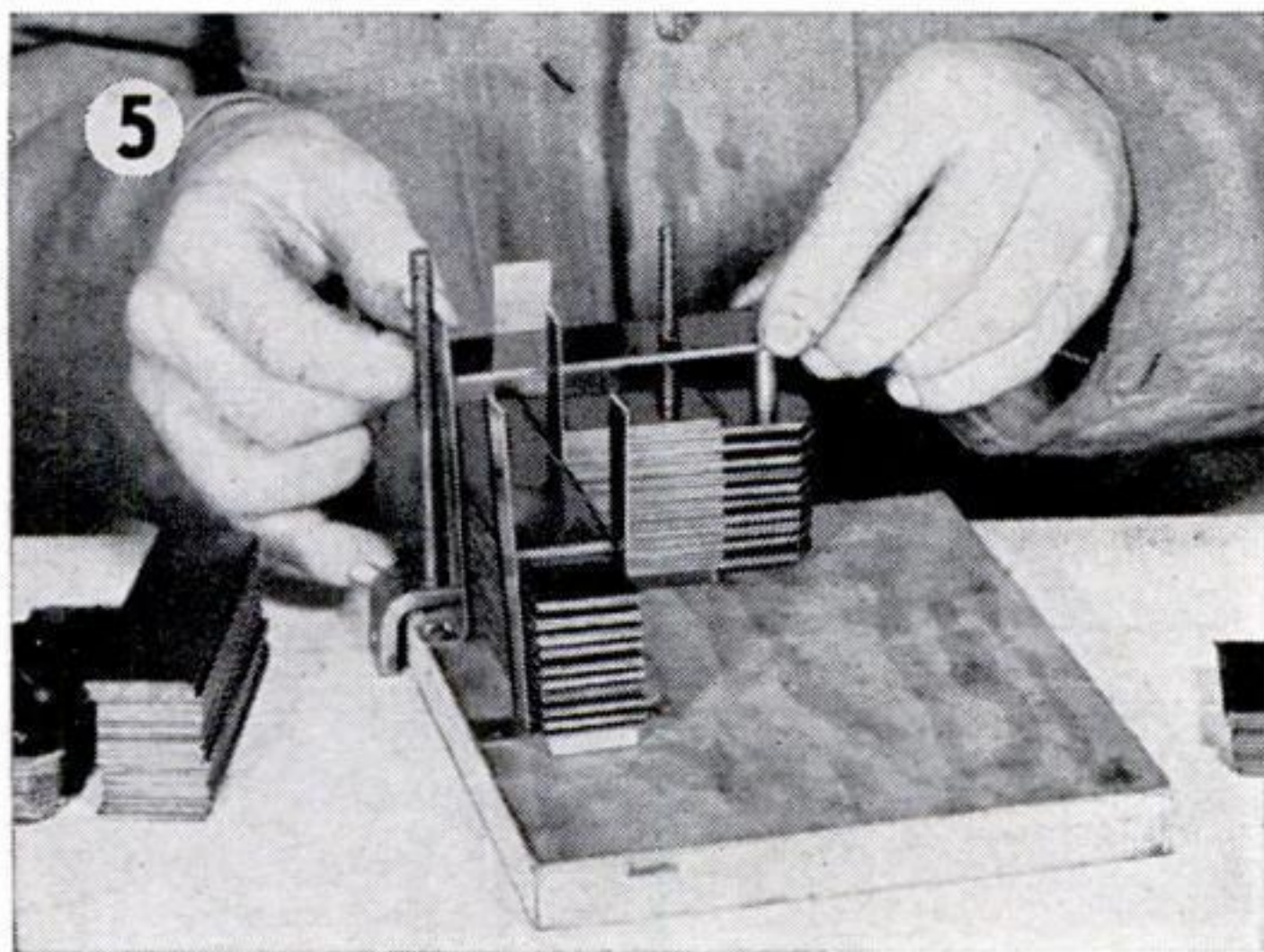


The location of the holes should be marked in advance on the upper wood piece, and the drilling should be continued into the lower piece.

After the short pieces also have been drilled, inspect the laminations and file off any rough spots or burrs so that all the surfaces are perfectly flat. Prepare a stacking guide by laying one of the side irons, with two of the stove bolts pushed through the holes in it, on a small board so that the bolts stand upright. Holes drilled in the board for

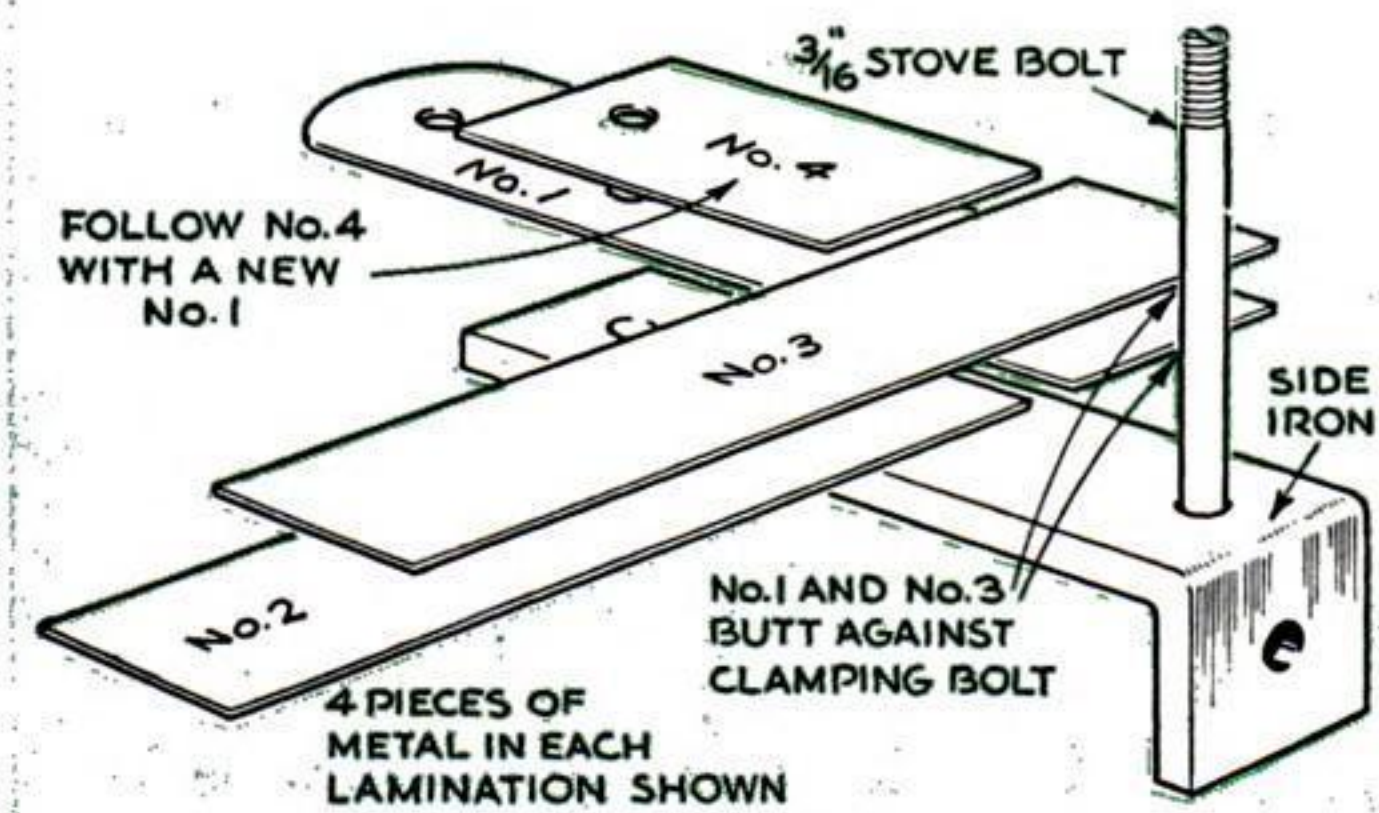
the boltheads will allow the side iron to lie flat. Tack several 1/2" wide sheet-metal strips in place to keep the stacked pieces aligned, as shown in Fig. 5.

Start with four of the 4" core pieces having rounded ends and two holes. Lay these pieces parallel to the side iron so that the upper bolt in the latter passes through them. Four of the undrilled long pieces are then laid at right angles to the first ones, forming a butt joint. A wood strip is placed underneath to hold these level with the others. Four identical long pieces are now laid to cover the butt joint between the first two groups, and four of the short pieces with square ends complete the first core layer. Continue stacking four pieces at a time in this way (Fig. 5), until the core is 3" high when tightly compressed; then place a second side iron on top and tighten nuts on the bolts to draw the assembly together firmly. A C-clamp may be used as an aid in making a tight stack.

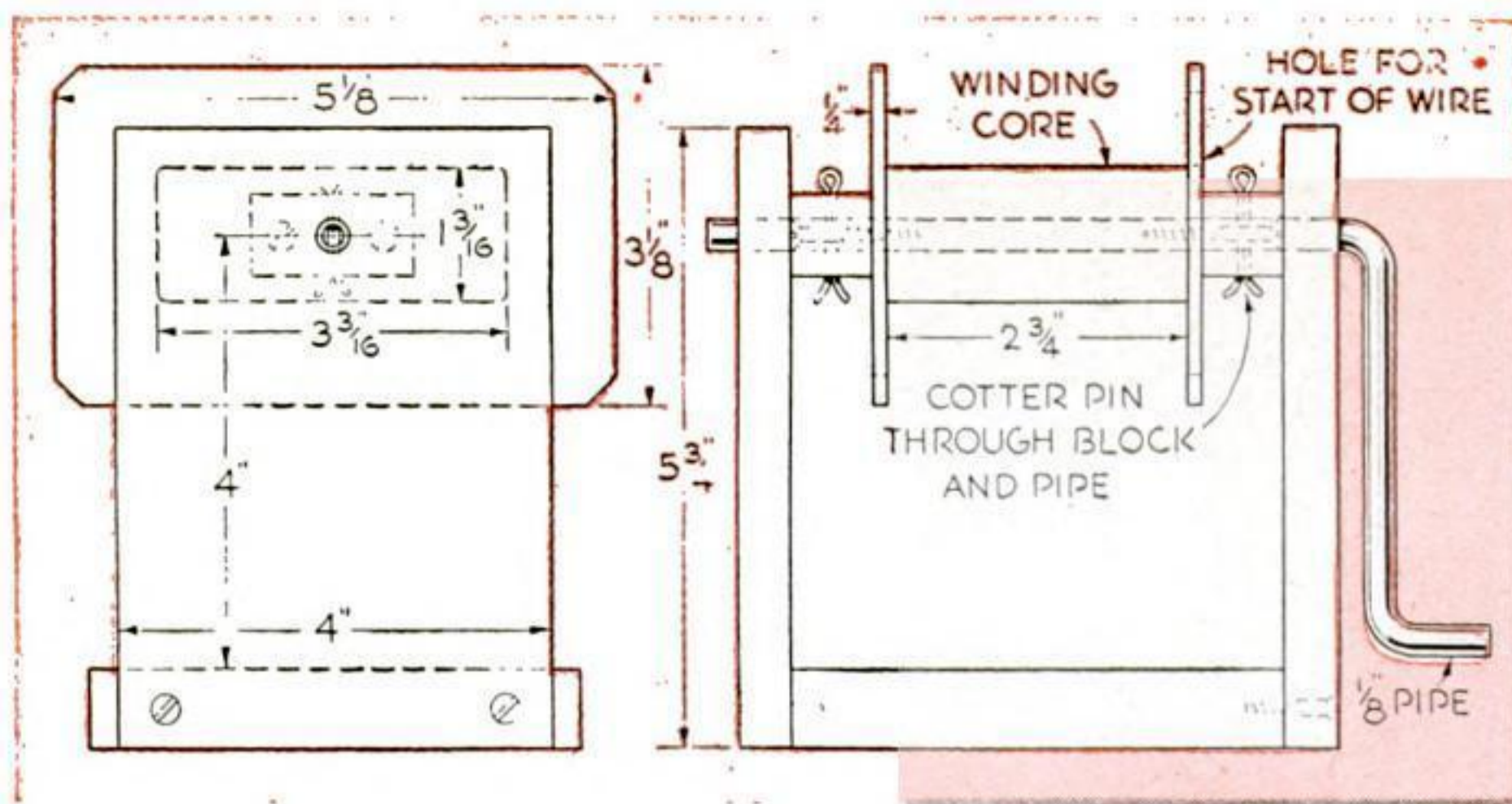


Remove the clamped stack from the board and drive all joints tightly together with a hammer and a piece of 1/8" thick flat steel (Fig. 6). Use a try-square to check the angle formed by the two legs of the core; it should be exactly 90 deg. Wind a single layer of friction tape over the open leg (shown held with a C-clamp in Fig. 6), over which the coil will fit, and lay the core aside temporarily.

Dimensions for the winding core are given in the drawings, but they should be checked against those of the actual iron core. It will save time and insure better work to make the simple winding jig shown in the drawings and in Fig. 7. Apply four layers of varnished cloth over the wooden core, then wind with No. 15 S. C. E. (single cotton, enamel) magnet wire, of which 40 turns may be laid







in the  $2\frac{3}{4}$ " winding space. Eight layers, or a total of 320 turns, should be wound. Brown wrapping paper may be laid between the layers for additional insulation.

When completed, the coil is carefully removed and taped so that the windings cannot open (see Fig. 8), and put on the core, leads at the bottom. The other side laminations are then woven in as in Fig. 8, first four long pieces, then four short ones, and so on, to form a solid joint with the laminations first laid. The third side iron is used under this leg of the core, and the fourth finally laid on top of it. The clamping bolts are then tightened so that the assembly is firmly secured.

(TO BE CONCLUDED)

