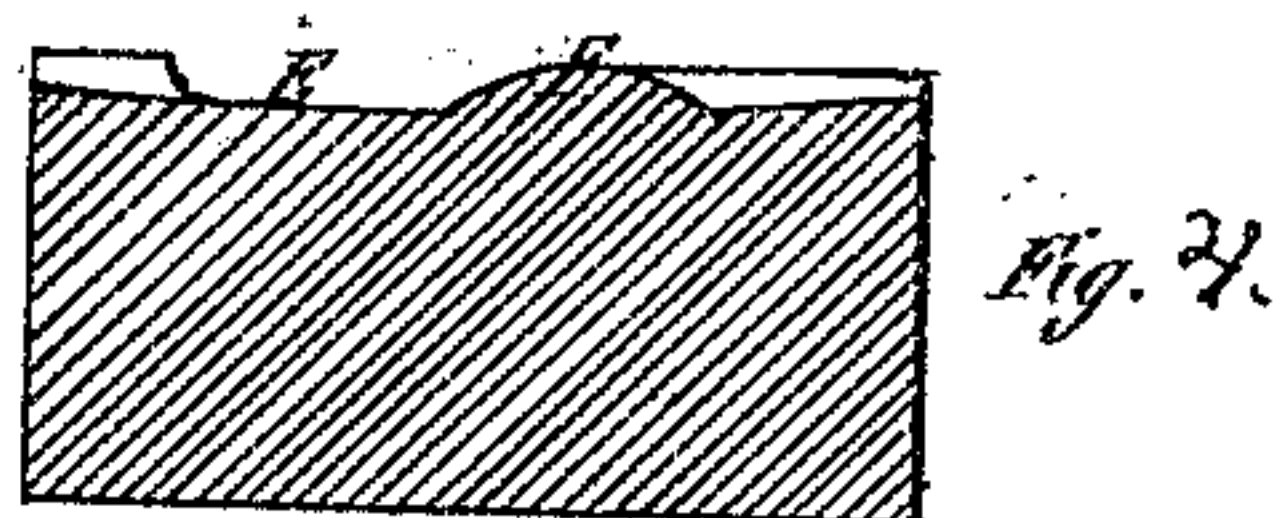
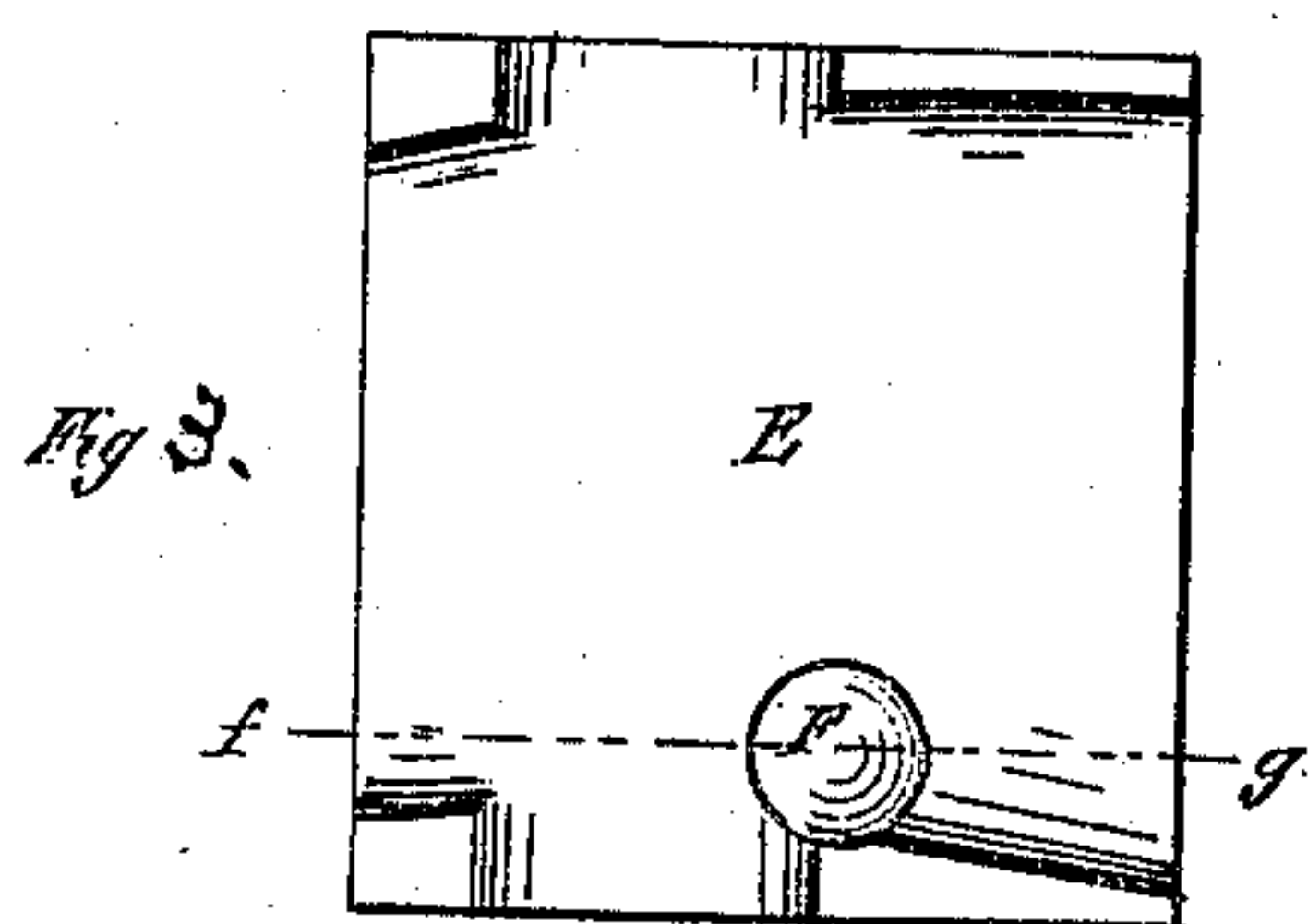
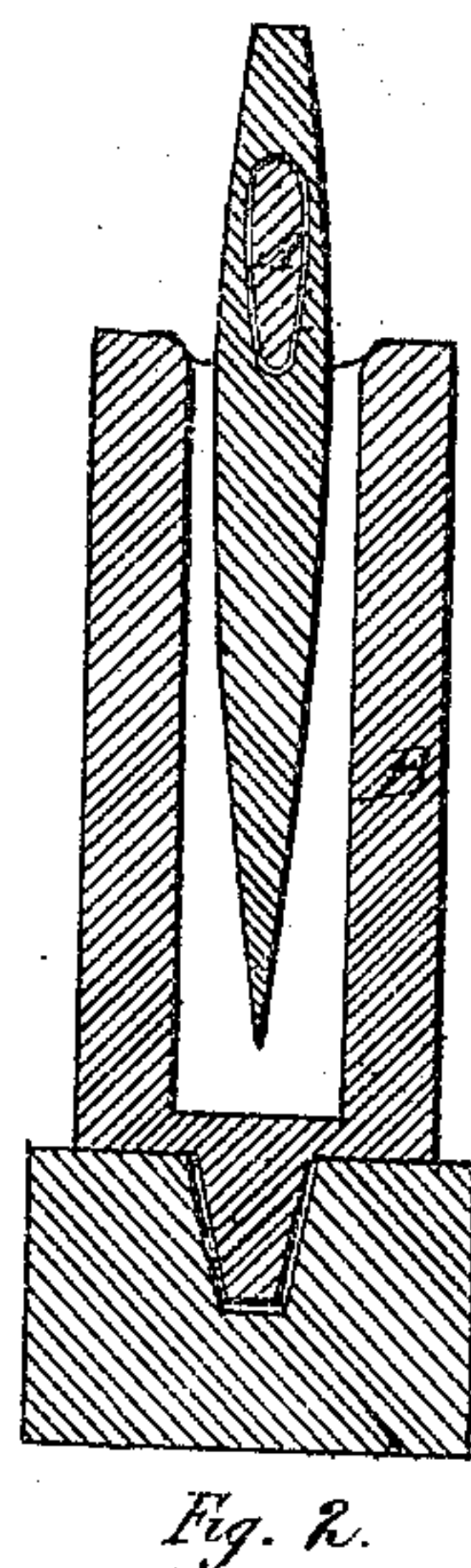
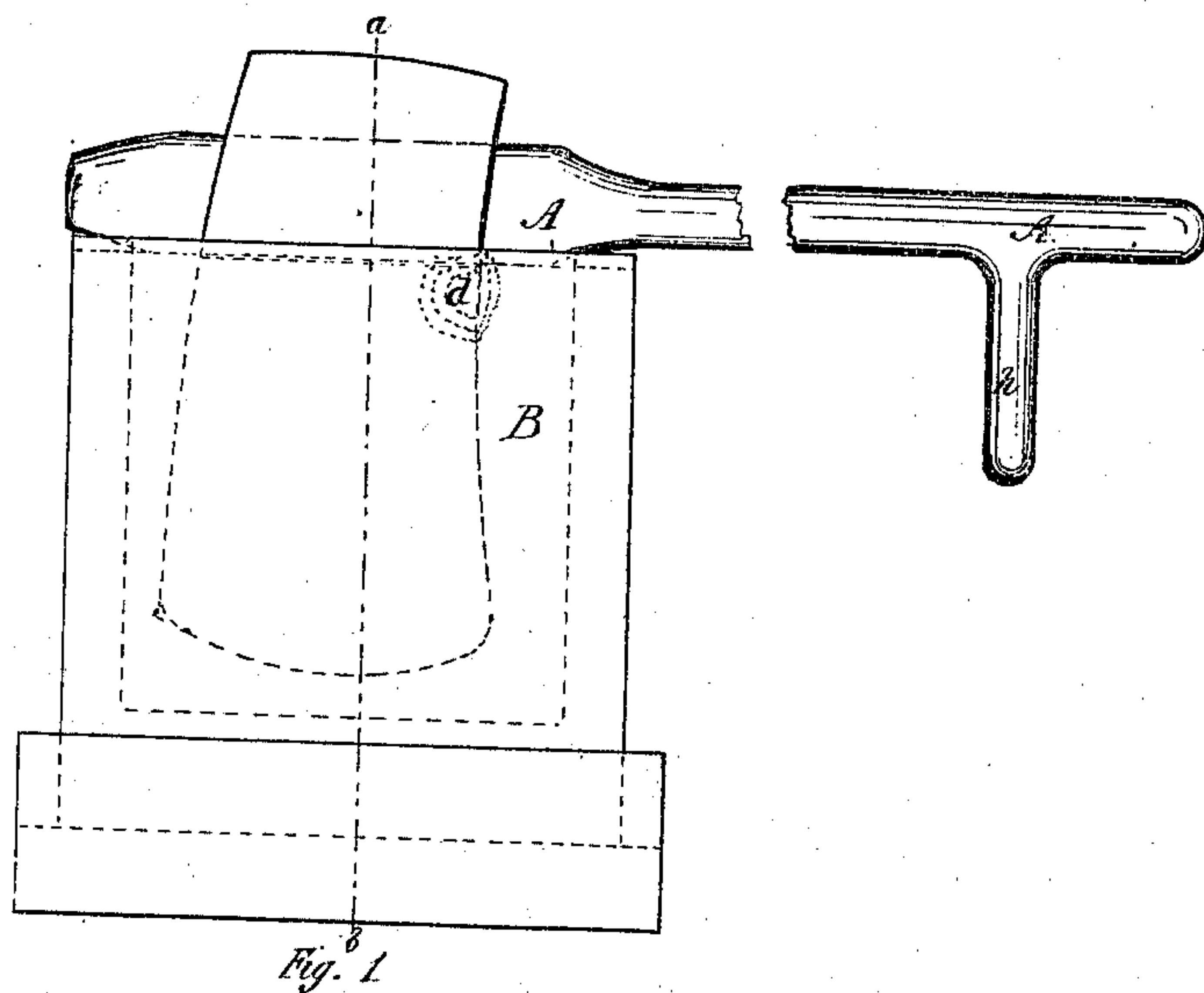


H. D. Morris,

Making Axes.

No. 98789.

Patented Jan. 11. 1870.



H. D. Morris
Frank Sears } *Witnesses.*

Henry D. Morris
Inventor.

United States Patent Office.

HENRY D. MORRIS, OF BALDWINVILLE, NEW YORK.

Letters Patent No. 98,789, dated January 11, 1870.

IMPROVEMENT IN MANUFACTURING AXES.

The Schedule referred to in these Letters Patent and making part of the same.

I, HENRY D. MORRIS, of Baldwinsville, in the county of Onondaga, and State of New York, have invented certain Improvements in the Process of Making Axes, of which the following is a specification.

My invention consists in certain additional devices to be used in connection with improvements in machinery for manufacturing axes, for which Letters Patent were granted to me, August 31, A. D. 1869, and numbered 94,232, and they embrace an eye-pin, A, with handle *r*, sliding swage-block B, and die E, all represented in the accompanying drawings, in which—

Figure 1 is a side elevation of the eye-pin and swage-block.

Figure 2, a section of same through line *a b*.

Figure 3 is a plan of one-half of a die, for shaping the axe.

Figure 4 is a section of same through *f g*.

Like letters refer to like parts in all the representations.

The peculiar features of the eye-pin consist in being made of such a length and shape as to reach through the eye of the axe where the head is being formed, and serve as a lever, whereby the operator can control the movements of the blank, in the process of hammering.

It is provided with a handle, *h*, as shown at fig. 1, at such an angle to the longitudinal axis of the pin, as that the pin can be easily turned by the operator.

The sliding swage-block B is formed with a recess or cavity, as indicated by the dotted lines in fig. 1, and shown in section at fig. 2, to receive the blade of the axe when the poll or head is being formed.

Said block is provided with a guide at its base, which works in a groove in the anvil, so that the block may be moved back and forth upon the anvil, and thereby bring the head of the axe at any desired point under the hammer.

The axe being mounted upon the eye-pin, and both upon and in the block, as represented in figs. 1 and 2,

it is evident that it can be tilted, and turned, and moved backward and forward under the hammer, at the will or pleasure of the operator, so as to nicely round the poll or head, according to any desired pattern.

It sometimes happens, the blanks are not sufficiently wide just below the inner edge of the eye, or at the point *d*, fig. 1; consequently, I have provided another set of dies, one-half of which is shown at E, figs. 3 and 4.

Said dies are constructed exactly to correspond with the degree of finish already accomplished, the flanges upon the side of the die, having the metal cut away, so that the eye-pin can be used as the guiding-agent, and with the addition of a boss or raised point, as shown at F, figs. 3 and 4; and whenever the point just mentioned requires swaging or expanding, the blank or axe is placed in said dies, and the two bosses or raised projections F, spread the metal as desired, by a blow or two from the hammer.

The projection of the eye-pin beyond the edges of the axe, so as to bear upon the portions of the dies or swage-blocks, as described, acting as a lever upon them, as fulcras, and the turning-handle *h*, all combined, assist very greatly in the process of hammering axes.

Having thus described my invention,

I claim—

1. The eye-pin A, with a handle, *h*, substantially as described, and for the purposes set forth.

2. The sliding swage-block B, provided with a cavity to receive the axe-blade, and a guide to control it upon the anvil, substantially as described.

3. The die E, provided with the boss F, substantially as described, and for the purposes set forth.

HENRY D. MORRIS.

Witnesses:

W. F. MORRIS,
FRANK SEARS.