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JOINT COMPLETING OR GROOVING TOOL.

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To all whom it may concern:

Be it known that I, CHARLES H. HOOD, a citizen of the United States, residing at Ashland, in the county of Boyd and State of Kentucky, have invented certain new and useful Improvements in Joint Completing or Grooving Tools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to tools for completing or grooving the joints of sheet metal plates, and has for one of its objects to improve and simplify the general construction of tools of this character and to provide one by means of which joints of various widths may be completed or grooved.

With the above and other objects in view, the invention consists of the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawing, wherein:

Figure 1 is a view in side elevation of a joint completing or grooving tool constructed in accordance with my invention,

Figure 2 is a view in edge elevation of the tool,

Figure 3 is a detail sectional view taken on the plane indicated by the line 3—3 of Figure 1,

Figure 4 is a detail sectional view taken on the plane indicated by the line 4—4 of Figure 1, and

Figure 5 is a view illustrating the condition of the joint of two metal plates prior to its completion by the tool.

Referring to the drawing by reference numerals, 1 designates the handle and 2 the head of the tool. The lower end 3 of the handle 1 is enlarged and projecting downwardly from opposite sides of this end is a pair of relatively spaced lugs 4 to and between which the head 2 is removably secured. The head 2 is preferably polygonal in outline and in the edges thereof are formed grooves 5, 6, 7 and 8 of relatively different widths. The head 2 is removably secured to and between the lugs 4 by means of balls 9 which are carried by the head and which partly enter openings 10 in the lugs. The head 2 is provided with an opening 11 extending transversely therethrough and located at the transverse center thereof. The opposite sides of the head 2 are pro-

vided with circular grooves 12 which surround the opening 11. The inner walls of the grooves 12 are deflected inwardly to provide ball retaining elements 13, these elements being adapted to limit the projection of the balls beyond the opposite sides of the head 2, and the balls are yieldingly held in contact with the retaining elements 13 by means of the spring 14 positioned in the opening 11 between the balls 9. The projecting portions of the balls 9 enter the openings 10 in the lugs 4. As the balls are yieldingly held in projected position, the head 2 may be removed from the handle 1 or applied thereto by exerting thereon a force sufficient to overcome the tension of the spring 14. To facilitate the application of the head 2 to the handle 1, the lugs 4 are provided in their inner sides with grooves 15 which are located below the openings 10 and in alinement therewith and the bottom walls of which extend upwardly and inwardly. The lower end of the handle 1 is provided with a rib 16 which enters the top groove of the head 2 and contacts with the bottom wall of such groove in order to prevent the head from having any rotary movement with respect to the handle 1, said rib being also adapted to prevent the head from moving bodily in the direction of the handle.

When it is desired to secure two sheet metal plates together, the adjoining edges thereof are bent in opposite directions to provide flanges. These flanges are then moved into interlocking engagement as shown in Figure 5 of the drawing, in which figure A and B designate the plates and A' and B' the flanges. To finish the joint, the tool is applied to the upper sides of the sheets with the interlocked flanges A' and B' within one of the grooves of the head 2. With the tool in this position, the application of a downward pressure thereto will result in completing the joint as shown in Figure 2 of the drawing. As the grooves 5 of the head 2 are of relatively different widths, the tool may be used to complete joints of different widths. The head 2 may be readily and quickly applied to and removed from the handle 1 in order to position the groove to be used at the lower side of the head.

It should be understood that the drawing is merely illustrative and does not pretend to give exact proportions. Furthermore, the said drawing is illustrative of a pre-

ferred construction, it being my expectation that various changes and modifications may be made without departing from the spirit and scope of my invention.

5 What is claimed is:

1. A joint completing or grooving tool, comprising a handle provided with lugs, a head provided with joint receiving grooves, retractible means carried by the head and
10 engaging the lugs to secure the head to the lugs, and a rib carried by the handle and contacting with the bottom wall of one of the grooves to hold the head against rotation and movement in the direction of the handle.

2. A joint completing or grooving tool, 15 comprising a handle provided with lugs, said lugs being provided with openings and in their inner sides with grooves extending outwardly from the openings and having inclined bottom walls, a head provided with 20 joint receiving grooves, spring-pressed elements carried by the head and partly entering the openings, and a rib carried by the handle and engaging the bottom wall of one of the grooves. 25

In testimony whereof I affix my signature.

CHARLES H. HOOD.