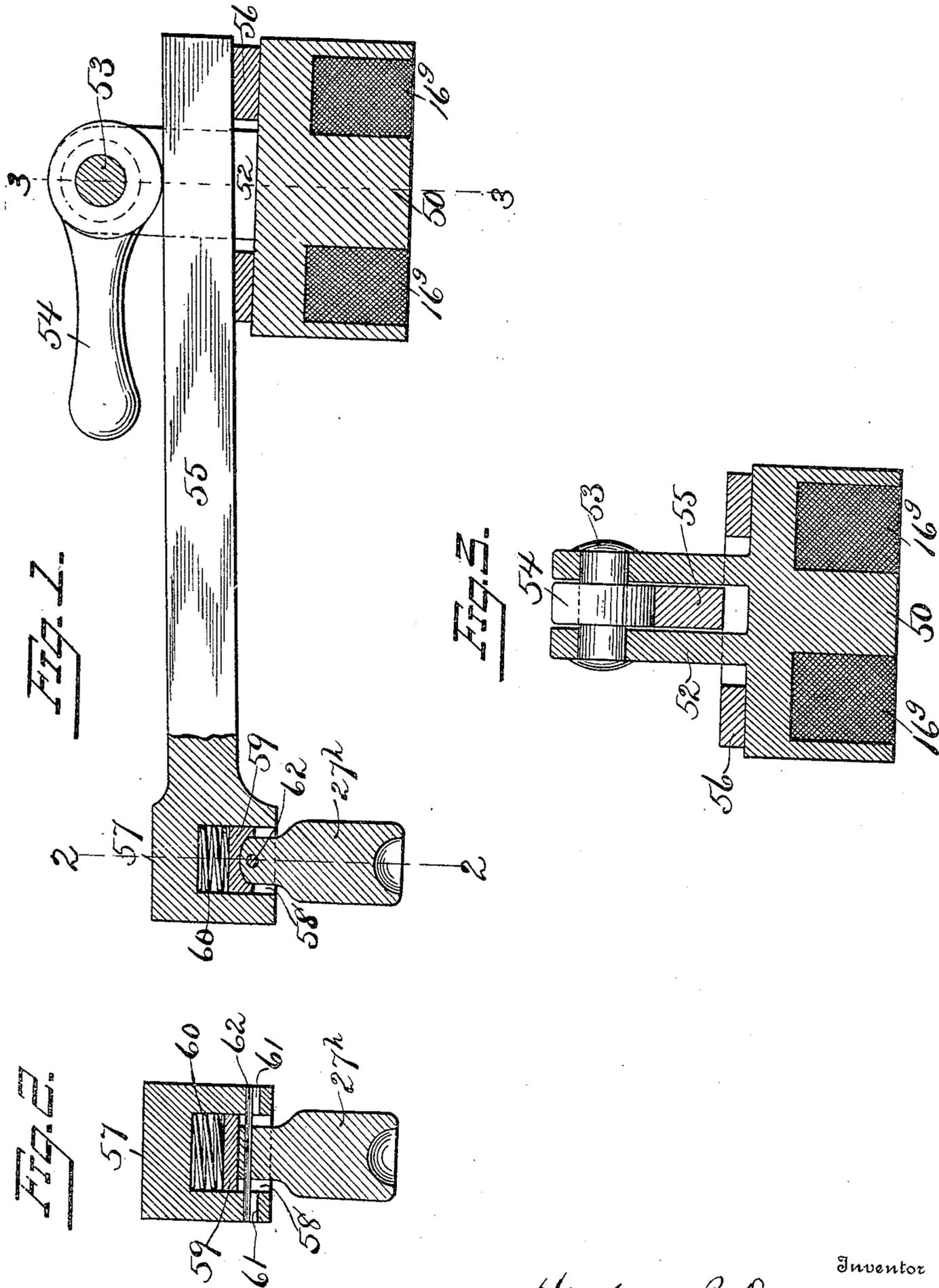


No. 816,541.

PATENTED MAR. 27, 1906.

H. B. DOUGLAS.
MAGNETIC RIVET HOLDER.
APPLICATION FILED MAY 18, 1905.



Witnesses
Albert Popkins.
Wm. J. Whalley

Inventor
Henderson B. Douglas
By *Sturtevant & Green*
Attorneys

UNITED STATES PATENT OFFICE.

HENDERSON B. DOUGLAS, OF BUTLER, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO JOHN S. DOUGLAS, OF BUTLER, PENNSYLVANIA.

MAGNETIC RIVET-HOLDER.

No. 816,541.

Specification of Letters Patent.

Patented March 27, 1906.

Original application filed December 2, 1904, Serial No. 235,203. Divided and this application filed May 18, 1905. Serial No. 261,023.

To all whom it may concern:

Be it known that I, HENDERSON B. DOUGLAS, a citizen of the United States, residing at Butler, in the county of Butler, State of Pennsylvania, have invented certain new and useful Improvements in Magnetic Rivet-Holders, of which the following is a description, reference being had to the accompanying drawings and to the figures of reference marked thereon.

This invention relates to devices of that general class employed for holding or "bucking up" rivets during the upsetting or heading operation, and relates principally to improvements in holding tools which are held in place by electromagnets.

The principal object of the present invention is to provide a die or set which may be adjusted to varying positions with respect to the magnetic holder, the device being specially adapted for work in corners or where the space is limited.

A further object of the invention is to provide a device of this class in which when the magnetic holder is fixed in place the set may be adjusted to any desired distance therefrom and its angular position altered as circumstances may require without disturbing the holder proper.

With these and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and more particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a sectional elevation of an adjustable die and holder constructed in accordance with the invention. Fig. 2 is a transverse sectional view of the same on the line 2 2 of Fig. 1, and Fig. 3 is a similar view on the line 3 3 of Fig. 1.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The present application is a division of an application for Letters Patent filed by me on December 2, 1904, Serial No. 235,203, Patent No. 800,994.

The electromagnet 50 is provided with an annular recess to receive the coil 16^g. On the outer face of the magnet is a pair of pivot-ears 52, carrying a pin or cross-bar 53, on

which is mounted a handled cam 54, and between the ears is guided an arm 55. On the outer face of the magnet is arranged a circumferentially-adjustable washer 56, tapered in thickness from one side to the other, and by adjusting this washer the arm 55 may be disposed at a right angle to the axis of the magnet—that is, parallel with the work or at any desired angle thereto.

The outer end of the arm 55 is upset to form a boss 57, which has a recess 58. In the recess is a disk 59, that is thrust outward by a helical compression-spring 60. The outer face of the disk is dished or cupped for the reception of the correspondingly-shaped end of a die 27^h, so that the latter may properly receive the rivet-head without regard to the angle of the arm 55. The opposite sides of the recessed boss are provided with slots 61, in which plays a pin 62, passing through the shank of the die in order to prevent displacement of the latter.

With a device constructed in the manner described it is possible to first adjust the magnetic holder and afterward place the die or set in proper position, the arm 55 forming a convenient means for introducing the set into corners and contracted places where an ordinary magnetic holder could not be employed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a magnetic holder, of a die or set, and a longitudinally-adjustable carrier extending between the holder and die to vary the distance between the two.

2. The combination with a magnetic holder, of an arm adjustable to varying angular positions with respect to the holder, a locking-clamp for the arm, and a die or set carried by the arm.

3. The combination with a magnetic holder, of a die-carrying arm supported by the holder and adjustable to varying angular positions with respect to the face of the holder, and a clamp for locking said arm in adjusted position.

4. The combination with a magnetic holder, of a clamp carried thereby, and an adjustable die-carrying arm with which the clamp engages.

5. The combination with a magnetic holder, of a clamp carried thereby, a die-carrying arm extending through the clamp, and a tapered washer between the holder and arm for varying the angular position of the latter.

6. The combination with a magnetic holder, of a tapered washer arranged on the outer face thereof, a clamp carried by the holder, an arm having one end engaged by the washer and

clamp and provided with a recess at its opposite end, and a yieldably-supported die or set arranged in said recess. 10

In testimony whereof I affix my signature in presence of two witnesses.

HENDERSON B. DOUGLAS.

Witnesses

JAMES O. CAMPBELL,
W. D. BRANDON.