

G. M. THOMPSON.
Bench-Planes.

No. 153,399.

Patented July 21, 1874.

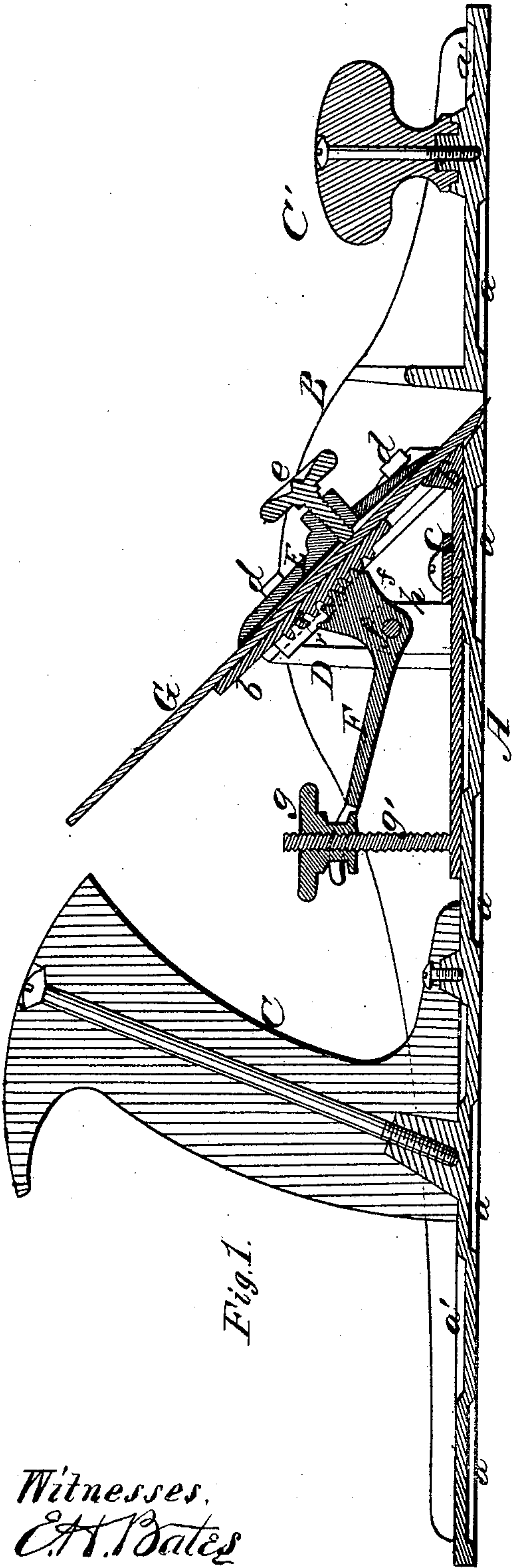


Fig. 1.

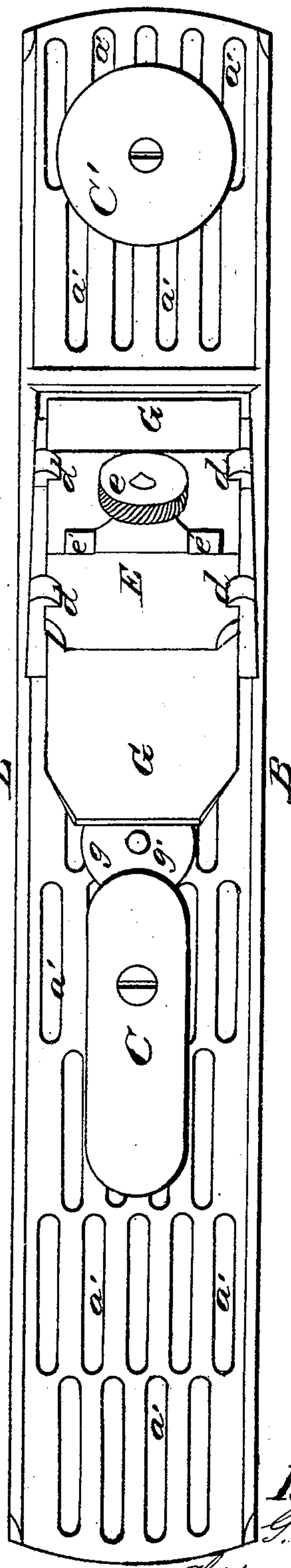


Fig. 2.

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Fig. 3.

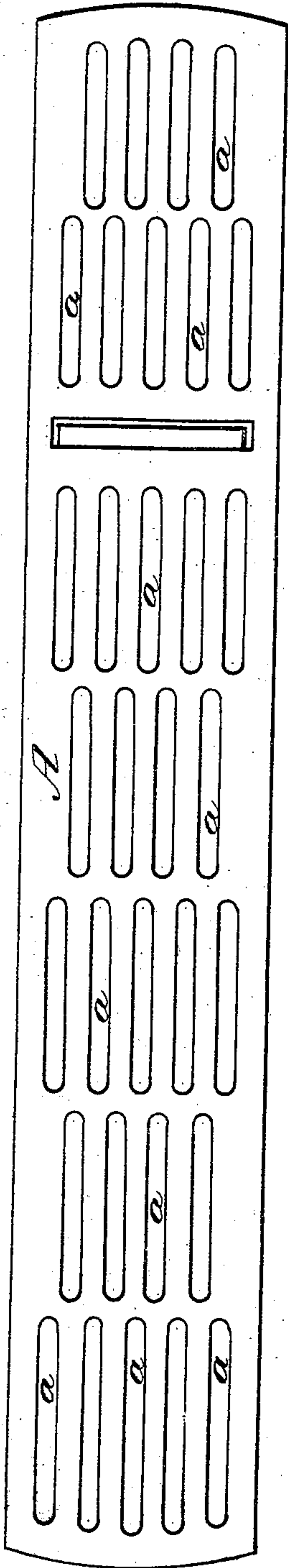


Fig. 6.

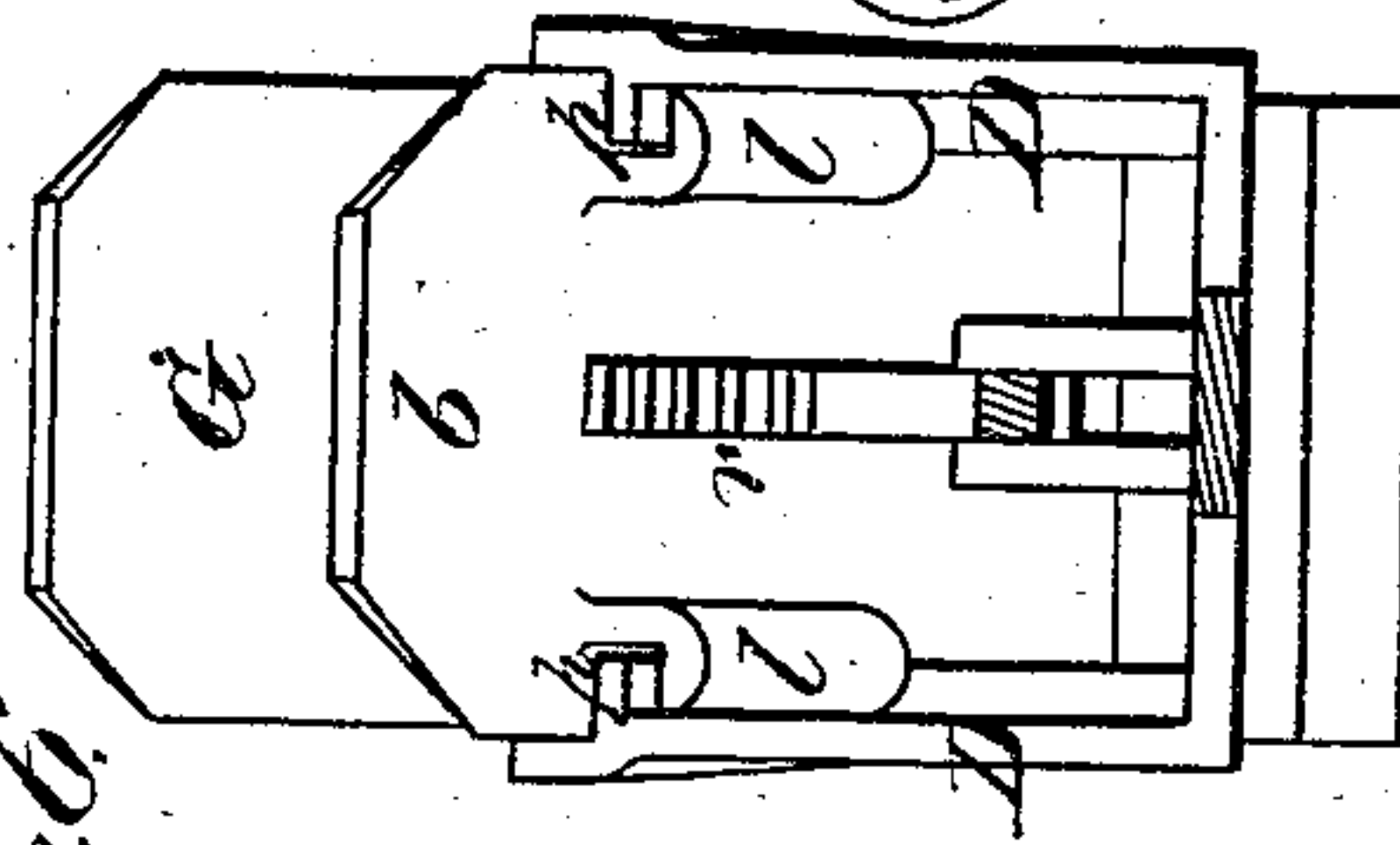


Fig. 7.

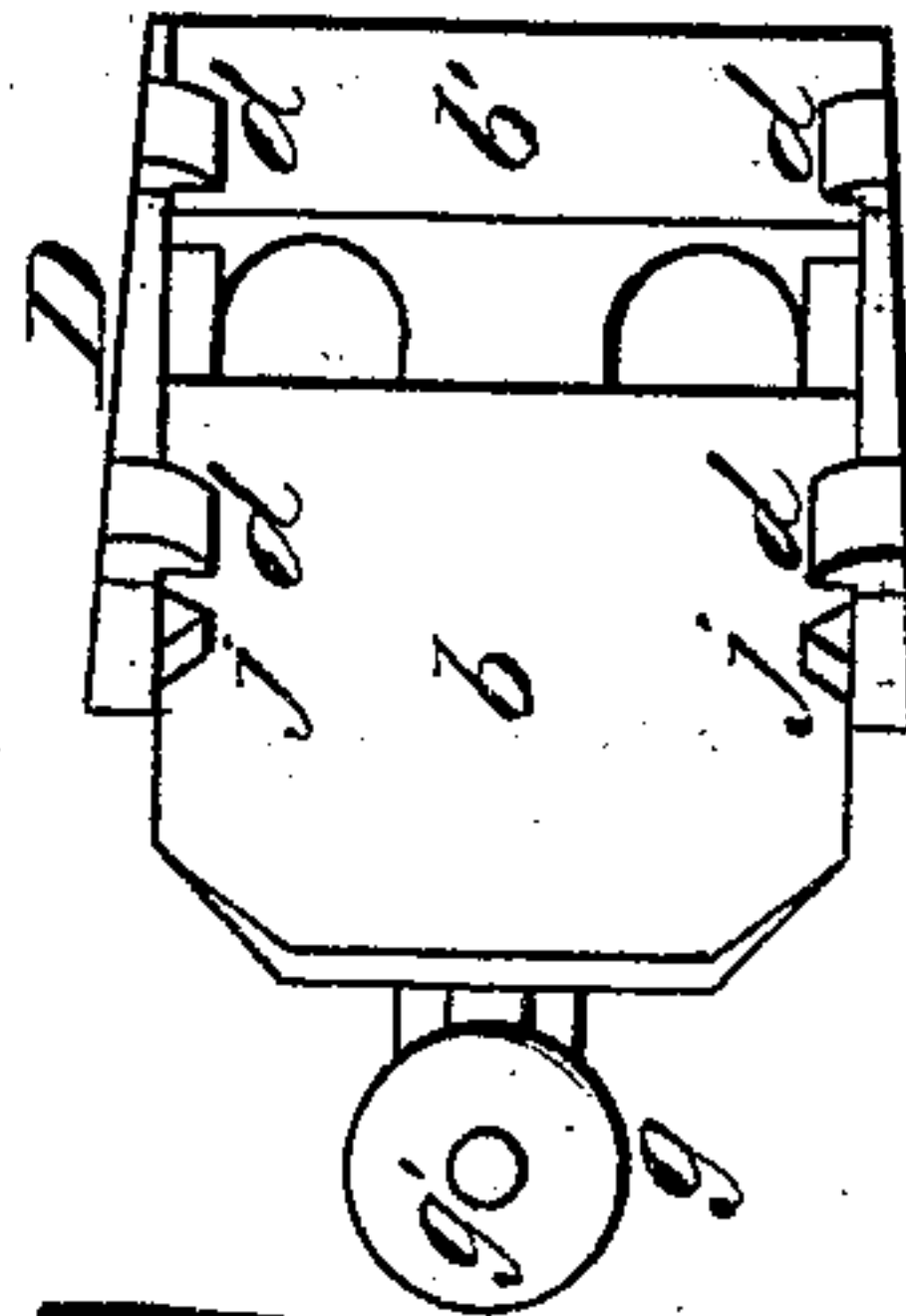


Fig. 5.

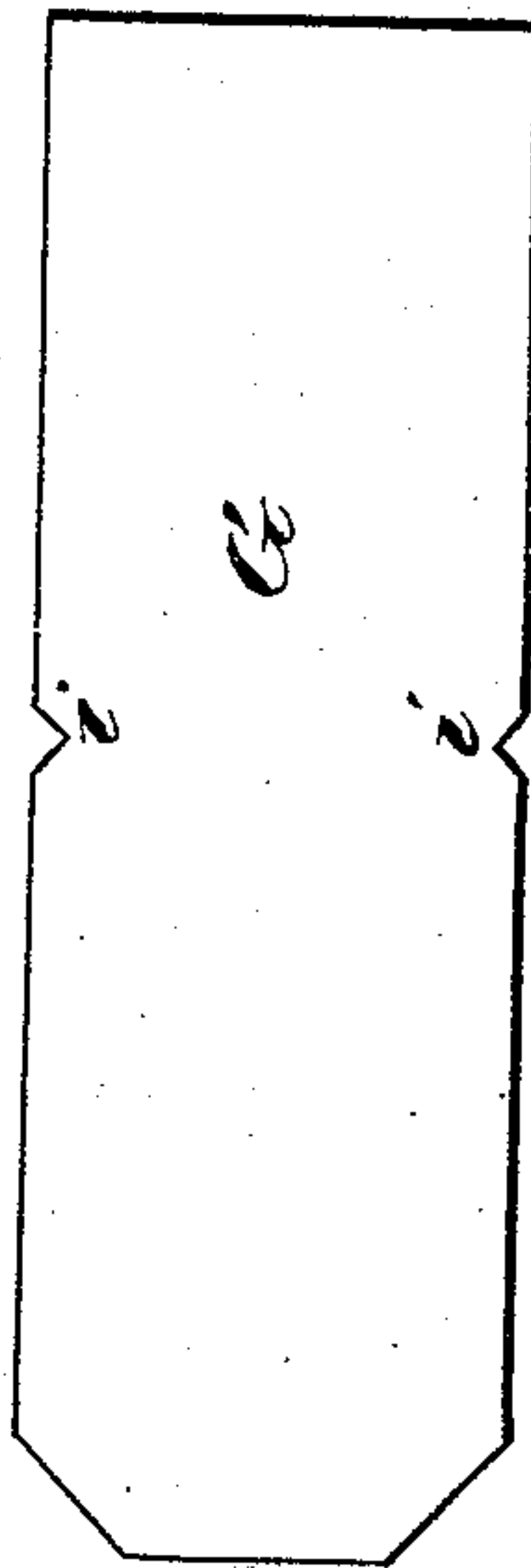


Fig. 8.

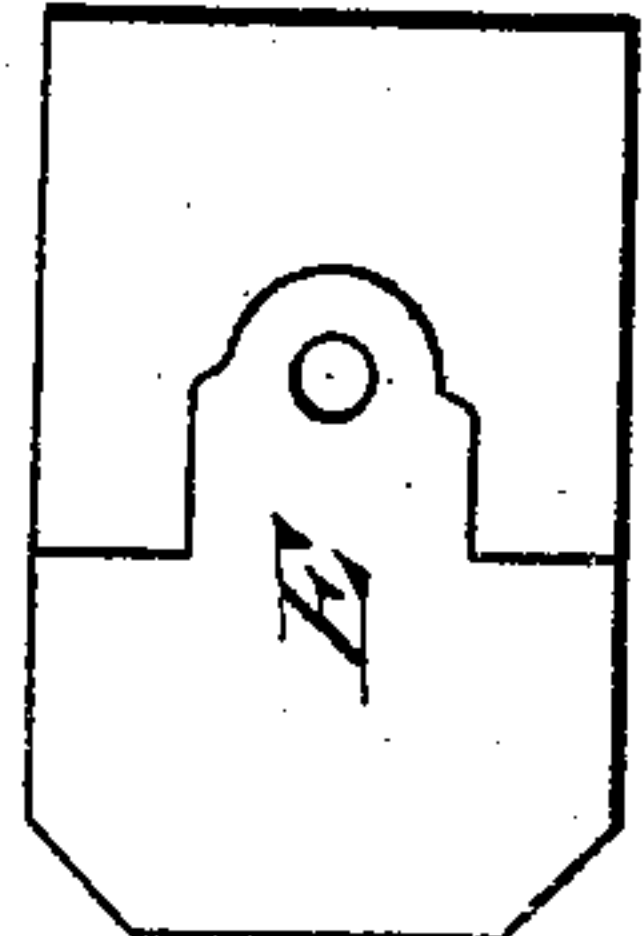
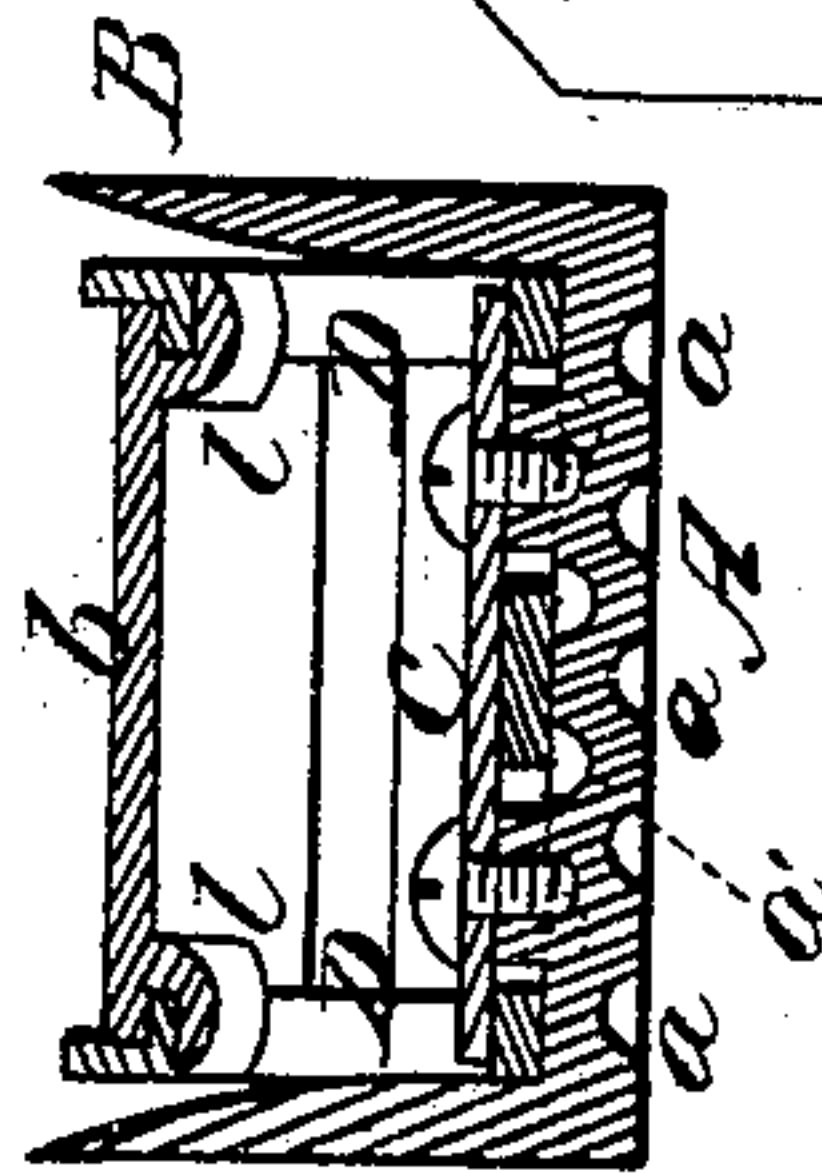


Fig. 4.



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GEORGE M. THOMPSON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BENCH-PLANES.

Specification forming part of Letters Patent No. **153,399**, dated July 21, 1874; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, GEORGE M. THOMPSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and valuable Improvement in Bench-Planes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a longitudinal vertical section of my plane. Fig. 2 is a top plan view, and Fig. 3 is a bottom plan view. Fig. 4 is a transverse section, and Figs. 5, 6, and 7 are detail views. Fig. 8 is an under-side view of the chip E.

This invention has relation to that class of bench-planes having metallic stocks; and it consists, principally, in a bed-frame and movable carriage for the plane-iron, which carriage is adjustable by means of a rack and segment lever and a thumb-screw, and affords a broad and firm bearing for the plane-iron. It further consists in combining, with the plane-iron and its adjustable bed, a jointed "chip" or wedge, which is provided with a set-screw, by means of which the upper and lower ends of the said chip can be made to bear with considerable force upon the plane-iron, and rigidly hold it in place. My invention consists, further, in constructing V-shaped lugs on the the plane-iron carriage, which lugs are adapted to enter notches made in the edges of the plane-iron, and thereby prevent the same from slipping longitudinally when adjusted on its carriage, as will be hereinafter more fully explained.

The following is a description of my improvements:

In the annexed drawings, A designates a sole-plate, and B B the side flanges or cheeks thereof, which, with the plate, constitute a metal plane-stock, which is cast entire. C and C' designate the handles of the stock, which are of the usual well-known form, and are secured on top of the sole-plate in any suitable manner. The bottom and top surfaces of the sole-plate are constructed with numerous grooves, *a*, arranged alternately in regular rows of short sections, which greatly reduce

the frictional surface, while at the same time they lighten the stock very much. The grooves *a'* on top of the sole-plate are disposed between the grooves *a*, and also lighten the stock without materially reducing its strength or stiffness. The said grooves run in a direction with the length of the stock, and they are preferably made quite short, so that they will not interfere with the dressing of the edge of a very narrow piece of stuff. D designates a frame, which is rigidly secured upon the sole-plate A, in rear of the throat, by means of a clamp, *c*. This frame D is constructed with a bearing, *b'*, for the lower portion of the plane-iron G, the upper portion of which iron is supported upon an inclined carriage or sliding bed, *b*. This carriage *b* is guided in the frame D by means of lips *p p* and hooking-lugs *l l*, (shown in Fig. 6,) and it is constructed with V-shaped lugs *j j*, which enter notches *i i* made in the edges of the plane-iron G, and thus prevent endwise displacement of the plane-iron on its carriage. On the bottom side of the carriage *b* a rack, *r*, is formed, the teeth of which engage with a toothed segment, which is formed on the short arm of a lever, F, which has its fulcrum at *f* on standard *h*, rising from the base of the frame D. The longer arm of lever F is forked, and embraces an annular groove in an adjusting-nut, *g*, which nut is applied on a screw, *g'*, rising perpendicularly from a rear extension of the base of frame D. By adjusting the nut *g*, the carriage *b* can be moved up and down in the frame D, and the plane-iron can be nicely adjusted according to the thickness of the shaving required. E designates what is denominated the chip, which is of wedge form, and composed of two pieces hinged together at *e'*, and provided with a set-screw, *e*. When the plane-iron G is in place on the carriage *b* and bearing *b'*, the chip is inserted between it and four hooked lugs, *d d d d*, after which the parts are rigidly secured in place by means of the screw *e*, which bears on the plane-iron, and, by centrally bowing up the joint *e'*, forces the ends of the chip hard down on the plane-iron, as indicated in Fig. 1.

I am aware that similar devices have heretofore been used, as shown in the patent of Leonard Bailey, dated August 6, 1867, No.

67,398, and therefore I do not make claim to any device therein shown.

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

1. The frame D, constructed with a bed-piece, *b'*, and provided with an adjustable carriage, *b*, for the plane-iron provided with the rack *r*, and combined with cogged segment-lever F and adjusting-nut *g*, substantially as and for the purpose described.

2. The jointed chip E, provided with a set-screw, *e*, combined with the frame-lugs *d* and

the plane-iron G upon its carriage *b*, arranged as described.

3. The carriage *b*, provided with lugs *j*, combined with a plane-iron having notches *i i* in the edges to correspond therewith, substantially as in the manner shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

Witnesses: GEO. M. THOMPSON.

GEORGE E. UPHAM,

FRANK J. MASI.