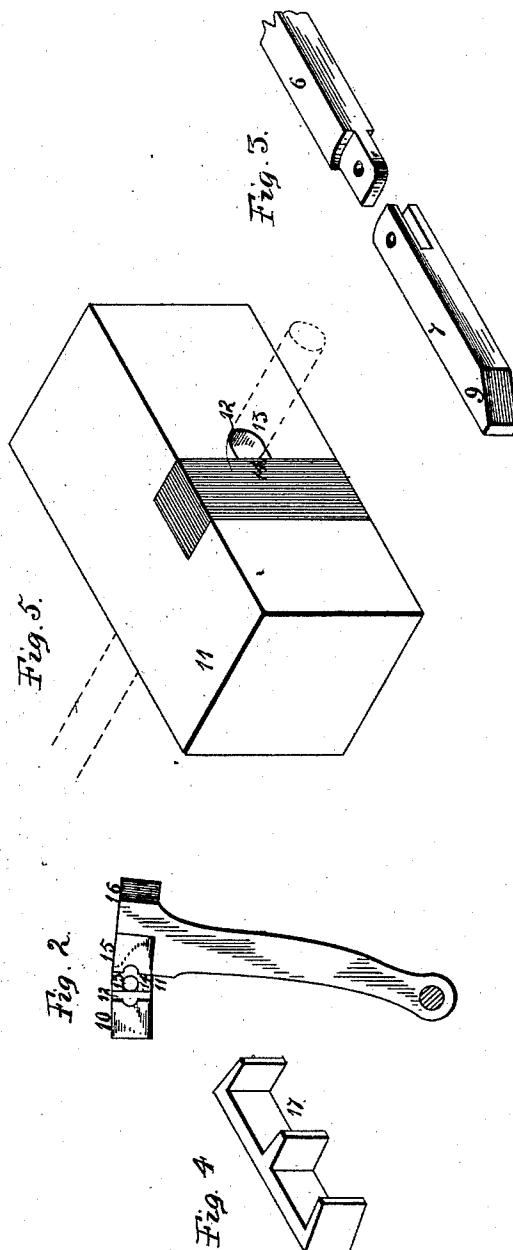
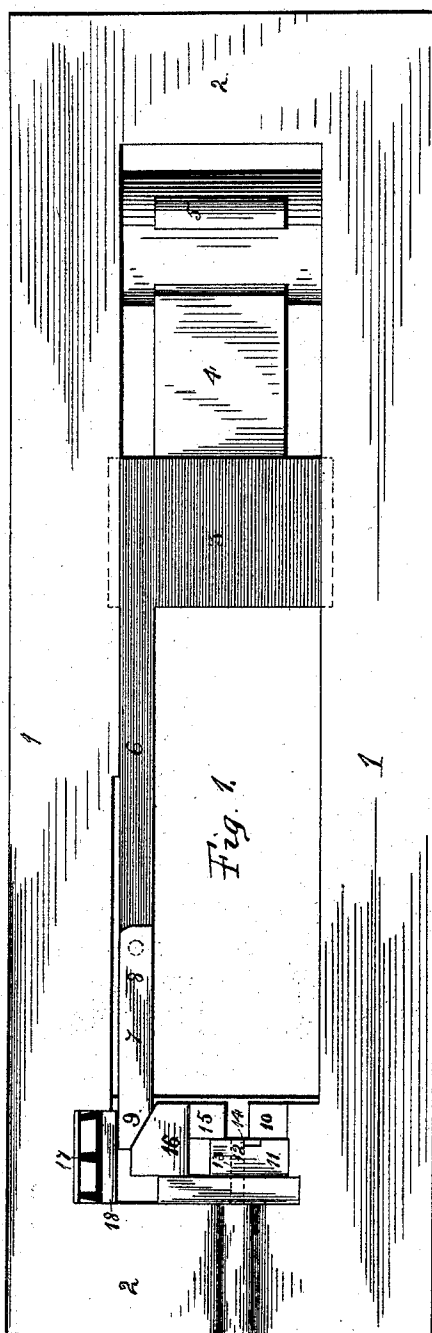


(No Model.)

F. MUTIMER.
BOLT HEADING MACHINE.

No. 442,074.

Patented Dec. 2, 1890.



Witnesses:
W. M. Southworth
E. Behl.

Inventor:
Frederick Mutimer.
By A. O. Behl.
Atty.

UNITED STATES PATENT OFFICE.

FREDERICK MUTIMER, OF ROCKFORD, ILLINOIS, ASSIGNOR OF ONE-HALF
TO THE ROCKFORD BOLT WORKS, OF SAME PLACE.

BOLT-HEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 442,074, dated December 2, 1890.

Application filed August 9, 1890. Serial No. 361,597. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK MUTIMER, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Bolt-Heading Machines, of which the following is a specification.

The object of this invention is to construct a bolt-heading machine in which a break-iron is employed to prevent injury to the dies, also in which a stationary knife is employed, the faces of the knife made interchangeable, so as to present new cutting-surfaces.

In the accompanying drawings, Figure 1 is a plan view of such portions of a bolt-heading machine with which my improvements are closely connected. Fig. 2 is a fragmental view of the oscillating jaw, movable and stationary dies. Fig. 3 is an isometrical representation of the die-operating arm, showing the two sections composing the same and the manner of forming their hinge-joint connection. Fig. 4 is an isometrical representation of the break-iron. Fig. 5 is an isometrical representation of the stationary knife.

The main frame is of rectangular form, consisting of side bars 1 and end bars 2. A cross-head 3, usually employed in this class of machines, is fitted to slide in guideways formed in the side bar of the main frame and is operated in the usual manner through the medium of pivoted link 4 and cam-roller 5, to which a rotary movement is imparted in the usual manner. This cross-head has a die-operating bar connected or cast integral therewith, and consists of a rigid portion 6, having a section 7 hinge-jointed at its free end, and a pin 8 holds the parts in their proper position. The free end of the section 7 is beveled, as shown at 9, for a purpose to appear hereinafter.

In the front end of the machine is located one half 10 of a die and behind it is located a knife-carrying block 11. The knife 12 is a rectangular bar of steel placed in a groove formed in the face of its carrying-block. An opening 13 is so located that one side will be formed by the edge 14 of the knife, as shown at Fig. 5.

The movable part 15 of the die is carried

in a jaw 16, which has a pivotal connection with a stationary support at its lower end. The upper end of this jaw is beveled and corresponds with the bevel 9 of the arm. A break-iron 17 is located in a recess formed in the face of one of the side bars of the main frame, and a wearing-plate 18 is placed between the die-closing arm and break-iron.

In operating my improved bolt-heading machine the end of a rod from which the bolts are made is passed through the opening in the knife-holding block. An advance movement is imparted to the sliding cross-head which carries the die-closing bar with it. The incline face of the bar will engage the inclined upper face of the pivoted jaw and as the bar advances the jaw will be moved on its pivot, thereby bringing the part of the die it carries in contact with the rod projecting through the knife-carrying block. A continued movement in this direction will force the rod against the edge of the knife, thereby severing it. The movable portion of the die will then clamp the severed rod between its face and the face of the stationary portion of the die, when the head is formed in the usual manner. When the jaw-closing bar forces the jaw closed, its flat face will rest in contact with the wearing-plate 18 and the strain will be borne by the break-iron 17, and should any hard substance come between the flat portions of the stationary and movable portions of the die which would prevent them from closing in a proper manner the break-iron will crush as the die-closing arm advances, thereby preventing the breaking of the machine, and by making the bar in two sections hinge-jointed together the outer section will move on its hinge-joint when the break-iron crushes, which prevents the wrenching of the bar, and when necessary to remove the bar the pivot-bolt can be removed, thereby permitting the removal of the hinged portion. By locating the break-iron in a recess formed in the face of the main frame and outside of the jaw-closing bar the crushed fragments can be easily removed and a new iron inserted.

By employing the rectangular-shaped knife I can change it in its socket or recess so as to bring any one of its lengthwise faces in posi-

tion to receive the bolt and cut the same from the rod, thereby presenting four times the cutting-surface of a stationary knife.

I claim as my invention—

- 5 1. In a bolt-heading machine, the combination of a movable die, a break-iron, and a die-moving arm located between the die and break-iron, substantially as set forth.
- 10 2. In a bolt-heading machine, the combination of a movable die, a break-iron, and a two-part die-moving arm located between the die and break-iron, substantially as set forth.
- 15 3. In a bolt-heading machine, a die-moving arm composed of two sections having a hinge-joint connection, substantially as set forth.

4. In a bolt-heading machine, a stationary knife capable of being changed to bring its various sides into use, substantially as set forth.

5. In a bolt-heading machine, a stationary 20 knife capable of being changed to bring its various sides into use in connection with suitable dies, substantially as set forth.

FREDERICK MUTIMER.

Witnesses:

C. R. WISE,
A. O. BEHEL.