(No Model.)

C. W. WOODFORD.

MACHINE FOR FORGING HORSESHOE NAILS.

No. 264,019. Patented Sept. 5, 1882.

Fig. 1

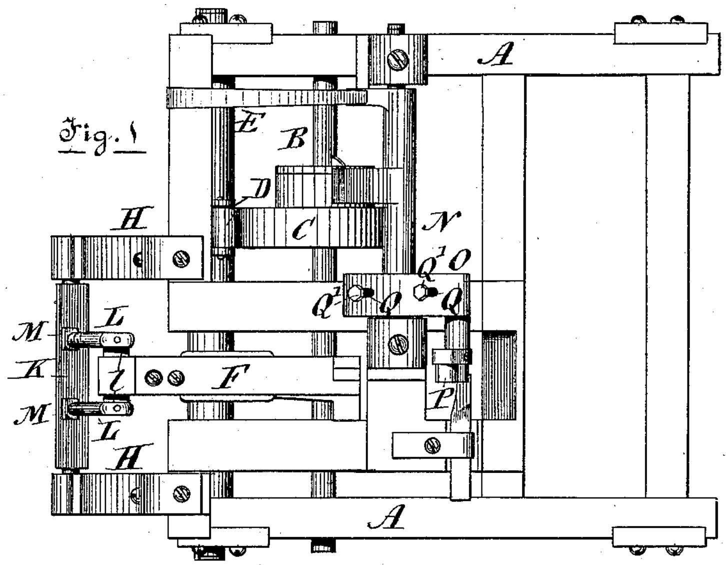


Fig. 2

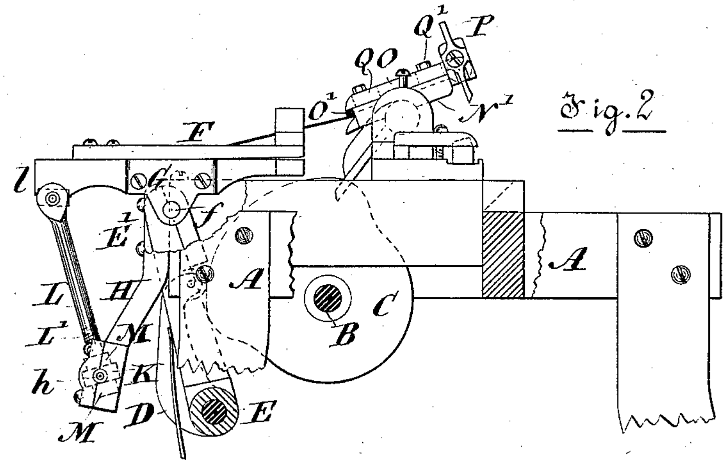


Fig. 3

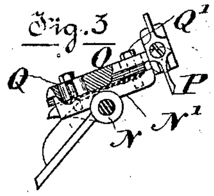
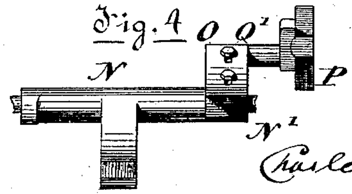


Fig. 4



Charles Wellington Woodford

Witnesses: Inventor.

Owen V. Evans.

Alex. J. Brault

Per Atty.

Fras. H. Reynolds

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES WELLINGTON WOODFORD, OF ESSEX, NEW YORK, ASSIGNOR TO THE ESSEX HORSE NAIL COMPANY, (LIMITED,) OF NEW YORK.

MACHINE FOR FORGING HORSESHOE-NAILS.

SPECIFICATION forming part of Letters Patent No. 264,019, dated September 5, 1882.

Application filed January 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WELLINGTON WOODFORD, of Essex, in the county of Essex and State of New York, have invented certain new and useful Improvements in Machines for Forging Horseshoe-Nails; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention, which is specially applicable to horseshoe-nail machines, has reference to improved devices for carrying and operating the reciprocating gripper which holds and feeds the nail-rod to the forging-dies, being improvements on the devices described for that purpose in the Letters Patent No. 166,857, granted to Lucius A. Dodge.

Instead of a rock-shaft passing transversely across the whole front of the machine, and carrying sleeves in which are inserted and adjusted arms carrying the pivot to which the gripper-slide is attached, I propose to substitute for such rock-shaft a short bar carried in projections from the frame, thus allowing free access to all parts of the under side of the machine for adjustment or replacement of the parts without the necessity of removing any of the feed mechanism for that purpose. I also propose to cut a thread on the ends of the arms carrying the front end of the gripping-slide, and actuated by the rock-bar, and perform the adjustment by means of jam-nuts, this construction affording a very easy means by which the length of the arms may be adjusted, and further simplifies the construction of the parts.

In order further to obviate the inconvenience now felt when the cam giving motion to the cutter-stock, or any of the parts through which said motion is imparted, becomes worn, thereby causing irregularity of throw and consequent variation of the length of the nail-head, and necessitating the removal of the cam and its connections from the machine, I propose to make the cutter-stock in two parts—one (the cutter-stock proper) carried and operated in the usual way, and the other (the cutter-holder, to which the cutter is attached) slotted and secured to the stock by suitable screw-bolts. By this means the distance of the cutter from the center of the stock may be easily and readily varied, thus compensating for the wear of the mechanism and allowing the length of the head of the nail to be altered.

For full comprehension of the invention reference must be had to the annexed drawings, in which—

Figure 1 is a plan view of a machine embracing my improvements; Fig. 2, a partly-sectional elevation of Fig. 1; Fig. 3, a sectional elevation of the cutter stock and holder, and Fig. 4 a top view of same.

Similar letters of reference indicate like parts, and it must be understood that when any of the parts are not designated by such letters of reference they are of any usual construction, and only shown in the drawings to facilitate comprehension of the devices forming the invention.

A is the main frame of the machine, and B the revolving shaft, carrying a cam, C, which, in conjunction with an arm, D, on a main rock-shaft, E, and a suitable return-spring, operates through the arm E′, mounted on E, to reciprocate the gripping-slide F, carried in part by an arm, G, pivoted at *f* thereto, all these parts being constructed and arranged substantially as in the original Dodge nail-forging machine.

H H are projections secured on or cast with the frame, in the lower ends of which are formed bearings *h* for the rock-bar K.

L L are arms carrying in their upper ends the pivot *l*, on which the forward end of the gripper-slide F is mounted. These arms are, as shown at L′ L′, screwed, pass through the rock-bar K, and are adjusted by jam-nuts M M.

N is the cutter-stock, carried in suitable bearings, and having, as usual, the necessary motion imparted to it by means of an arm projecting therefrom and operated by a projection on the cam C, and a suitable return-spring, all as usual.

N′ is the arm or block, formed on the cutter-stock, (shown specially in Figs. 2 and 3,) to which is attached, as described, the cutter-holder O, of the shape shown in Fig. 4, and carrying on its outer end the cutter P. This

holder O is formed with a projection, O′, on its under side, which slides in a corresponding groove formed in N′.

Q Q are slots formed in O, through which pass the set-screws Q′ Q′, entering the block N′ and securing the holder Q in any position desired relative thereto.

What I claim is as follows:

The combination, with the rock-bar K, carried in projections H, of arms L L, supporting the pivot on which the forward end of gripping-slide is mounted, and jam-nuts M M for adjusting and securing the same in position, all as herein set forth.

CHARLES WELLINGTON WOODFORD.

Witnesses:

JAMES B. HARRINGTON,

H. EVAN WOODFORD.