Sept. 4, 1945. C. L. BEARD 2,383,953

DRILL GUIDES

Filed June 6, 1944

FIG. 1.

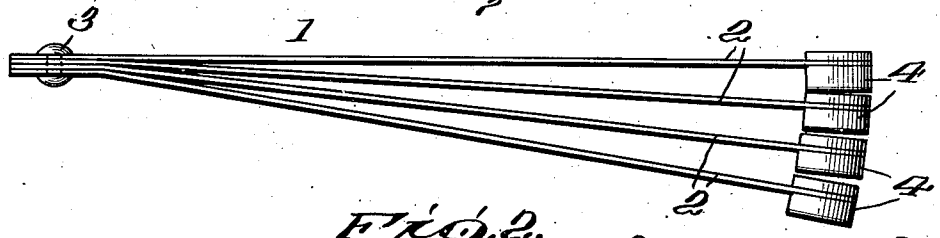


FIG. 2.

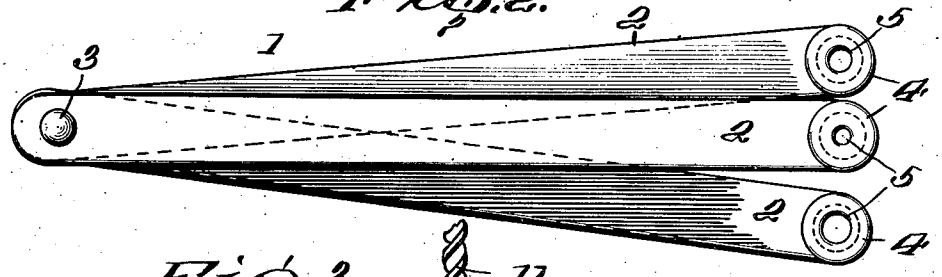


FIG. 3.

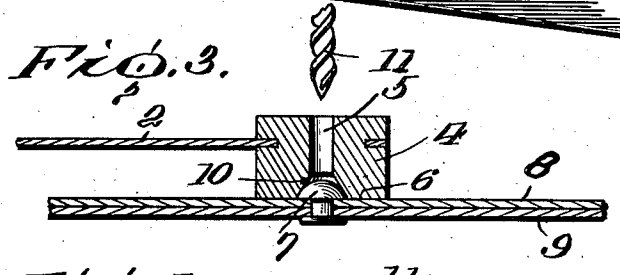


FIG. 4.

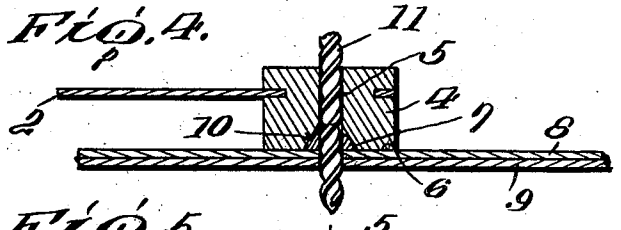


FIG. 5.

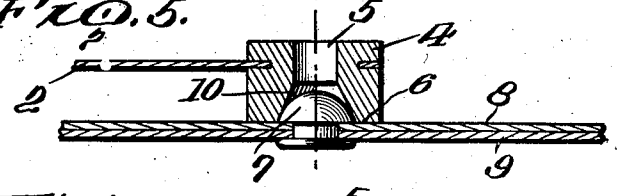
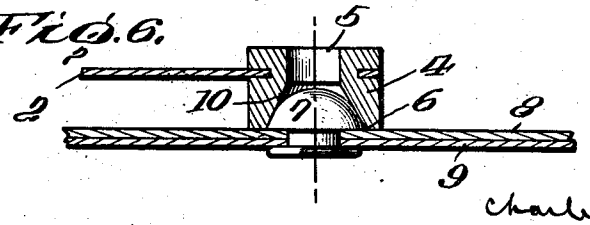


FIG. 6.



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DRILL GUIDE

Charles L. Beard, Lancaster, Pa.

Application June 6, 1944, Serial No. 538,914

2 Claims. (Cl. 77—62)

This invention relates to drill guides for use in removing rivets from sheet metal or other structural parts.

The object of the invention is to provide a tool of simple and economical construction capable of guiding a drill into and through the rounded head of a rivet.

A further object of my invention is to provide a tool with a number of apertured rivet receiving members or guides of varying sizes.

Heretofore manufacturers, mechanics and others frequently find it necessary or desirable to remove rivets from metal sheets or the like. It has been the practice to cut away or dig out the rivets or pry them loose with a suitable tool but this often resulted in damage to the sheet material, particularly where sheets of aluminum or other soft material were involved. Likewise it was customary to remove the rivets by drilling, but this also proved objectionable due to the fact that the drill would frequently slip off the smooth convex rivet head and damage the walls of the rivet hole or other parts of the sheet material. It is the purpose of the present invention to obviate the foregoing objections.

In describing the invention in detail, reference is had to the accompanying drawing; in which:

Figure 1 is a side view of the improved tool;

Figure 2 is a plan view showing certain of the fingers in laterally separated position;

Figure 3 is a section through the topmost finger and its guide member showing the latter applied to a rivet;

Figure 4 is a view similar to Figure 3 but showing the drilling step;

Figures 5 and 6 are sectional views of the bottommost two fingers and their respective guide members.

Referring more particularly to the drawing 1 denotes my improved tool comprising a plurality of fingers 2 of strong flexible resilient sheet material. The fingers 2 are connected together, at their inner ends, by means of a pin or the like 3, for free pivotal movement with respect to each other.

Suitably secured to the free ends of the fingers 2 are guide members 4, one for each finger. These guide members are identical except that they are of graduated size so that any standard rivet may be accommodated. Therefore a description of one will suffice for all. Thus the top guide member 4 is formed with a centrally disposed drilled aperture 5 terminating in a depression 10 formed in the bottom face 6, of the guide member. The apertures 5 and depressions 10 of the succeeding guide members differ in size only from the corresponding parts just described.

The concave depressions 10 in the bottom faces 6 of the guide members seat over and snugly receive therein the rivets 7, which the workman desires to remove from the metal sheets 8 and 9 while the apertures 5 serve as guides for drills 11 of any suitable size. Owing to the fact that the fingers 2 are very flexible the operator can easily place the guide member over a rivet located in a rather inaccessible part. That is, the fingers and their guides thus adapt themselves to the contour of the surface from which a rivet is to be removed. It will also be obvious that the guide openings 5 will maintain the drill in contact with the sloping top face of the rivet without danger of slipping. Consequently rivets, of any standard make, can be removed from metal sheets or other structural parts without mutilation of or damage to the rivet hole or adjacent material.

My improved tool 1 preferably comprises four fingers 2, this number having been found adequate for taking care of rivets of such sizes as are now in common use, but it will be understood that I do not wish to be limited to the exact number shown.

Having thus described my invention, what I claim is:

1. A tool for removing rivets comprising a plurality of resilient fingers pivotally connected together at their inner ends for independent pivotal movement, a guide member secured to the opposite end of each finger, said guide members each formed with a concentric substantially concave depression in its bottom face and a vertically disposed concentric guide aperture communicating with said concave depression.

2. A tool such as claimed in claim 1 wherein the guide apertures and concave depressions of the respective fingers are of graduated size.

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