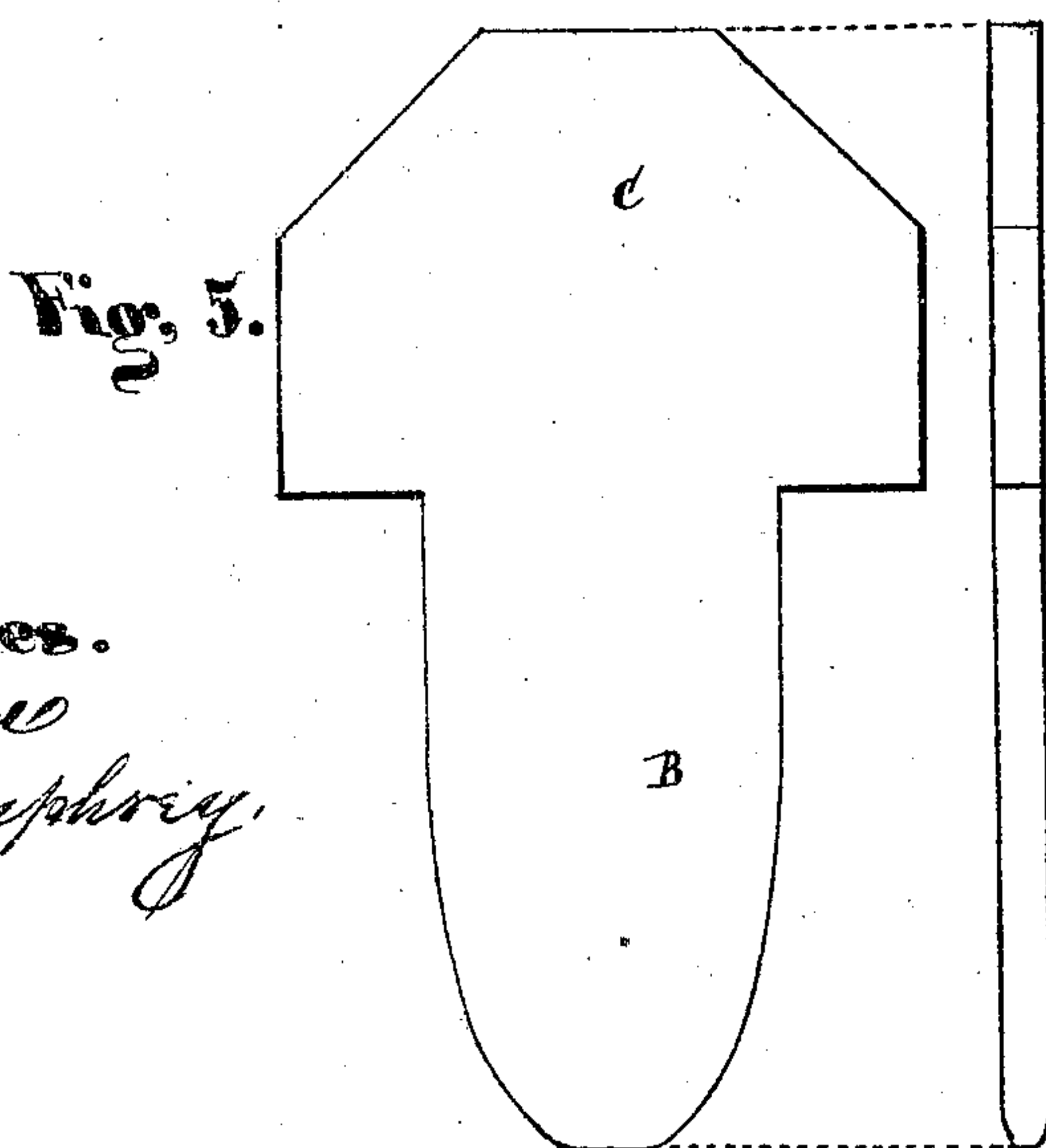
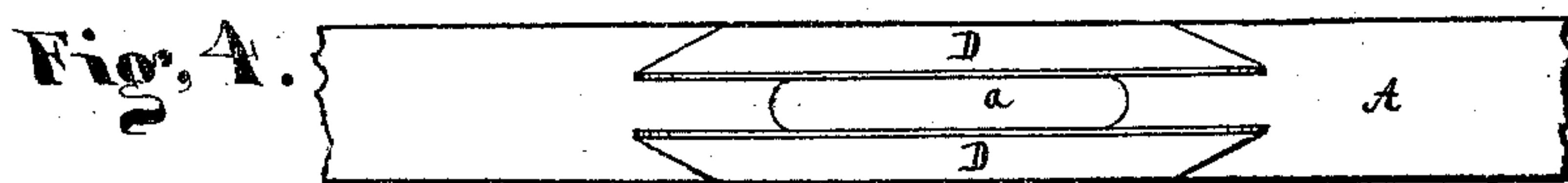
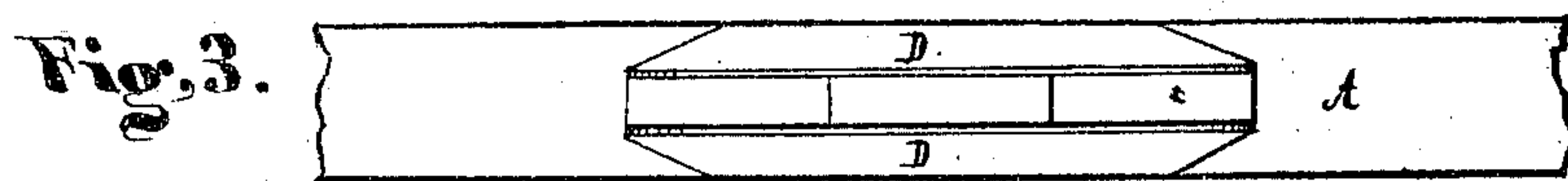
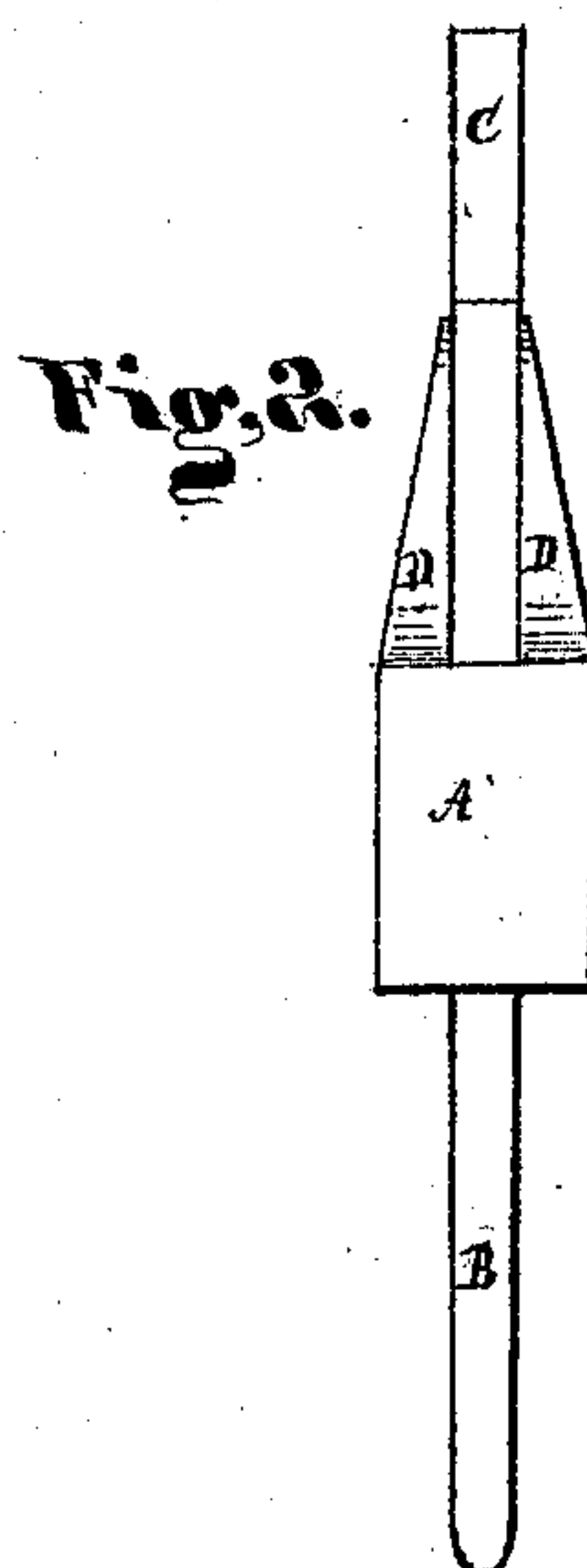
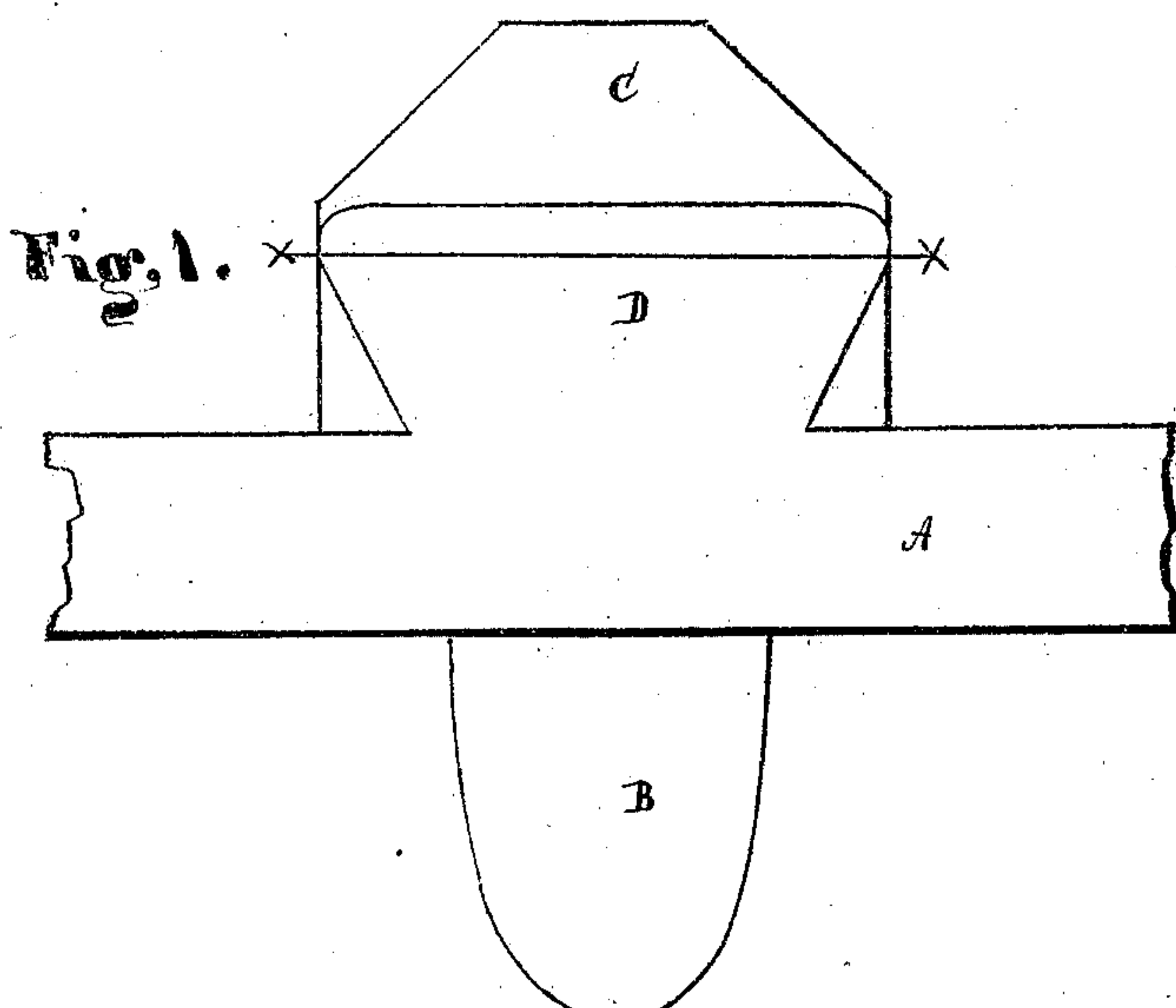


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Improvement in the Manufacture of Grubbing Hoes and Picks.

No. 122,897.

Patented Jan. 23, 1872.



Witnesses.

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D. L. Humphrey.

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Fig. 6.

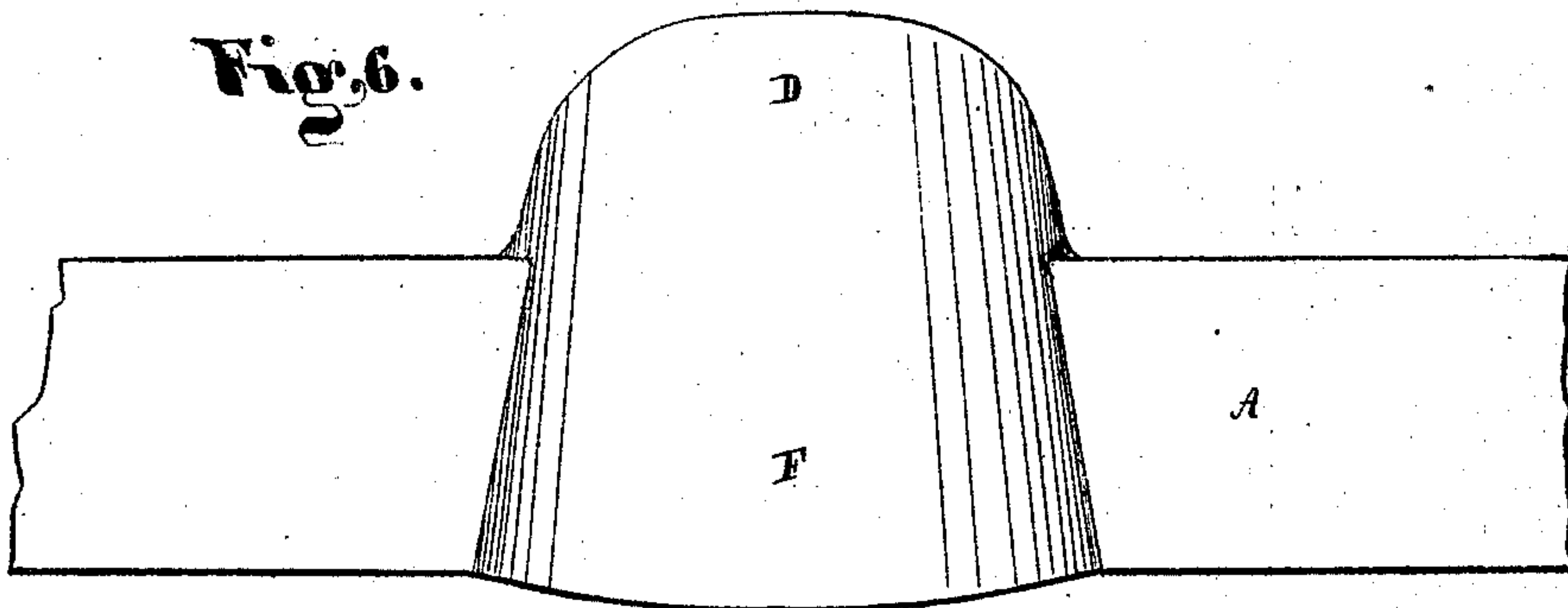


Fig. 7.

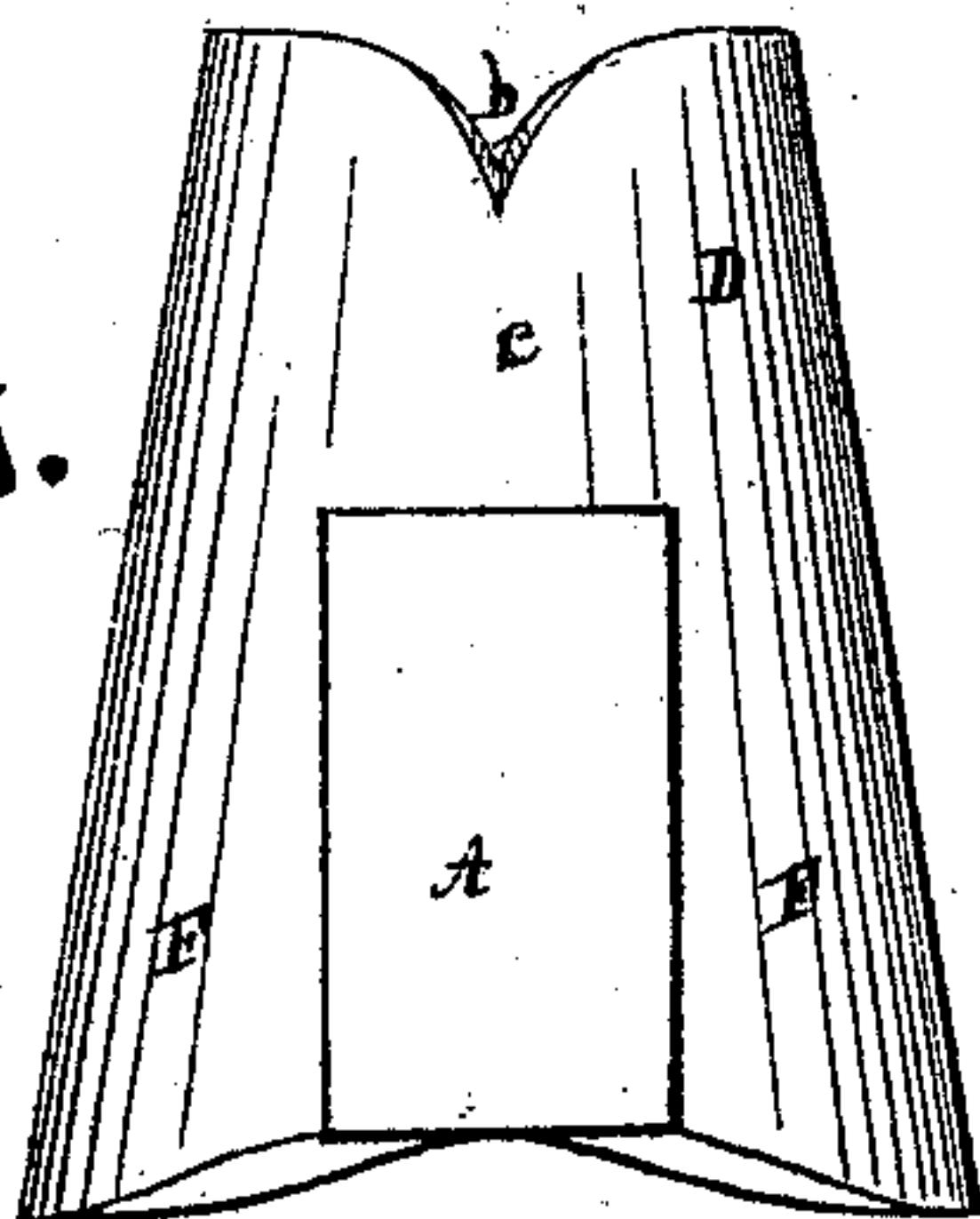
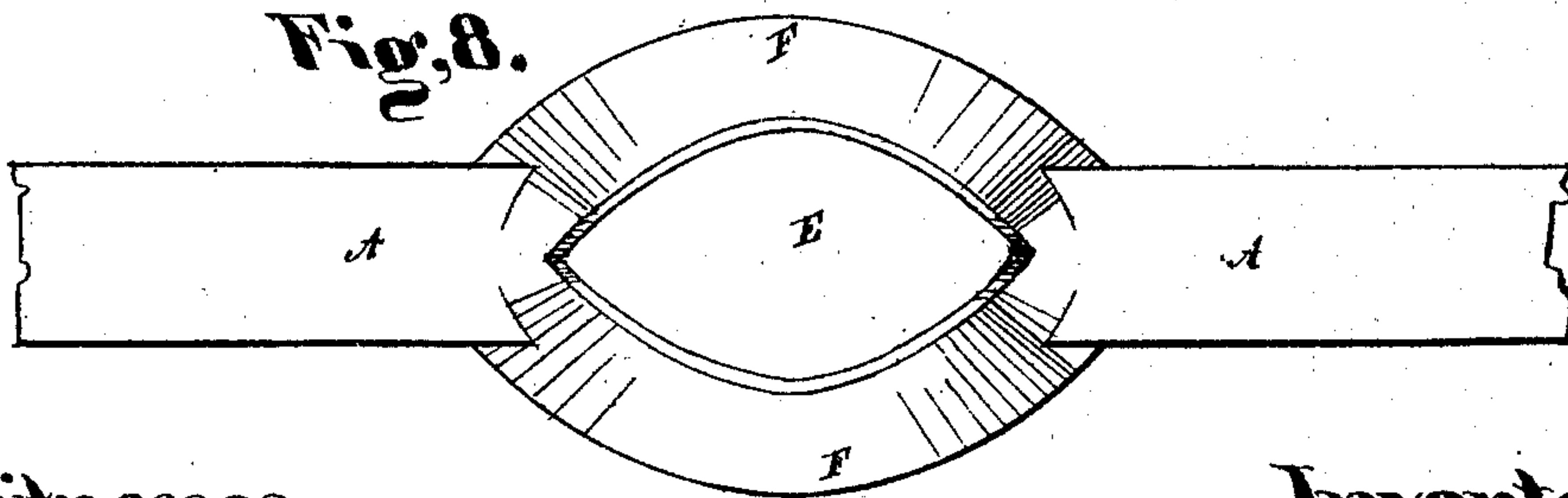


Fig. 8.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSEPH LEE, OF CLEVELAND, OHIO.

## IMPROVEMENT IN THE MANUFACTURE OF GRUBBING-HOES AND PICKS.

Specification forming part of Letters Patent No. 122,897, dated January 23, 1872.

*To all whom it may concern :*

Be it known that I, JOSEPH LEE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain Improvements in the mode of manufacturing Grubbing-Hoes or Mattocks; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

### SPECIFICATION.

Figure 1 is a side view of the grubbing-hoe or mattock, partially made. Fig. 2 is an end view. Figs. 3 and 4 are top views of Fig. 1. Fig. 5 is a view of an eye-pin. Figs. 6, 7, and 8, are different views of the eye of the grubbing-hoe or mattock, when finished.

Like letters of reference refer to like parts in the several views.

This invention has for its object the forming the eye of a grubbing-hoe, mattock, or other like implement, having an eye in which to insert the handle, so that said eye shall be stronger, and have more holding capacity on the handle inserted therein than the eye made in the ordinary way.

The following is a more full and complete description thereof. I take a piece of iron, A, Fig. 1, of the proper length and size for the implement, and in the middle thereof punch an oblong hole for the eye. In said hole is then driven a flat eye-pin, B, Fig. 5, having a broad flat head, C. The pin when driven in the piece or bar of iron is shown in Fig. 1. The metal on each side of the hole or pin is then hammered out lengthwise and sidewise upon the head C, forming thereon a pair of ears, D, having a greater width than the length of the hole *a*, as shown in Fig. 4, and which ears form the sides of the eye above the bar. That is to say, the metal (of the ears referred to) close to the bar or blank, is hammered and thereby spread out sidewise so that when the eye-pin is inserted for forming the eye, said extended part of the ears close to the blank will come together so close as to abut, but not lap upon each other, and are therefore not welded.

When the ears D have thus been formed, an opening pin having the shape of the eye E, Fig. 8, is then driven into the hole *a*, thereby spreading out the sides of the bar, forming cheeks F for the sides of the eye in the bar. The ears D are then bent round forming the sides of the eye above the bar. It will be obvious that in consequence of the width of the ears in direction of the line *xx* downward to the blank, that the ends thereof will, on being bent round over the eye-pin, touch and lap upon each other so that the eye, when finished, will have no V-shape space extending from the bar upward; but on the contrary, the eye above the bar will be surrounded by the metal nearly to the top, as shown in the end view, Fig. 7, leaving only a small V-shape space, *b*, at the top; whereas all the depth *c* of the eye below the space *b* is closed in—that is to say, the space *b* is so large as to extend down to the bar. In thus giving to each end of the eye above the bar an increase of surface it will be obvious that its holding capacity on the handle will be greater than that of the ordinary eye; hence the tool is less liable to come off, but will admit of being worked with more vigor and wrenching in consequence of being more secure on the handle and having a stronger eye.

### Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The herein described mode of forming the eye of grubbing-hoes, mattocks, and other similar implements having an eye for holding the handle so that said eye shall have its ends above the bar or blank closed, or nearly so, by the employment of a flat broad-headed eye-pin A on which to extend and spread the metal of the ears sidewise after the eye-hole is punched, in the manner as described and set forth.

JOSEPH LEE.

Witnesses:

W. H. BURRIDGE,  
J. H. BURRIDGE.