

HEZEKIAH E. LONG.

Improvement in Machinists' Vises.

No. 120,524.

Patented Oct. 31, 1871.

Fig. 1.

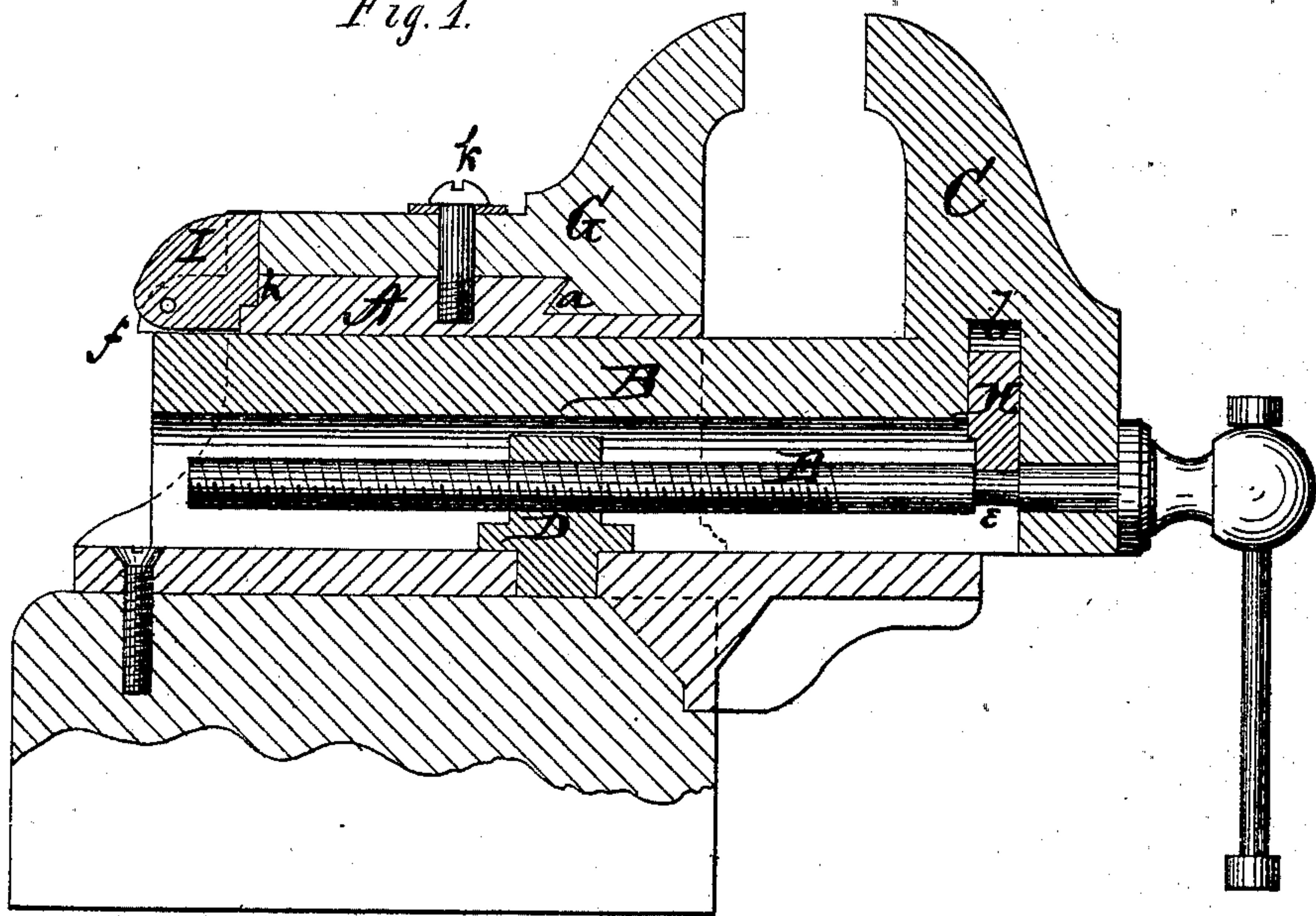


Fig. 2.

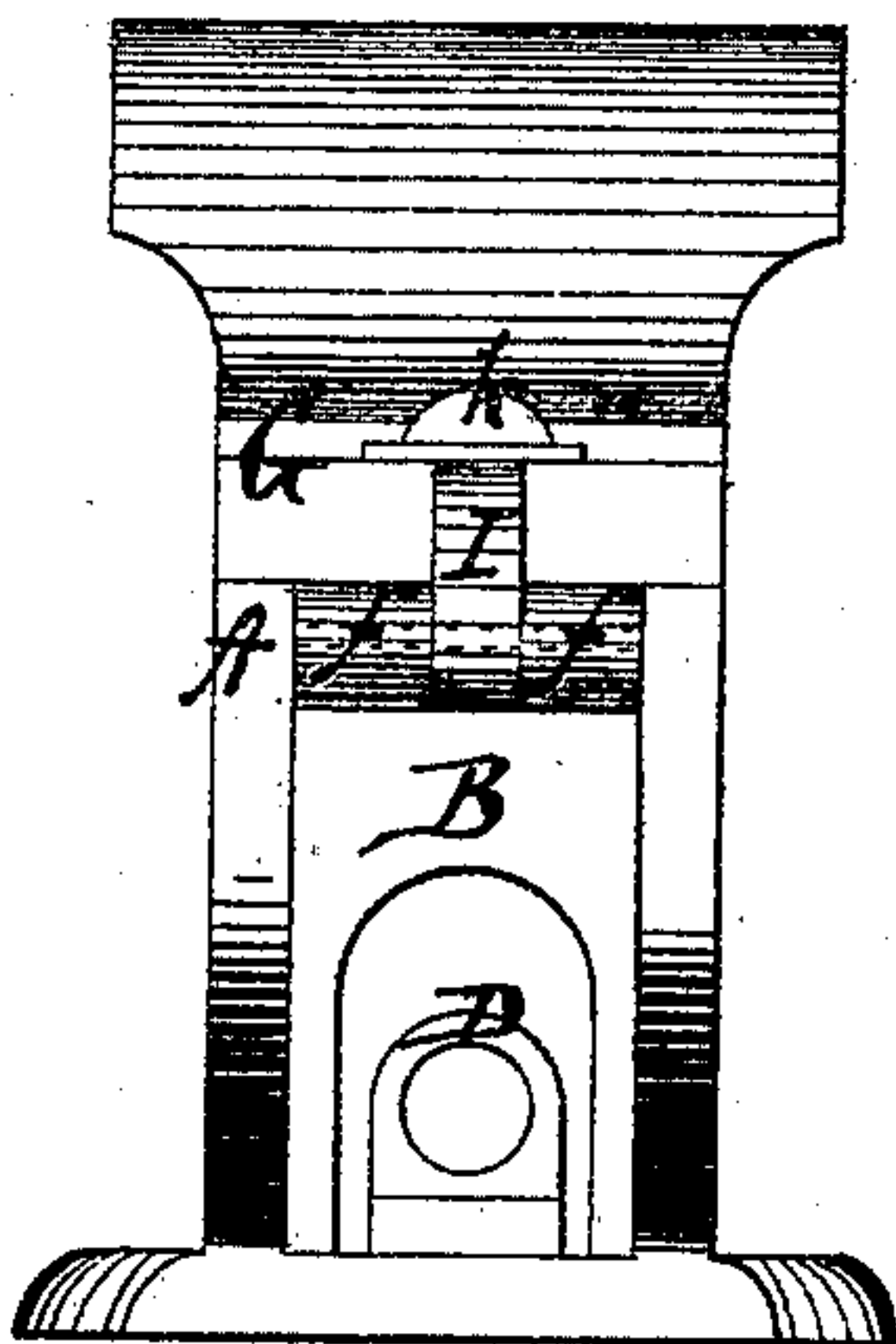


Fig. 3.

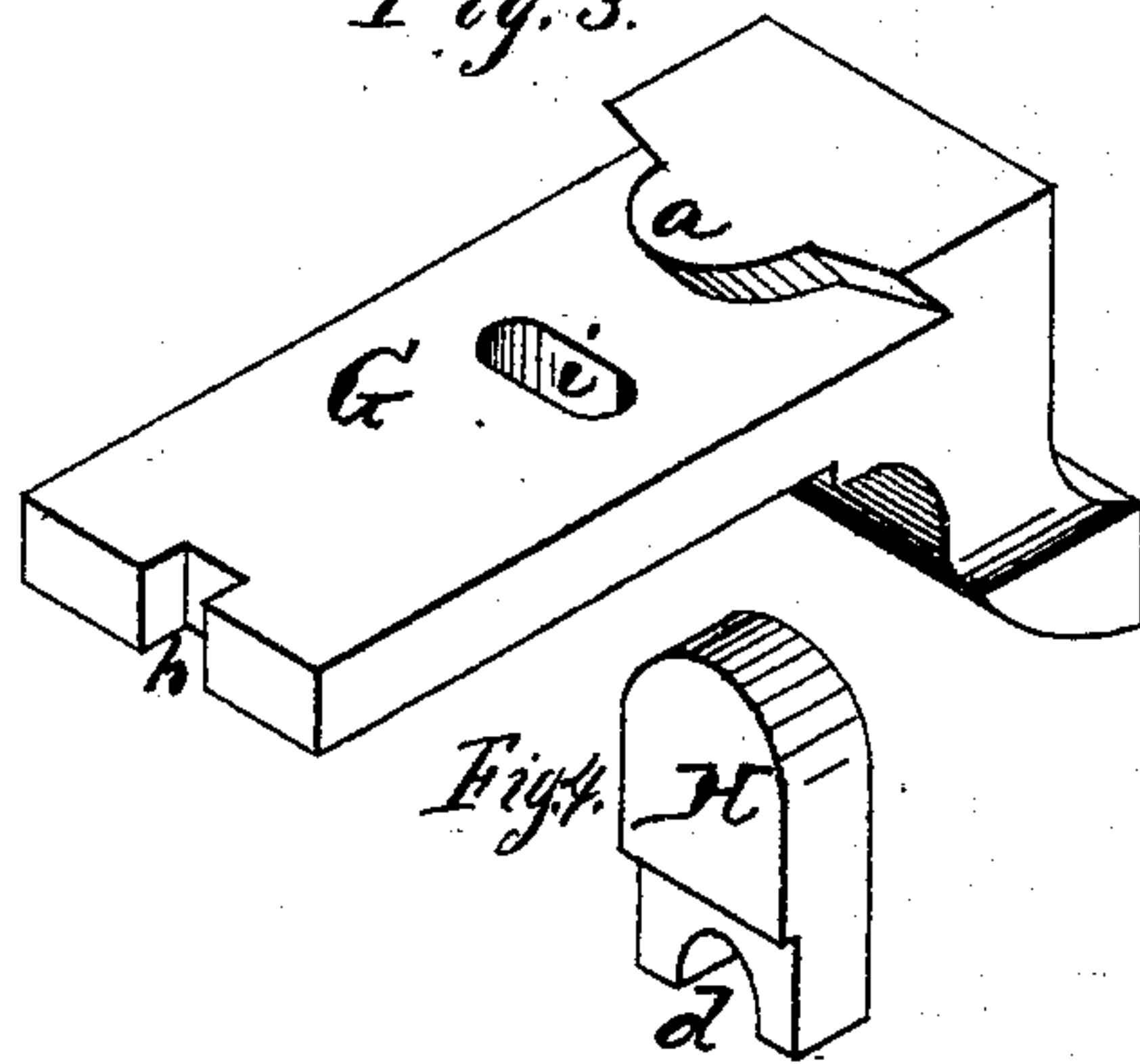


Fig. 4.



Witnesses:

Henry N. Miller
C. L. Ewert.

Inventor

Hezekiah E. Long
per Alexander Mason
Attorneys.

UNITED STATES PATENT OFFICE.

HEZEKIAH E. LONG, OF DECATUR, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT
TO BURROUGHS & CO., OF SAME PLACE.

IMPROVEMENT IN MACHINISTS' VISES.

Specification forming part of Letters Patent No. 120,524, dated October 31, 1871.

To all whom it may concern:

Be it known that I, HEZEKIAH E. LONG, of Decatur, in the county of Macon, and in the State of Illinois, have invented certain new and useful Improvements in Vise; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists: First, in the construction of a trunnion on the under side of the back jaw, and the corresponding concavity on the bed-plate, with inclined or dovetailed abutting-surfaces; second, in the arrangement of a button loosely astride of the neck of the screw, and resting upon it within a cavity prepared for it; and third, in the combination, with the back jaw and bed-plate having trunnion and concavity with inclined or dovetailed abutting-surfaces, of a stop-button pivoted between projecting ears on the bed-plate, and dropping into perpendicular grooves on the back jaw and bed-plate, all of which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section of my vise, and Fig. 2 is a rear view of the same. Fig. 3 is an inverted perspective view of the back jaw, and Fig. 4 is a perspective view of the drop-button.

A represents the bed-plate having underneath the square or box-like passage for the insertion and movement of the usual hollow bar B, to which the movable jaw C is attached, or of which the movable jaw forms a part. In the bottom of this passage is the nut D, through which the screw E passes to move the jaw C out and in. G represents the back jaw provided on its bottom with an inclined or conical trunnion, *a*, which operates in a corresponding conical concave in the center on top of the bed-plate A. The object of this conical trunnion *a*, being of smaller dimensions than the entire width of the plate at the top is, that the adjustment may be easier, and its conical form, with the largest end down, may be inclined to draw down the jaw G tight to or close

on the top of the bed-plate when the pressure comes against its face. Inside of the back face of the rack-bar B is formed a recess, *b*, in which is placed a drop-button, H, having a semicircular notch or cavity, *d*, in its lower end to fit over a groove, *e*, formed in the shank of the screw E. This drop-button H, inside of the rack-bar, being so made and placed in its place sufficiently loose to drop of its own weight into the groove *e* in the shank of the screw when the slide is in its place in the rack-bar, by thus resting in said groove will follow down as it wears in being used, and continue to hold the screw so that, by turning back, the rack-bar will be by that means drawn out. At the rear end of the bed-plate A are formed two ears, *f f*, between which is pivoted a stop-button, I, which drops into perpendicular slots or grooves *h*, formed in the back jaw G and bed-plate A. The object of this stop-button is to hold the jaw in position when anything is placed in the jaws, either at one extreme end or at either side from the center, so that the back jaw may not turn, making it to take the place of a stiff jaw-vise; and by turning the button back out of its place, the jaw is then at liberty to adjust itself to tapering forms. The jaw G is held on the bed-plate A by means of a set-screw, *k*, passing through a transverse slot, *i*, in the jaw into a hole in the bed-plate.

I am aware that vises with trunnions and with buttons for preventing the screw from moving endwise have been used before, and I do therefore not claim such devices broadly; but what I do claim as new, and desire to secure by Letters Patent, is—

1. The trunnion *a* formed on the bottom of the back jaw G, and operating in a corresponding concavity at the center on the top of the bed-plate A, when said trunnion and concavity are constructed with inclined or dovetailed abutting-surfaces, substantially as and for the purposes herein set forth.

2. The arrangement of the drop-button H, loosely astride of the neck of the screw E and resting upon the same within a cavity, *b*, prepared for it, substantially as and for the purposes herein set forth.

3. The combination of the back jaw G having trunnion *a*, the bed-plate A with corresponding concavity, said trunnion and concavity being

constructed with inclined or dovetailed abutting-surfaces, and the stop-button I pivoted in lugs *f* on the bed-plate A, to turn and drop into perpendicular grooves *h h* in the back jaw and bed-plate, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have

hereunto set my hand this 28th day of August, 1871.

HEZEKIAH E. LONG.

Witnesses:

J. I. BEAR,

W. W. SWEARINGTON.

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