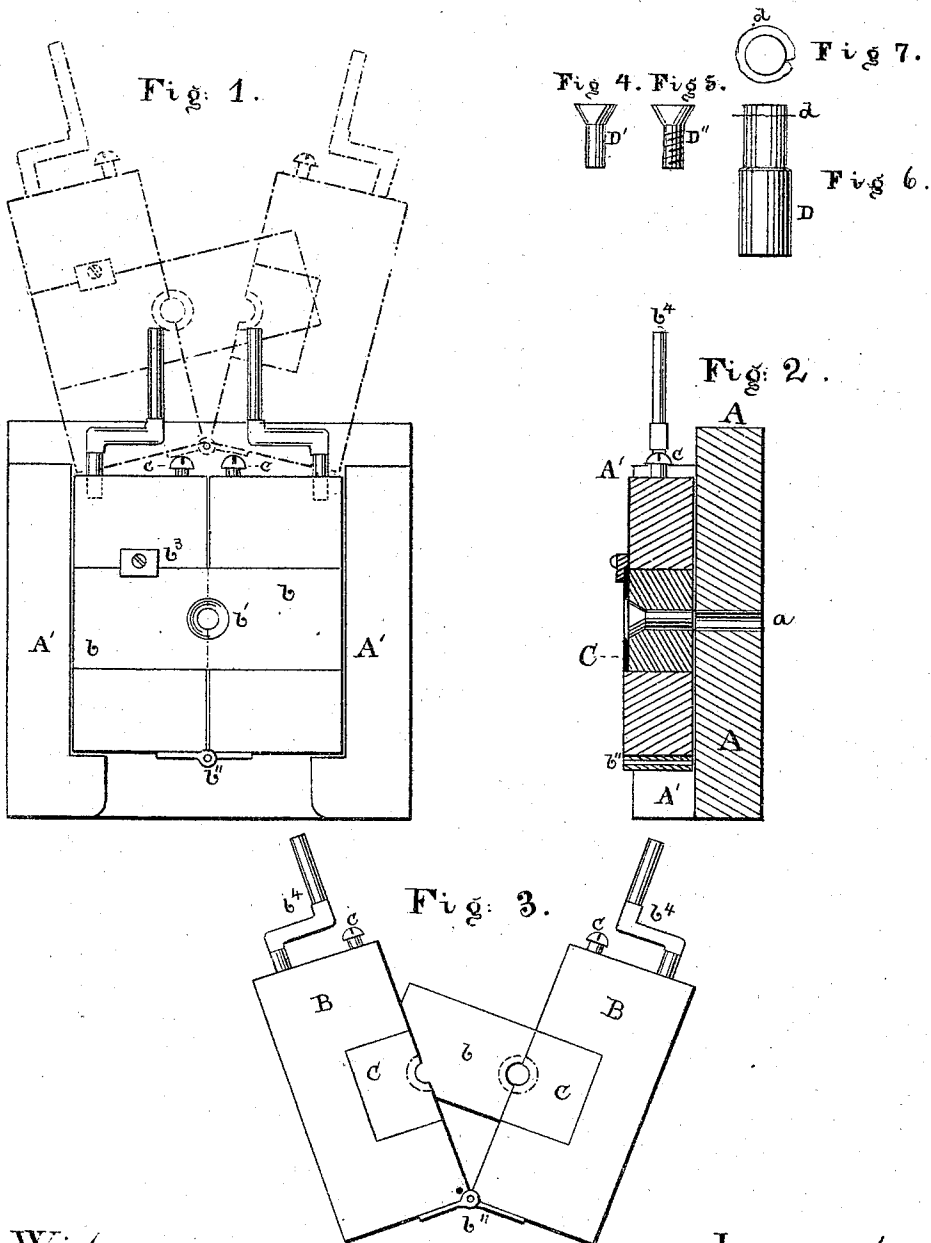


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Machines for Trimming Screw-Blanks.

No. 147,782.

Patented Feb. 24, 1874.



Witnesses.

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UNITED STATES PATENT OFFICE.

FREDERICK MUTIMER, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN MACHINES FOR TRIMMING SCREW-BLANKS.

Specification forming part of Letters Patent No. **147,782**, dated February 24, 1874; application filed August 22, 1873.

To all whom it may concern:

Be it known that I, FREDERICK MUTIMER, of Rockford, in the county of Winnebago, in the State of Illinois, have made certain Improvements in Machines for Pressing and Trimming Screw-Bolt Blanks, of which the following is a specification:

The object of this invention is to finish the form of the bolt-blank, as it comes from the forming-dies in an incomplete or unfinished condition, by having that part of the head that is conical imperfect in shape, and of different sizes, and the head, which has more or less of the surplus material used in forming the bolt-blank left upon it in the shape of a thin flattened "fin", surrounding more or less of the head, by pressing the bolt-blank into dies that will give the same form and size to every one so pressed, and at the same time trim off the fin that is attached to the head of the bolt-blank; and it consists in the construction of a machine whereby the object is obtained, as will be hereinafter fully described.

In the drawings, Figure 1 is a top view of the device; Fig. 2, longitudinal section; Fig. 3, under side of the forming-dies and their stocks; Fig. 4, a finished bolt-blank; Fig. 5, a screw-bolt, finished; Fig. 6, side view of a punch that presses the bolt into the dies, and Fig. 7 a fin detached from the head of bolt-blank.

A represents a bed-plate, upon which the stock that contains the forming-dies is sustained and held, and has the upwardly-projecting side flanges A' A', between which the die-stocks are held, and kept from separating from each other, and has a hole *a*, centrally and vertically through it. B B are the die-stocks that contain and hold the forming-dies and the trimming-plate, and are hinged together at *b''*, so that the opposite ends can be swung apart and rest upon the bed-plate A. *b* is a trimming-plate, made fast to one of the two parts of stocks B, and has a central hole, *b'*, through it, and, when the die-stock is in position, is to be coincident with the hole *a* in the bed-plate and in the forming-dies, and of the size that the head of the bolt-blank is to be when finished, and through which the head of the bolt-blank is to be forced in the operation of trimming off the fin that is attached to the head of the bolt-blank. *b³* is a screw-bolt

and plate to hold the trimming-plate *b* to the stock. *b⁴ b⁴* are convenient handles for opening or closing the die-stocks. C C are the forming-dies securely contained in their stocks B, and held in their beds by the holding-screws *c c*, and each has an opening to receive the half of a bolt as it is to be when completed; and when their faces, in which the half opening is, are brought together and held, the openings in the two dies C form the mold, in which the bolt-blank is finally finished by forcing the bolt-blank therein, and is coincident with the hole *a* in the bed-plate and hole *b'* in the trimming-plate. D is the punch that is used to force the bolt-blank through the trimming-plate *b*, and into the mold to receive it, made by the dies C. The end of this punch that forces the bolt-blank into the opening and mold is a trifle smaller or less in diameter than the opening or hole *b'* in the trimming-plate *b*.

The punch D is understood to be fixed in a reciprocating stock (not shown in the drawings) in the usual and well-known manner, and as usually employed in machines where punches and dies are used.

d represents the fin after being separated by the trimming-plate *b* and punch D. D' is a finished bolt-blank after the fin is trimmed off and the head and body pressed to the shape and size, and D'' a finished screw-bolt.

A device thus constructed, and the die-stock and dies in position, as seen in Fig. 1, a bolt-blank, as it comes from the first dies, with the fin on the head and the irregular shape of body, is placed in the hole in the trimming-plate, when the reciprocating punch, such as is ordinarily attached to punching-machines for such purposes, is brought to bear upon the head of the bolt-blank and forces the bolt-blank down into the finishing-mold in dies C, where the body and head of the bolt are pressed into the desired form, and so that any number of blanks can be pressed to the same size of body and shape of head, and at the same time the bolt is forced down through the trimming plate or cutter *b* by the punch D, which entirely cuts off the fin *d*, and leaves the top of the bolt-head perfectly finished and a circle in form on its top or flat surface. The die-stocks are then drawn out from the bed-plate, the handles *b⁴*

are seized by the operator and swung open, when the finished blank falls out, and the dies are again closed and put back to their position on the bed-plate, when another unfinished blank can be inserted.

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

1. In a machine for pressing and trimming bolt-blanks, the stocks B, carrying the forming-dies C and head-trimming plate or die *b*, constructed substantially as and for the purposes described.

2. The combination of the hinged stocks B,

carrying the forming-dies C and head-trimming plate or die *b*, with the bed-plates A, having flanges A', substantially as and for the purposes described.

3. The combination of the hinged stocks B, carrying the forming-dies C and trimming die or plate *b*, and held upon and by the bed-plate A, with the reciprocating punch D, substantially as and for the purpose described.

FREDERICK MUTIMER.

Witnesses:

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