T. M. CLARK & D. B. CHASE.

Dies for Forming Spurs on Toe-Calks for Horseshoes.

No. 164,808. Patented June 22, 1875.

fig 1

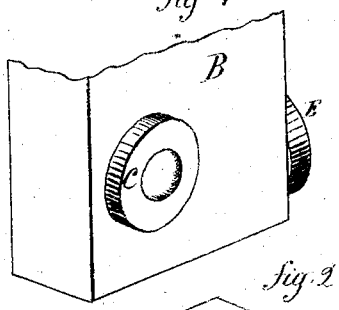


fig 7

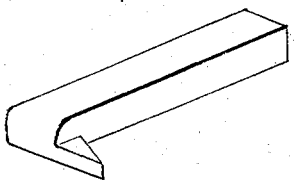


fig 6

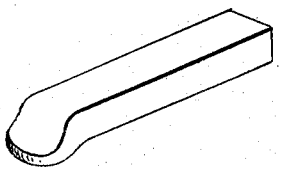
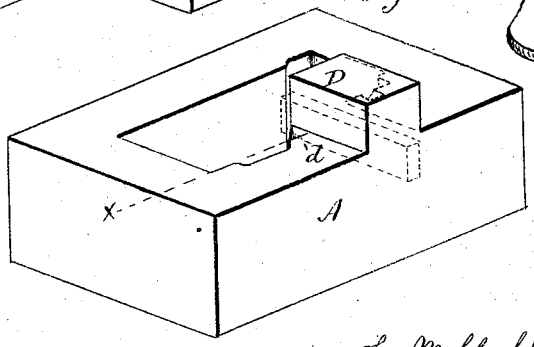


fig 2



Thos. M. Clark & David B. Chase
Inventors
By atty
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fig 3

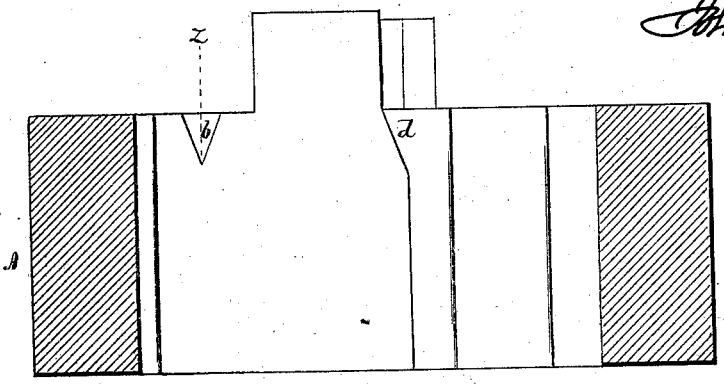


fig 4

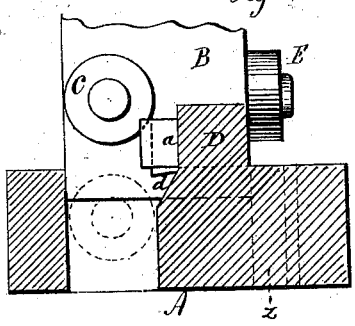
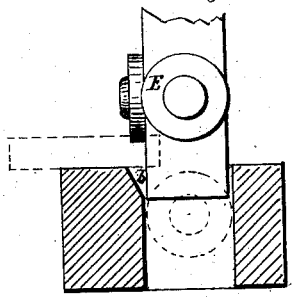


fig 5



Witnesses:
J. H. Shumway
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UNITED STATES PATENT OFFICE.

THOMAS M. CLARKE AND DAVID B. CHASE, OF WINSTED, CONNECTICUT.

IMPROVEMENT IN DIES FOR FORMING SPURS ON TOE-CALKS FOR HORSESHOES.

Specification forming part of Letters Patent No. **164,808**, dated June 22, 1875; application filed January 22, 1875.

To all whom it may concern:

Be it known that we, THOMAS M. CLARKE and DAVID B. CHASE, both of Winsted, in the county of Litchfield and State of Connecticut, have invented a new Improvement in Dies for Making Toe-Calks; and we do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figures 1 and 2, perspective view of the two parts; Fig. 3, longitudinal section through the lower or stationary part; Fig. 4, longitudinal section on line *x*, looking inward; Fig. 5, transverse section on line *z*.

This invention relates to an improvement in the dies for making toe-calks for which Letters Patent were granted to Thomas M. Clarke and David B. Chase, December 8, 1874, the work performed by that die being to form the spur on the calk. This is done by turning the metal from the body down into a die by means of a smooth-surfaced follower, which draws the metal down as the follower passes into the die. In doing this the metal is liable to adhere to the follower, so as to break away from the body, or scale from the metal will adhere to the follower, and, if not tearing the metal, will leave it very rough.

The object of this invention is to obviate this difficulty; and it consists in combining, with the die for shaping the calk, a slide provided with a roll or rolls, and guided relative to the die, that the drawing will be performed by said roll or rolls, as more fully hereinafter described.

As in that patent, so in this the first operation is to reduce the end, as seen in Fig. 6, preparatory to completing the spur. For this purpose the lower die A is provided with a stop, D, or guide, against which the blank *a* may be placed, as denoted in Fig. 4, and in broken lines, Figs. 2 and 3. In the die below this rest is a cavity, *d*. The die has an aperture to receive the slide B, which fits closely said aperture, but so as to move freely up and down. On this slide is a roll, C, as seen in Fig. 4, which, in the movement of the slide, passes down distant from the stop D equal to the thickness of the end to be formed, and to bring into said end, as seen in Fig. 6, sufficient metal to form the spur. The heated blank *a* is placed against the stop D, and the slide with its roll forced down, as in broken lines, Fig. 4. The roll reduces and draws down the end, which may run into the cavity D, and thereby partially form the spur. On the slide B is a second roll, E, at right angles to the first, and in the die, in line with this roll, is a cavity, *b*, the form of the spur to be shaped. Over this cavity the thinned end of the blank is placed, as seen in broken lines, Fig. 5, and the roll E forced down into the die, as in broken lines, Fig. 5, drawing the metal down into the cavity and completing the calk. This leaves the end of the calk smooth, as the revolving roll cannot tear or materially distress the metal or deface the surface.

The roll E may be used upon the blank in the same manner, when the said blank is prepared by striking, as in said patent, or by other devices than the roll C and its die. Also, the preparation of the blank may be done by the roll C, as described, and the subsequent finishing done by the same die, as described in said patent, or otherwise.

The rolls C E may be in separate slides, and their respective cavities in different dies; yet, for convenience, it is better to have them together. Therefore, while practically preferring the dies and both rolls C E, as described, we do not confine ourselves to their use in combination; but

We claim as our invention—

In a die for forming the spurs on toe-calks, the cavities *b d*, one or both, combined with their respective vertically moving and guided rolls E C, substantially as described.

THOMAS M. CLARKE.
DAVID B. CHASE.

Witnesses:
GEORGE M. CARRINGTON,
SIDNEY F. DICKERMAN.