   folded edge \( \frac{1}{2} \) inch over the side which is already sewed. All selvages
   must come directly over each other. The lapped seam is like the one
   worked out in Job 18, Sections 5 b, and 6 c, but it is reversed (see Figures 3 and 6 of Job 18,
   pages 76 and 77.

Questions. Use complete sentences for all answers.
1. How should the stitches be taken in a ribbon binding where both selvages show?
2. What is the advantage of turning your binding toward you, each time you take a stitch in
   your selvage?
3. What must you guard against when drawing the ribbon smooth, on the edge of the brim?
UNIT II. JOB 18

A QUARTER-INCH BINDING—WITH RIBBON THREE-QUARTERS INCH WIDE—WITH ONE SELVAGE SHOWING

Read this entire job sheet and then, before starting to do the work of any particular section, reread that section. Be sure to follow the sections of other jobs to which you are referred.

Reason for Job.

A successful milliner must know how to bind hats in more than one way. In ¼-inch bindings only ½ inch of ribbon shows in the finished binding (¼ inch on each side). In this job, you will learn what becomes of the other ¼ inch and how to hide either a raw edge or one selvage of the ribbon (see Figure 1).

Materials Needed.

1. A brim to be bound (either a raw edge fabric brim or a straw or felt brim).
2. Enough ¾-inch (or #5) ribbon to go around the edge of the brim, plus 2 inches for allowance for seam and for fraying (or the same length of ribbon that has been cut down to a ¾-inch width at one selvage only).
3. Cotton or sewing silk to match the ribbon.

Tools and Equipment.

1. The usual milliner’s tools.

Things to Do.

1. Examine ribbon bindings on stock hats and wall charts.
   a. Note where the selvage comes—on the top or the bottom facing of brim.
   b. Note the width of the finished binding.
   c. Note carefully that no stitches show in the selvage.
   d. See if the seam is at the back or if it is hidden in a pleat, or by the trimming. Always hide seams if possible.
   e. Note how the seam is finished.

PRECAUTION I. Be sure your hands are clean.

2. Measure the edge of the brim.
   a. Pin one end of a tape measure over the edge of the brim.
   b. Draw the tape measure right over the edge of the brim (see Figure 2) until you reach the starting point.
   c. Jot down that measurement with 2 inches added to it. This allows for seam and fraying.

3. Cut a piece of ¾-inch ribbon, the length of the final measurement written down after reading section 2 c.
   a. If your ribbon is too wide, be sure one selvage is perfect; then cut the other side down so that the ribbon will be only ¾ inch wide. Be sure to cut it down evenly. This is a good way to use up ribbon that is too wide, because only one selvage shows. If you are using wide ribbon
as a trimming and you are not able to get the narrow kind to match perfectly, then you can cut down the wide ribbon and use it in this manner for a binding.

4. Place the brim in the best position for binding.
   a. Decide where you want the selvage to show when the binding is finished: on the top or on the bottom facing of the brim.
   b. Hold the brim so that the side opposite where you want the selvage to show when the binding is finished faces you.
   c. Hold the back of the brim (if the seam is going to be at the back), or the point where the seam is to go (if the seam can be hidden) closest to your body. This will enable you, as you sew, to work on the edge without spoiling the shape of the brim, to hold the brim easily, and to watch the line of the brim easily.

5. Sew first side of binding.
   a. Pin the raw edge (if your ribbon is cut along the length) or one selvage even with the edge of the brim, on the side opposite where you want the selvage to show when the binding is finished, and at the direct back (if the seam is going to be at the back) or at the point where the seam may be hidden.
   b. Turn over \( \frac{1}{2} \) inch toward you, so that there is no raw edge at this end and pin (see Figure 3). We are going to start to sew here.
   c. Draw the ribbon smooth but do not pull it, otherwise you will get your hat out of shape, and put one pin at the edge about 4 inches away from the starting point, working toward the left hand (see Figure 3).
   d. Sew the ribbon \( \frac{1}{4} \) inch in from the edge of the hat with \( \frac{1}{2} \)-inch forward stitches and \( \frac{1}{4} \)-inch back stitches (see Figures 4 A B C D).

PRECAUTION II. Be sure your stitches form an even row of \( \frac{1}{2} \)-inch stitches on the side on which you are sewing, and that the \( \frac{1}{4} \)-inch stitches on the opposite side of the brim are taken an even distance in from the edge, otherwise your stitches will show and there will be an uneven line when you turn over your binding. Read Sections (1), (2), (3), (4), (5) and (6), so that you will do the backstitching correctly:

(1) Put a knot in your thread.
(2) Stick the needle up through the brim and the ribbon at the folded edge, \( \frac{1}{4} \) inch in from the edge (see Figure 4 A). Pull this thread through and up to the knot.
(3) Stick the needle down through the ribbon and the brim \( \frac{1}{2} \) inch forward (see Figure 4 B).
(4) Now you are ready to start to backstitch. Take a back stitch \( \frac{1}{4} \) inch long, stick the needle up through the brim and the ribbon to the opposite side (see Figure 4 C).
(5) Go forward \( \frac{1}{2} \) inch and stick the needle down through the ribbon and brim, but be sure that stitches form an even line (see Figure 4 D).

PRECAUTION III. Read Section (6). Sew for about 3 inches, then show your work to your teacher to be sure it is done correctly.

(6) Continue to sew binding, as shown in Sections (4) and (5), working toward the left hand until you reach the pin; remove pin and pin again another 4 inches away, and continue
sewing (see Figure 5) until you reach the starting point. See working drawing of back-stitching in Figure 8, Job 16 (page 69).

6. Arrange for seam and sew.
   a. Let the end of the ribbon with which you are sewing lap over the folded edge which is already sewed.
   b. Put a pin in the loose end exactly over the folded edge (see Figure 6).
   c. Allow $\frac{1}{2}$ inch more for the lap and cut (see Figure 6).
   d. Sew right across lap with back stitches.
   This is a quick, easy way to make the seam, but it is rather thick. (You may also make the seam, following Sections 9 and 10 of Job 17 (pages 73 and 74).

7. Turn ribbon binding over to opposite side of the brim, hiding the stitches just taken, so that no raw edge shows, and so that the selvage lies flat on the opposite side (see Figure 7).
   a. Be sure only $\frac{1}{4}$ inch of ribbon shows on side that has just been sewed.
   b. If the ribbon is stiff, flatten it well, by creasing with the thumb and index fingers.
   c. Put a pin in the lap, so that it will lie smooth and so that no raw edges will show (see Figure 8).

8. Sew the selvage to the brim with tiny invisible slip stitches taken right in the selvage.

**PRECAUTION IV.** The secret of slipstitching is to start the new stitch directly opposite where the last stitch leaves the part of the hat on which you are sewing.

**PRECAUTION V.** Be sure to read and follow Precaution II of Job 17, (page 72).
   a. Use a fine needle and a fine thread and put a tiny knot in your thread.
b. Bring your needle up from the wrong side to the right side and through the three selvages at the lap (see Figure 9 A). (There will be only two selvages if you have slipstitched your seam, as shown in Sections 9 and 10 of Job 17 (pages 73 and 74).)

c. Take a tiny stitch down through these three selvages (see Figure 9 B).

d. Exactly where your needle comes out, stick your needle into the brim of your hat, and take \( \frac{1}{4} \)-inch slip stitch in the brim (see Figure 9 C). (Turn over your brim to be sure that your stitch does not show on the opposite side.)

e. Exactly where your slip stitch comes out of the brim, stick your needle up through the selvage (see Figure 9 D).

f. Take a tiny stitch in the selvage and repeat Sections d and e (see Figures 9 B, C and D). You soon pass the point where you stick your needle through three selvages (the lap), (see note on two selvages in Section 8 b) but you continue to slipstitch in the same way, sticking your needle through one selvage (see Figure 10). Be sure to take tiny vertical stitches, in the grooves directly under the loops.

g. When you have finished about 3 inches of the slip-stitching, be sure to show it to your teacher, to see if it is correctly done.

h. As soon as she approves, continue until you have finished.

Questions. Use complete sentences for all answers.

1. If you are using ribbon with one raw edge, why do you sew the raw edge first?
2. How many stitchings are there in this kind of binding?
3. Which binding do you think gives a softer effect, this or the one in Job 17 (pages 71 through 74)? Why?
4. Which binding would you use to secure extremely tailored effects—the one described in Job 17 (pages 71 through 74) or this one? Why?
UNIT II. JOB 19

A CIRCULAR RIBBON FLANGE—WITH HALF-INCH BELTING RIBBON

Read this entire job sheet and then, before starting to do the work of any particular section, reread that section. Be sure to follow the sections of other jobs to which you are referred.

Reason for Job.

You will learn how to wet belting ribbon and make it circular, and how to sew it to the brim of the hat so that no stitches show, and so that it looks as if it were only lying there (see Figure 1).

Materials Needed.

1. A brim that needs a flange.
2. Enough $\frac{1}{2}$-inch belting ribbon (or #3) to go around the edge of the brim, plus 3 inches for an allowance for a seam, fraying, and shrinkage.
3. Fine cotton or sewing silk to match ribbon.

Tools and Equipment.

1. The usual milliner's tools.

Things to Do.

1. Examine ribbon flanges on stock hats and wall charts.
   a. Note that there is no fullness in ribbon. Also see Figure 1.
   b. Note that the ribbon lies flat and smooth. (It has been made circular.)
   c. Note the way that the seam is sewed and where it is. Always hide the seam if possible.
   d. Note that you cannot see any stitches.
   e. Note the kind of ribbon used. Always use belting ribbon to make a circular ribbon flange, because the ribbed weave and the cotton filling, used to make the ribs more prominent, permit the ribbon to stretch well. Moreover, the fibers used in weaving the ribbon are very strong in belting ribbons and this too permits stretching.

   **PRECAUTION I.** Be sure your hands are clean.

2. Measure the edge of the brim.
   a. Pin one end of a tape measure over the edge of the brim.
   b. Draw the tape measure right over the edge of the brim (see Figure 2) until you reach the starting point.
   c. Jot down that measurement with 3 inches added to it. This allows for seam, fraying, and shrinkage, for the ribbon is going to be wet.

3. Cut a piece of $\frac{1}{2}$ inch belting ribbon (or #3) the length of the final measurement just written down (see section 2 c).
4. Wet the piece of ribbon by dipping it into a bowl of clean water, or by holding it under the running faucet (see Figure 3).

**PRECAUTION II.** Be sure your iron and ironing board are perfectly clean. If the board is not clean, put a piece of clean muslin at the end where you are going to press. Clean the iron on wax, and wipe it off on a piece of paper to be thrown away. Be careful not to get the wax on the board as it will stain anything pressed over it.

**PRECAUTION III.** Do not iron over pin. It will cut the ribbon if you do.

5. Press the ribbon circular.

a. Lay the wet ribbon on the clean part of the board.

b. Put a pin at one end in the selvage, that is furthest away from you.

c. Take about 6 inches of ribbon and stretch it circular in a small semicircle, pulling it toward you.

d. As you stretch, press this outer edge circular (see Figure 4).

e. Press any fullness toward the inner side of the circle (see Figure 5).

f. Continue to follow Sections c, d and e, putting a pin carefully in the selvage only, until all the ribbon is circular. Now the ribbon is ready to be placed on the hat.

6. Pin circular ribbon flange on the brim.

a. Hold the hat so that the part where the flange is to be placed faces you.

b. Turn one end of the ribbon in ½ inch against the brim, so that no raw edge shows.

c. Pin the larger selvage to one quarter of the outer edge of the brim, and in from the edge, or just on it, as desired. By only pinning one quarter of the ribbon, your thread will be kept from catching on pins, and the pins will not fall out (see Figure 6). This also makes the inner edge just fit. If the inner edge seems a little tight, stretch it slightly between the fingers.

7. Sew the circular ribbon flange in place at the outer edge with slip stitches.

**PRECAUTION IV.** The secret in slipstitching is to start the new stitch directly opposite where the last stitch leaves the part of the hat on which you are sewing.
PRECAUTION V. Read and follow Precaution II of Job 17 (page 72).

a. Use a fine needle and a fine thread and put a tiny knot in your thread.
b. Begin at the larger edge and bring your needle up from the wrong side of the ribbon to the right side and right through the two selvages at the end which is turned in (see Figure 7 A).
c. Take a tiny stitch down through these two selvages (see Figure 7 B).
d. Exactly where your needle comes out, stick it into the brim of your hat and take \( \frac{3}{4} \)-inch slip stitch in the brim (if it is felt or a fabric), but not through the brim (see Figure 7 C). Turn over the brim to be sure that the stitch does not show on the opposite side.

If you are working on a straw brim, after you have stuck your needle into the brim, pull the needle and thread right through, and take a tiny stitch right over one single strand of the straw in the direction of the weave. If it is sewed straw, take your tiny stitch parallel to the stitching. Never let stitches show in straw.
e. Exactly where your slip stitch (or tiny stitch over the straw) comes out of the brim, stick your needle up through the selvage (see Figure 7 D). The stitches in the ribbon are tiny verticle stitches taken in the grooves directly under the loop.
f. Take a tiny stitch in the selvage only and repeat Sections d and e (see Figures 7 A, B, C, and D) until you have completed about 3 inches of the stitching. You soon pass the point where you stitch through two selvages (as in Section c), but you continue in the same way, sticking your needle through one selvage (see Figure 8).
g. Show your work to your teacher and if she approves continue, until you come to within 1 inch of the starting point.

8. Arrange for, and sew seam.

a. Bring the loose end of the ribbon over the folded edge already sewed.
b. Put a pin in the loose end exactly over the folded edge (see Figure 9).
c. Allow \( \frac{3}{4} \) inch more for seam and cut (see Figure 9).

d. Turn back \( \frac{3}{4} \) inch of the ribbon, allowed for the seam, against the brim of the hat so that the two folded edges and four selvages just meet (see Figure 10).
e. Slipstitch these two folded edges together (see Figure 11 in Job 17, page 74).
9. Sew the inner edge of the circular ribbon flange to the brim of the hat following Sections 7 a, b, c, d, e and f (page 81). (See Figures 7 and 8.)

This method of making ribbon circular and sewing it on may also be used if you are putting a small piece of circular ribbon on a crown or any part of the hat.

Questions. Use complete sentences for all answers.

1. Could you make this ribbon circular without wetting it? Give reasons for your answer.
2. Why is belting ribbon the only kind that can be used this way?
3. What is the secret of slipstitching?
A CIRCULAR RIBBON FLANGE—WITH ONE AND ONE-HALF INCH BELTING RIBBON—ON A STEEL WIRE—ON A BLOCK—PLACED ON A BRIM OR EXTENDING

Read this job sheet and then, before starting to do the work of any particular section, reread that section. Be sure to follow the sections of other jobs to which you are referred.

Reason for Job.

You will learn how to wet belting ribbon and to make it circular when it is too wide to be made circular merely by ironing, as was done in Job 19 (pages 79 through 82).

Materials Needed.

1. Enough belting ribbon, the length and the width necessary to cover the surface desired plus 3 inches to allow for seams, fraying, and shrinkage.
2. A steel wire 3 inches shorter than the piece of ribbon.
3. A steel wire clasp.
4. One-half inch bias of white lawn in which there is no starch.

Tools and Equipment.

1. The usual milliner's tools.

Things to Do.

1. Examine the wide belting ribbon flanges on stock hats and wall charts.
   a. Note tiny stitches and lack of fullness.
   b. Turn to Job 19 (Things to Do), and read and follow all of Sections 1 a through e and Precaution 1 (page 79).

2. Get ready to use ribbon.
   a. Measure the edge of the brim or the part of the hat where the flange is to be placed. Read and follow Job 19 (Things to Do) Sections 2 a, b, c, and see Figure 2 of that job (page 79).
   b. Cut the piece of belting ribbon the length of the final measurement taken in Section 2 a, plus 3 inches for allowance.
   c. Measure a steel wire 3 inches shorter than the measurement used in Section 2 b.

PRECAUTION 1. Be careful steel wire does not spring back into your eyes.
   d. Cut steel wire by holding it firmly with nippers, then bending it back and forth.
   e. Join the steel wire with a clasp by sticking the two ends into the middle of the clasp and closing the clasp tightly with your nippers (see Figure 1).

![Fig. 1.](image)

![Fig. 2.](image)

f. Stretch and baste the bias of lawn over the steel wire, taking a few firm stitches over the clasp so that you can pull from there, and so that the lawn will not slip around as you stretch. Take the stitch as close to the wire as you can (see Figure 2).

1 Teachers should caution students not to follow Sections 8 or 9, page 85, unless they are to work a flange over a block, or to make a loose flange which extends.
3. Make circular ribbon flange.
   a. Wet your ribbon as in Job 19, Section 4 (page 80).
   b. Stretch one selvage well and, as you stretch, baste it through the white lawn at the extreme edge of the steel wire (see Figure 3).
   c. Thread a needle with double coarse thread. Knot the thread.
   d. With this thread, shirr the selvage on the inner edge of the ribbon, using small stitches (see Figure 4).
   e. Pull up this thread to shirr your ribbon, so that it lies in as flat a circle as possible. Wet your ribbon again if necessary, for the fullness will come out more easily if you shirr it up while it is wet. Do not cut off the thread. Slip the needle into the ribbon and twist the thread around in a figure eight to hold it firm (see Figure 4).

![Fig. 3.](image)

![Fig. 4.](image)

**PRECAUTION II.** Read and follow Job 19, Precaution II about iron and board (page 80).

4. Press flange.
   a. Put a piece of silk, preferably the color of the ribbon, over the ribbon, and press from the steel wire toward the shirring in the inner selvage. If your ribbon is still wet, (if not moisten it) you will be able to press all of the fullness out in this manner. Press until dry (see Figure 5).

![Fig. 5.](image)

![Fig. 6.](image)

5. Remove flange from steel wire.
   a. Cut shirring and basting threads, and remove from steel wire (see Figure 6).

6. Slipstitch flange in place.
   a. See Job 19, Sections 6, 7, 8, and 9 and Figures 6 through 10 of that job (pages 80, 81 and 82).

7. Answer questions at the end of Section 9, page 85, if you have completed this job thus far.
   a. Do not follow Sections 8 and 9, unless you plan to work the flange over a block, or to use it as a loose flange which is to extend.
8. Suggestions for working flange on a block or model frame.
   If you want to shape this ribbon like a wooden block or model frame, you would do the follow-
   ing (instead of working with a steel wire):
   a. Cover block or model frame with unbleached muslin.
   b. Wet ribbon, then stretch and pin it very carefully to the edge
      of the block.
   c. Shirr the inner edge, as shown in Sections 3 c, 3 d, and 3 e
      (page 84).
   d. Stretch it in and pin it very carefully to the block at inner edge
      (see Figure 7).
   e. After placing a piece of silk over the ribbon, as shown in Figure
      7, press it. Do not press over pins.
   f. Sew on as in Section 6 (page 84).

9. Suggestions for a loose, circular belting ribbon flange which extends.
   a. A loose, circular belting ribbon flange, extending beyond the edge of the brim, may be made
      as in Sections 1 through 6 (pages 83 and 84), if you are careful to measure the steel wire
      the size you want the flange to be when it is finished.
   b. Pin the flange in place on either the top or the under facing of the brim, extending the
      amount you desire.
   c. Slipstitch the flange, as in Section 6, page 84.

Questions. Use complete sentences for all answers.
   1. Why did you use a steel wire for this job, and not for Job 19 (pages 79 through 82)?
   2. Can you think of any way to use ribbon that is made circular in this manner, other than
      for a ribbon flange?
   3. Can you think of any other way of getting the fullness out of the ribbon other than wetting
      it? Name it.
UNIT II. JOB 21

PLAIN FOLDS

Read this entire job sheet and then, before starting to do the work of any particular section, reread that section. Be sure to follow the references to other jobs.

Reason for Job.

Folds are useful, as well as ornamental finishing details, which may be applied in a variety of ways to hats. They are particularly useful when they cover raw edges, wires, or stitches at the base of a crown. They are ornamental when they are set at intervals on crowns or on brims, or are used as loose flanges on edges of hats. Whenever they are used, they add softness and are an added bit of decoration to the hat. There are two kinds of folds—plain and milliner’s folds. In this lesson we shall learn how to make and to apply plain folds in a variety of ways.

Materials Needed.

1. A bias strip of material, long enough to go around the part of the hat where you desire to place the finished fold, and two and half times as wide as the desired width of the finished fold.

Tools and Equipment.

1. The usual milliner’s tools.

Things to Do.

1. Examine models of folds and prepare to cut the material for the fold.

   a. Examine models of folds.
      (1) Note where the joinings are.
      (2) Note where the raw edges are.
      (3) Note how the folds are sewed, and how they are attached to the hat.
      (4) Note the widths of the finished folds.

   b. Find out how long your bias strip is to be.
      (1) Measure around the part of the hat where you desire to put the fold. See A, Figure 1 for measuring around a crown, and B, Figure 1, for measuring around a brim.
      (2) Write down that measurement.

   c. Decide how wide the finished fold is to be. The usual width of folds when finished is \( \frac{1}{2} \) or \( \frac{3}{4} \) inch wide.
      (1) If there are any raw edges to hide, find out whether the fold needs to be \( \frac{1}{2} \) or \( \frac{3}{4} \) inch wide.
      (2) Multiply either the \( \frac{1}{2} \) inch or the \( \frac{3}{4} \) inch (whichever you decided upon) by two and one-half. You multiply by two and one-half because this will allow for making the fold and a little extra for stretching the material.
      (3) Write down your answer.

   d. Fold over a true bias of material, if one is not already cut; read and follow Job 15, Section 1 a through d and see Figures 2 and 3 of the same job (pages 63 and 64).

   e. If the measurement you wrote down in Section 1 b (2) is no longer than the true bias folded over (see Section d) or already cut, use a true bias; but if it is from 1 to 6 inches longer, then fold over a long bias, as shown in Section 5 or Section 6 of Job 15 (see Figures 3, 9 A and 9 B

1 Teachers should caution students to omit Section 4 (page 88) unless they wish to put the fold on a brim.

86
of Job 15, page 65). If it is more than 6 inches longer, then, instead of folding a long bias, use two true bias strips.

f. Tell your teacher what kind of a bias strip and how many strips you plan to use.

2. Cut bias strips for fold.

a. Cut a bias strip the desired length by the width of the measurement you wrote down in Section 1 e (3), reading and following Job 15, either Sections 3 a through d for a true bias (page 64) or Section 5 or Section 6 for a long bias (page 65). See also Figures 4, 5, 6, 9 A and 9 B of Job 15.

PRECAUTION I. Always join a fold before making it when it is going around a small circumference, like the base of a crown, as shown in Section 3.

Always make a fold, and then join it, if it is to go around a large circumference, as on the brim in Section 4, page 88, because in handling a bias over such a large surface it is apt to stretch and if you had joined it beforehand, it might then be too long.

3. Measure, join, sew, and place the fold, if it is going around a crown.

a. Measure bias strip around the crown.

(1) Pin one end of bias strip at the base of the crown at the back of the hat, placing the right side of the material against the crown (see Figure 2).

(2) Stretch and pin strip around the base of the crown until you reach the point where you started (see point A in Figure 3).

b. Prepare to make seam.

(1) Fold back the last end of the strip so that it just meets the first end (see line A B in Figure 3). If using a true bias, be sure to fold the end back exactly on the straight thread of the material, and make it slant in the same direction as the first end of the bias strip which it meets.

(2) Measure and place pins 3/4 inch from the folded edge to allow for your seam (see Figure 4 A). If you have done this correctly, and you have used a true bias, your pins will follow one straight thread of the material.

(3) Show your work to your teacher before cutting, to see if it is right.

(4) Cut on the line of the pins (see Figure 4 A).

(5) Remove pins from the ends only, of the bias strip.

c. Make the seam.

(1) Pin the ends of the bias strip together in a seam on the outside of the hat (see Figure 4 B). The bias strip should now fit tightly around the base of the crown.

(2) Remove strip from hat, but do not remove the pins that pin the seam together.

(3) Sew the seam close to your pins with small back stitches, or machine stitching, using thread to match the material.
(4) Press the seam open (see Figure 5), either using your thumb nail or an iron, but remember never to press velvet.

d. Make the fold.

(1) Hold the strip so that the wrong side is facing you and turn both edges of material over so that they meet exactly in the center of the wrong side. Put in two or three pins, in order to hold fold in place (see Figure 5).

(2) Sew the two raw edges together with a catch stitch, without sticking the needle through to the right side of the fold. Place stitches ¾ inch from raw edge, and about ½ inch apart (see Figure 6). Leave these stitches loose to allow for stretching.

e. Place fold around crown.

(1) Pin fold in place on hat with the seam at the back of the hat, or where it can be hidden.

(2) Slipstitch only the lower edge of the fold to hat (see Figure 7).

f. Skip over to the questions on page 89, if you have completed Section 3.

4. Make, place, and join the fold if it is to be placed on a brim.

a. Be sure that you have completed Sections 1 and 2 (pages 86 and 87).

b. If more than one bias strip is needed, join bias strips and press the joining, by reading and following Job 15, Sections 4a through d (pages 64 and 65).

c. Make fold, starting about 3 inches from one end of the bias strip. Be sure to read and follow Sections 3d (1) and (2), but do not join the fold in a circle. Leave 3 inches of your bias so that you can make the joining more easily.

d. Place fold on brim.

(1) If there are two seams, plan to place them equal distances from the back; or if there is only one, place it at the direct back or where it can be hidden.

(2) Stretch the outer edge of the fold and pin it about every 3 inches to the brim as you stretch (see Figure 8).

(3) Slipstitch the fold to the brim just under the outer edge, starting about 1 inch from where you actually started to make the fold (see Figures 8, 11A and 11B of Job 16, page 69).

(4) Continue to slipstitch until you come within 6 inches of the starting point.
e. Make seam.
   (1) Carefully pin each bias end toward the point where you want to put the seam and stretch each a little (see Figure 9).
   (2) Fold bias over, pin, allow \( \frac{3}{4} \) inch for a seam and pin, as shown in Sections 3 b (1) and (2), page 87. (See Figures 3 and 4 A, page 87, also see line A B in Figure 9.)
   (3) Before cutting for seam, show your work to your teacher to see if it is correct.
   (4) Cut on line of pins (see Figure 9).

   (5) Pin the seam so that the raw edges face the brim (see Figure 10). The pinned piece should make the bias just the size necessary to finish up the fold and to sew it into place.

   (6) Sew seam with combination stitch.

f. Finish sewing the rest of the fold, as shown in Sections 3 d (1) and (2) (page 88).

g. Slipstitch the rest of the fold into place.

Questions. Use complete sentences for all answers.

1. If you were making this fold of velvet, would you press the seam? Give your reason for your answer.
2. If you were using velvet what would you do with the seam, instead of pressing it?
3. How must you cut the material for a fold? Why?
4. When is the best time to join a fold that is going to be placed around a crown? Why?
5. What is the advantage of joining a fold, that is going to be placed on a brim, after it is sewed almost all of the way around?
UNIT II. JOB 22

MILLINER’S FOLDS

Read this entire job sheet and then, before starting to do the work of any particular section, reread that section. Be sure to follow the references to other jobs.

Reason for Job.

Milliner’s folds are more decorative and take more material than plain folds. They may be used wherever one would use a plain fold, so be sure to read Reason for Job in Job 21 (page 86). If you have not made a plain fold, do so before you make a milliner’s fold. The few differences between making a milliner’s fold and making a plain fold will be explained in this lesson.

Materials Needed.

1. A bias strip of material, long enough to go around the part of the hat where you desire to place the finished fold, and four times as wide as the desired width of the finished fold.

Tools and Equipment.

1. The usual milliner’s tools.

Things to Do.

1. Prepare to cut fold.

   a. Read and follow all of Sections 1 a through f of Job 21 (pages 86 and 87), but be sure to multiply the ½ inch, or the ⅜ inch, or any width you desire for the fold by four. Multiply by four, because almost all of that material is turned in, and no raw edges show in the finished fold.

   b. Do not fail to examine milliner’s folds on wall charts, or finished hats.

      (1) Note number of folded edges and how close they come to each other.
      (2) Note where the seam is placed.
      (3) Note stitches.

2. Cut bias strip for fold.

   a. Cut a bias strip, the desired length by the width of the material decided on in Section 1 a, reading and following Job 15, either Section 3 a through d for a true bias (page 64) or Section 5 or Section 6 for a long bias (page 65) and see Figures 4, 5, 6, 9 A and 9 B of the same job.

   PRECAUTION I. Do either Section 3 or Section 4 following and read Precaution I in Job 21 (page 87).

3. Measure, join, make, and place the fold, if it is to be placed, around a crown.

   a. Read and follow Job 21, Section 3 a, b and c (page 87), in order to measure and join bias strip.

   b. Make fold.

      (1) Hold the strip so that the wrong side is facing you, then turn top cut edge over on the wrong side, and turn it down ⅛ inch more than the depth that the fold is to be when finished (see A to B in Figure 1 A, page 91). Pin if necessary. This ⅛ inch more allows for stretching the fold.

      (2) Turn the bottom cut edge up to meet the top cut edge. Pin if necessary (see C to D in Figure 1 A, page 91).

      (3) Turn the bottom folded edge up on the line of the inside cut edges (see E to D in Figure 1 B, page 91).
(4) Slipstitch fold just under the folded edge nearest the middle, catching through the back (see Figure 1 B). Do not let the stitches come through to the right side. The right side is the side where there are three folded edges. The slip stitches must be just loose enough to allow for stretching the fold.

![Diagram](image-url)

Fig. 1A-B.

c. Place fold around crown.

(1) Read and follow Sections 3 e, (1) and (2), of Job 21 (page 88).

4. Make, place, and join the fold if it is to be placed on a brim.

a. Be sure to complete Sections 1 and 2 (page 90).

b. Join two bias strips if more than one is needed.

c. Make fold by reading and following all of sections 3 b (1) through (4), page 90 and above, however, the fold must not be joined in a circle. It must be started about 3 inches from the end of the bias strip.

d. Place the fold on brim, make seam, finish sewing the rest of the fold, and slipstitch it into place by reading and following Section 4 d through g of Job 21 (pages 88 and 89).

Questions. Use complete sentences for all answers.

1. What is the outstanding difference between a milliner’s fold, and a plain fold?

2. If you were making a bow of black satin by the yard, and you decided to make a milliner’s fold of it, that would be 1 3/4 inches wide when finished, how wide would you cut your satin?

3. Would you fold it down 1/6 inch more than the depth the fold is to be when finished, or more than 1/8 inch extra? Try it out using paper, before giving your answer. Then give your answer and your reasons.
UNIT II.  JOB 23

A FINISHED CORD ON A WIRE—SEWED TO A BRIM—SUGGESTIONS\(^1\) FOR A FINISHED CORD ON A CABLE CORD AND FOR AN UNFINISHED CORD

Read this job sheet and then, before starting to do the work of any particular section, reread that section. Be sure to follow the sections of other jobs to which you are referred.

Reason for Job.

There are all sorts of finished and unfinished cords used in millinery, which have been borrowed from the dressmaking field, but the one that is used exclusively in millinery is the finished cord on a wire. This is used most frequently to brace large mushroom brims that are made of a great variety of materials. The actual making of the cord is very simple; but sewing it to the brim so that no stitches show, and joining it so that there is no bump in the cord and so that no raw edges show, require skill. You will learn how to do this by doing this job carefully. You will also learn how to make a finished, as well as an unfinished, cord on cable cord.

Materials Needed. (For a finished cord on a wire.)

1. A bias of any fabric \(\frac{3}{2}\) inch through, if you wish to cover lace wire, or \(\frac{3}{4}\) inch through, if you wish to cover cable or frame wire, by the desired length of the cord, plus 3 inches allowed for making. (For the width of bias for a finished cord on cable cord, see Section 5 (page 95); for an unfinished cord, see Section 6 (page 96).

2. A piece of lace, frame, or cable wire the desired length (the kind of wire varies according to the thickness of the cord desired, and the amount of bracing necessary). (For cable cord. see Section 5 or Section 6 (pages 95 and 96).)

3. A wire clasp to fit wire (if wire is used).

4. A hat to be braced (if wire is used).

Tools and Equipment.

1. The usual milliner’s tools.

Things to Do.

1. Examine finished cords on stock hats or wall charts and decide whether to make your cord on wire or cable cord.

   a. Note how invisible the stitches are.
   b. Note how tight the cord is on the wire, and on the cable cord.
   c. Note the joining in the outer fabric.
   d. Note that the joining in the wire is not directly under the joining of the fabric.
   e. Note how the cord is sewed to the brim.
   f. Decide whether to make your cord on wire or on cable cord.
      (1) If you are going to make the cord on wire, go right on with Section 2; but if you are going to make the cord on cable cord, skip right over to Section 5 (page 95).

2. Prepare wire, then cut wire and material for cord.

   a. Find out how long to cut wire and bias strip.
      (1) Put a basting on the brim where you want to put the cord.
      (2) Measure the basting (see Figure 1, page 93).

\(^1\) Teachers should caution the students not to follow Section 5 or Section 6, pages 95 and 96, unless they are about to make finished or unfinished cords on cable cord.
(3) Add 3 inches to that measurement and write the new measurement down. This 3-inch allowance is for a little extra material, that may be wasted by pinning the fabric, while making the cord.

b. Fold over a true bias of the material, if one is not already cut.

(1) Read and follow Section 1 a through d of Job 15, and see Figures 2 and 3 of that job (pages 63 and 64).

c. If the measurement you wrote down (see Section 2 a (3)) is not longer than the true bias folded over (see Section b) or already cut, use a true bias; but if it is from 1 to 6 inches longer, then fold over a long bias, as shown in Section 5 or Section 6 of Job 15 (see Figures 3, 9 A, and 9 B of the same job, page 65). If it is more than 6 inches longer, then, instead of folding a long bias, use two true bias strips.

d. Measure and cut either the cable, or the frame, or the lace wire, the measurement that you have written down (see Section 2 a (3)) following Figures 7 and 8 of Job 1 (page 5).

e. Tell your teacher what kind of bias you plan to use.

f. As soon as your teacher approves, cut the bias strip the same length as the measurement that you wrote down (see Section 2 a (3)), by $\frac{3}{4}$ inch through, if you are going to cover a cable or frame wire; or by $\frac{1}{2}$ inch through, if you are going to cover a lace wire.

**PRECAUTION I.** Be sure your hands are clean.

**PRECAUTION II.** Be careful not to let the material fray.

3. Make cord.

a. Join bias strips if more than one is needed, and press joining, reading and following Job 15, Section 4 a through 4 d (pages 64 and 65).

b. Straighten out the curve in the wire by pulling and straightening it between the thumb and the index finger.

c. Fold in each edge of the material for the cord about $\frac{1}{8}$ inch, and put a pin across it about every 3 inches (see Figure 2 A).

**PRECAUTION III.** The fabric for the cord must be folded evenly throughout its length, otherwise it will twist on the wire.

d. Place the wire on top of the raw edges in the center of the folded material, and hold both in your left hand (see Figure 2 A).

e. Starting about 2 inches from the end, take a tiny fastening stitch in the folded edge at the left of the material, using a fine needle and a fine thread with a knot at the end (see Figure 2 A).

f. Stretch the thread straight across, and take a tiny stitch in the opposite folded edge, slant your needle down about $\frac{1}{4}$ inch, and stick your needle right into the folded edge at the left again (see Figure 2 B).

g. Continue following Section f until you have about 1 inch of your cord completed.
PRECAUTION IV. The secret of making a good cord is to get the material absolutely tight on the wire and not to allow a single stitch to show. If your stitches are taken straight across and then your needle is slanted, the stitches will never show. If your material is not tight, it must be folded in more.

h. Show your work to your teacher.
i. Pin the loose end of the bias to something firm on the table so that you can stretch the bias tight and hold it smooth on the wire.
j. Continue to sew as shown in Section f, until you have all but 6 inches of your cord finished (see Figure 2 C).

4. Sew cord to brim.
a. Plan to put joinings, if more than one is needed, on either side, and an even distance from the back; or at direct back, if only one is used.
b. Pin the cord on the basting, on about one quarter of the brim (see Figure 3).
c. Beginning about 1 inch from where you started to make the cord, slipstitch the cord to the brim (see Figure 3) for about 3 inches.

PRECAUTION V. Remember the secret of slipstitching is to begin one stitch exactly opposite the point where the last stitch ended.
d. Show your work to your teacher, to see if it is done correctly.
e. As soon as your teacher approves of your work, continue to slipstitch as shown in Section c, to within 6 inches of the starting-point. Leave these 6 inches open so that you may join wire and cord more easily.
f. Join wire.

PRECAUTION VI. The wire must not be joined directly under the joining of the outer fabric.

(1) Bring both ends of the wire together on the line of the basting and hold them firmly (see Figure 4).

(2) Lay the fabric of which the cord is made over the wire, to see where you will have to join it (see Figure 4). If there are any holes in the material where you had it pinned to the table, or if it is frayed at that end, you may cut off a little of it, but be certain that you have sufficient material to make the joining properly.

(3) Place the part of your nippers that cuts, about 1¼ inches to one side of the bias end of the fabric, and cut through both ends of the wire at the same time (see Figure 4). This will make the ends of the wire just meet.

(4) Slip the ends of the wire into a wire clasp, and press the clasp together firmly with your nippers (see Job 20, Figure 1, page 83).

g. Join the fabric of which the cord is made.

PRECAUTION VII. When you stretch the material out to see where to put the joining, be sure that the cord is not twisted and that the stitches are right against the brim of the hat.

(1) Read and follow Sections 4 e (1) through (6) of Job 21 and see Figures 9 and 10 of that job (page 89). To do this you will have to stretch the bias material slightly on the wire (carefully observe Precaution VII) and be sure that the raw edges of the seam go against the wire (see Job 21, Figure 10, page 89).

h. Fold fabric in evenly against the wire, as shown in Section 3 c (page 93).
i. Finish slipstitching the cord into place, as shown in Section 4 c. above.
5. Suggestions for finished cord made on cable cord.

a. Cut the cable cord about 6 inches longer than twice the desired length of the cord when finished.

b. Cut the bias strip (or strips) of material, the length of the finished cord, and 1 inch wider than the measurement of the circumference of the cable cord.

c. Join the bias strips and press the seams flat if more than one strip is needed (see Job 15, Figures 7 A, 7 B, and 8, page 65).

d. Find the middle of the cable cord.

e. Fold the bias strip over to the cable cord with the right side against the cord (and all seams outside if more than one strip is used); start from the center, work toward the left, and pin material over the cord as in Figure 5. Keep the bias folded very even; otherwise the fold will twist.

![Diagram of sewing bias across cable cord](image)

f. Sew the bias very firmly right across the cord, as shown in Figure 5.

g. Sew the bias toward the left from that point, either by machine or with back stitches, and be sure that the stitching is 1/2 inch away from the cord. If the material is very thick you will have to sew more than 1/2 inch away. This 1/2 inch allows for the thickness of the material, when turning it back to finish the cord. It also prevents you from sewing through the cord. You will not be able to turn the cord if you sew through it.

h. Turn the cord right side out.

1. Take left-hand end of cord in your left hand and place point A, as shown in Figure 6 A, between the thumb and the index finger of your right hand.

![Diagram of turning cable cord](image)

2. Pull the cord in your left hand, and as you pull, let the fingers of the right hand push the bias toward the right (see Figure 6 A and 6 B). This turns the cord right side out, but be careful not to twist the bias as you turn it.

3. Continue pulling the cord with the left hand, and pushing the bias to the right with your right hand, until the entire cord is turned right side out.

i. Use cord as desired.

1. Such cords are often used to make trimmings, but are usually slipstitched into place, as shown in Section 4 c (page 94).
(2) If necessary to join the cord, follow these directions:

(a) Remember the cord must not be joined directly under the joining of the outer fabric (see Figure 4, page 94).

(b) Cut the cord so that the ends lap 1 inch.

(c) Untwist one strand of the cord at both ends (see Figure 7).

(d) Cut off the loose strand, on each end of the cord (see Figure 7). Cut part of each end of the cord away so that, when it is sewed up again, the joining will be no thicker than the cord itself.

(e) Sew the remaining strands of the cord together very firmly with coarse thread (see Figure 7).

(f) Lay your cord down against the hat to be sure that it is the length desired.

(g) When you are certain the length of the cord is correct, sew over and over the cord as well as through it, so that the portion where the cord is joined is no thicker than the cord itself.

(h) Join the fabric of which the cord is made, reading and following Precaution VII and Section 9 (1), (page 94).

j. Go on with the questions if you have made your cord as described above.

6. Suggestion for an unfinished cord on a cable cord.

a. Read and follow Job 41, Sections 11 b and c (page 167).

Questions. Use complete sentences for all answers.

1. What must you guard against to prevent the cord from twisting?
2. What are the two most important characteristics of a good cord?
3. Why should you not join the wire (or cord) and the material in the same place?
4. Why is the joining of the wire (or the cord) and the fabric left until almost the end?