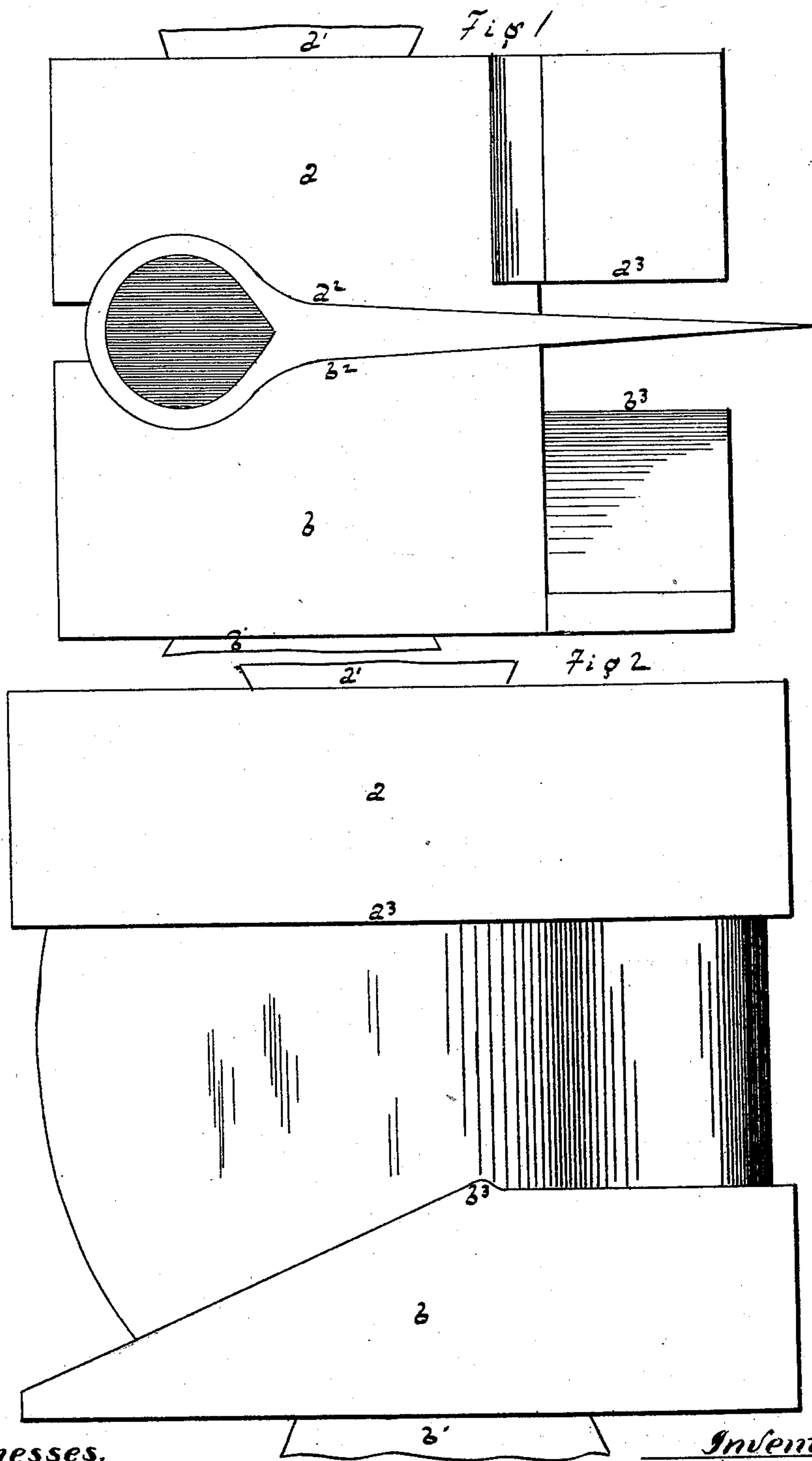


L. CHAPMAN.

DIES FOR FORMING SPANISH AXES.

No. 172,250.

Patented Jan. 18, 1876.



Witnesses.

John Pollard
George E. Nolan

Inventor.

Luke Chapman
 By *W. E. Simonds Atty.*

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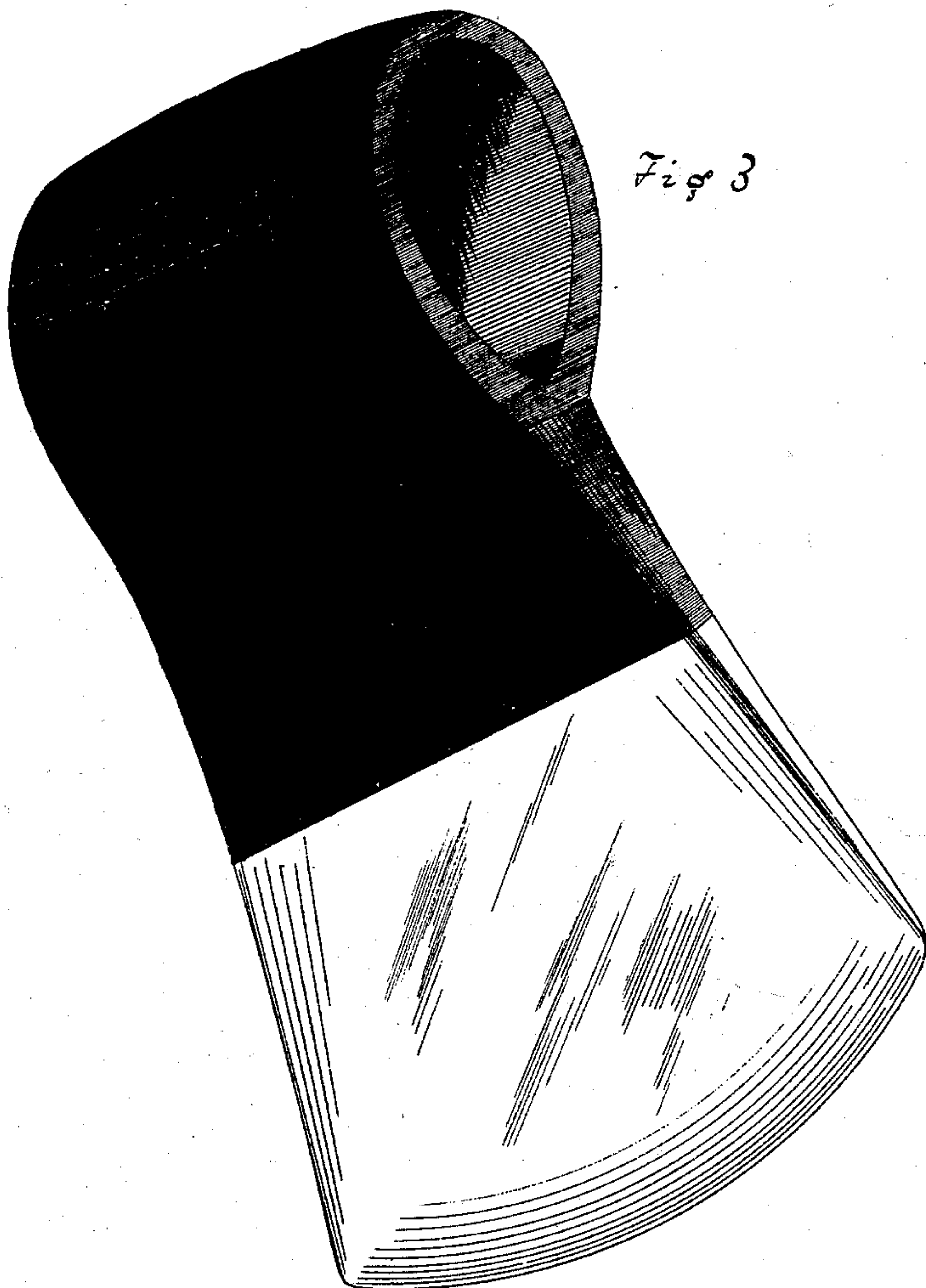


Fig 3

Witnesses

John Pollitt
George O. Nolan

Inventor:

Luke Chapman
By W. E. Simonds Atty.

UNITED STATES PATENT OFFICE.

LUKE CHAPMAN, OF COLLINSVILLE, CONNECTICUT, ASSIGNOR TO THE
COLLINS COMPANY, OF SAME PLACE.

IMPROVEMENT IN DIES FOR FORMING SPANISH AXES.

Specification forming part of Letters Patent No. **172,250**, dated January 18, 1876; application filed
April 9, 1875.

CASE B'.

To all whom it may concern:

Be it known that I, LUKE CHAPMAN, of Collinsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Dies for Forming Round-Headed, Round-Eyed Spanish Axes, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is what I will term a front view of the dies closed upon the sides of an ax. Fig. 2 is what I will term a side view of the dies closed upon the edges of an ax. Fig. 3 is a view of the finished ax.

These dies can be used in rolls, or presses, or drops, and for the primary or finishing parts of the forging process, but I prefer to use them for finish-forging the axes, having the upper die carried on the lower end of a vertically-reciprocating hammer-stock, to be operated by suitable mechanism and power, the die being held to its seat by the dovetail-tenon a^1 , and the lower die b stationary on the top of an anvil-block, being held to its seat by the dovetail-tenon b^1 . These dies have faces a^2 and b^2 , corresponding in shape and contour to the shapes and contours of the faces and sides of the body of the ax shown in Fig. 3. These I term the "surfacing-faces." They also have edging-faces a^3 and b^3 , corresponding in shapes and contours to the shapes and contours of the edges of the ax shown in Fig. 3.

The ax, after being properly heated, is sub-

jected alternately to the action of the surfacing and edging dies till the desired form is attained, giving axes which are accurately shaped and smoothly finished, and thereby insuring uniformity in the style, design, or pattern of the axes produced, and avoiding the multiplicity of small hammer-marks which are found upon axes forged or finished by hand, and which are difficult and expensive to entirely obliterate in the subsequent processes of grinding and polishing, and with the further great advantage of producing better axes much more cheaply than by hand-forging.

These dies are, by preference, of cast-iron. While the workman is side-surfacing the ax he usually has an eye-pin in the eye of the ax.

It is obvious that these dies are applicable, by changes in size, to the manufacture of different-sized axes of the same design or pattern, and that the bit or blade of the ax can have more or less breadth or angular divergence toward the edge without altering the dies in substance.

I claim as my invention—

The dies a and b , herein described and shown, having faces for side-surfacing and edging axes, of substantially the shape shown and described.

LUKE CHAPMAN.

Witnesses:

WM. E. SIMONDS,
GEORGE E. NOLAN.