

## CHAPTER IV.

### AIDS TO SHEET METAL WORKERS IN THE USE OF THE STEEL SQUARE

#### Practical Method of Scribing Lines at Right Angles to Edge of Sheet

Some years ago the writer was engaged in the cutting out of the material in a cornice shop, and while so engaged frequently had to scribe scratch lines on the sheet of metal, at right angles to the edge of the sheet. Believing that a scheme to aid in the use of the steel square, as taught to him by the superintendent, would be useful to others, he is passing it on.

As is customary, the writer would take the sheet and trim off a quarter of an inch of the long side, using for the purpose the large squaring shears. Then, if he had to scribe a line at right angles to this trimmed edge, he would take a steel square and set it on the sheet as shown at *A* in Fig. 1. Any one who has attempted to do this knows that it requires extreme care and time to set the outer edge

of the tongue, or short leg, of the steel square, exactly even with the edge of the sheet.

Naturally, every sheet metal worker has used carpenters' tools, has done some drawing, or else has observed others doing so. The tee-square for draw-

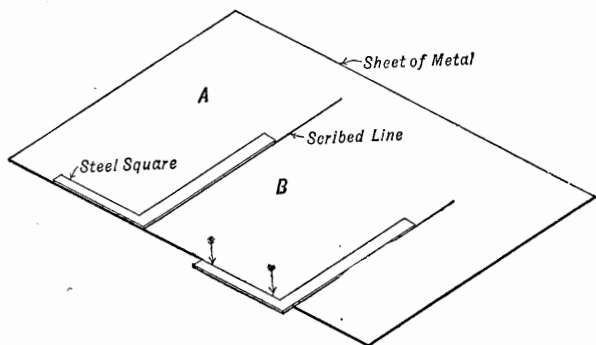


FIG. 1—THE STEEL SQUARE SET ON SHEET.

ing or the small carpenters' try square has the blade thin and the tongue much thicker, so that the tongue can be immediately and securely held straight against the board. The blade will, of course, then be at right angles to the edge of the board. This suggests the idea of doing the same with the tongue of the steel square as illustrated at B in Fig. 1.

By being careful on boards and the like or with very heavy sheets of metal, it is possible to rapidly and accurately set and hold properly the steel square.

With light sheets of metal it will be found that the tongue will not catch on the edge of the sheet, especially as it requires considerable pressure to scribe a scratch line on the metal and the blade of the square will annoyingly move from under the hands of the operator.

Obviously, if it were possible to give more depth to the edge of the sheet so that it will give the same holding edge for the steel square that is offered by a heavy sheet or a board, it would be an easy matter

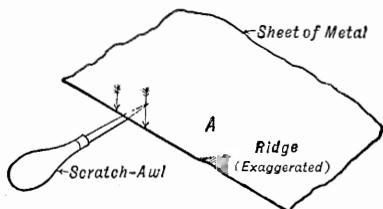


FIG. 2—METHOD OF MAKING RIDGES.

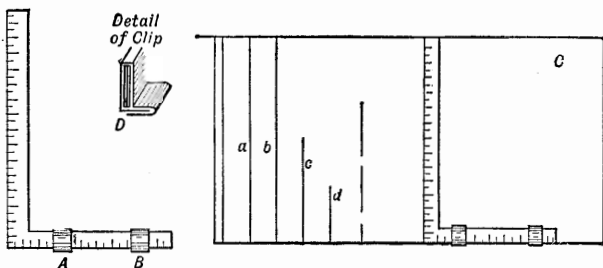
to set and hold the square true to the edge of the sheet. Small ridges pressed in the edge of the sheet will give these conditions.

A simple method of making these ridges is by inserting the end of the scratch-awl under the sheet as shown in Fig. 2 and then, along the line of the arrows, press down the edge of the sheet with the fingers, which will cause a ridge to form in the edge of the sheet as shown at *A* of Fig. 2. Two of these

ridges are sufficient **and** should be placed about where shown by the arrows in Fig. 1. Experience gives the judgment necessary to determine just where to make the ridges without first laying the square in the desired position. The ridges will be so small as to be of no consequence in the further working of the metal. For instance, if a common groove lock was wanted along the edge of the sheet, the process of turning the lock edge in the machine will entirely flatten out the ridges. B. O. S.

### Device for Using the Steel Square

Every sheet metal worker has found that in using the steel square for scribing lines on metal sheets considerable time is lost in first truing up one arm



METHOD TO AID ACCURATE USE OF THE STEEL SQUARE.

of the square with the metal. The steel square being of one thickness, the arm or tongue when placed against the metal sheet must be tilted some-

what and accurate work therefore cannot be obtained. The accompanying illustrations show a device for obviating this, which can be made by any sheet metal mechanic. It consists of two metal clips fitting tightly over the lower tongue of the square, as shown by *A* and *B*. These clips are made about 1 in. wide, bent as shown in the detail of clip. Note its formation, the lock being clamped down tight. If desired it may be soldered along the joint at *D*. In use it is placed on the sheet as shown in diagram *C*, when it becomes an easy matter to draw lines as *a*, *b*, *c*, *d*. Great care must be taken in forming the clips that they are both alike and accurate, for if one is but the least trifle out of the way, the lines drawn will not be true right angles.

W. N.