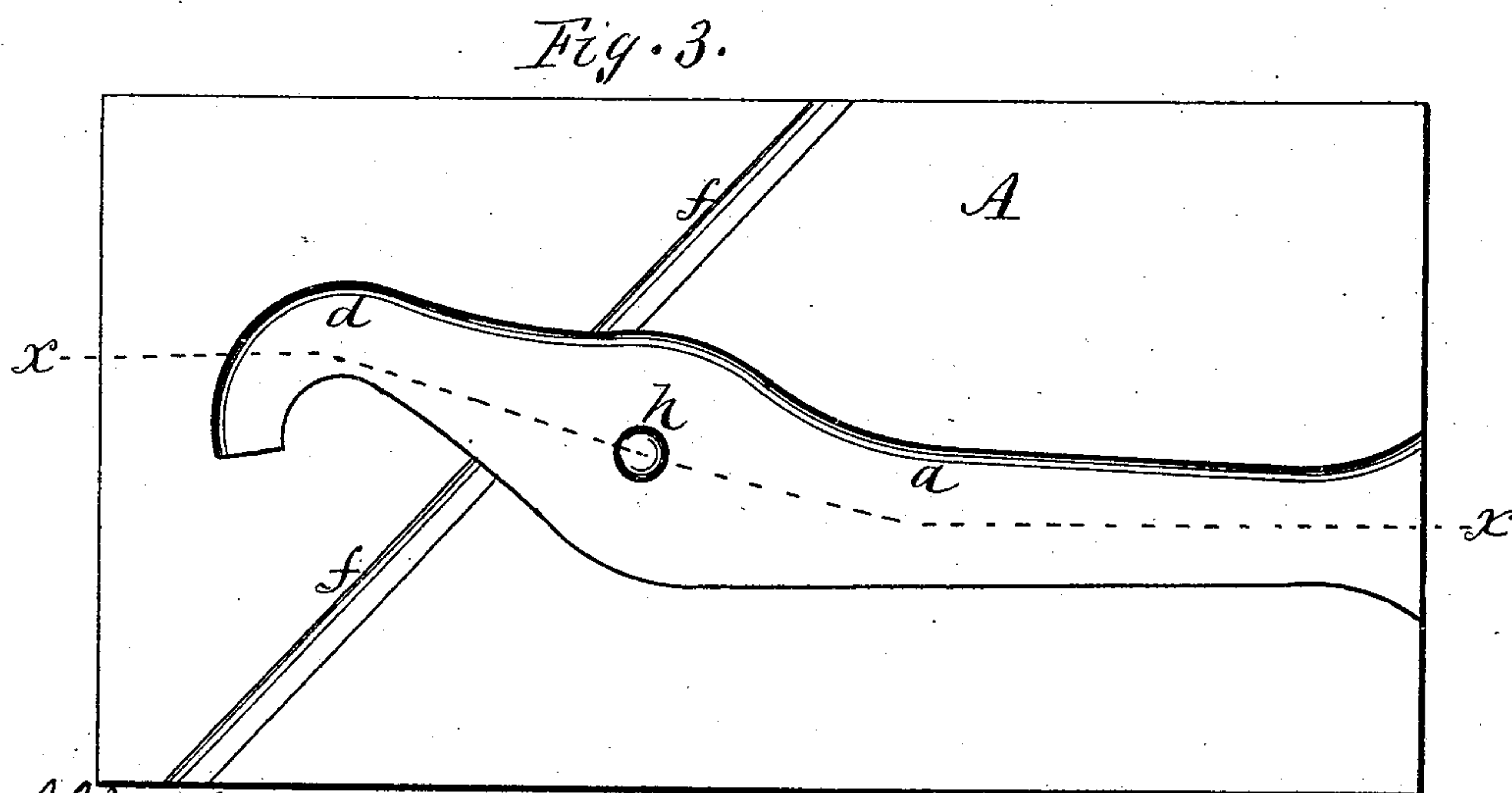
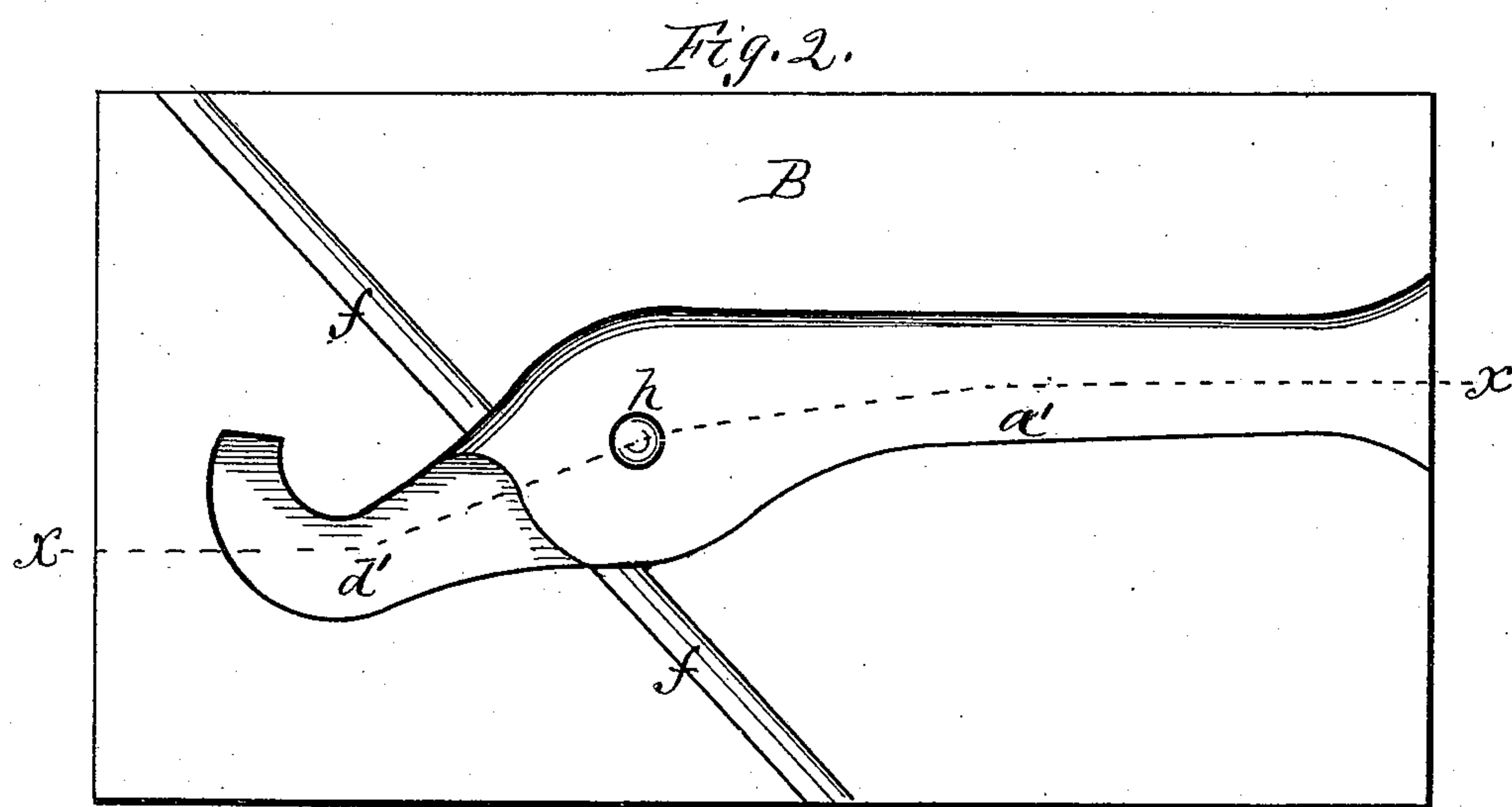
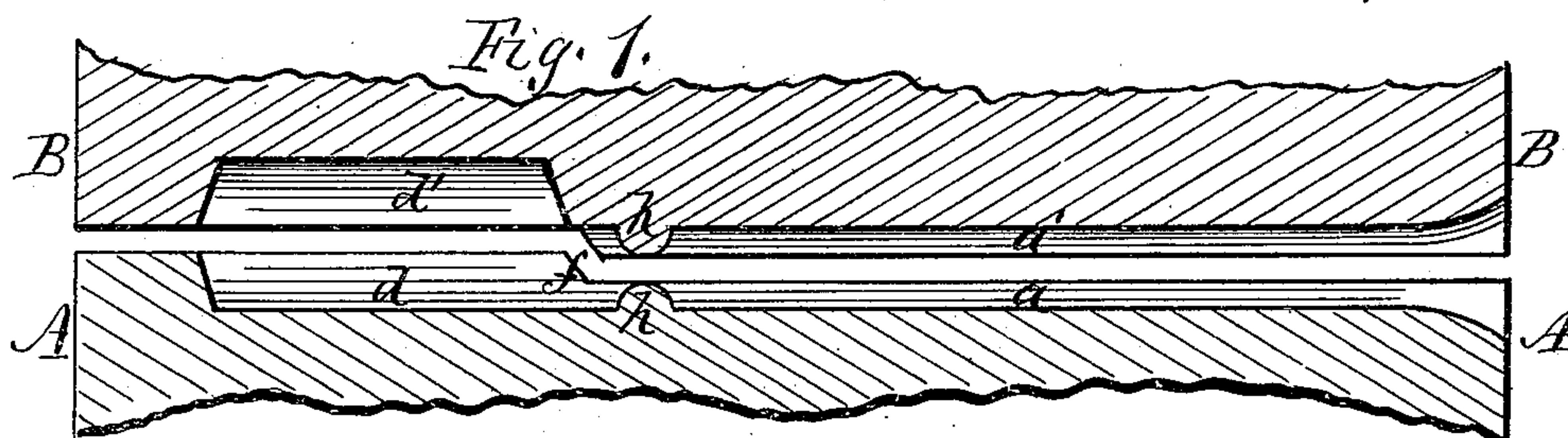


H. F. SMITH & S. FAWCETT.
DIE FOR MAKING BLANKS FOR PIPE TONGS.

No. 343,155.

Patented June 1, 1886.



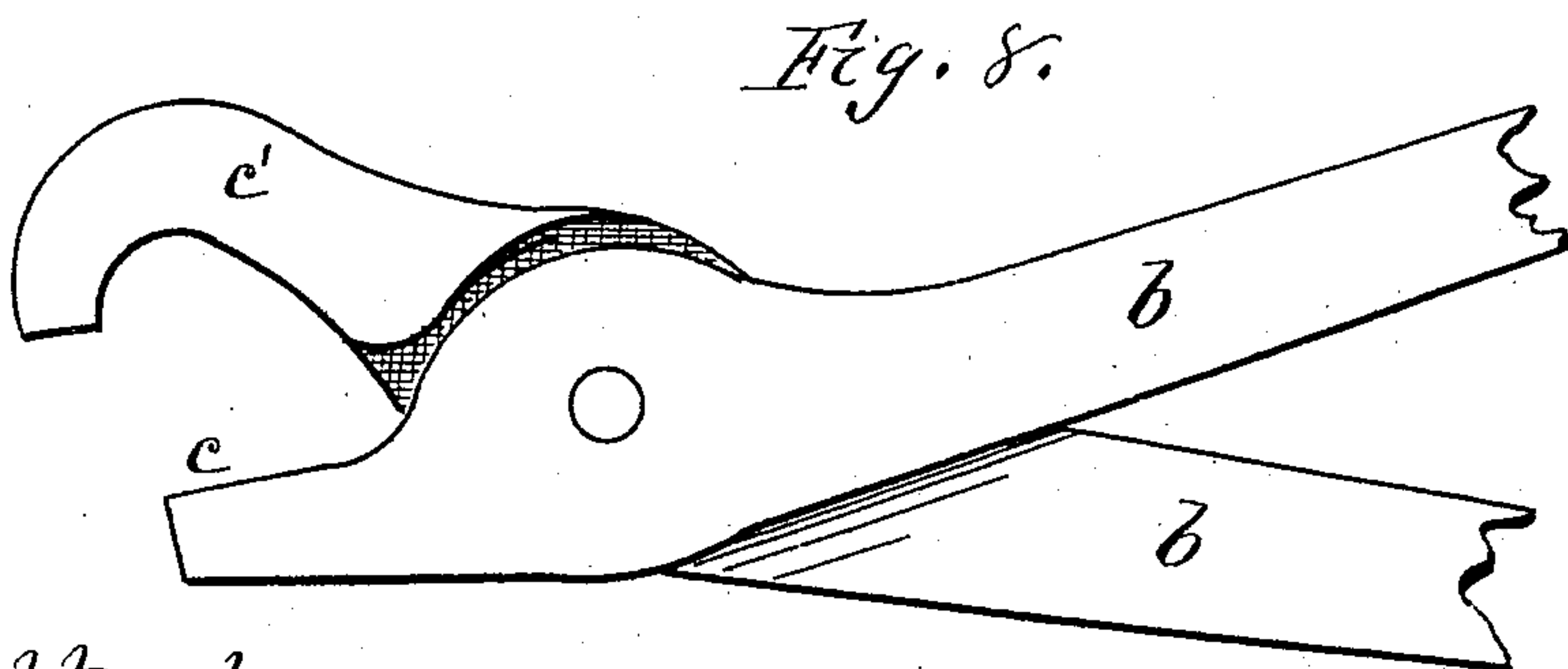
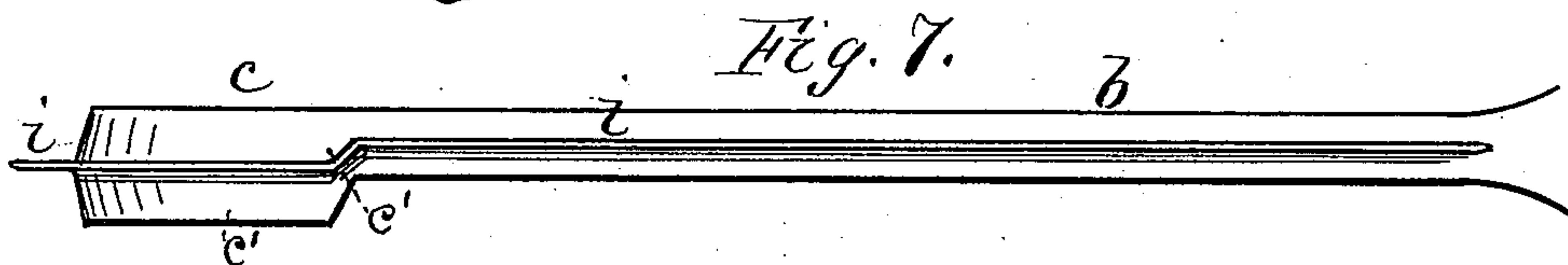
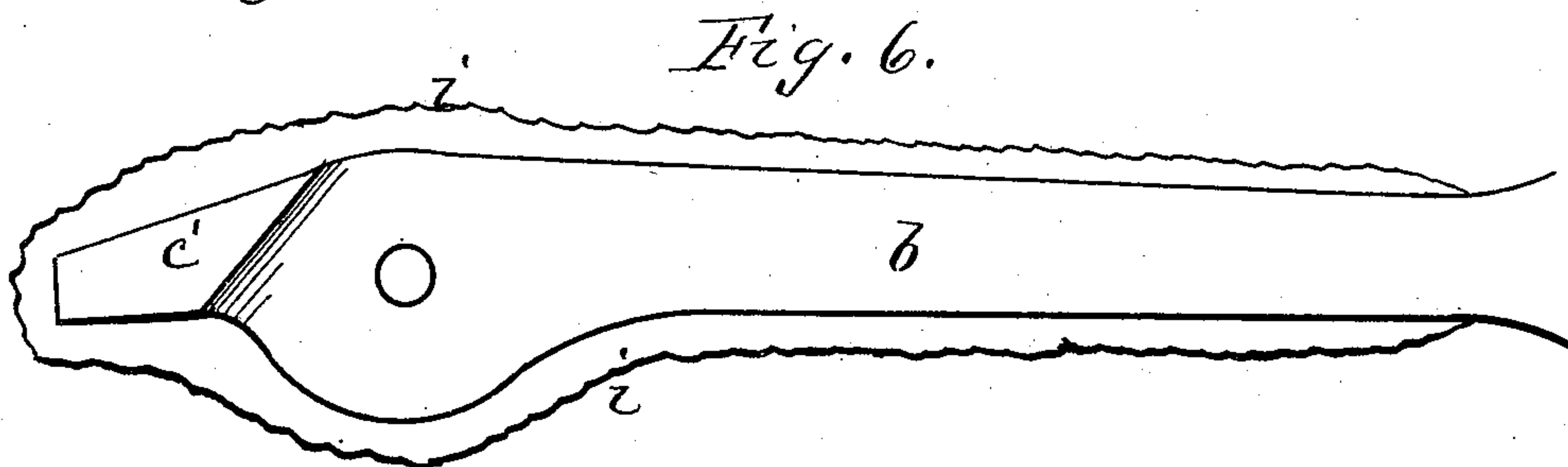
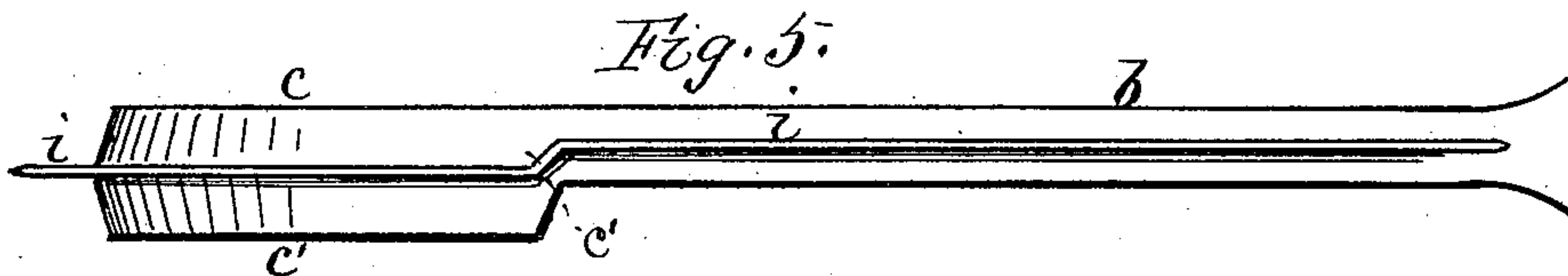
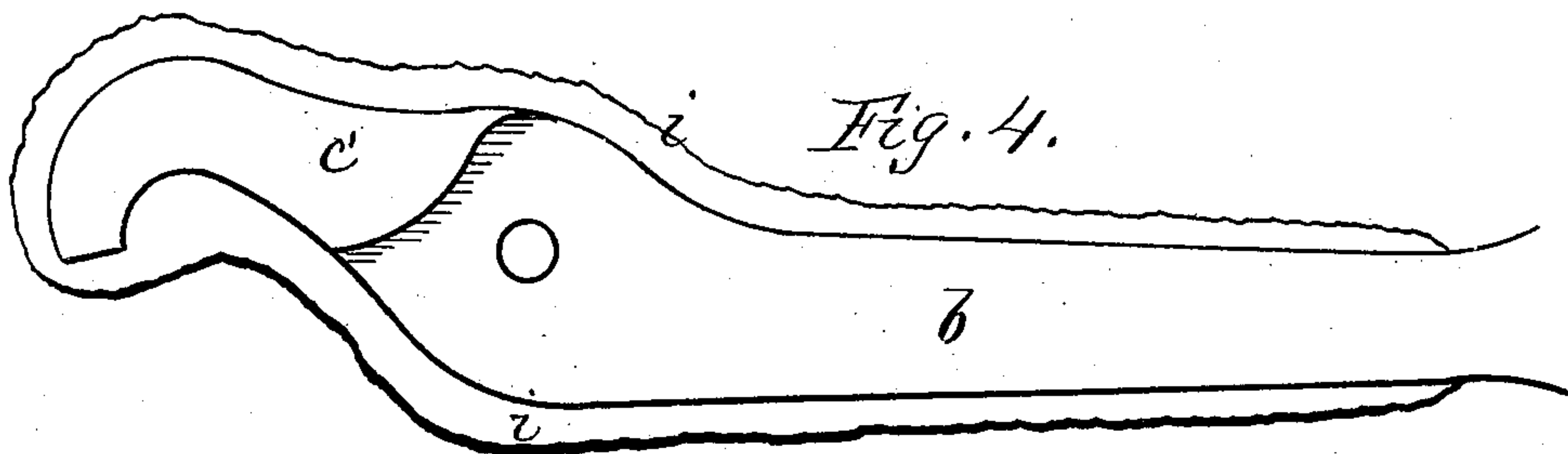
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UNITED STATES PATENT OFFICE.

HENRY F. SMITH AND SAMUEL FAWCETT, OF ROCHESTER, NEW YORK.

DIE FOR MAKING BLANKS FOR PIPE-TONGS.

SPECIFICATION forming part of Letters Patent No. 343,155, dated June 1, 1886.

Application filed July 6, 1883. Serial No. 100,194. (No model.)

To all whom it may concern:

Be it known that we, HENRY F. SMITH and SAMUEL FAWCETT, both of Rochester, Monroe county, New York, have invented a certain new and useful Improvement in Dies for Forming Pipe-Tongs Blanks; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings.

Our improvement relates to dies for making the blanks of pipe-tongs. Heretofore, so far as we are aware, such blanks have been made by hand-forging, which is laborious, expensive, and tedious, and imperfect work is produced, since the parts cannot all be made to exact pattern and do not fit accurately.

Our invention consists of dies in the meeting faces of which are formed matrices of peculiar form to strike the blanks, as hereinafter described.

In the drawings, Figure 1 is a longitudinal section of the meeting faces of the two dies. Fig. 2 is a plan view of the face of the upper die. Fig. 3 is a similar view of the face of the lower die. Figs. 4 and 5 are plan and edge views, respectively, of the hook-blank forming one-half of the pipe tongs. Figs. 6 and 7 are similar views of the blank forming the other half of the pipe-tongs. Fig. 8 is a flat view of the completed tongs.

The blanks formed in the dies are of the form shown in Figs. 4, 5, 6, and 7, each consisting of a straight body portion, *b*, constituting the handle, and a head, *c*, constituting the jaw or the part that holds onto the article to be turned. On one side of the head is also formed an offset or projection, *c'*, which gives the head double thickness, by which strength and substance are secured at the point where the great strain comes in use. To produce this form of the blank, the matrices in the dies have to be made of peculiar form, and are as follows: The lower die, A, has a matrix, *a*, whose thickness or depth is equal to one-half the thickness of the handle of the blank, and this matrix continues of the same depth its whole length, leaving the bottom a plane surface. At the point where the jaw is formed, however, the faces of the dies are offset, an angular incline, *f*, being formed, raising the jaw end of the lower die to a higher level, and correspondingly depressing the surface of the

upper jaw. By that means the end of the matrix *a*, where the jaw is formed in the lower die, is made really deeper than the rest of the matrix, as shown at *d*, to the extent of the thickness of the raise. The upper die, B, is also provided with a matrix, *a'*, of the same depth as the lower one, which extends as far as to the jaw, where it vanishes in the plane surface of the depressed portion of the die before described; but in this depressed portion is made a socket or cavity, *d'*, of a depth sufficient to form the offset *c'* of the jaw, and also of the proper shape. At the point where the pivot is applied to secure the parts when made into tongs the dies are provided with bosses *h h*, which stand in line and nearly touch when the dies are closed, forming thereby indentations in the blank, which only require to be reamed out to make the pivot-holes.

By the peculiar conformation and shape of the matrices in the dies, as above described—that is, the handle portion of a depth sufficient to form the handle, and then offset or deepened into the upper die to form the extra thickness of the jaw—blanks can be struck with great rapidity and of exact form, and only requiring the trimming off of the fins and the reaming of the pivot-holes to complete them, and are then in condition to be pivoted together to form the tongs. Being struck of exact form, the blanks will all fit indiscriminately. If desired, the matrices in the dies may be reversed, that with the cavity *d'* being used in the lower die instead of the upper one.

The object of the offset *f* in the dies is to make the joint follow the center of the jaw and then offset and follow the center of the handle. By this means the handle may be rounded on its edges to facilitate drawing from the dies, and also to be easy to the hands in using the pipe-tongs. The offset *f* is inclined to produce a perfect joint and prevent binding when closed.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The dies herein described for making pipe-tongs blanks, constructed with matrices for forming the handle of the blank, a deeper cavity in one of the dies for forming the thickened jaw of the blank, and with an inclined

offset in the faces of the dies to make the joint follow the center line of the blank, as herein shown and described.

2. The dies herein described for making
5 pipe tongs blanks, constructed with matrices for forming the handle of the blank, a deeper cavity in one of the dies for forming the thickened jaw of the blank, and with bosses for indenting the pivot-hole of the blank, as herein
10 shown and described.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

HENRY F. SMITH.
SAMUEL FAWCETT.

Witnesses:

WM. H. DUFFETT,
R. F. OSGOOD.