

(No Model.)

A. LURIE.  
BENCH VISE.

No. 502,127.

Patented July 25, 1893.

Fig: 1.

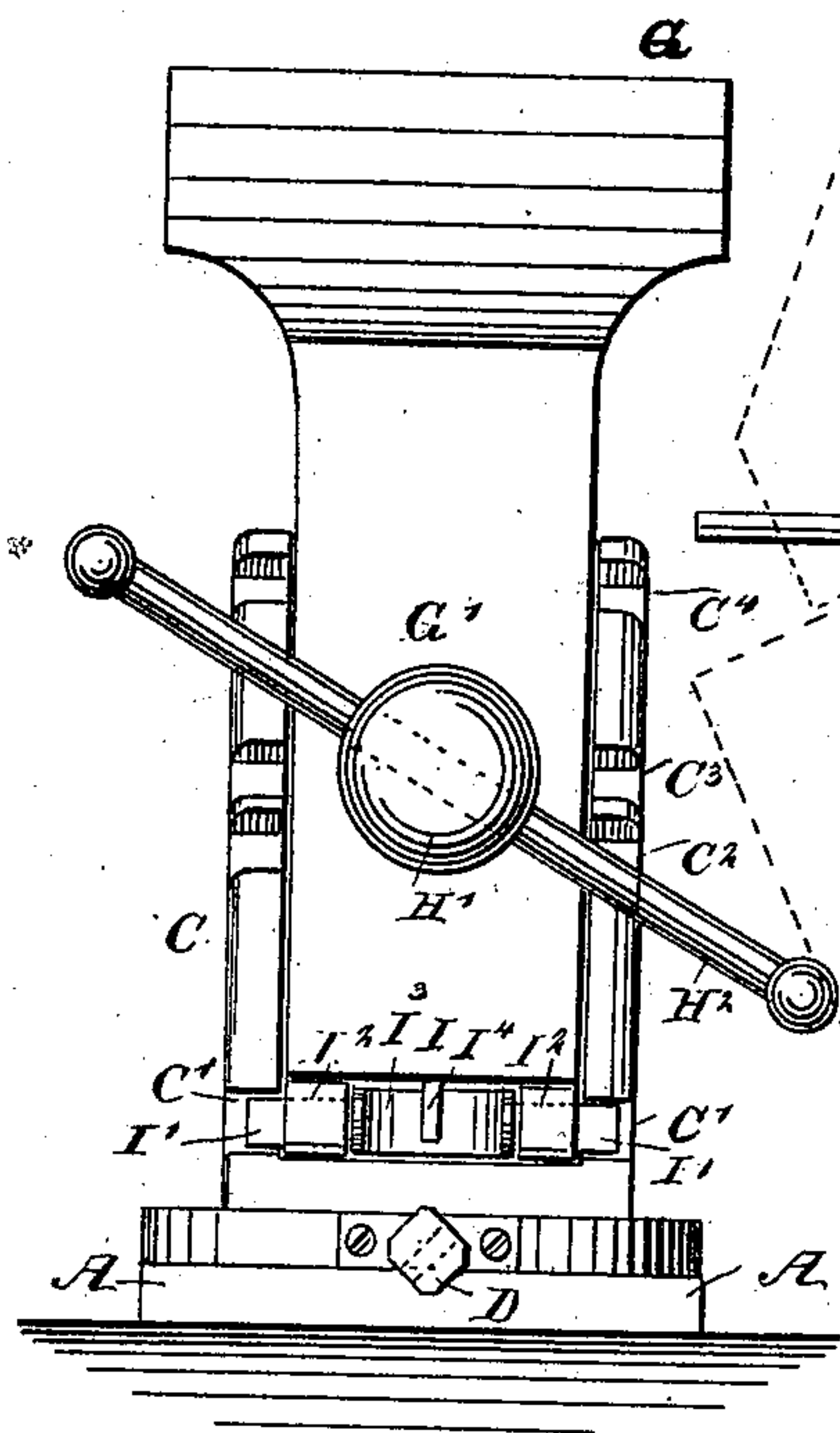


Fig: 2.

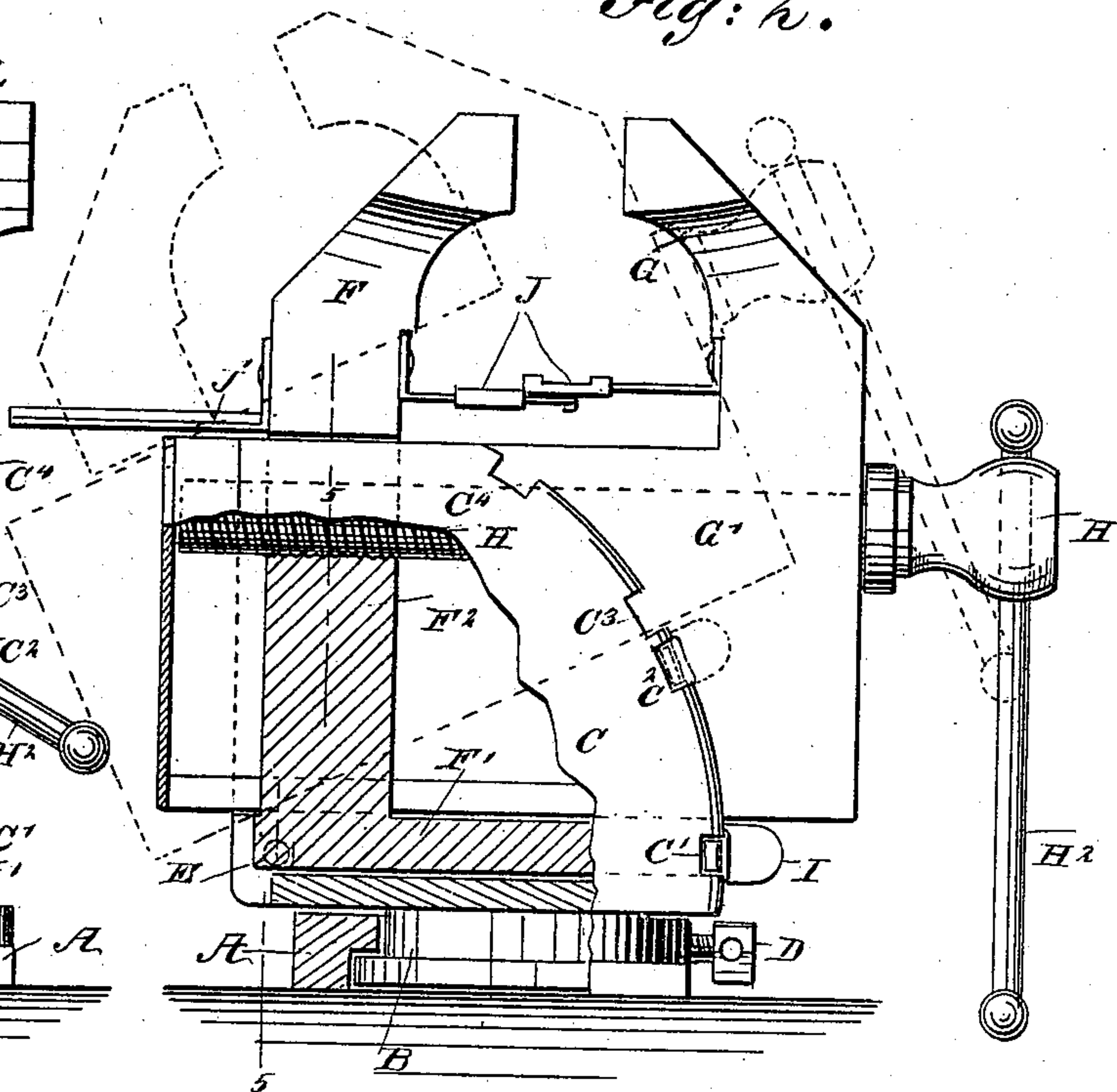


Fig: 3.

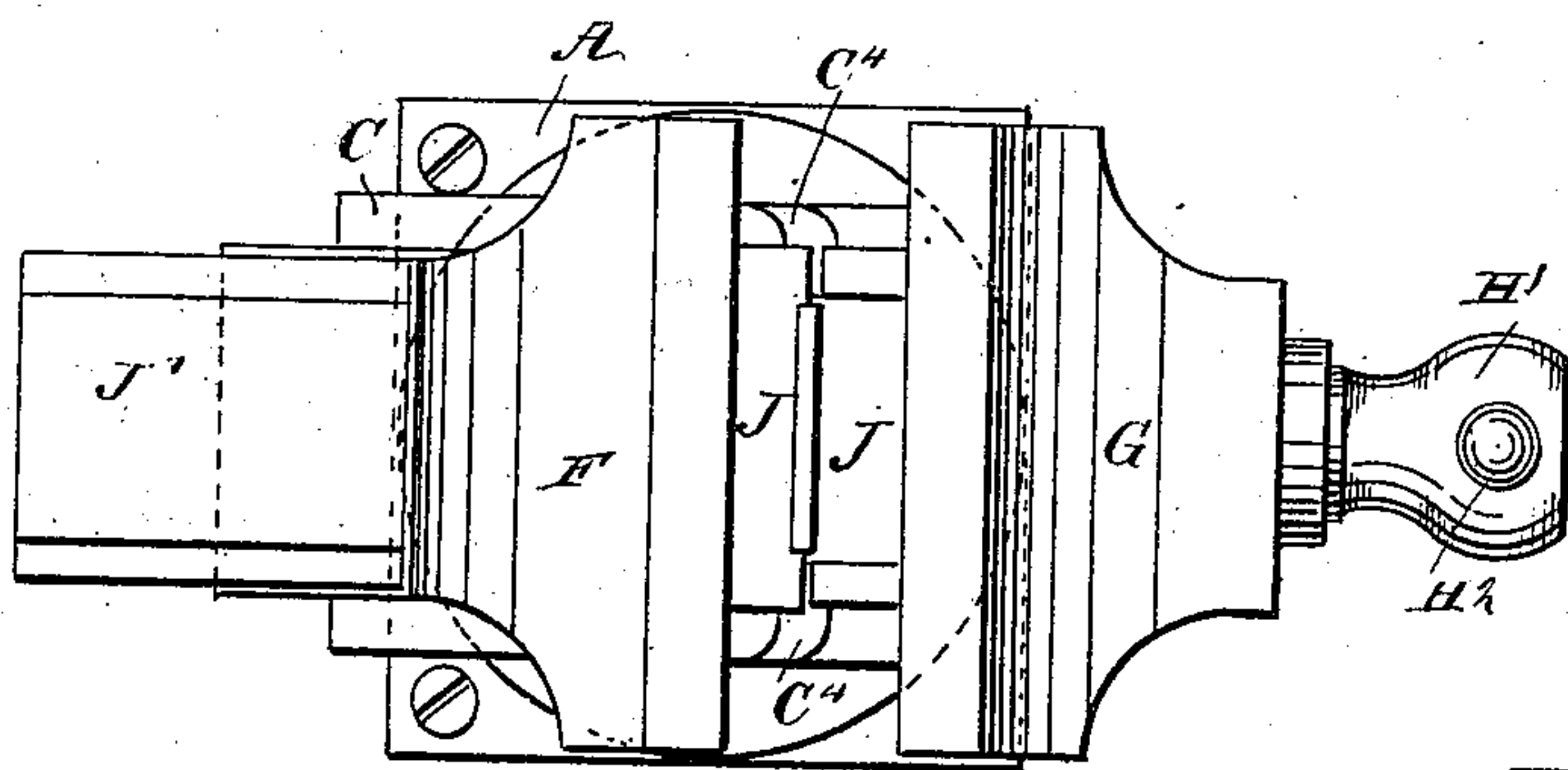


Fig: 5.

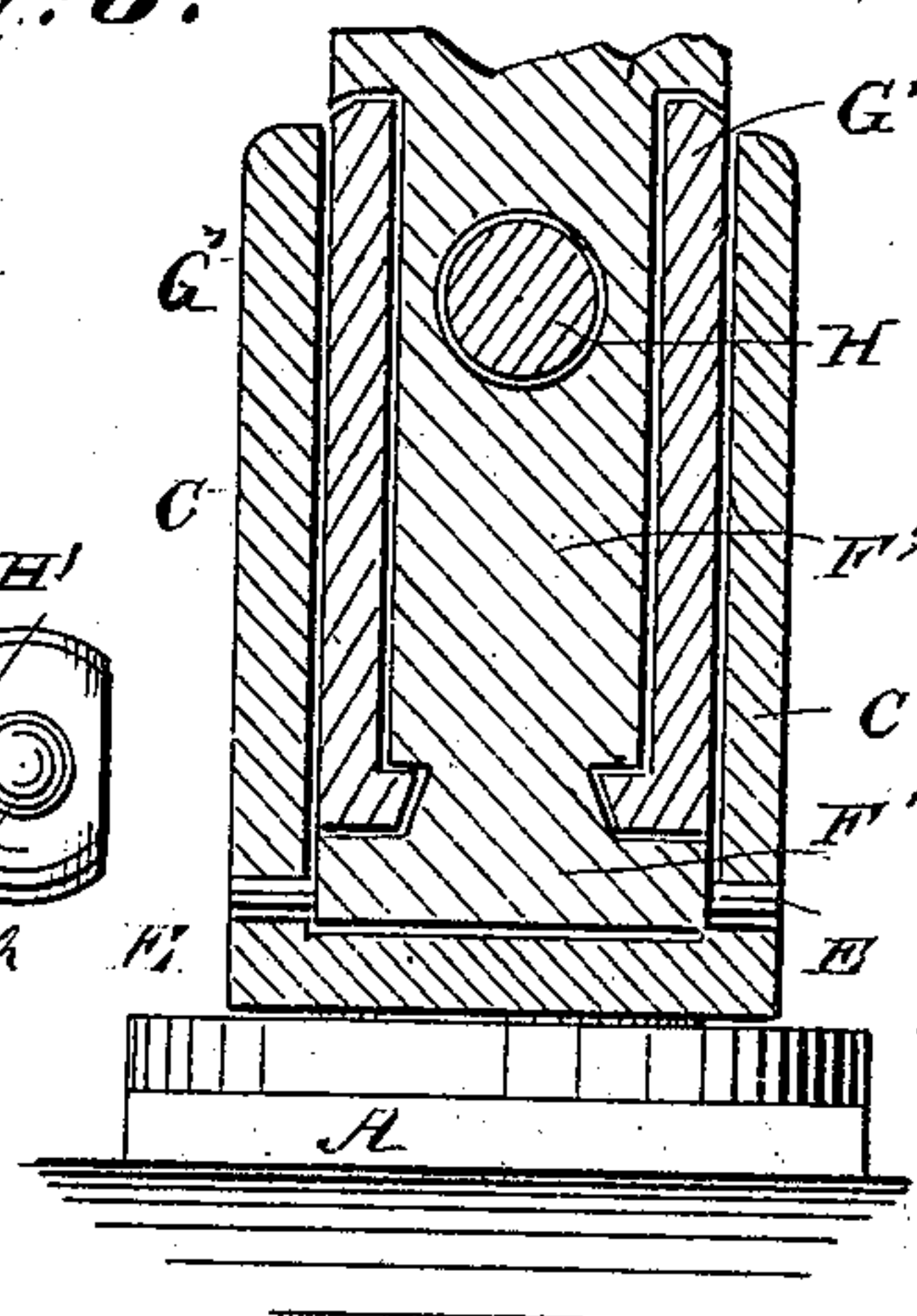
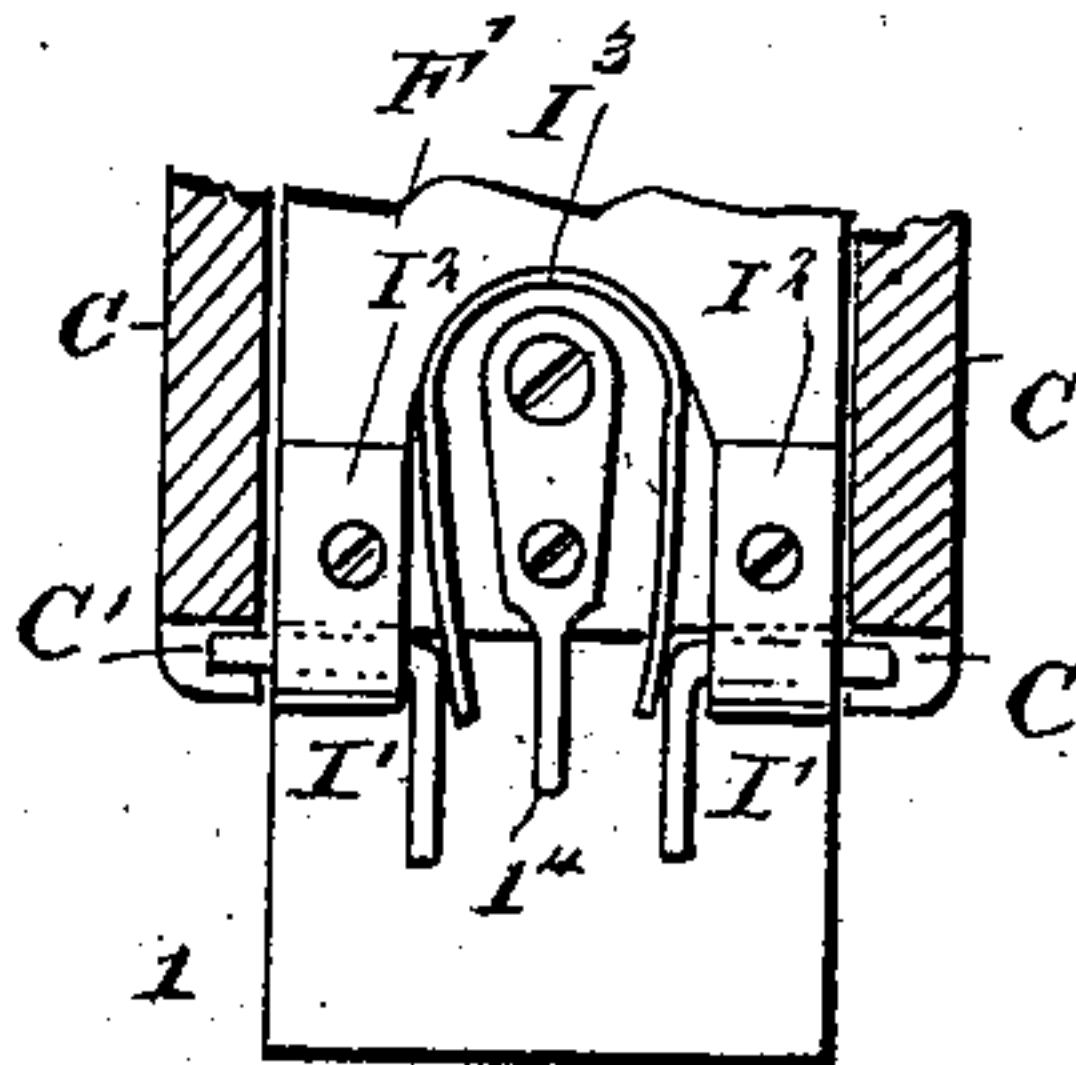


Fig: 4.



WITNESSES:

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## BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 502,127, dated July 25, 1893.

Application filed March 30, 1893. Serial No. 468,293. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM LURIE, of New York, in the county and State of New York, have invented a new and Improved Bench-Vise, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved bench vise, which is simple and durable in construction and arranged to be thrown into any desired angular position, to hold the work at angles to the horizontally moving file in the hands of the mechanic, so as to facilitate the proper filing of hexagons, octagons, or articles of other shapes.

The invention consists of a vise pivoted in a casing and provided with a locking device adapted to lock the vise to the casing.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of the improvement. Fig. 2 is a side elevation of the same with parts broken out and parts in section. Fig. 3 is a plan view of the same. Fig. 4 is a sectional plan view of the locking device; and Fig. 5 is a transverse section of part of the improvement on the line 5—5 of Fig. 2.

The improved bench vise is provided with a suitable base plate A adapted to be screwed or otherwise fastened to a bench or other support. In this base plate A is mounted to turn the circular offset B projecting from the bottom of a casing C arranged to carry the vise proper, as hereinafter more fully described, the said casing being adapted to be locked in place on the base A by a set screw D screwing in the base against the circular offset B.

In the parallel sides of the casing C, and near the rear end of the same, directly over the bottom of the casing, is arranged a transverse pin forming a pivot E, on which is hung the foot F' of the shank F<sup>2</sup> of the fixed jaw F, opposite which is arranged the movable jaw G having its shank G' formed in the shape of a casing fitted between the parallel sides of the casing C, as will be readily understood by reference to the drawings.

Through the sides of the casing for the shank G' extends the shank F<sup>2</sup> of the fixed jaw F, and in this shank F<sup>2</sup> screws the screw rod H mounted to turn in the forward part of the shank G' of the movable jaw G, the outer end of the screw rod being formed with the usual head H' carrying a handle H<sup>2</sup>, adapted to be taken hold of by the operator to turn the screw rod so as to screw the same forward and backward in the shank F<sup>2</sup> of the fixed jaw F, to move the jaw G toward and from the fixed jaw to clamp the article in place, or disengage it to permit of removing the article from the jaws.

The bottom of the casing for the shank G' of the movable jaw G is formed with dovetails engaging corresponding dove-tail grooves in opposite sides of the shank F<sup>2</sup>, as will be readily understood by reference to Fig. 5. By this arrangement the casing of the movable jaw is held on the shank F<sup>2</sup> and foot F' of the fixed jaw F, so that when the latter is moved into an angular position turning on the pivot E, the movable jaw G moves with it without disturbing the relative position of the two jaws F and G. At the same time the movable jaw G can be moved toward or from the fixed jaw F on turning the screw rod H. Now, in order to lock the fixed jaw F in an angular position, I provide a locking device I, shown in detail in Fig. 4, and preferably provided with two L-shaped latches I' mounted to slide in suitable bearings I<sup>2</sup> attached to the foot F', at the front end thereof. The ends of a U-shaped spring I<sup>3</sup> held in the foot F' press against the latches I' so as to hold the same in an outermost position, so that the outer ends of the latches engage correspondingly shaped notches C', C<sup>2</sup>, C<sup>3</sup> or C<sup>4</sup>, formed in the segmental edge of the sides of the casing C, it being understood that the said segmental edge is struck from a center coincident with the center of the pivot E.

The notches C<sup>2</sup>, C<sup>3</sup> and C<sup>4</sup> are arranged at angles to the horizontal plane, and the notch C' is arranged in a horizontal plane, so that when the latches I' of the locking device, for instance, are in engagement with the notch C<sup>2</sup>, the jaws F and G stand in an angular position for filing hexagonal bodies, it being understood that the mechanic moves the file horizontally over the top surface of the body



clamped between the two jaws. Now, when the latches I engage the notch C<sup>3</sup>, then the jaws stand in an inclined position, or at an angle of forty-five degrees to the horizontal, and if the said latches are in engagement with the other notch C<sup>4</sup>, the jaws stand at an angle of sixty degrees to the horizontal. It is understood that the latches I' can be readily disengaged from either set of notches they may engage at the time, by pressing the latches toward each other so as to move their outer ends out of contact with the respective notches in the sides of the casing C. The inward movement of the latches is limited by a stop I<sup>4</sup> attached to the foot F', see Fig. 4.

In addition to the angular position given to the vise jaws F and G, I may swing the casing C carrying the said jaws sidewise by turning the casing in the base A, it being understood that the set screw D is first loosened, and then the casing is turned with its offset B in the base, until the desired position is reached, after which the set screw D is again screwed up to fasten the offset to the base, thus locking the casing C in the desired position.

In order to prevent filings from passing between the jaws into the casing of the shank G', I preferably protect the top of the said casing by sliding plates J between the jaws, and a single fixed plate J' attached to the fixed jaw F and extending rearward therefrom, as is plainly shown in the drawings. It will be seen that by this construction the operator is enabled to readily swing the vise proper into any desired angular position, so as to enable the operator to file polygonal bodies without inclining the file, but permitting the operator to hold the file in the usual horizontal position to obtain the desired result.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a bench vise, the combination of a

casing, a vise having its fixed jaw pivoted in the casing, and means for locking the vise to the casing, substantially as described.

2. In a bench vise, the combination of a casing having a segmental and notched front edge, a vise having its fixed jaw pivoted in the casing, and latches carried by one of the jaws of the vise and engaging the notches of the casing, substantially as described.

3. A bench vise comprising a fixed jaw, a movable jaw fitted to slide thereon, a casing carrying a pivot on which the said fixed jaw is hung, and a locking device held on the said fixed jaw and adapted to engage notches in the sides of the said casing, substantially as shown and described.

4. In a bench vise, the combination with a casing adapted to be turned horizontally and provided in its parallel sides with notches, of a fixed jaw having a shank and a foot on which the jaw is pivoted in the said casing, a movable jaw formed with a casing fitted to slide between the sides of the first-named casing and on the said fixed jaw, and a locking device held on the said fixed jaw and adapted to engage the said notches in the first-named casing, substantially as shown and described.

5. In a bench vise, the combination with a casing adapted to be turned horizontally and provided in its parallel sides with notches, of a fixed jaw having a shank and a foot on which the jaw is pivoted in the said casing, a movable jaw formed with a casing fitted to slide between the sides of the first-named casing and on the said fixed jaw, a locking device held on the said fixed jaw and adapted to engage the notches in the first-named casing, and a screw rod mounted to screw in the said movable jaw and screwing in the shank of the said fixed jaw, substantially as shown and described.

ABRAHAM LURIE.

Witnesses:

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E. M. CLARK.