MACHINE FOR HEADING BOLTS AND RIVETS.

To all whom it may concern:

Be it known that I, MATTHEW CHAMPION, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Machines for Heading Bolts or Rivets, of which the following is a full, clear, and exact description.

This invention is an improvement upon the machine for heading bolts and rivets which is shown and described in the Duncan patent No. 337,919. In the operation of the machine shown in said patent it generally happens that after there has been sheared from a long stock rod as many full length rivet or bolt blanks as possible, there will remain an end of said stock rod which is too short for the making of a bolt or rivet. When the machine operates properly this short end will be pushed forward out of the way by the front end of the incoming stock rod. If, however, this short end is very short, it will frequently stick to the end of the bender plunger or the face of the movable die, or to both, and will be drawn back into the groove in which the bender plunger moves. When, after this has happened, the front end of another stock rod is fed into the machine against the stop gage, and the movable die and the bender plunger begin their operative stroke, the bender plunger will push this short end over against the new stock rod, and the result is generally very disastrous to the machine. This short end and the new stock rod are both very hot; and the short end will be pushed against the new stock rod with such force that both pieces will be so distorted that they will be thoroughly wedged in the space in which they lie. Always the machine will be stopped; and frequently something will be broken. In any event, the machine must be disconnected from the power in order that these distorted pieces of the stock can be removed.

Generally the pieces of the stock will have become cold before they have been removed, so that their removal sometimes takes several hours because they have to be dug out.

It is to prevent this not infrequent damage and loss of time that the present invention is designed.

The invention is very simple in character and yet it does effectually prevent the damage and injury above referred to.

A machine which embodies this invention may be like the machine shown in said Duncan patent in all respects except that the present invention requires that the operative end of the bender plunger shall be narrower than the diameter of the hole in the breast plate through which the stock rod is fed to the action of the shearing off mechanism, and also that there shall be two stripper shoulders which are located adjacent to said hole in the breast plate and are at a distance apart, measured vertically, which is less than the diameter of said hole in the breast plate, said shoulders being located one above and one below the plunger. Therefore it has not been thought necessary to show any more of a bolt heading machine than those parts thereof in which the present invention is embodied, and some other adjacent parts.

In the drawing Figure 1 is a sectional plan view in the plane indicated by line 1—1 on Fig. 2 of so much of a bolt heading machine as has anything to do with this invention. Fig. 2 is a rear view of the breast plate and of the bender plunger and parts which immediately cooperate with the bender plunger.
ervative end,—that is to say, its end which will engage with and bend the stock rod, must be narrower, measured up and down, than the diameter of the stock rod,—or, which is substantially the same thing, it must be narrower than the diameter of the hole \( h^2 \) to which the stock rod is fed.

\( h^2 \), \( h^3 \) represent two stripper shoulders. They are located adjacent to the hole \( h^2 \), one above and one below the operative end of the bender plunger; and the distance between them, measured up and down, is less than the diameter of the hole \( h^2 \).

In a machine having the described construction, any small piece of the stock rod \( S \) which may remain in the rear end of the hole \( h^2 \), and which therefore might become stuck to the operative end of the bender plunger \( m \) will engage with these stripper shoulders \( h^2 \) and will thereby be pulled loose from the plunger and held in the rear end of the hole \( h^2 \) so that the incoming end of the new stock rod will push said short end rearward out of the hole \( h^2 \) in the breast plate.

Having described my invention, I claim:

In a machine of the character described, the combination of a breast plate having through it a hole for the passage of the stock rod and having in its rear face a horizontal guide groove which intersects said hole, a bender plunger movable in said guide groove, and two stripper shoulders located adjacent to said hole, one above and one below the bender plunger,—the distance between said stripper shoulders being less than the diameter of the said hole in the breast plate.

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

MATTHEW CHAMPION.

Witnesses:

A. J. HUDSON,
L. L. PORTER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."