CHAPTER IV

WIRE FRAMES

EQUIPMENT

Brace wire or frame wire
Tie wire
Sprung wire
Pliers

TO OPEN COIL OF WIRE—

Hold the coil in the left hand; unfasten and allow it to loosen gradually in the hand; pass it over the arm and knock it until the coils separate.

TO CUT WIRE—

Place wire firmly and squarely between the jaws of the pliers at the point where they cut and press straight down. Be sure to cut with the first attempt; otherwise, if the wire is haggled off, the pliers are injured and the covering loosened at the ends of the wire which will make it impossible to tie them together.
To straighten wire—

Pass the wire between the thumb and finger with a sweeping motion. A piece of cloth or paper may be held in the hand if the fingers become tender. Do not make small dents in the wire in attempting to straighten it, as it will be impossible to remove them.

To tie wire—

Ends of brace wire parallel.
Right angles tied diagonally.
Brace wire tied without use of tie wire.

Before beginning to make a frame of wire, time will be saved and necessary experience gained by tying a few short pieces of wire, until a strong joint can be made. Cut fifty pieces or more of tie wire three-quarters of an inch long. Cut two pieces of brace or frame wire two or three inches long. Lap the ends of the heavy wire one inch, then lap one of these pieces of tie wire around once as close to the end of the brace wire as is possible. Hold in the left hand and with the end of the pliers grasp the ends of the tie wire as close to the brace wire as possible and twist tightly until the joint feels firm. Place pliers back a little and twist several times
TO TIE TWO WIRES WITH THE WIRE

TO TIE TWO WIRES DIAGONALLY WITH USE OF THE WIRE

METHOD OF MAKING PAPER PATTERN FOR DROOPING BRIM

METHOD OF PINNING FABRIC ON DROOPING BRIM

BRAID-COVERED BRIM SHOWING METHOD OF FILLING IN SHORT LENGTHS WHEN THE DIFFERENCE IN WIDTH OF THE TWO SIDES IS VERY GREAT

PATTERN PINNED IN PLEATS FOR SHAPED BRIMS OF FABRIC. ILLUSTRATION SHOWS PATTERN PINNED ON BUCKRAM READY TO CUT
until a little cable is formed. Cut this off, leaving an eighth-inch end. Press this end down flat with the jaws of the pliers. Tie the other end in the same manner. Practice this until a satisfactory joint can be made with ease, before attempting to make a frame of wire.

To fasten two pieces of brace wire diagonally—

To fasten two pieces of brace wire without the use of tie wire—

Hold the strand of wire against the wire to which it is to be fastened, at right angles to it, with about two and one-half or three inches extending beyond the point at which the twist is to be made. Press the end straight backward, close to and parallel with the other end of the wire. The end should pass once and a half around. Use the jaws of the pliers to press parallel wires in the twist together, and to tighten the twist. Cut the end off close and use the pliers to press the end down flat.

To make wire frame for hat having flat brim and square crown—

Always remember that it will greatly simplify
the work first to make a paper pattern for every hat. A hat is seldom made with all sections of the brim of equal width, and this is one important reason why it is more satisfactory first to make a paper pattern.

**Pattern for Brim—**

Make a pattern the same as for a straight-brim sailor, being careful to fold the pattern in halves from front to back, and to crease sharply. Fold the halves into fourths and the fourths into eighths and crease. This is to determine the position of the wire spokes in the brim. The eight creases will correspond to the eight spokes in the brim; this is the correct number of spokes.

**Headsize Wire for Wire Frame—**

A wire frame needs two headsize wires, so cut two just alike, remembering always that the headsise wire is the most important wire in any hat, as the comfort of the wearer depends upon the measurements taken for this wire. Measure as for the headsise in a fabric hat, lapping the ends one inch, and tying them. Try on these wires and shape to
fit the head. They should usually be elongated two inches.

Pin the headsize wire on the paper pattern, placing the joining on the back crease and the exact center front of wire on the front crease; next pin the sides securely, being careful to keep the wire shaped to fit the head. Allow one-half inch inside of wire and slash every half inch out to headsize wire. The pattern may now be tried on the head for any necessary alterations. The brim pattern may be added to or cut away.

**Working Measurements Needed**—

Make a pencil mark on the pattern around the headsize wire. Before removing the wire, mark the eight different points where it crosses the creases in the paper pattern. Remove the wire from the pattern.

**Sticks for Brim**—

Straighten and cut four pieces of frame wire the length of the diameter of the brim plus three inches for finishing. Place one of these sticks across the headsize wire from front to back on the marks made by the pencil, allowing the ends to extend an equal
length. Fasten to the headsize wire with tie wire. Place the next stick from side to side, joining on the pencil marks. The two remaining sticks when placed on the remaining marks divide the circle into eighths. This is called the skeleton of the brim; the wires are named front, back, right side, left side, right side front, right side back, left side front, left side back. The position of these ends or spokes should correspond to the creases in the paper pattern, and the length of each one should be determined by measuring the corresponding crease on the pattern.

**Edge Wire—**

Cut a circle of brace wire the exact length of the circumference of the brim plus one inch for lap and tie. Lay this close to the edge of the pattern and mark on it with pencil where each crease touches it, always keeping the tied ends on the back crease. If these measurements are carefully made, the brim will be exactly like the pattern.

**To Join Edge Wire—**

Begin at the back and place the mark on the
edge wire on the back spoke at the pencil mark. Twist the end of the spoke once and a half around the edge wire, using the jaws of the pliers to tighten the twist. Cut the end off close and press the cut end flat with the pliers. Next finish the center front spoke, then the sides and those in between. A great deal depends upon accuracy in making an acceptable wire frame. Add as many circles of wire between the edge wire and the headsize wire as desired, fastening to the spokes with tie wire. Keep all wire laps at the back on the center spoke.

Collar of brim—

Cut the wire inside of the headsize wire in the center. Twist these wires once and a half around the headsize wire, bringing the ends up at right angles to the headsize wire. Join the second headsize wire to the top of these wires, using the same method as for joining the edge wire. This collar may be made very low or as high as the wires will permit. A separate crown of wire is not always used in a hat covered with very sheer material or sheer braid. In such a case the collar would be made as high as possible to make a support for the crown trimming.
Square crown for wire frame—

Straighten the brace wire and cut four sticks or pieces long enough to reach from the base of the crown at the front up over the proposed crown to the base of the crown at the back, allowing eight inches for finishing. Cut and join a small circle of brace wire—about three inches in diameter—for the crown top. Lay the four sticks across this circle dividing it into eight equal sections as at the beginning of the brim, and join to the sticks with tie wire. Cut a piece of brace wire one inch smaller than the headsize wire. Lap the ends and tie this wire. Elongate slightly. Join to the sticks outside of the small circle. Keep all lapped ends of circles on the center back spoke. Bend spokes down over this circle, then measure down from this circle for the height of crown and mark on spokes with pencil. Be very accurate.

Base wire for crown—

Measure and cut a length of brace wire one-half inch longer than for the headsize wire. Lap the ends one inch and join with tie wire. The base wire of any separate crown must be large enough to fit over the headsize wire on the brim. Place this
circle, after having shaped it like the headsize wire, on the inside of the spokes at the point marked, beginning at the center back, and finish as any edge wire by twisting the ends of the spokes once and a half around the wire. Press the wires down tight with the pliers. Cut the ends off close and press flat with the jaws of the pliers. Many more circles may be added and tied on with tie wire if desired; also more spokes may be added. This would be desirable if the frame is to be covered with braid, or if used for blocking fabric for frames.

Transparent hats—

If a wire frame is to be covered with thin material, great care and thought should be given to the frame, for it then forms part of the design of the hat. A finer wire is sometimes used in this case, or a beautiful frame may be made for thin materials by using a satin-covered cable wire, and using as few wires as possible. It may seem advisable after a wire frame is made to cut away some of the wires.