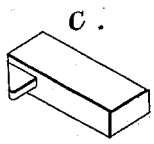
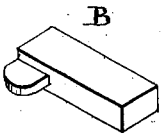
J. PALMER.

Dies for Forming Spurs on Horseshoe-Calks.

No. 163,882. Patented June 1, 1875.





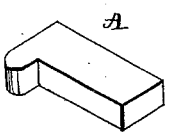


Fig. 2.

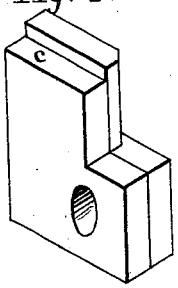


Fig. 3.

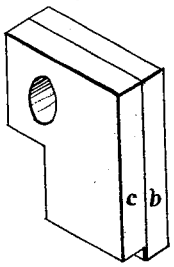
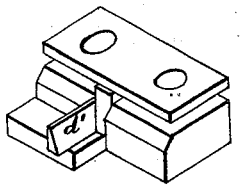


Fig. 4.



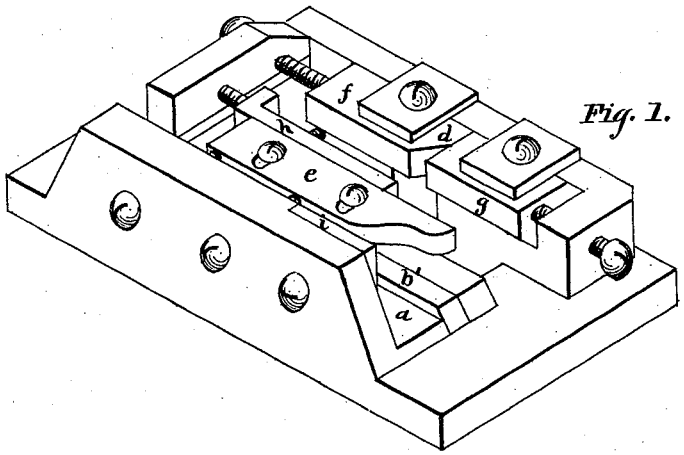


Fig. 1.

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UNITED STATES PATENT OFFICE.

JOSEPH PALMER, OF CONCORD, NEW HAMPSHIRE, ASSIGNOR TO HIMSELF AND CHARLES P. MOORE, OF SAME PLACE.

IMPROVEMENT IN DIES FOR FORMING SPURS ON HORSESHOE-CALKS.

Specification forming part of Letters Patent No. **163,882**, dated June 1, 1875; application filed December 12, 1874.

To all whom it may concern:

Be it known that I, JOSEPH PALMER, of Concord, in the county of Merrimac, State of New Hampshire, have invented certain Improvements in Machinery for the Manufacture of Calks and Calk-Blanks for Horseshoes, of which the following is a specification:

This invention consists mainly in the special construction of certain dies, which, when employed in connection with each other, are adapted to finish incompletely-formed calk-blanks.

The incompletely-finished calk-blank is represented at A, the finished calk at C, and the dies employed to produce this change, in the remaining figures.

The manner of using these dies will be fully described hereinafter.

Figure 1 represents a shoe or die provided with certain adjustable parts for making calk-blanks of various sizes. Figs. 2 and 3 represent a squeezer, Fig. 3 being a view thereof when in position for use; Fig. 2 a view thereof reversed to show its construction.

The squeezer, Fig. 3, is attached to the plunger of a press of any ordinary form, in such position that the portion marked *b* in Fig. 3 is directly over the steel slide marked *b'*, Fig. 1, the part marked *c* in Fig. 3 coming over the portion of the shoe marked *a*, Fig. 1. The calk-blank A is placed upon the shoe, the body of the blank resting in the groove *a*, Fig. 1, and the projection from which the spur is to be formed resting upon the steel slide marked *b'*, Fig. 1. The squeezer Fig. 3 descends and presses the projection shown on the blank A into the form shown at B. The blank is then placed on the opposite side of the shoe, so that the rounded projection shown on B rests over the triangular opening shown at *d*, Fig. 1. Over this part of the shoe is another punch, constructed as shown in Fig. 4, having a triangular cutter, *d'*, fitting the opening at *d*, Fig. 1. This punch is attached also to the same plunger, and descends upon the blank and forces it through the shoe, cutting off a portion of the projection shown on B, and leaving it in the form shown at C.

At *e*, *f*, *g*, *h*, and *i*, Fig. 1, are shown slides with set-screws and clamp-screws, for the purpose of adjusting the shoe to the different sizes of blank required to be made. Instead thereof separate shoes may be made for each size having the parts fixed and solid, except the slide *b'*, Fig. 1, which wears out rapidly and requires to be renewed.

The holes shown in Figs. 2, 3, and 4 are for bolts to attach said parts to the plunger, and said holes are made oblong in shape to allow shims to be inserted below the bolt, whereby the parts may be so adjusted as to leave the spur of the finished blank in the center, as shown at A, or on either side the center, as may be desired.

I claim—

1. The dies described, being the recess *d* and the adjustable parts *f*, *h*, *g*, as set forth.
2. The combination of the die *d* and punch *d'*, as described.
3. The combination of the punch *c b* with the die *a b'*, as described.

Concord, December 7, 1874.

JOSEPH PALMER.

Witnesses:

CHAS. C. LUND,

CHAS. P. MOORE.