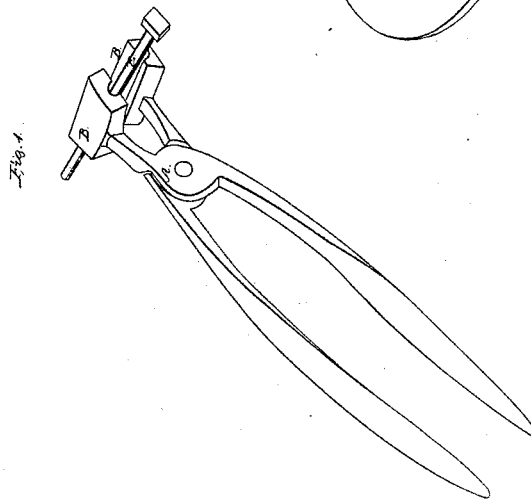
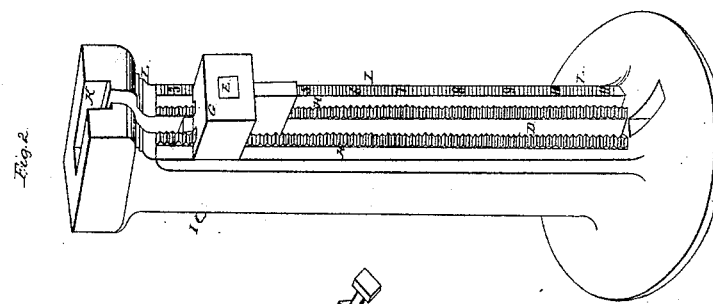
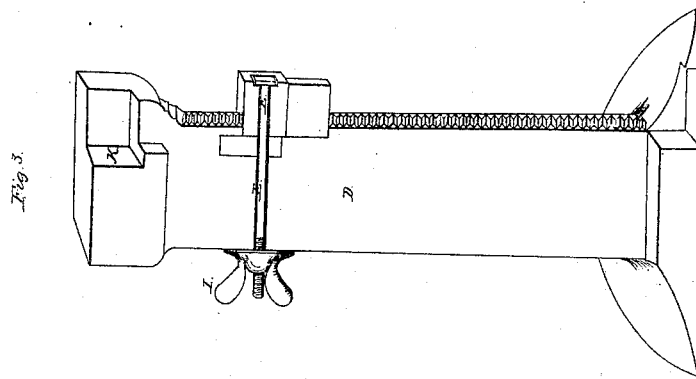


H. M. PHILLIPS.  
BOLT MACHINE.

No. 50,028.

Patented Sept. 19, 1865.



Witnesses  
James H. Swanton  
John H. Robinson

Inventor  
Hugh M. Phillips

# UNITED STATES PATENT OFFICE.

HUGH M. PHILLIPS, OF INDIANAPOLIS, INDIANA.

## IMPROVED BOLT-MACHINE.

Specification forming part of Letters Patent No. 50,028, dated September 19, 1865.

*To all whom it may concern:*

Be it known that I, HUGH M. PHILLIPS, of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in the Construction and Arrangement of Machinery for Making Bolts; and I do hereby declare that the following is a full and exact description, reference being had to the accompanying drawings and the letters marked thereon.

Figure 1 is a perspective view of the open die, showing the connection of the tongs for handling the same when edging the head and truing up the bolt, and for holding the bolt until it is finished. Fig. 2 is a perspective view of the bolt-anvil ready for use. Fig. 3 is a section showing the construction of the gage-block and the manner of its adjustment for the required length of bolt.

A is a pair of tongs attached to the open dies BB for the purpose of handling the same, holding and turning the bolt while it is being worked; and it is not designed that the tongs A should resist any of the strain upon the dies when the head of the bolt is being formed.

D is a slot in the bolt-anvil, through which the bolt E passes for the purpose of holding the gage-block G while the same is resting against the cog-rack H. The nut I sets the gage-block G to the required length of the bolt after it has been adjusted upon the rack H. The die-rest K corresponds to the outer surface of the die B B, and holds the same tightly upon the bolt while the head is being formed.

L is an index upon the face of the post or

upright part of the bolt-anvil, spaced so as to show where to place the gage-block G for any required length of bolt.

The following is the operation of the machine and dies in the process of making a bolt: The gage-block G being adjusted to suit the length of bolt required, the rod, cut to the right length and heated to form the head, is placed in the dies B B. It is handled by means of the tongs A and placed in the die-rest K, the lower end being allowed to rest upon the gage-block G, while the heated end passes up through the die, which rests solidly upon the bottom or ledge of the die-rest K, which leaves the top side of the die even with the top of the bolt-anvil. The sides of the die-rest K hold the die in place while the head is being hammered down, when the die is lifted out with the bolt and the head is formed and the bolt finished before it is released from the die, the same being used as tongs in handling and working.

What I claim as new, and desire to secure by Letters Patent, is—

1. The bolt-anvil, as described, when operating in connection with the gage-block G, substantially as and for the purposes set forth.

2. The die-rest K, operating in connection with the die B B, to prevent the same from opening while the head is being formed, substantially as set forth.

HUGH M. PHILLIPS.

Witnesses:

JAMES N. SWEETSER,  
JOHN H. REDSTONE.