J. Beardsley.

Making Spikes.

No. 6,005. Patented Jan. 9, 1849.

Fig: 1

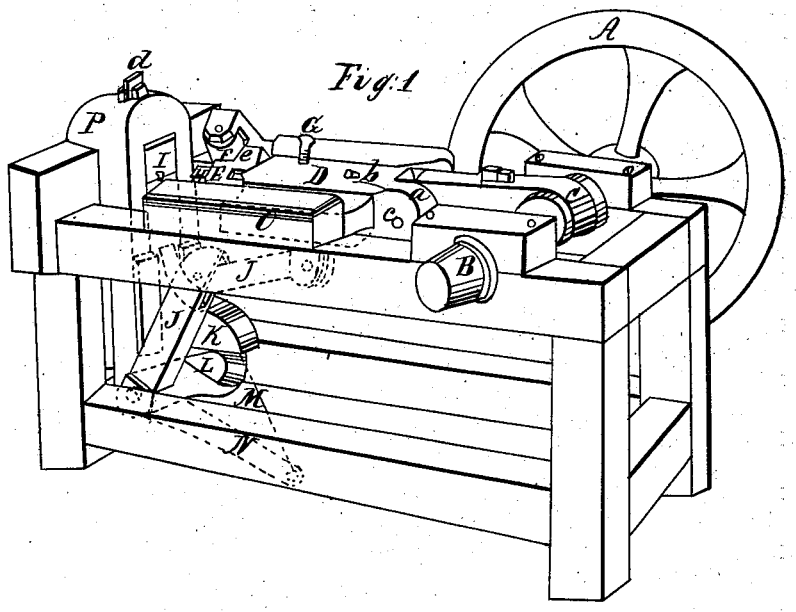
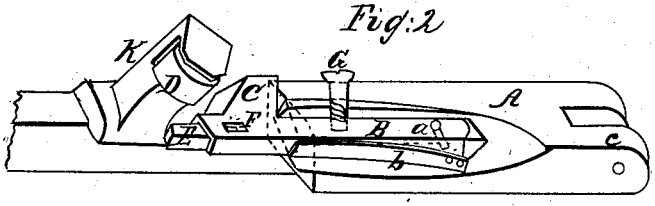


Fig: 2



Jonathan Beardsley.

UNITED STATES PATENT OFFICE.

JONATHAN BEARDSLEY, OF TRENTON, NEW JERSEY.

MACHINE FOR HOOK-HEADING SPIKES BY ONE MOTION.

Specification of Letters Patent No. 6,005, dated January 9, 1849.

To all whom it may concern:

Be it known that I, JONATHAN BEARDSLEY, of the city of Trenton, county of Mercer, State of New Jersey, have invented a new and Improved Mode of Constructing a Machine for Heading Rivets, Bolts, Spikes, or Nails; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, forming a part of this specification.

Figure 1. is a perspective view of the whole machine. Fig. 2, is a section showing the carriage, punch rod, punch &c., &c.

A, Fig. 1, is a driving wheel, attached to the shaft B, to which the power is applied, C, a crank and arm that moves the carriage D, in which is placed the punch rod E. or more clearly seen at B, Fig. 2.

F is a roller against which the projection *e*. Fig. 1. of the punch rod presses and which gives it a proper lateral movement to bend over the end of the rod held in the die to form the spike head.

G is a screw for regulating the motion of the punch rod B; H, the punch; I, the die or jaws in which the object to be headed is placed; J, J, two levers acting with an elbow movement, and receiving their impulse from the motion of the carriage for the punch rod. These operate upon a shaft on which is a cam L, which lifts the die or jaws I, by the lifting piece K. and the jaws being forced together at *x x* Fig. 1. sever the spike from the rod.

M is a rod attached at one end to the lifting piece K and by the other to a spring N.

a is the place of the joint of the rod from the crank with the carriage.

b is a pin (better seen at *a* Fig. 2,) on which the punch rod moves on a pivot.

F, is an orifice in the punch rod for the purpose of taking the punch out; G, the set screw; *c*, the place where the crank rod connects with the follower.

At the end of the frame work opposite that of the driving shaft is a strong piece of metal in which is placed the die or jaws which hold the wire or the rod to be headed. This metal is marked P. Fig. 1. The punch H Fig. 1. or E Fig. 2. has by the time the projection *c*. strikes the roller, moved so far, that its end has passed a little beyond the rod to be headed, which projects from the die or jaws at I. Fig. 1. Then the lateral movement caused by the roller makes the punch turn the end of the rod over in the direction of its movement, the punch moving forward strikes with its broad face upon the rod thus bent with a strong blow against the die I. (which are closed at the time) and thus produce the flat turned head, or half head, such as are seen upon railroad and similar spikes, thus ⊂. The crank motion then immediately withdraws the punch, and at the same time the rod is again pressed forward by hand for another head which is produced in the same way, in rapid succession. If it is desirable to have a full disk head thus ⊂ the set screw G, Fig. 1, may be used to place the punch on an exact line with the wire or rod to be headed, and in this case, the roller does not touch it. A convex head or any other according to the form of the punch or die may be made in this way. When the punch rod has full play the spring *b*, Fig. 2, throws it back to its diagonal position relative to the wire when it is drawn back from the operation of the roller. Other contrivances beside a roller may be used for producing the same effect, such as a toggle joint or wedge &c., but I think the roller preferable as having less friction and being less liable to get out of order. By this method of construction, great facility and accuracy is obtained in the heading of spikes, bolts, &c., the whole operation being performed by a single and very simple movement and herein I claim a great advantage over all others now in use.

The method of holding the wire and the levers and cams below for moving the die and cutting off the rod are now in use and I disclaim all right in an improvement of the same.

What I claim as my invention and desire to secure by Letters Patent is—

The combination of the carriage and punch holder, constructed substantially as described. with the roller or its mechanical equivalent as described by means of which the spike is hook headed by a single motion.

JONATHAN BEARDSLEY.

Witnesses:
J. BURTON,
R. MORROW.