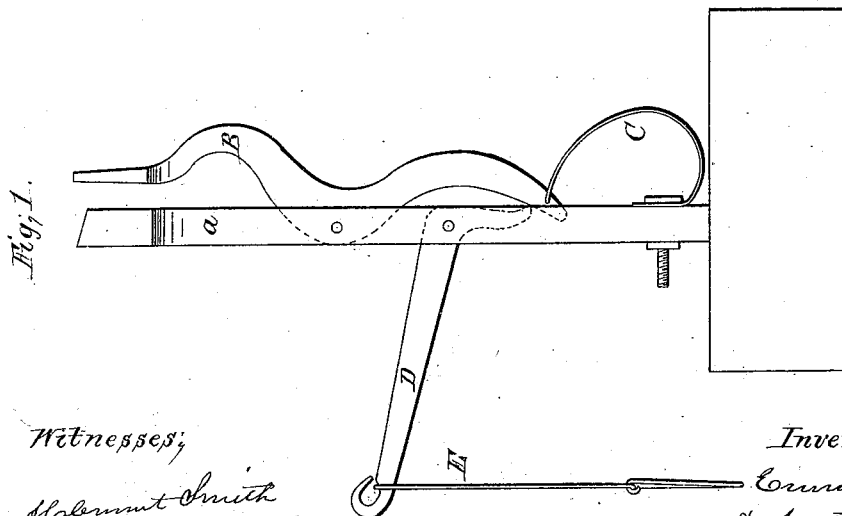
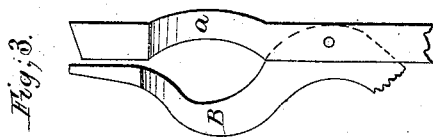
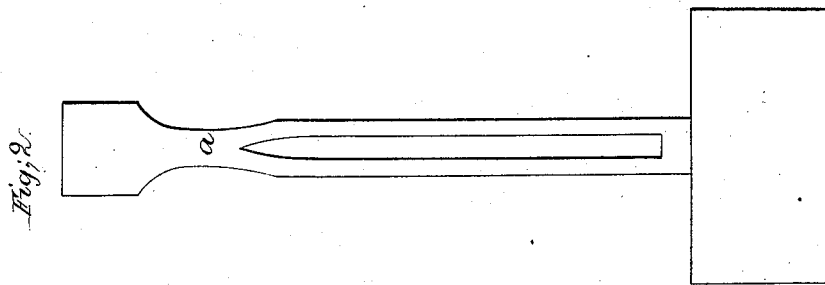


Coon & Hill,
Sharpening Horseshoe Calks,
N^o 52,538. *Patented Feb. 13, 1866.*



Witnesses;
 Clement Smith
 John P. Jacobs

Inventors;
 Emmett Coon
 & Nathan Hill
 By
 D. C. Jones & Co.
 Attys

UNITED STATES PATENT OFFICE.

EMMETT COON AND NATHAN HILL, OF COMSTOCK, MICHIGAN.

IMPROVEMENT IN HORSESHOE-VISES.

Specification forming part of Letters Patent No. 52,538, dated February 13, 1866.

To all whom it may concern:

Be it known that we, EMMETT COON and NATHAN HILL, of Comstock, in the county of Kalamazoo and State of Michigan, have invented a new and useful Improvement in Machines for Sharpening Calks to Horseshoes, which we call a "Horseshoe-Vise;" and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of our invention is to provide better means than have heretofore been devised for sharpening the calks to horseshoes; and to this end we construct a machine in the form following, namely: On a pedestal of suitable height—say one foot, more or less—we attach an upright standard. (Marked A on the drawing.) This standard is about two feet and four inches in height from the pedestal, and is slotted from the pedestal upward to within about eight inches (more or less) from its top. The upper end of this standard is widened and flattened, as the drawings represent, and its extreme upper surface is beveled on an angle of about thirty degrees toward the curved lever B, hereinafter described. This beveled portion of said standard has a steel face to adapt it to the uses of an anvil, upon which the calks of horseshoes may be hammered. We sometimes construct this standard with a curve therein near its top, as shown in Fig. 3 of the drawings. This form brings the jaws of the vise more nearly together when it is standing at rest, and also brings them more nearly on a parallel line with each other. For unpracticed operators we find it preferable to any other.

Letter B is a curved lever, attached near its center by a bolt, nut, and screw in the slot of standard A. The upper end of this lever is widened and flattened to correspond with the widened upper end of the standard A, against which it works, forming a jaw. It also extends a half-inch, or thereabout, above the end of standard A, for the purpose of forming a rest or bearing for the extreme end of the horseshoe when the same is in the vise. At the bottom of this curved lever B we attach the spring C as follows, to wit: The upper end

of this spring rests against the lower end of the curved lever B, and its lower end is secured in the slot in standard A by a bolt, nut, and screw. By moving the bolt, nut, and screw up or down in the said slot the spring is tightened or loosened, as the operator may desire. The office of this spring is to keep the lower end of the curved lever B pressed into the slot on standard A, and thereby keep the jaws of the vise open when the same are not forced together, as hereinafter set forth.

D is an elbow-lever having its fulcrum on a bolt running through the slot in standard A. Its short arm rests against the lower end of curved lever B, and its main arm projects outward, as shown on the drawings. At the extreme end of the main arm of this elbow-lever we attach the hanging stirrup E, in which the foot of the operator is placed when the machine is being used.

The mode of operating our machine is as follows: Place the shoe in the jaws of the vise with the calk turned toward the operator and resting upon the beveled head of standard A. Next press the foot firmly in the stirrup, and thereby force the jaws of the vise against the shoe and hold it securely. Then shape the calk with a hammer, and the work is done. As the pressure of the foot is lessened in the stirrup the spring C forces the jaws asunder, and thereby prepares them to receive another shoe.

It will be observed that when the jaws of our vise are brought together the one which forms the upper end of the curved lever reaches above the other, and to a point even with the upper end of the horseshoe when in the vise. In constructing our machine great care must be taken that this jaw be not carried too high, so as to interfere with the blows of the hammer on the calk, and also that it be not left so low as to fail as a guide to the workman or to produce the requisite clamping-surface to hold the shoe securely.

Our machine is constructed of either wrought or cast iron. When made of the former, exclusive of the pedestal, it weighs about thirty pounds, and when made of the latter it weighs about forty pounds.

We prefer to use steel-faced surfaces both in the jaws and on the beveled anvil of the standard; but we do not wish to limit our-

selves to any particular metal in the construction of any part of our machine.

The advantages of our machine are—

First, it facilitates and cheapens the manufacture of horseshoes. We can very easily sharpen four toe-calks on this machine in the time required to sharpen one on the common anvil.

Second, it improves the shape of a horse-shoe by bringing the forward end of the toe-calk nearly or quite on a line with the forward end of the shoe itself. This is effected by bringing the beveled part of the toe-calk on the inside, whereas if sharpened on an ordinary anvil the beveled part necessarily falls on the outside, thereby bringing the edge of the calk too far backward toward the heel.

Third, the jaws of the vise being so adjusted as to approach each other most nearly at their extreme upper ends, the calk, when placed in them, has a tendency to crowd toward the shoe, thereby making a weld with the shoe so long as there is sufficient heat in the shoe and calk to aid in that process.

Fourth, the shoe is held in one position until the calk is finished, thereby adding greatly to the means of securing for it perfection of

form and freedom from irregularities. Regularity of form is also aided by the fact that the jaw on the curved lever stands up even with the top of the shoe. This secures the shoe from being pressed out of shape while the calk is being welded, drawn, and sharpened, as is often done while that process is going on in the ordinary way.

Heel-calks as well as toe-calks may be sharpened and shaped on our machine, and in so doing the shape of the shoe will be preserved far better than when the ordinary means are used for that purpose.

What we claim as our invention, and desire to secure by Letters Patent, is—

A vise for sharpening the calks of horse-shoes, having the slotted standard A with the adjustable bolt, nut, and screw therein, a curved lever, B, spring C, elbow-lever D, and hanging stirrup E, constructed, combined, and arranged substantially as herein specified.

EMMETT COON.
NATHAN HILL.

Witnesses:

EPHRAIM D. ROSIER,
JUSTUS WHEELER.