(No Model.)

R. J. SHIPLEY.

DIE FOR THE MANUFACTURE OF METALLIC FASTENERS.

No. 418,534. Patented Dec. 31, 1889.

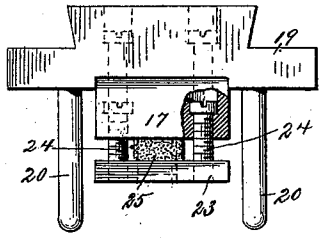


Fig. 1.

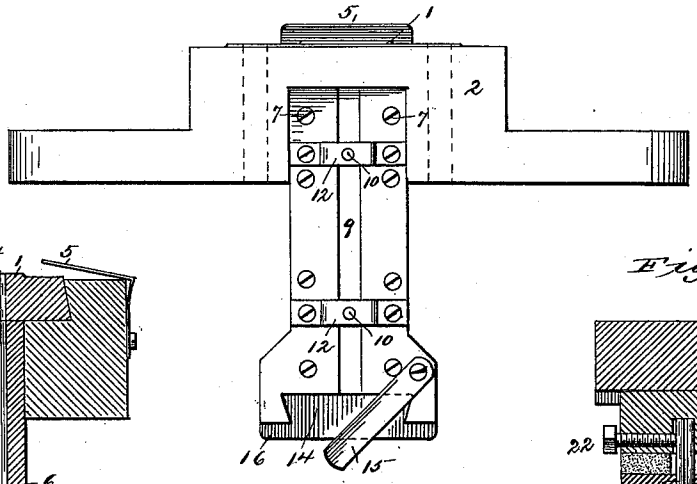


Fig. 2.

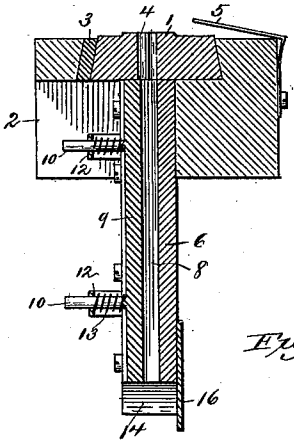


Fig. 3.

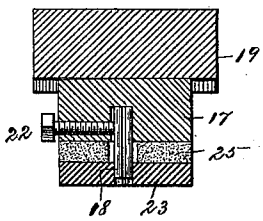


Fig. 4.

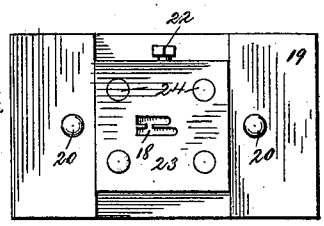
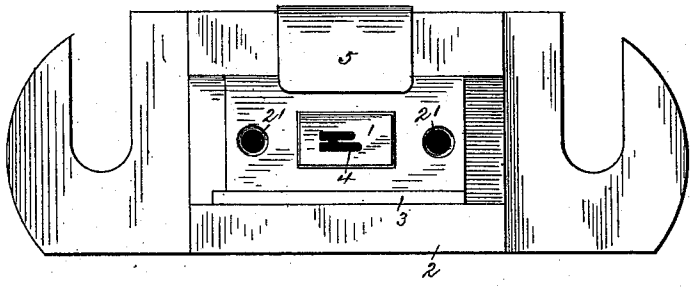


Fig. 5.



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UNITED STATES PATENT OFFICE.

RALPH J. SHIPLEY, OF WATERBURY, CONNECTICUT, ASSIGNOR TO GEORGE W. McGILL, OF RIVERDALE, NEW YORK.

DIE FOR THE MANUFACTURE OF METALLIC FASTENERS.

SPECIFICATION forming part of Letters Patent No. 418,534, dated December 31, 1889.

Application filed October 22, 1889. Serial No. 327,812. (No model.)

To all whom it may concern:

Be it known that I, RALPH J. SHIPLEY, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Blanking and Cobbing Dies, of which the following is a specification.

My present invention relates to the manufacture of metallic fasteners of the pattern commonly known as "McGill's H fasteners;" and the purpose thereof is to provide a simple construction and organization of mechanism whereby the blanks from which said fasteners are made may be rapidly, continuously, and economically produced, the blanking-dies being provided with novel means for stripping the sheet metal from the punch. It is my purpose, also, to provide a simple, cheap, and convenient construction and combination of parts constituting a blanking and cobbing die especially adapted to the manufacture of blanks of this kind and piling them in a cob attachable to and detachable from the female die. It is my purpose, also, to mount upon the male die a stripper block or plate having elastic support upon the die, permitting the punch to protrude upon pressure being exerted, and pass down into the female die, while upon the removal of such pressure the plate or block springs outward, stripping the sheet metal from the punch, which is normally wholly concealed within the stripper-block.

The invention consists in the several novel features of construction and new combinations of parts hereinafter fully set forth, and then specifically pointed out in the claims following this specification.

In order to enable others skilled in the art to practice said invention, I will now describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the male and female die separated from each other, the elevation being taken from the rear of the machine. Fig. 2 is a vertical section of the female die, taken from front to rear. Fig. 3 is a similar section of the male die. Fig. 4 is an inverted plan view of the male die. Fig. 5 is a plan view of the female die.

In the said drawings, the reference-numeral 1 denotes the female die, which is mounted upon a suitable support 2, in which it is fastened by a key 3. The die is provided with an opening 4, having the general form of the letter H, one of the parallel openings being slightly longer than the other. Upon the front edge of the support 2 is mounted an elastic plate 5, which normally rises a little above the surface of the table at its free edge, and which projects over upon said table nearly to the die 1. Beneath the die 1 is attached a receiver 6, consisting of a detachable casing secured to the support 2 by means of screws 7. This casing contains a longitudinal recess or opening 8 of a size adapted to admit the planchets or blanks. One side of this opening is closed by a strip or bar 9, fitting within a slot in the casing, and having pins 10 projecting from its outer face and passing loosely through brackets 12, attached by their ends to the casing 6, and arched over the strip 9. Spiral springs 13 are coiled on these pins between the strip and the brackets and press the former inward, thus tending to contract the opening 8. At the lower end of the casing is an extended portion containing a dovetailed aperture 14 for the admission of a "cob" of the type usually employed, and upon the front of the casing a latch 15 is pivoted to hold the cob in place. Beyond the aperture 14 the rear wall of the casing drops to form a stop 16, to arrest the cob at such point that its opening will coincide, or substantially so, with the recess 8.

The male die consists of a block 17, carrying a punch 18, of the proper form, said block being mounted upon a head 19, connected with the table 2 of the female die by dowels 20, which pass down into and move in openings 21 in the table. The punch 18 is formed of a separate piece of hardened steel, having one end inserted in an opening in the block 17 and held by a set-screw 22.

The numeral 23 denotes a plate or block, which is movably connected with the die-block 17 by means of screws 24, having their heads lying in chambers in the die-block, in which they are vertically movable, while their ends pass down through openings and project sufficiently to not only engage the plate or block,

but to permit the introduction of a block of rubber or other elastic device 25 between the die-block and the plate 23. The latter contains an aperture in which the punch fits with accuracy, or nearly so, the size of the parts being such that the punch is normally entirely withdrawn from sight.

The parts being properly organized, the sheet-metal strip from which the blanks are made is laid upon the elastic plate 5 and thrust under the die, which descends and cuts a blank or planchet therefrom, the downward movement of the male die bringing the plate or block 23 down upon the strip and then compressing the rubber cushion 25, and protruding the punch which passes into the female die, cutting the planchet and carrying it into the opening in the female die. As the male die now rises, the rubber cushion expands and holds the plate 23 down upon the sheet metal, while the punch rises and withdraws from the metal, the plate 23 acting as a stripper, while at the same time it securely holds the plate in position. The die then lifts, removing the plate 23 from the female die and exposing the same fully to view. As the planchets or blanks accumulate, they pass into the aperture 8, where they are retained by the spring-pressed strip 9.

What I claim is—

1. In a machine for blanking and cobbing, the combination, with a reciprocating block of metal, of a male die dropping below the lower horizontal surface thereof, an elastic cushion lying against said surface and having an opening for the passage of the die, a plate lying against the lower face of the cushion and having an opening in which the die fits and in which it is wholly withdrawn by the expansion of the cushion, and a female die upon which the plate descends at each stroke of the die, substantially as described.

2. In a blanking and cobbing die, the combination, with a female die having an elastic plate attached to an edge with its free edge normally raised, of a male die having a punch lying in an aperture in a movable stripper-plate connected to the die-block, and an elastic cushion interposed between the latter and said stripper-plate, substantially as described.

3. In a blanking and cobbing die, the combination, with the male die, which is clamped in a suitable block of metal, of an elastic cushion lying against the lower face of said block and having an opening for the passage of the male die, and a metallic plate lying against the lower face of the cushion, and having an opening in which the male die is wholly withdrawn by the expansion of the cushion, substantially as described.

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

RALPH J. SHIPLEY.

Witnesses:

F. L. ADAMS,

H. H. WALKER.