

H. H. WARREN.

Dies for Forming Hammer-Eyes.

No. 146,217.

Patented Jan. 6, 1874.

Fig. 1.

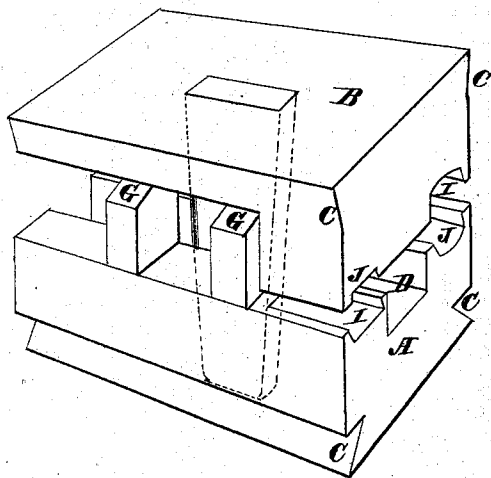


Fig. 2.

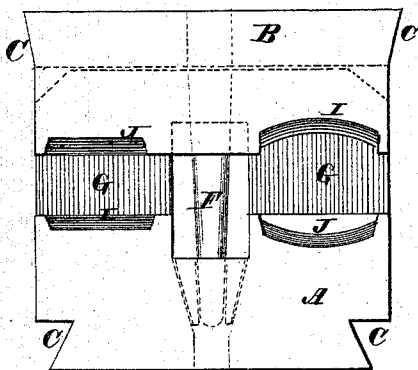


Fig. 3.

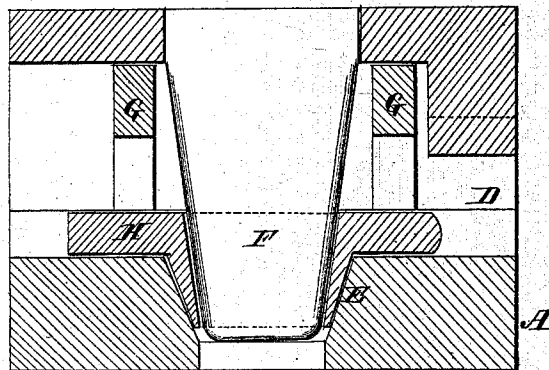


Fig. 4 Figs Fig. 6

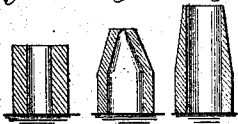
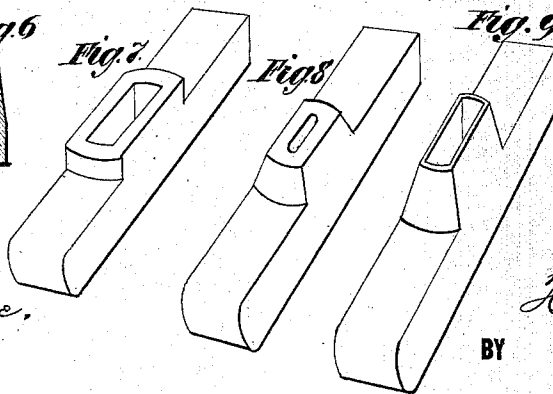


Fig. 7.

Figs

Fig. 9.



WITNESSES.

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HENRY HARRISON WARREN, OF BRIDGEWATER, CANADA.

IMPROVEMENT IN DIES FOR FORMING HAMMER-EYES.

Specification forming part of Letters Patent No. **146,217**, dated January 6, 1874; application filed November 8, 1873.

To all whom it may concern:

Be it known that I, HENRY H. WARREN, of Bridgewater, in the Province of Ontario and Dominion of Canada, have invented a new and useful Improvement in Dies for Forming Hammer-Eyes, of which the following is a specification:

The object of this invention is to furnish an improved means for forming the eyes of nail and other hammers, of the shape and style of the "adz-eye;" and it consists in constructing the dies with recesses or forming-surfaces which will give the eye of the hammer-blank the preliminary form necessary to the proper action of a punch or plunger employed to finish the eye.

In the drawing, Figure 1 is a perspective view of the upper and lower dies connected, as when in use. Fig. 2 is a vertical cross-section of Fig. 1. Fig. 3 is a vertical longitudinal section of the same. Figs. 4, 5, and 6 show the form of the eye during the different stages of the process. Figs. 7, 8, and 9 are perspective views, showing the hammer-blank as it passes from one stage to another in the process of forming the eye.

Similar letters of reference indicate corresponding parts.

A is the bed-die; B, the upper or movable

die. The former is provided with grooves C, to adapt it for attachment to a power-press, and has a socket or recess, E, to receive the punch or plunger F of the upper die. D is a groove for holding the hammer-blank in position for punching. The bars G G span the groove, and serve as stops for the upper die, arresting its downward movement at the proper time.

The feature of my invention is the cavities or recesses I and J, which are formed in the adjacent ends and opposite faces of the dies A B. By these supplementary die-surfaces, the eye of the first hammer-blank, Fig. 7, is crushed and shaped both endwise and side-wise, to bring it to the form shown in Figs. 5 and 8. The action of the punch F is subsequent to this shaping process, and reduces the blank to the form shown in Fig. 9.

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

The dies A B, as described, having cavities or recesses I and J therein, as and for the purposes described.

HENRY HARRISON WARREN.

Witnesses:

E. C. FLINT,

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