J. NEFF.

MACHINE FOR MAKING HORSESHOES.

No. 36,475. Patented Sept. 16, 1862.

Fig: 1.

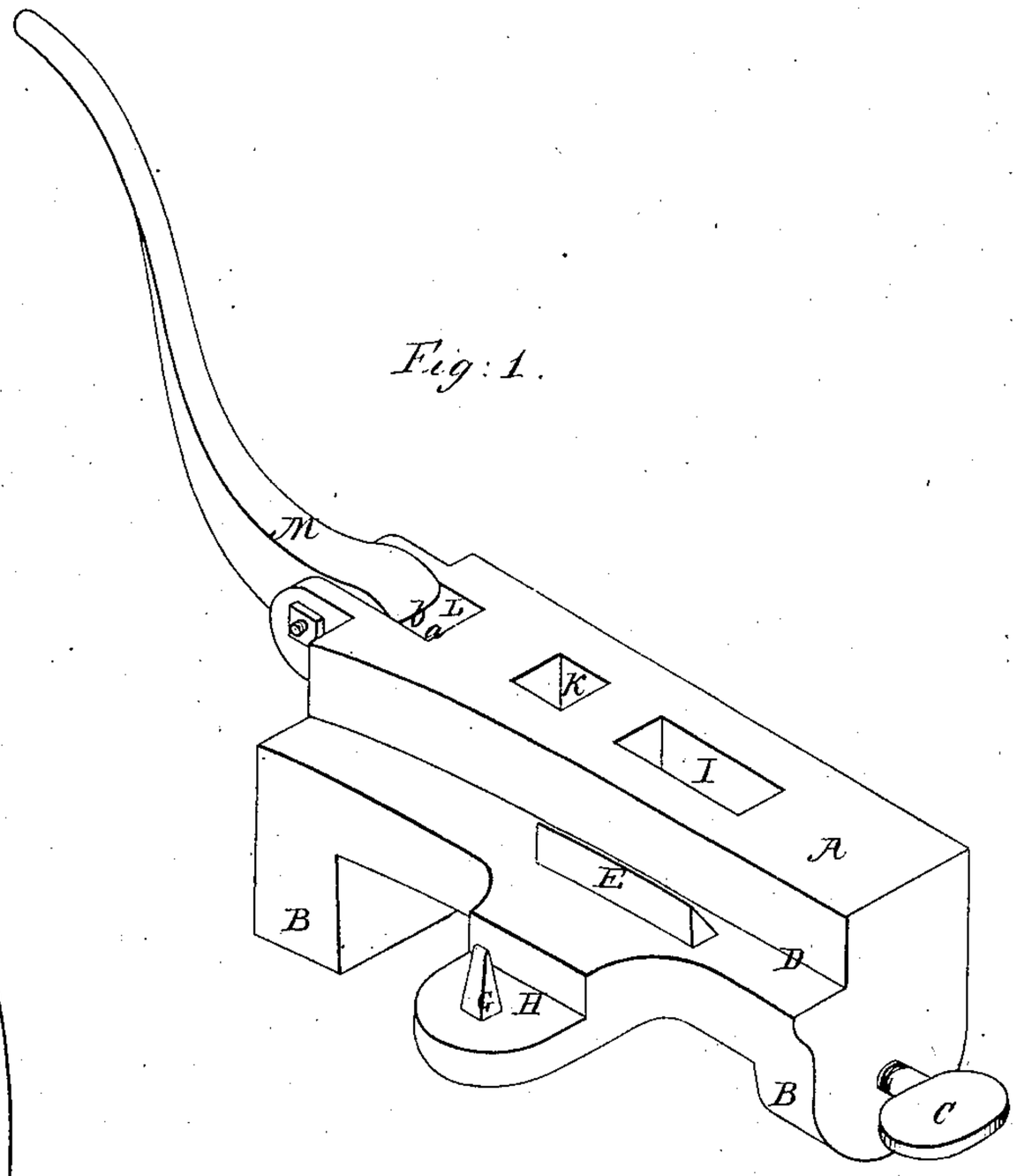
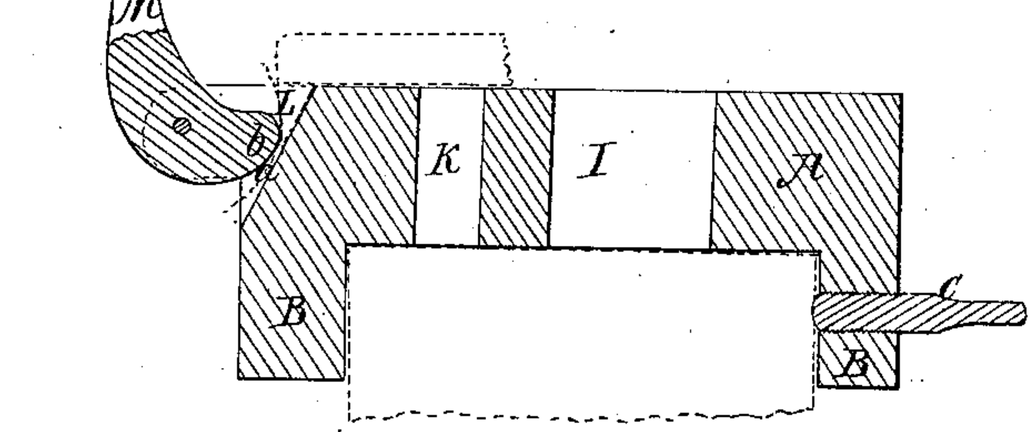


Fig: 2.



Witnesses;
R. F. Osgood.
D. C. Johnson

Inventor;
John Neff.
Per J. Fraser & Co., Attys

UNITED STATES PATENT OFFICE.

JOHN NEFF, OF PRATTSBURG, NEW YORK.

IMPROVEMENT IN MACHINES FOR MAKING HORSESHOES.

Specification forming part of Letters Patent No. **36,475**, dated Sep'ember 16, 1862.

To all whom it may concern:

Be it known that I, JOHN NEFF, of Prattsburg, in the county of Steuben and State of New York, have invented a new and Improved Device for Making Horseshoes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a perspective view of the device; Fig. 2, a longitudinal vertical section of the same.

Like letters designate corresponding parts in both figures.

It is the object of my improvement to combine in a single and compact device all the elements and conveniences necessary in bending, creasing, punching, and calking horseshoes, so that by its aid they can be formed at the anvil with ordinary smith's tools at much less expense of time and labor than usual.

The block A, with which all the parts are combined, is made of suitable length and size for the purpose designed, and has at its opposite ends right-angled projections B B for fitting over the anvil, on which the block rests, and to which it is secured by a set-screw, C, or in some equivalent manner, as represented in Fig. 2.

On one side of the block A is situated a curved guide, D, and creaser, E, for bending the iron bar forming the shoe and creasing it by one and the same operation. As represented in the drawings, the guide is made lengthwise of the block, forming in vertical cross-section a right-angled notch of suitable size to receive the bar. It is nearly straight at the end where the iron first enters, but its curvature from behind the creaser E to the opposite end is considerable, or sufficient to give a bend to the bar after it has passed through, approximating to that of a finished horseshoe. On the base of this guide is situated the creaser E, of suitable length for the purpose intended and at such position transversely as will form the crease in the proper place in the bar. It is substantially of the shape shown—that is, knife-edged—with the front nearly vertical and the rear side inclining toward the vertical wall of the guide.

The bar of iron is placed in this curved guide, resting on the creaser, and forged or beat by the hammer, being gradually moved along in the direction of the arrow, Fig. 1, at the same time. As the bar moves forward and holds on the creaser, it is bent gradually by the curve of the guide, and when passed entirely through it assumes approximately the form of a horseshoe, requiring but little fashioning. The inclined form of the creaser has a tendency to force the bar back against the vertical wall of the guide as it passes through, and thus assists in keeping it in place. Thus the bending of the shoe and the creasing are accomplished at one and the same time and by the simple operation of forging or beating. After the shoe has been bent and creased the next operation is punching the nail-holes therein. To accomplish this, I secure a punch, G, of suitable size, in a bed, H, on one side, of similar shape in cross-section with the guide D, the vertical wall of which is just such distance from the punch as will bring the latter into the crease when the side of the shoe is placed thereon and against the wall. The blow of the hammer is then only necessary to punch the hole. After this operation the calks are to be formed and sharpened. The toe-calk is formed by welding a piece of steel to the forward part of the shoe and then bending it down at right angles thereto; and the heel-calks are formed by bending the rear ends of the shoe down in the same way. It is considerable work to bend these calks down in the ordinary manner over the edge of the anvil, and to accomplish the purpose in a more expeditious and less troublesome way I make two holes or openings, I and K, through the top of the block, the larger corresponding in size with the toe calk and the smaller with the heel-calks, and into these openings the calks are respectively inserted and bent by forcing the shoe down by positive power or by repeated blows of the hammer, or both. This arrangement is very effective and saves much expense of time and labor. After the calks are thus bent the toe-calk is sharpened in the usual way, but the heel-calks are sharpened in a much more expeditious manner, as follows: In one end of the block is made a notch, L, of a width corresponding with that of the heel-calks, and having an inclined bottom, *a*, as represented most clearly in Fig. 2. Back of this notch is pivoted a cam-lever, M, the

cam *b* of which plays in the notch, and is of substantially the shape represented. As the lever is turned the arc described by the point of the cam (represented by dotted lines, Fig. 2) is such as to touch the inclined bottom *a* at a depth about equal to the length of the calk, but sufficiently removed at the top to leave the proper thickness of the calk. In Fig. 1 the lever is shown in a position with the cam commencing to act, and in Fig. 2 it is shown with the cam just finishing its action on the heel-calk, indicated by red lines. By simply placing the heel-calk in the notch and turning the lever over the calk is sharpened with the proper bevel.

The whole arrangement of the block A with its parts is very simple, and is perfectly adapted to its purpose. It is intended for use in ordinary blacksmiths' shops, where more complex and cumbersome devices cannot be used. It is applied to an anvil by the turn of a screw, and possesses all the elements for forming horseshoes with dispatch and with half the labor and trouble of making them in the ordinary way. It saves the expense of an additional workman in turning or bending shoes, dispensing with a sledgeman in creasing and punching, all of which may be done by the hand-hammer. The block is intended to fit on the base or the square part of the horn of the anvil.

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

1. The cam-lever M, with its cam *b*, in combination with the notch L, provided with an inclined bottom, *a*, arranged substantially as herein set forth.

2. The device for forming horseshoes, consisting of the block A, provided with the curved guide D, creaser E, punch G, openings I K, inclined notch L, and cam-lever M, the whole arranged, combined, and operating substantially as and for the purposes herein specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN NEFF.

Witnesses:
P. B. SHELDEN,
C. J. CLERK.