2 Sheets—Sheet 1.

L. CHAPMAN.

DIES FOR FORMING SPANISH AXES.

No. 172,252. Patented Jan. 18, 1876.

Fig 1

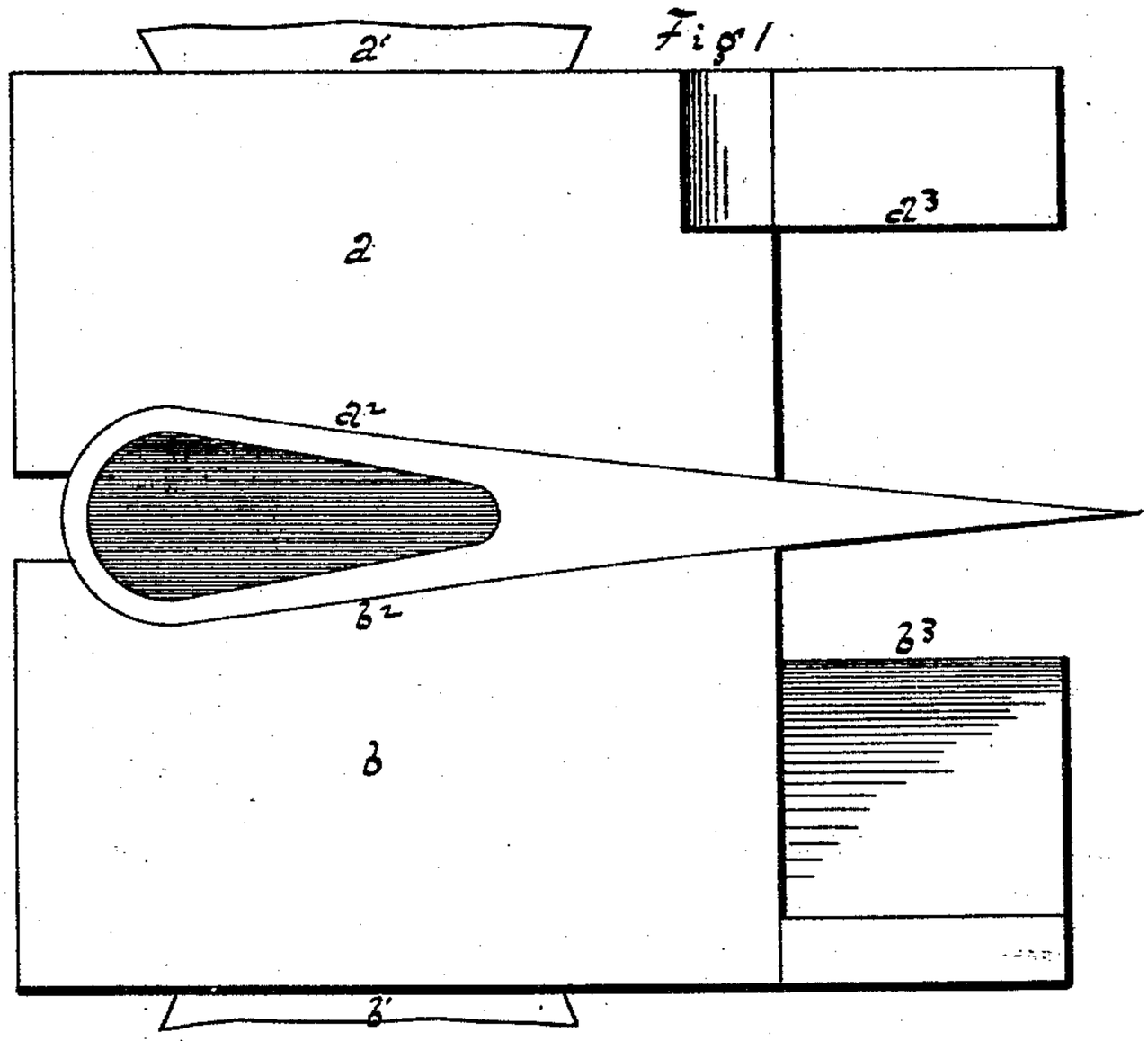
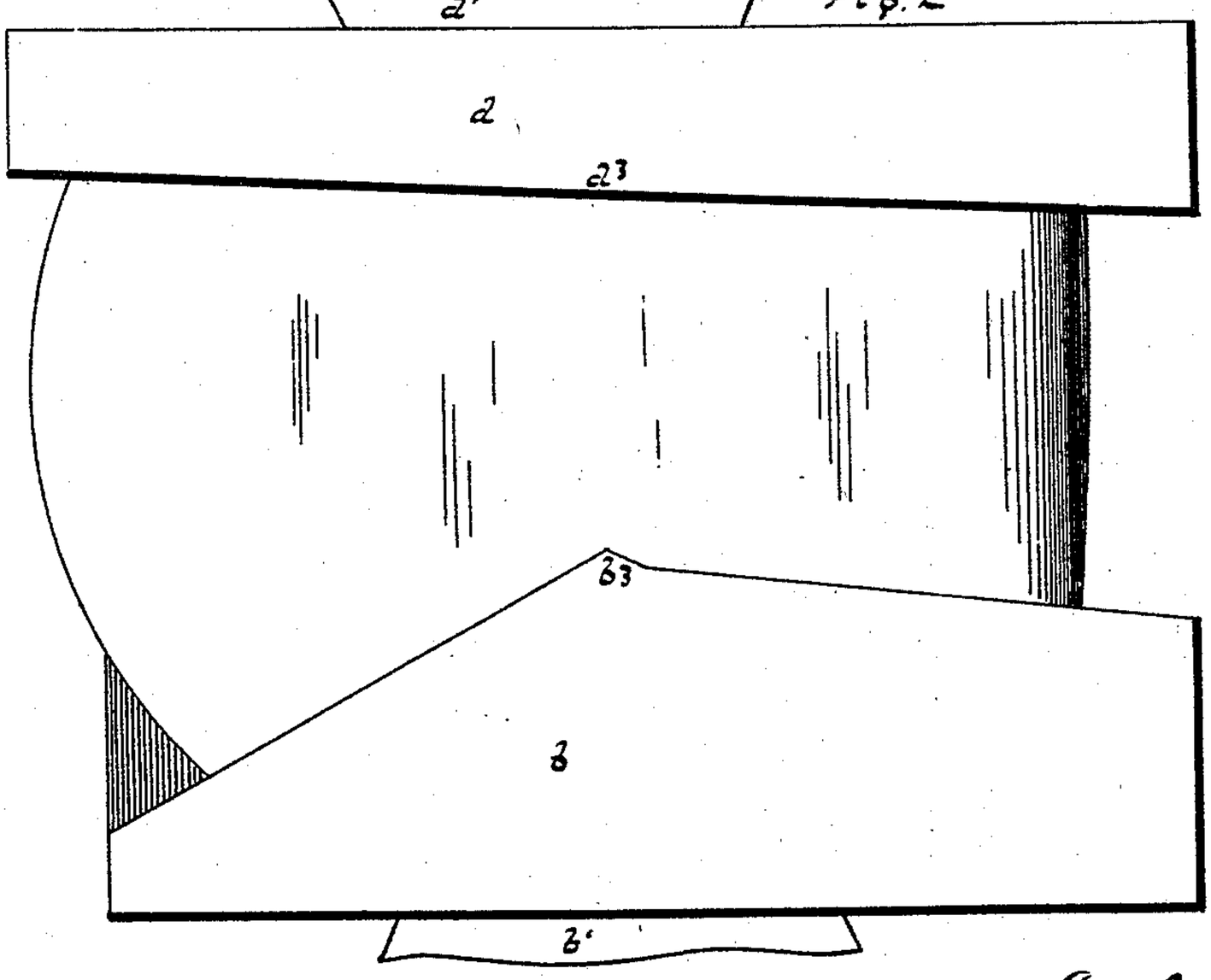


Fig. 2



Witnesses.

John Pollitt

George E. Nolan

Inventor

Luke Chapman

By W. E. Simonds Atty.

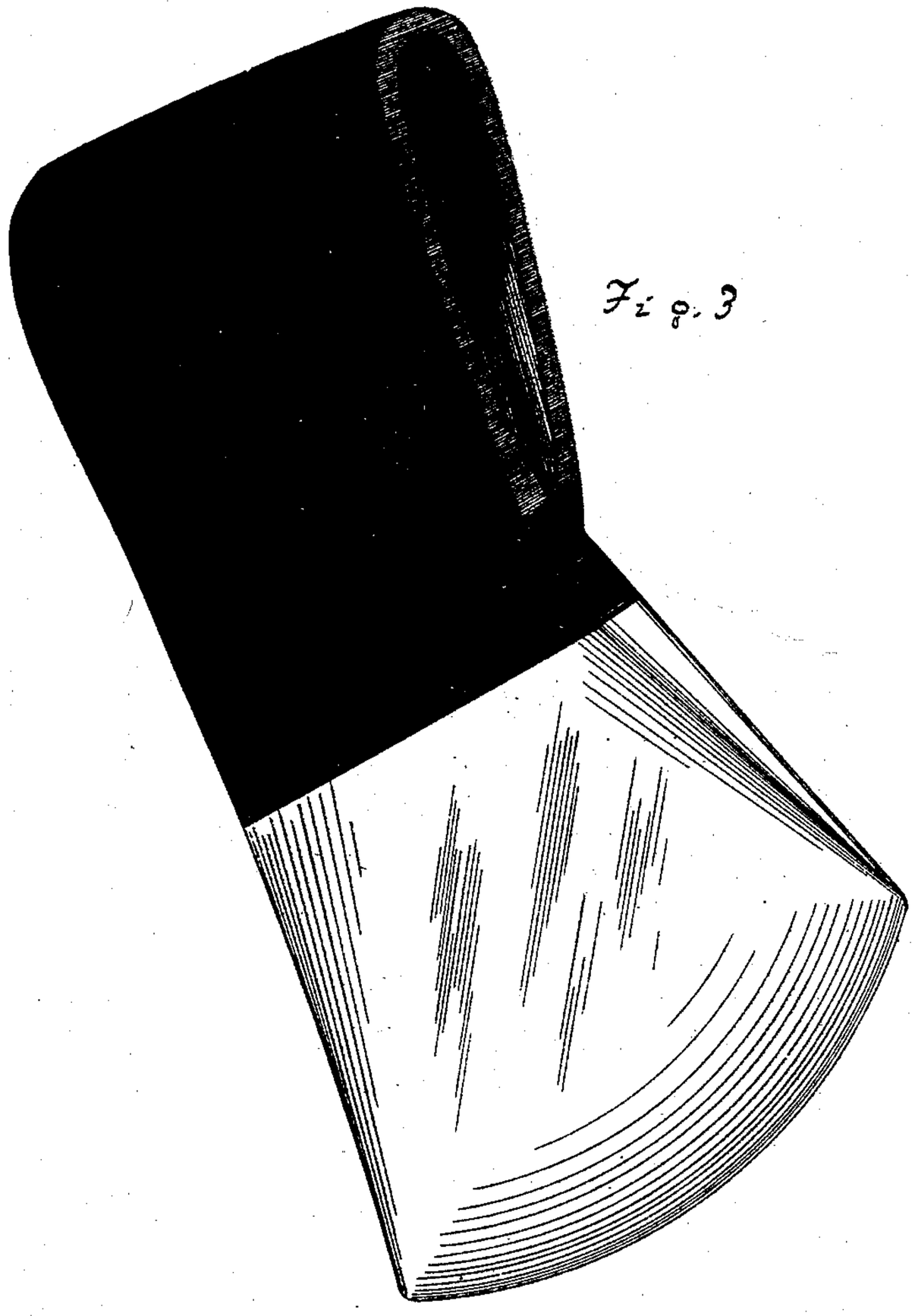
2 Sheets—Sheet 2.

L. CHAPMAN.

DIES FOR FORMING SPANISH AXES.

No. 172,252. Patented Jan. 18, 1876.

Fig. 3



Witnesses.

John Pollitt

George E. Notan

Inventor

Luke Chapman

By W. E. Simmons 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. **172,252**, dated January 18, 1876; application filed April 9, 1875.

CASE D′.

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 Spanish Axes, having eyes of the shape of a wedge with rounded ends, 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 or 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 edge of the ax shown in Fig. 3.

The ax, after being properly heated, is subjected 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 axe can have more or less breadth or angular divergence toward the edge without altering the dies in substance.

I claim as my invention—

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

LUKE CHAPMAN.

Witnesses:

WM. E. SIMONDS,

GEORGE E. NOLAN.