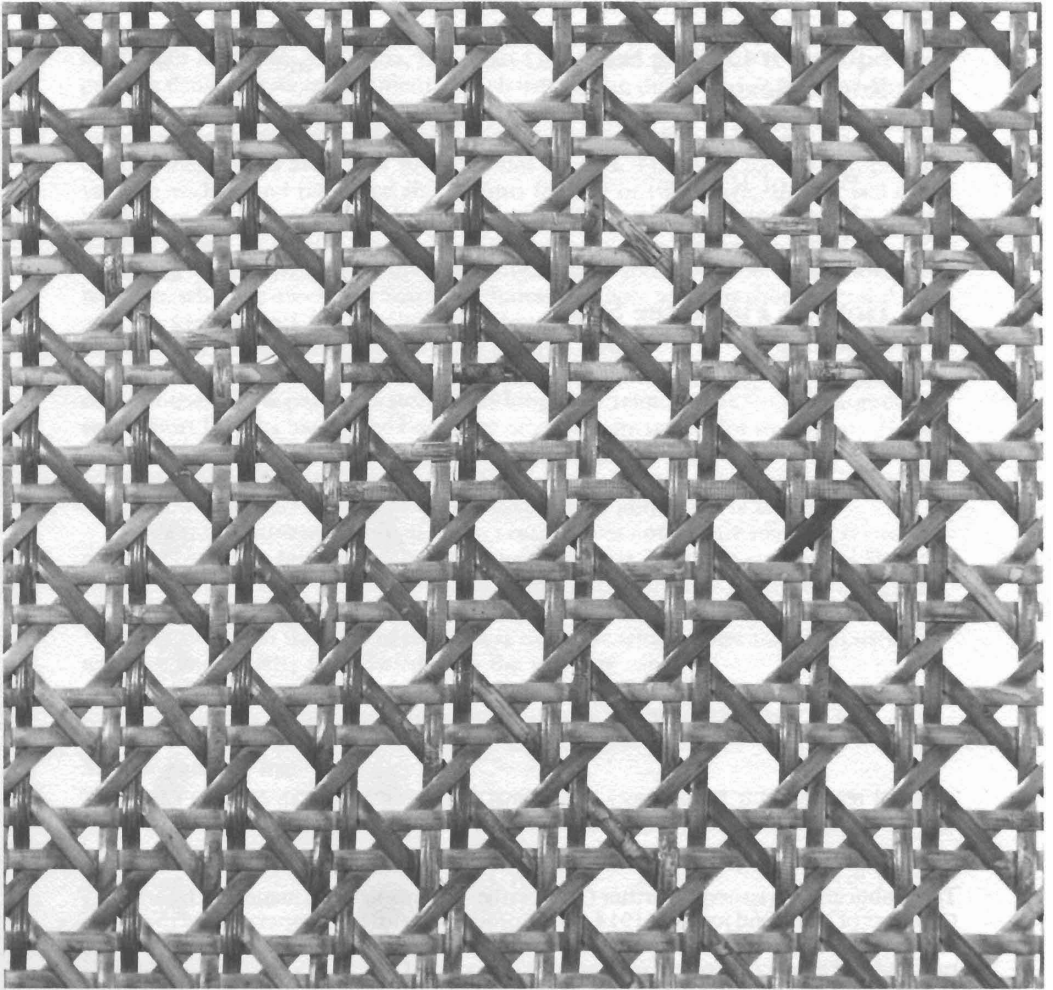


CANE

SEATS FOR CHAIRS

Revised Edition



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CANE SEATS

for chairs

Select the chair and cane

Chairs with small holes drilled through the frame around the seat opening should have cane seats. If these seats are carefully woven, they will be strong and wear well.

Cane for chair seating is made from a palm called rattan. The plants come from the Indian Archipelago, China, India, Sri Lanka, and the Malay Peninsula. They grow in dense forests and frequently reach tree height; then they fall over and form a matted undergrowth. The stem, which is covered with beautiful green foliage, grows in length from 100 to 300 feet and is seldom more than 1 inch in diameter. For export, these stems are cut in 10- to 20-foot lengths. The outer bark is stripped in varying widths and packaged in amounts for one or two chairs, or in 1,000 foot hanks for four chairs with medium-sized seats. The cane is cut in pieces, preferably 6-8 feet long.

Seating cane differs from domestic sugar cane and from the cane known as bamboo, which grows in the Southern States. Bamboo, which is shorter, straighter, and thicker, is used for furniture, walking sticks, poles, and the like. Neither bamboo nor sugar cane is suitable for chair seating.

You can buy cane at chair-seating and crafts supply houses, and at certain mail order houses and department stores. Buy long, select cane for medium or large chair seats; short lengths have to be tied more often but are usable for small seats. Good cane is smooth, glossy on the right side, tough, and pliable. The "eye," or lump where the stem of the leaf grew out, should be smooth and unbroken. Poor cane has rough and imperfect spots, does not weave easily, and is likely to split.

Plastic cane is also available. It weaves easily, does not require soaking, is strong, and costs slightly less than other cane because little is wasted (see figure 39). Its smooth, shiny texture is suitable for painted chairs; real cane is preferable for fine old furniture.

Binder, to finish the edge of the seat, is cane one width wider than that used for weaving and usually is included with the weaving cane.

The width of cane to use depends on the size of the holes in the chair seat and the distance between them. The following is a guide to the size of cane to buy.

Size of cane to use

<i>Cane size</i>	<i>Size of hole</i>	<i>Distance between holes</i>
	Inch	Inch
Supertine	3/16	3/8
Fine fine	3/16	1/2
Fine	3/16	5/8
Narrow medium	3/16	3/4
Medium	1/4	3/4
Common	5/16	7/8

Prepare to weave

The Seat

Cut away the old seat, using a keyhole saw or shears. Be careful not to mar the finish. Save the old seat as a weaving guide.

Clean any pieces of broken cane or dirt from the holes and the seat rails. Pull out old nails and tacks. Be sure you can get cane through all the holes. If any are filled, bore a hole through them.

Use a file to round the inside of the frame so no sharp edges will cut the cane.

If you need to refinish the wood, do this as far as the final coat before the seat is caned.

Equipment you need

1. Cane
2. Binder
3. Scissors
4. Keyhole saw or shears
5. Awl, blunt ice pick, or knitting needle
6. Wood file
7. Steel rule and a sharp pencil
8. Wooden pegs — whittled or cut from soft wood or $\frac{3}{8}$ " dowels, or purchased — 2 dozen
9. Long nose pliers
10. Nail file or other flat, pointed tool
11. Bowl — 5 to 6 inches in diameter
12. Glycerine — U.S.P. Standard, 3 tablespoons, or urea crystals, 2 tablespoons. Desirable but optional
13. Cloth or towel
14. Clamp clothespins — 12
15. Knife
16. Razor blade
17. Tack hammer
18. Seat stain, if desired; and cloth to apply it.



The Cane

Pull one of the pieces of cane from the looped end of the hank, near where it is tied. As you pull, shake the hank so that the cane will not tangle or tear. Roll the piece, right side (smooth side) out, to fit in a 5- to 6-inch bowl. Fasten the ends with a clamp clothespin.

Fill the bowl with a 10 percent solution of glycerine, about 1½ tablespoons of glycerine to 1 cup of water. Soak the roll of cane in the solution. Warm water hastens the process. Or urea crystals may be used. Either solution helps to prevent the cane from drying out, but glycerine is preferable.

Let the cane soak for about 20 minutes or until it is soft and pliable.

Plastic cane, enough for one chair, is sold in a bunch with strands cut 6 to 7 yards long. If you buy it in quantity on a spool, cut it in pieces of workable length. **Do not** soak it.

How to weave

Square or oblong seats

The usual form of weaving is called *seven-step weaving*: Weave from the upper side of the seat; first, from back to front, then from side to side, again from back to front, and from side to side, and then on the two diagonals. If you begin in the center of the back, you will find it easy to make sure the rows of cane are straight. Add the binder last.

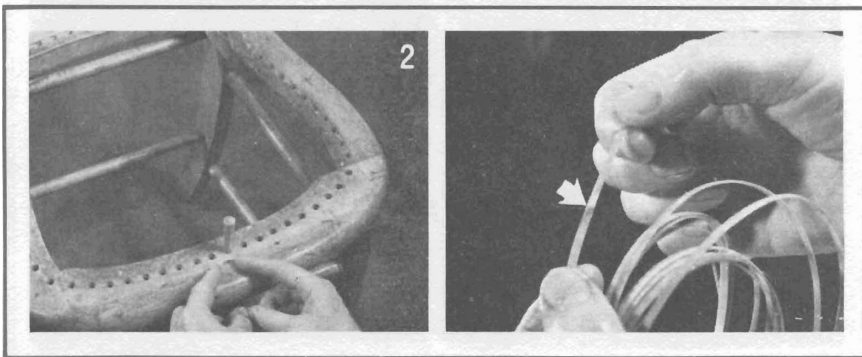
● **Step 1.** Count the holes in the back rail. If there is an odd number of holes, put a peg in the center hole. If the number is even, put the peg in one of the holes nearest the center. Do the same on the front rail, pegging the same side of the center as at the back (figure 2).

Take the roll of cane from the bowl and wipe off excess water with your fingers, sponge, or cloth. Put another piece in to soak while you work.

Weave with the eye whenever you can so you do not roughen or break the strand (figure 3).

Pull out the peg from the back rail. Push about 4 inches of an end of cane down through this hole and fasten it with a peg.

Bring the cane to the front rail, right side up; take out the peg and push the cane through. Leave the cane slack; the mesh tightens as weaving continues. Replace the peg.



Push the cane up through the nearest hole on one side of the center. Pull it across the chair and down through the opposite hole at the back (figure 4). Be sure the cane is not twisted in the hole or underneath.

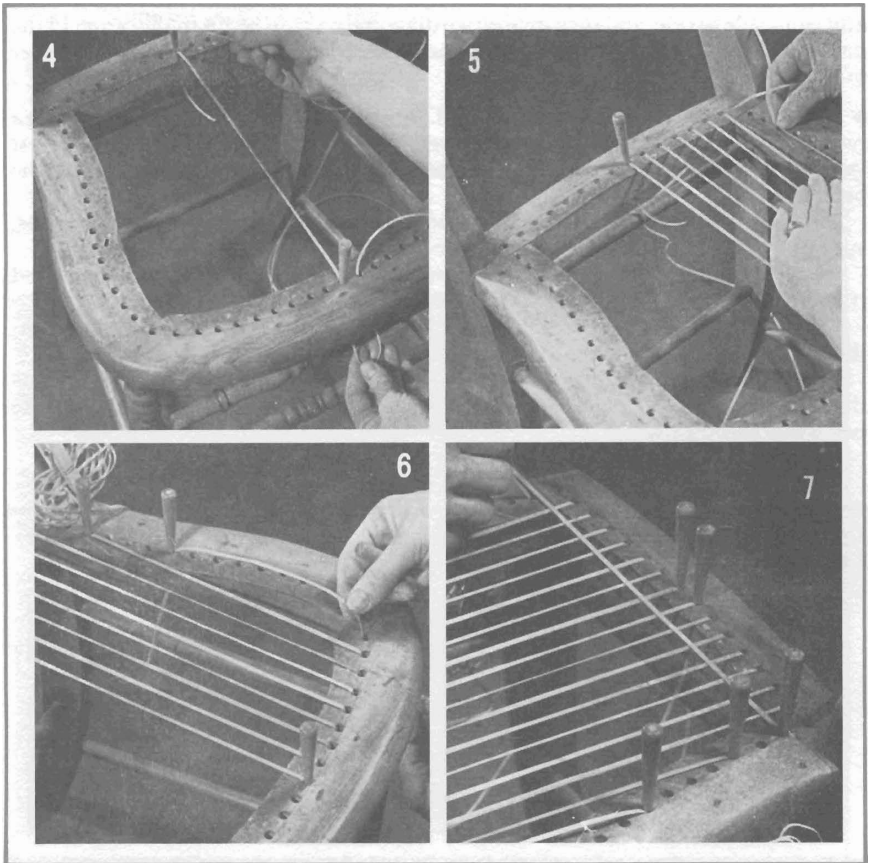
As you weave, hold the cane so that it sags a little below the level of the wood seat frame (figure 5). Weave large seats and plastic cane tighter. If the chair has a scoop seat, press the cane down as far as the bottom of the wood frame.

Continue weaving toward the side as long as you can weave in opposite holes. Do not use corner holes unless you are sure there will be room for the diagonal and binder canes that must also go through these holes. Leave the rest of the strand to use later. Fasten it with a clamp clothespin to keep it out of your way.

For seats wider at the front than at the back, weave separate pieces of cane as shown in figures 5 and 6. Canes must not be carried across on the underside of the frame to block holes that will be used later.

As you continue weaving, move a peg from one hole to the next to keep the cane in place; peg ends of cane.

Weave the other half of the seat.

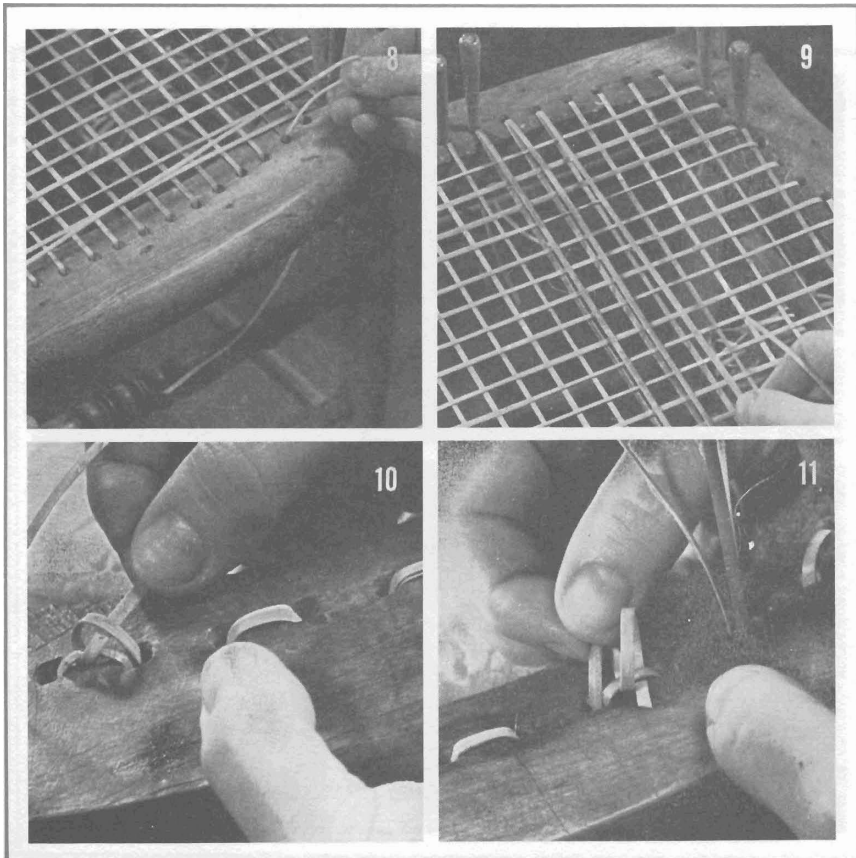


● **Step 2.** Start at the back on the right side rail as you face the chair, in a hole next to the corner.

Pull the cane up through the hole and across the seat over the weaving you have already done (figure 7). Continue weaving back and forth. If the front rail is curved, weave with separate pieces of cane (figure 8).

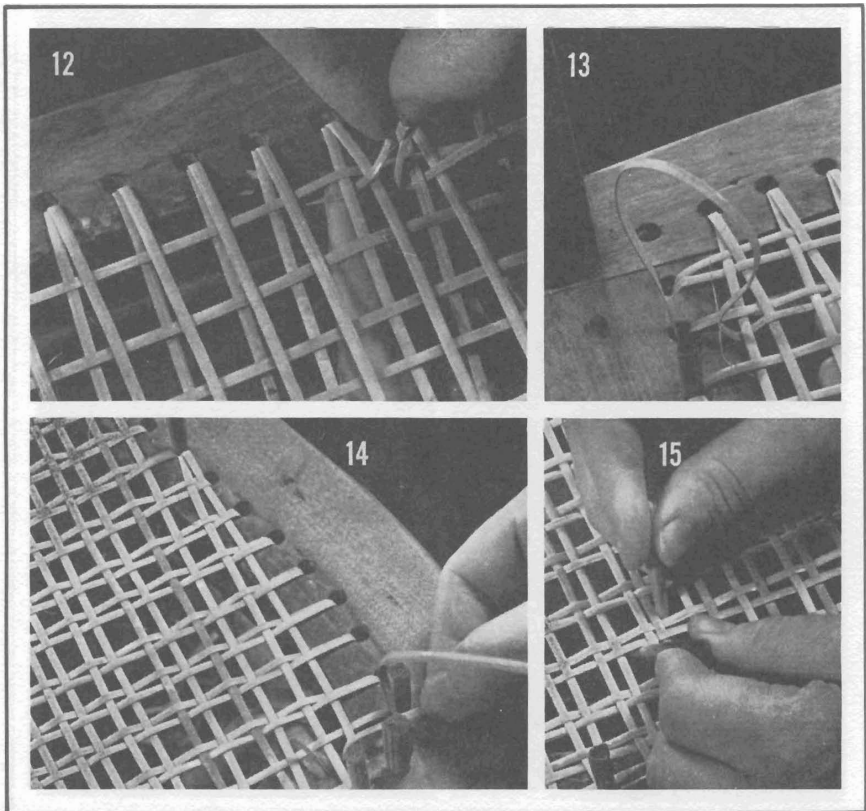
● **Step 3.** Weave as in step 1. Keep the strands slack as in steps 1 and 2. Weave in line with, and on top of, the first and second weaving and to the right of the cane you wove in the first step (figure 9).

Fasten ends of cane: Fasten the ends of cane on the underside of the frame by tying or twisting them firmly around a nearby strap. Do not cross holes (figures 10, 11 and 25). Fasten as many as you can before starting step 4 and then fasten as you go along. Moisten the ends of cane if necessary to help prevent breaking.



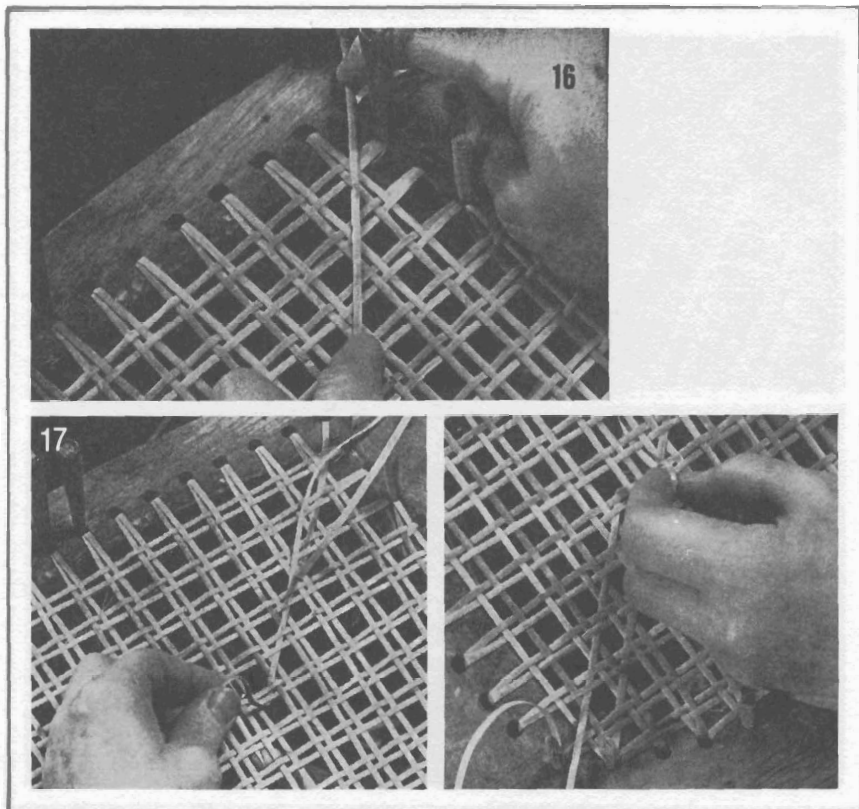
● **Step 4.** Real weaving begins here, as you work from side to side. Start at the back as you face the chair and in a hole next to a corner. Weave toward you, in front of row two and weave *over* the canes on top and *under* the canes underneath (figure 12). As you work, straighten the canes you wove in step 2 to help keep step 4 canes in place. When you are a third or half way across, pull the length through that far, being careful that it does not twist or break. As you pull, keep your hand level with the chair rail. If you lift up, the weaving cane may cut canes already woven, especially if the cane is plastic. Continue weaving across the row. This draws together in pairs the canes from front to back and from side to side. When you reach the opposite side, put the end of cane down through the hole and peg it until you weave the next row. Pull the cane up through the nearest hole and weave back across the seat, so the cane passes over the same canes and under the same canes as it did the first time (figure 13). Weave with the end of cane as shown in figure 13.

Repeat for the other rows. At the sides, be sure the canes in step 3 are on top and at the right of canes in step 1 (figure 14). Soak the woven cane with a wet sponge or cloth. Using two pegs, ice picks or pieces of wire, straighten rows and force them together in pairs as much as you can, with hollow squares between (figure 15).



● **Step 5.** Diagonal weaving begins in this step. Start at the back corner hole on the right side as you face the chair, and weave the first row toward the left front corner. You will weave the cane diagonally *over* the pairs from front to back and *under* those from side to side, keeping the cane straight from the corner holes. First lay it in position to decide how to start (figure 16). Weave with one hand on top of the seat and the other underneath, with the end of cane toward you (figure 17). Pull the cane through when you have woven a few holes. Be careful not to lift it and cut the strands already woven. The cane must lie flat and be woven so the edges do not bind. The cane should pull through easily; if too wet it squeaks, if too dry moisten it with your fingers or a sponge.

Back section. Weave the back section of the seat first, using holes on the left and back rails. For the second row, weave from front to back, going over and under the same rows you did before, with the end of cane pointing away from you (figure 18). As you weave, pull back on the strand and then forward to straighten diagonal canes. To decide how to start a row, plan from near the center of the seat where the pattern is established.



Weave two canes (figure 19) in each corner hole to make a “fish-head” or a “V.” You may complete the fish-head on the back corner or finish it when weaving the front corner. Sometimes canes can be kept straight only by weaving a single cane in part of the corner holes. Keep the canes right side up. Do not skip holes.

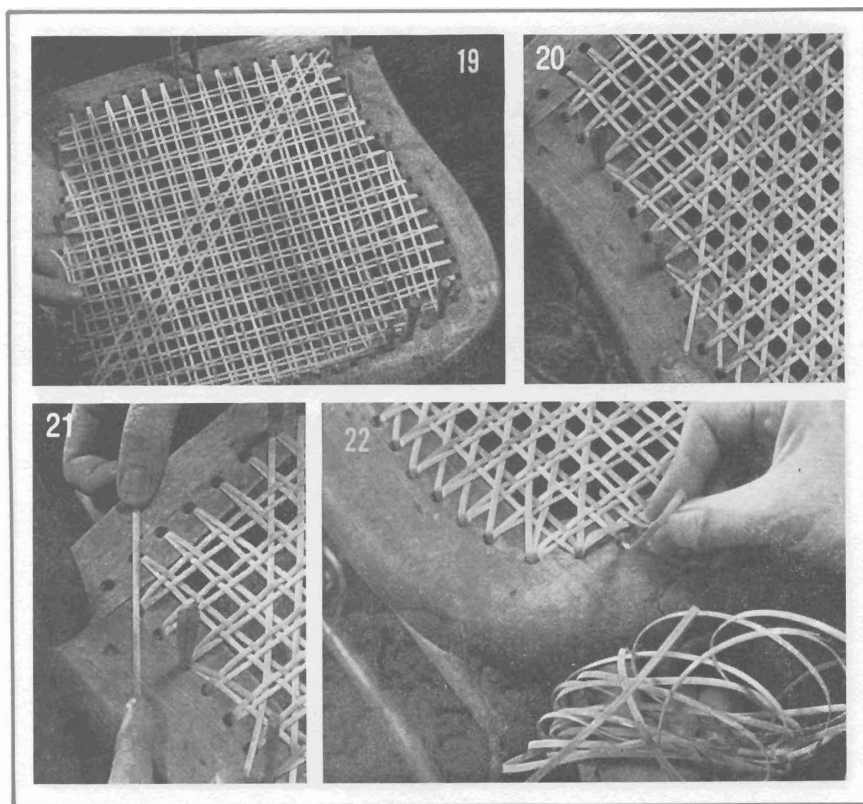
Weave back and forth until you have reached a place near the center of the left side. If the seat is round or definitely curved, weave only a few diagonals and then begin to skip holes or double in holes:

Keep the rows straight. If there are more holes on the sides than on the back, skip holes, usually not more than three on the side (figure 20). If the seat is round, you may double in holes across the back as well as skip holes on the side.

Make the canes lie straight across the back corner (figure 21). Check to see that you have skipped enough holes to that the same number are left on the back as on the side. Use a new piece of cane when you need to, or use an end left from previous weaving if you can do so without crossing holes on the lower side of the seat. Experienced weavers use ends of cane so there will be fewer knots to tie.

The rest of the seat must be woven according to the pattern started on this section.

Front Section. Since the first diagonal was woven from back to front (figure 17), weave the first row on the front section from front to back using holes on the front and right rails (figure 22). Use a new piece of cane.



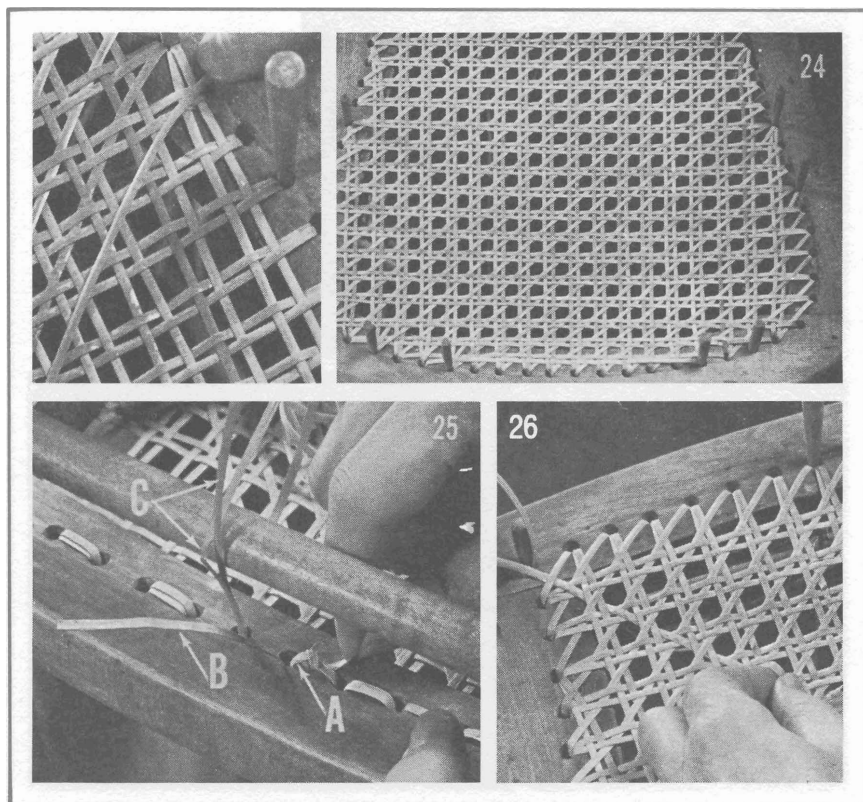
Check to keep the rows straight. Canes may curve slightly near the rail. Put them in the holes where they will curve the least (figure 23). To make the pattern alike on the two sides, weave twice (fish-head) in the hole or holes corresponding to those skipped on the left side of the chair. (Note the four pegs, two on each side, figure 24). To avoid cutting the cane, you may fish-head in the hole above or below that directly opposite.

On the front rail, double in holes on the left and skip holes on the right. Note the four pegs (figure 24).

Tie ends as you go along wherever there is a nearby strap to tie them to. In figure 25 one end (A) is tied and the other cane out of the same hole (B) can be tied to the same strap. Those from the other hole (C) cannot be tied until more straps are formed.

● **Step 6.** Step 6 is the second diagonal, woven in the opposite direction. Start at the back corner hole on the left side as you face the chair and weave toward the front right corner. Weave diagonally *under* the pairs from front to back and *over* those from side to side (figure 26). Ends of cane should point to sides of seat.

Weave the front section of the seat first. Complete the pattern started in the first diagonal, so the corners and the two sides correspond. Each half of the front and back rails should also correspond.

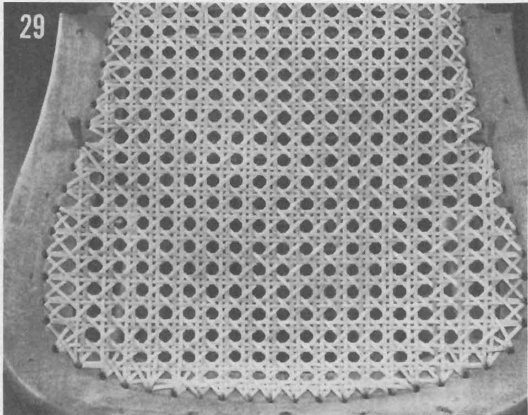
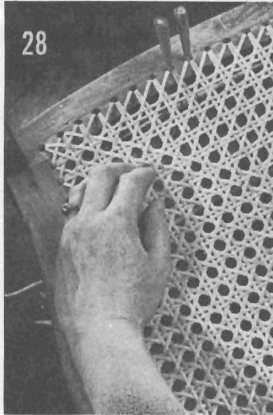
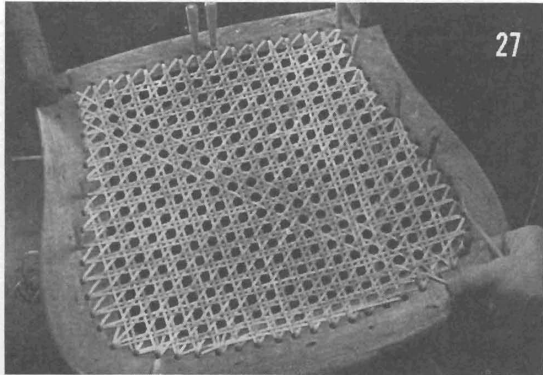


Front section. On the left side rail, weave twice in holes skipped by the first diagonal. Do the same on the front rail, right side. On the left side, skip those holes used twice before (figure 27). Do not carry cane across holes on the underside of the seat. Instead, cut the cane if necessary.

Back section. Continue the weaving as shown in figure 28. Use a new cane to weave from front to back; for this chair double in the back corner hole to match the opposite corner. Weave to the front and double in that corner hole.

On the side rail, skip holes woven in twice by the first diagonal (figure 29). On the back rail, skip any holes already used twice.

● **Step 7.** Binder cane is the next size wider than that used for weaving. It is used to cover the holes and to finish the edge of the weaving. If the seat is curved, use one strip long enough to go around. If corners are square or turns are sharp, cut separate lengths, each from 6 to 8 inches longer than the side of the seat where it will be used. Keep both binder and weaving cane wet and pliable. Lay one of the pieces of binder flat over the holes on one side of the seat with the center of the piece at about the

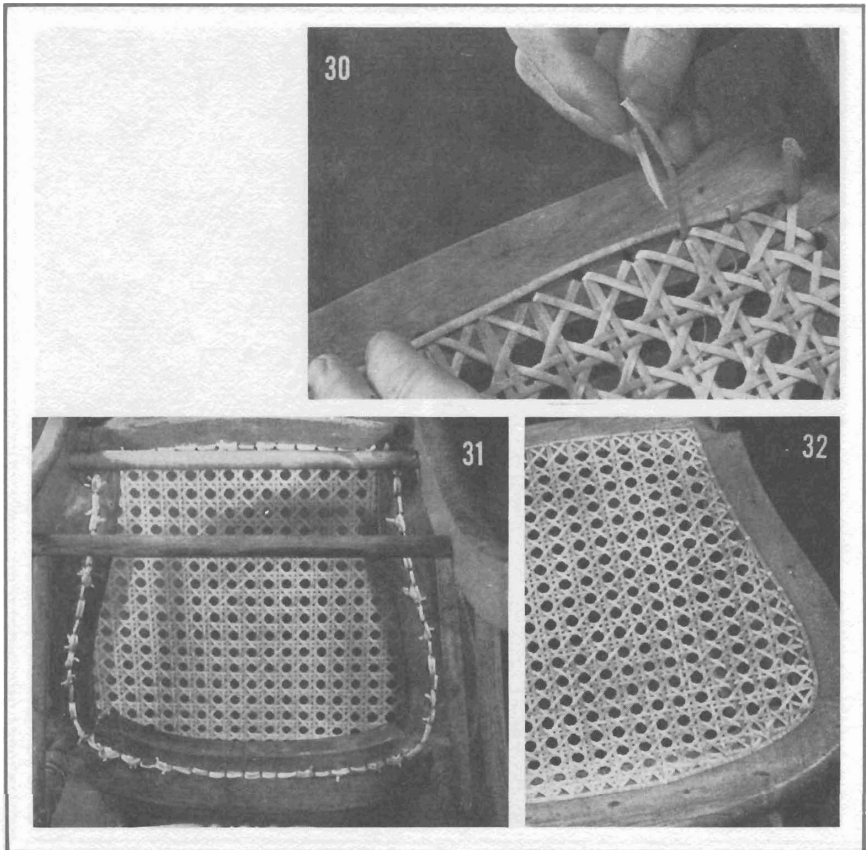


center hole. Push one end through the corner hole and hold it there with a peg.

Use as long a piece of weaving cane as you can handle easily. Or, use a piece left from previous weaving, crossing the corner underneath if you wish. Fasten the binder at each hole (figure 30) or, if the holes are close together, at every other hole. Begin at the end where the binder is pegged. Pull the weaving cane up through the next hole, pass it over the top of the binder, and down through the same hole. Bring it up through the next hole on the same side of the binder or on alternate sides to keep the binder straight. Repeat. Both canes should be right side up, flat and tight. Use an awl or a bone knitting needle if you need to force an opening for the cane.

If a continuous piece does not lie flat around the corner, start the second side by taking out the peg and pushing the end of the binder through the corner hole. Replace the peg, hammer it tightly, and file the top level with the chair frame. Repeat around the chair. The underside of the completed seat is shown in figure 31, the top in figure 32.

When the cane is dry, the mesh should follow the shape of the seat frame, that is, be flat if the frame is flat and slightly curved if the frame curves.



Round seats

Round seats are more difficult and take longer to weave than do seats with straight sides. Usually fine cane is used because of the many small holes; to keep canes straight, canes often are doubled in holes. Binder canes are difficult to force through. To start weaving, count holes from seams in the seat frame.

Weaving is done as for square or oblong openings. To help keep rows straight, experienced weavers may use the second diagonal as step 3.

Figure 33: Weave back to front (see step 1, p. 3). To keep canes in place, force a thin stick between the rails.

Figure 34: Weave side to side (see step 2, p. 5).

Figure 35: Weave the second diagonal (see step 6, p. 9). Weave *under* strand from back to front and *over* strand from side to side.

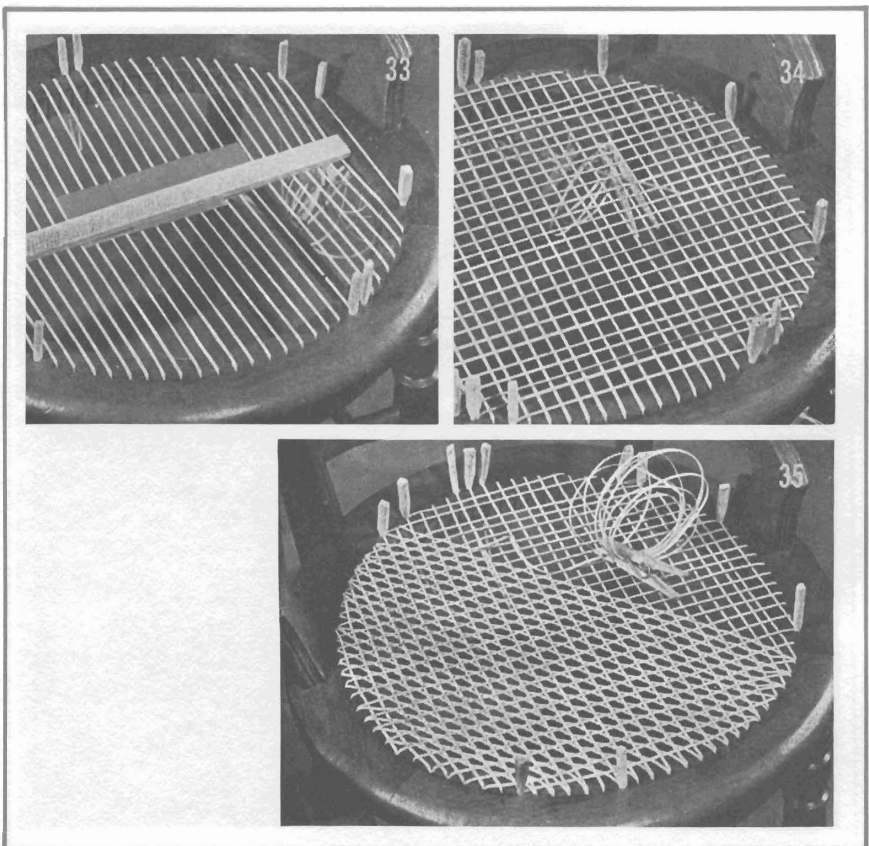
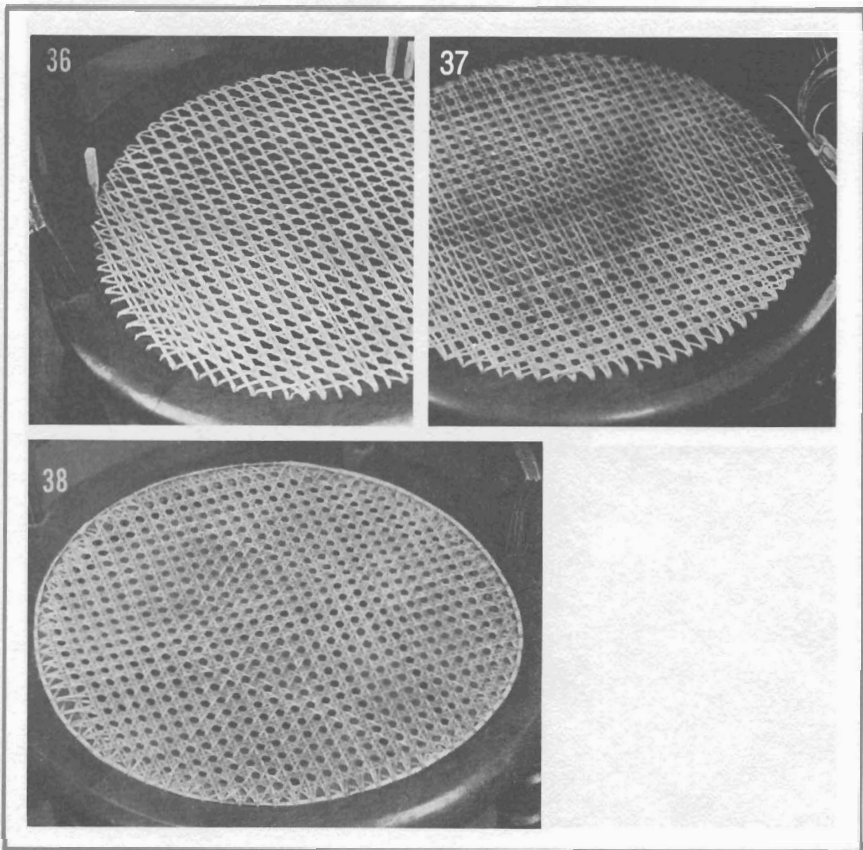


Figure 36: Weave back to front on top of other canes (see step 3, p. 5).

Figure 37: Weave side to side (see step 4, p. 6), *under* the diagonal (figure 35) and the *first* strand back to front (figure 33) and *over* the second strand back to front (figure 36).

Figure 38: Complete the chair, weaving diagonally (see step 5, pp. 7 to 9), and finish with binder cane (see step 7, p. 10).



Other chairs

Plastic Cane. Plastic usually slips through easily, but edges are sharp and may cut strands already woven. Weaving is the same as for natural cane. Figure 39 shows the diagonal in step 6 woven as step 3 and the second cross strand *under* the diagonal and the *first* row from back to front.

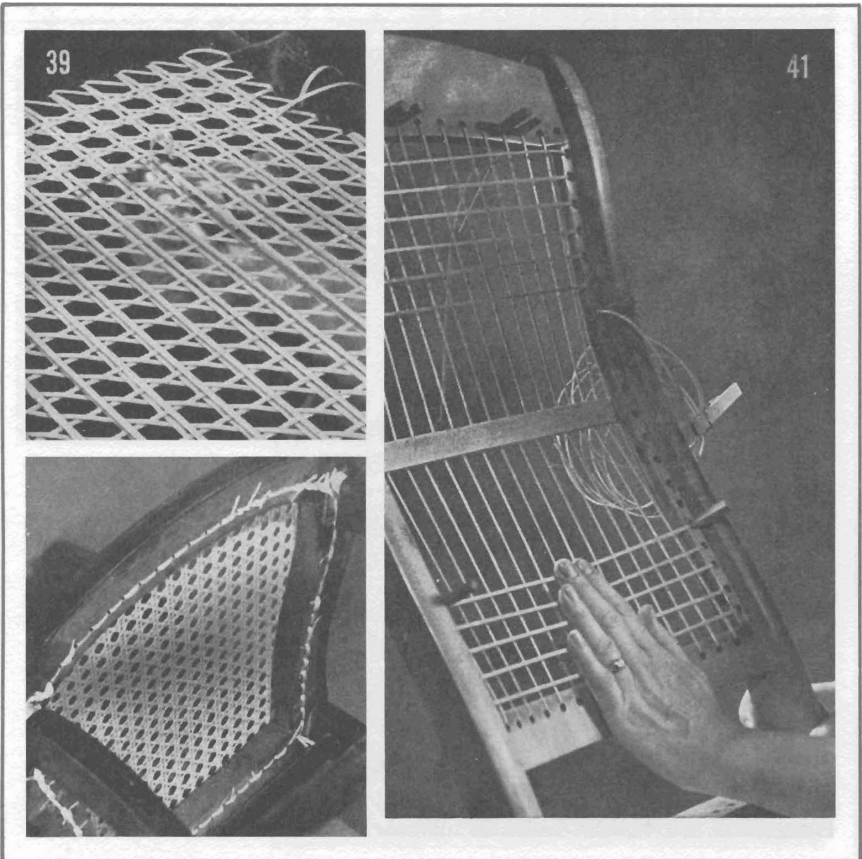
Figure 40: The finished seat. (The front legs have been removed to make weaving easier and must be glued to the seat after weaving is finished.)

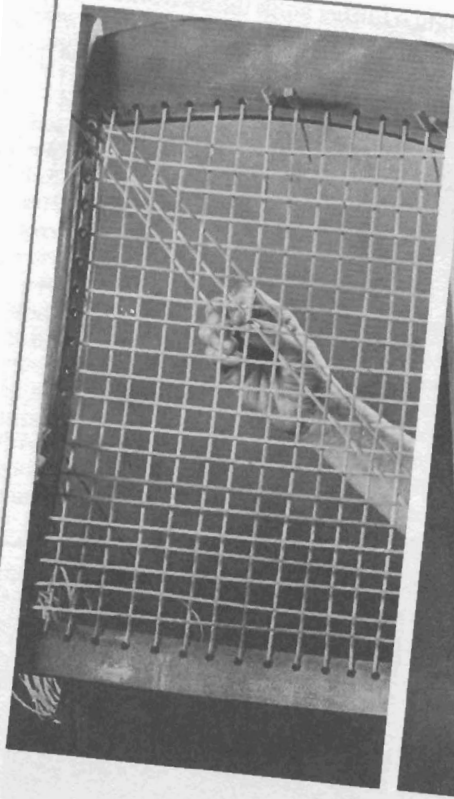
Back of Rocker. Figure 41: Weaving the back of a rocker.

Figure 42: Weaving a diagonal as step 3 may help hold the canes in place.

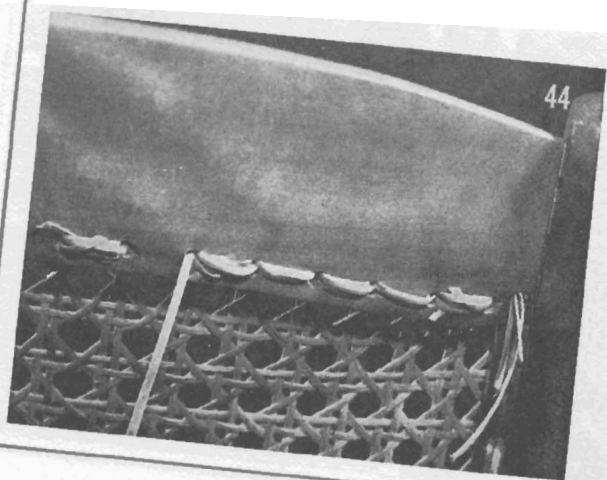
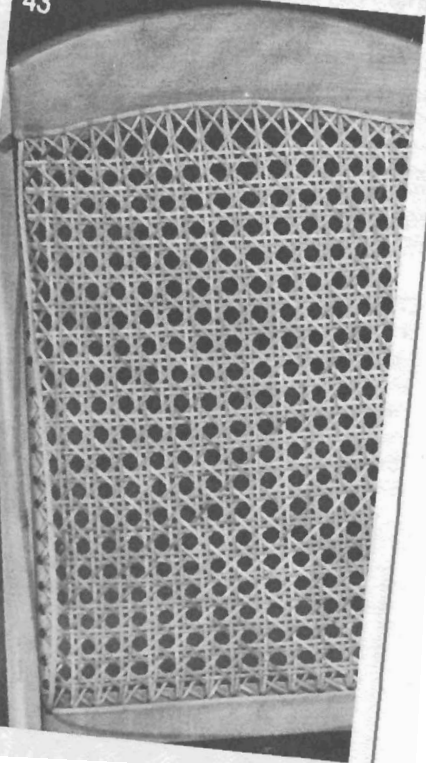
Figure 43: Starting the binder.

Figure 44: Where a strap is available, twist the ends to hold the cane instead of tying a knot.





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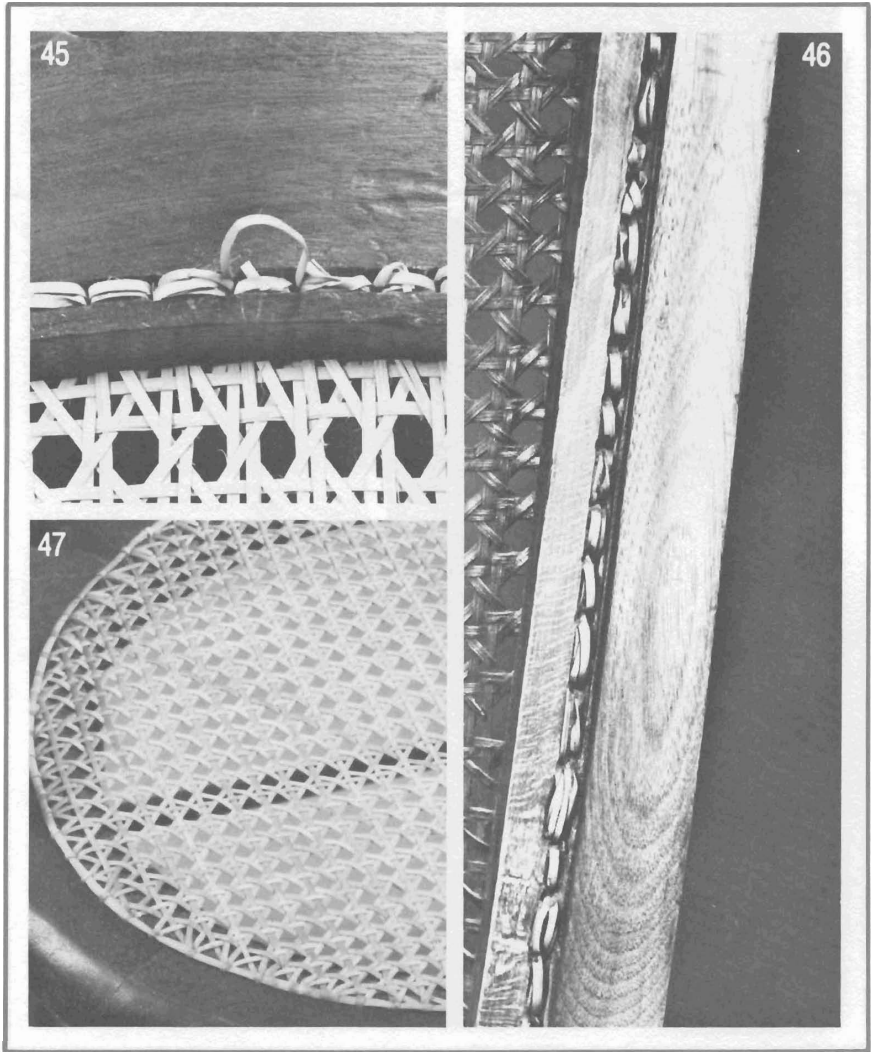
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Figure 45: When the binder cane is pulled tight it further holds the twisted ends in place.

Figure 46: In finishing the lower edge of the back, some holes have several ends of cane, and fastenings are more conspicuous.

Five-Step Weaving. Figure 47: Five-step weaving omits one row from back to front and one from side to side. *Both* diagonals are woven *under the row from back to front* and *over the row from side to side*. This makes a less sturdy seat than seven-step weaving.



Prewoven Cane. Seats and backs with a groove rather than holes call for the use of prewoven cane webbing. Prewoven cane webbing is purchased in sheets and is secured in place by a cane spline that fits snugly in the groove. No weaving is required and a minimum of time and equipment is needed for replacement.

Figure 48: Remove old spline with a small chisel or screwdriver. If necessary, cut a V-shaped groove in the spline using a V-chisel or sharp blade. Fill the groove with a solution of equal parts warm water and white vinegar to loosen the glue holding the old spline. Allow to sit for several hours, reapplying solution as necessary to keep the spline wet. Thoroughly remove all glue and cane material from groove. Cut new splines to proper length. Miter ends at 45 degree angles to fit in corners.

Figure 49: Soak the cane sheet in warm water for 2-4 hours, blot excess water, and center over seat in desired position. Press the cane into the center of the back groove with a dampened wedge. Leave the wedge in place and use another dampened wedge to press the cane into the center of the front groove. Repeat process in the side grooves. When the four wedges are in place, press the cane into the grooves in the same sequence: back, front, side, side. Work quickly before cane dries. (Optional: after strands have been pushed into the groove, cut off strand ends 1/8 inch below the top of outside of the groove with a sharp chisel and hammer.)

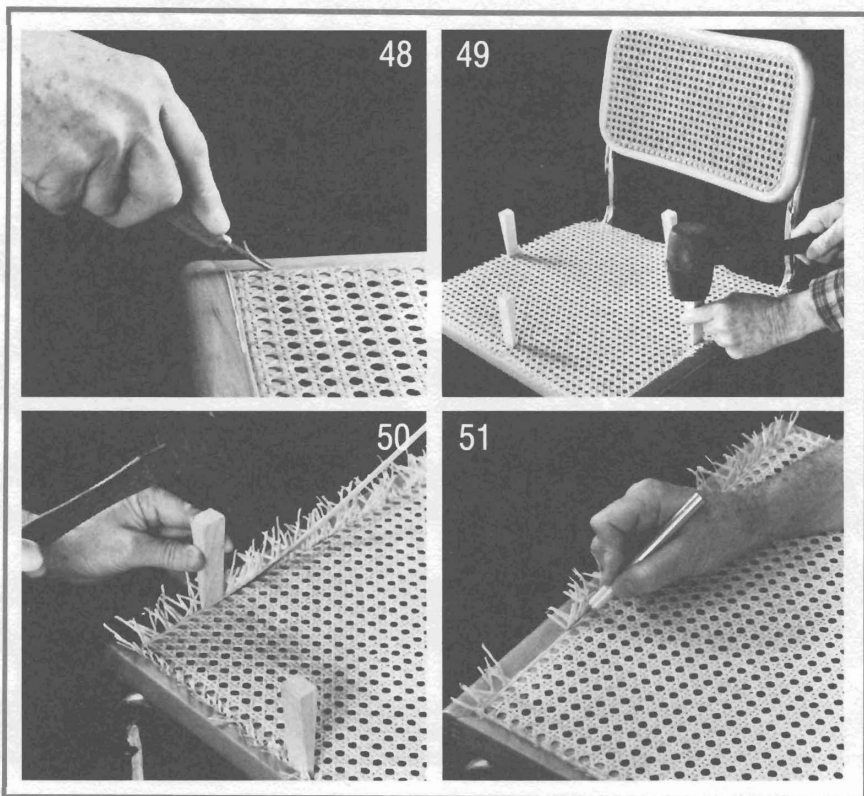


Figure 50: Remove any strands of cane running along the inside of the grooves. (These will prevent the spline from fitting snugly.) Place a bead of hide glue or carpenter's glue in the bottom and on each side of the groove. Put the spline in the groove and gently tap in place with a dampened wedge and hammer. Spline may be dampened to fit rounded corners without breaking. Wipe away excess glue.

Figure 51: Allow the seat to dry at room temperature for 24-48 hours. Cut off excess strands close to the spline with a sharp blade or chisel. If seat is not taut, use a sponge and water to dampen it repeatedly from the underside to achieve added shrinking.

How to finish the seat

Tie and cut off any loose ends on the underside of the seat. Trim off rough places or hairs with a razor blade.

Cane has a hard, glossy surface that does not need a finish. If you wish, however, you may apply a thin type of penetrating wood sealer to both sides to help prevent drying and cracking. To blend the color of a new cane seat with the finish on the chair, apply a chair seat stain, available where you buy the cane. Rub the stain on the underside first, with a soft cloth or brush. Wipe off the surplus and repeat on the upper side. When the stain is dry, apply a second coat if you want a darker color.

Cleaning

Cane seats can be cleaned with a cloth wrung from a solution made as follows: Place 1 quart of boiling water in the top of a double boiler (or two old basins). Add 3 tablespoons of boiled linseed oil and 1 tablespoon of turpentine. Put boiling water in the bottom of the boiler to help keep the solution hot. **Do not place the mixture directly over a flame.** Clean both sides of the seat.

This bulletin is one of a series of how-to publications on replacing chair seating materials.

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|-----------------|--|
| 327E 682 | Splint Seats for Chairs |
| 327E 683 | Rush Seats for Chairs |
| 327E 964 | Hong Kong Grass, Rope, and Twine Seats for Chairs |