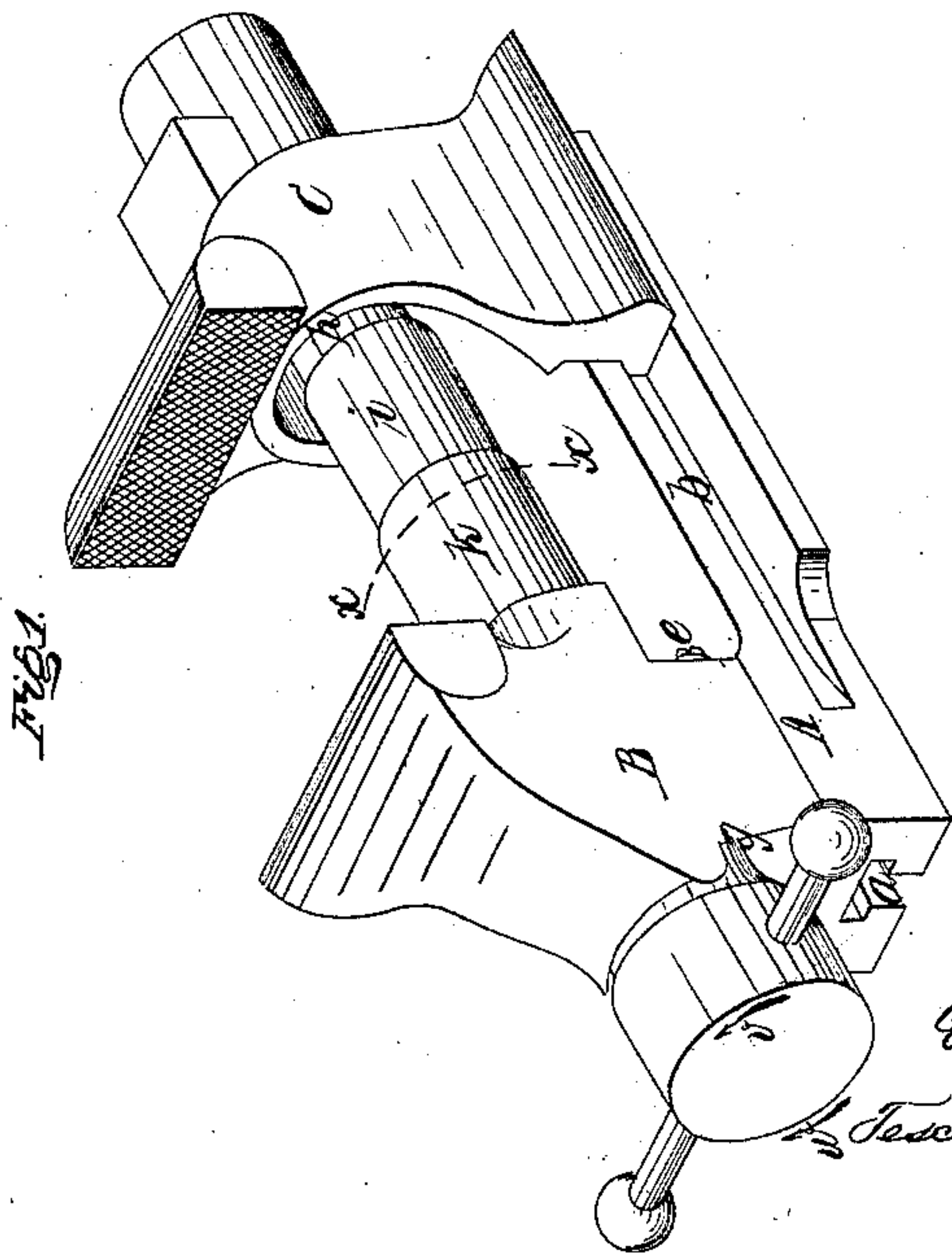
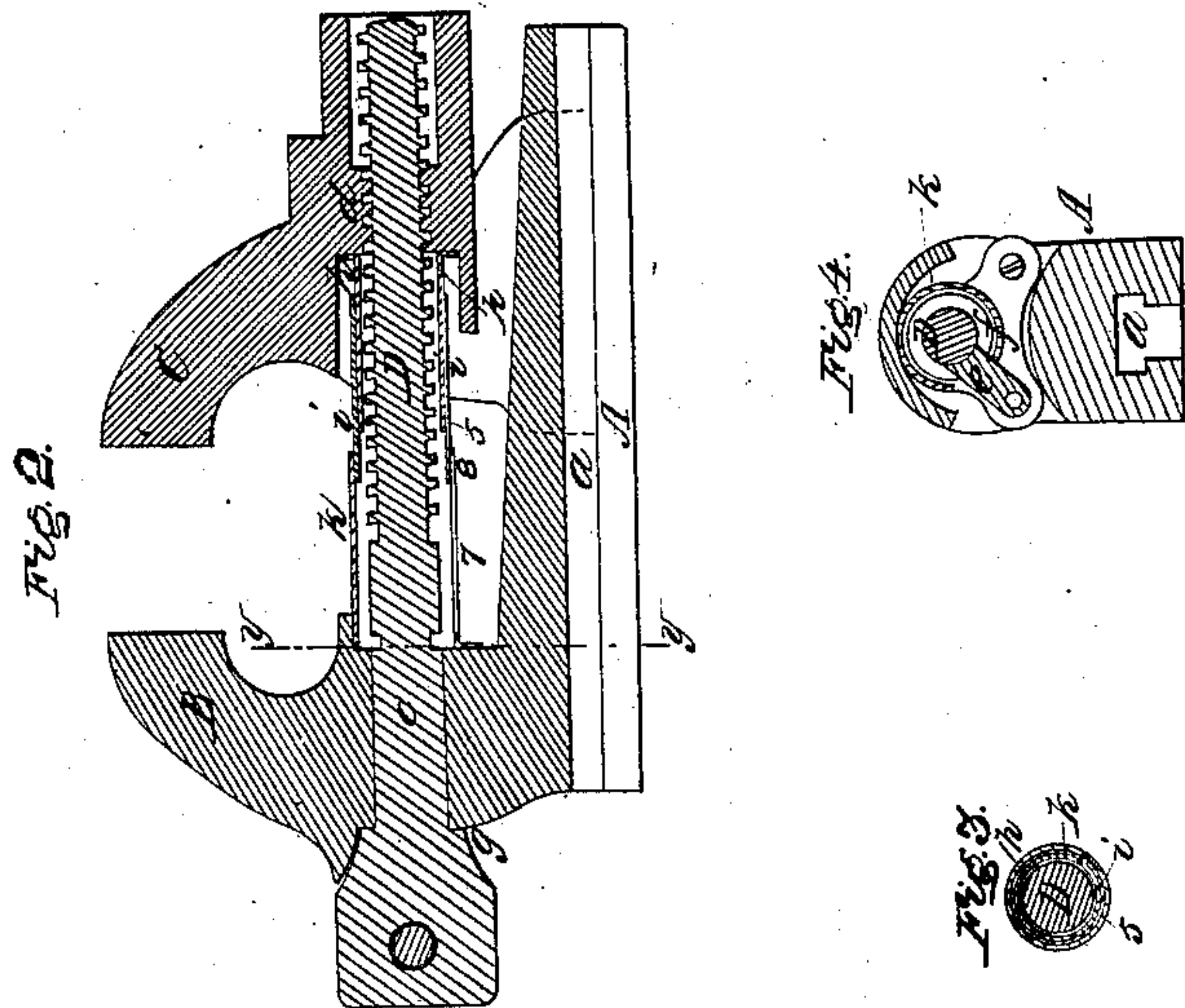


*Q. S. Backus,*

*Vise.*

*N<sup>o</sup> 78,565.*

*Patented June 2, 1868.*



*Witnesses:*  
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# United States Patent Office.

QUIMBY S. BACKUS, OF WINCHENDON, MASSACHUSETTS.

*Letters Patent No. 78,565, dated June 2, 1868.*

## IMPROVEMENT IN VISES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, QUIMBY S. BACKUS, of Winchendon, in the county of Worcester, and State of Massachusetts, have invented certain Improvements in Vises, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a vise, with my improvements applied thereto.

Figure 2 is a longitudinal vertical section through the centre of the same.

Figure 3 is a transverse section on the line  $x x$  of fig. 1, when the vise is closed.

Figure 4 is a transverse section on the line  $y y$  of fig. 2.

When articles of wood, metal, or other material are held in place while being operated upon between the jaws of the various vises of the ordinary construction, the shavings or filings which result therefrom fall upon the screw-shaft by which the movable jaw is operated, and are carried forward into its screw-nut, thereby causing it to be speedily worn away, and frequently so obstructing both the screw-shaft and its nut as to require cleaning before the movable jaw can be made to slide in its grooves or ways, as required.

To overcome these difficulties is the object of my invention, which consists in one or more tubes, or one or more segments of a tube or tubes, or other covering for shielding the portion of the screw-shaft between the jaws, exposed to the shavings or filings, or for enclosing or covering the top only, or both the top and sides, of the portion of the screw-shaft thus exposed; by which construction I am enabled so to cover and protect the screw-shaft as to prevent any of the refuse material from lodging upon it, and being carried thereby into the screw-nut of the movable jaw.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A represents the base of a vise, which may be secured to a bench or table by means of a bolt, (not shown,) the head of which fits into the longitudinal groove  $a$ , in the under side of the base, from one end of which rises the stationary jaw B.

C is the movable jaw, which is caused to slide in grooves  $b$  in the sides of the base, A, by revolving the screw-shaft D, the smooth portion,  $c$ , of which rests in the stationary jaw B, and passes through a screw-nut,  $d$ , formed in the interior of the movable jaw C, the said shaft being prevented, while revolving in the direction of the arrow  $v$ , from turning out of its stationary jaw by means of a stop,  $e$ , against which the sides of an annular groove,  $f$ , are brought in contact, the screw-shaft also being prevented, when revolving in the direction of the arrow  $w$ , from advancing, by its shoulder  $g$  being brought against the outside of the stationary jaw B.

To the inside of the jaw C is secured a circular tube,  $h$ , which is of sufficient diameter to enclose the portion of the screw-shaft D, and allow it to turn freely therein. On the lower side of the exterior of the periphery of the tube  $h$  is formed a projection, 5, which fits into a longitudinal slot, 6, formed in a second tube,  $i$ , of similar form, but of slightly greater diameter than that of  $h$ , to admit of the former,  $i$ , sliding over it.  $k$  is another tube, secured to the inside of the jaw B, of a little larger diameter than that of  $i$ , in order that the latter tube may be slid within it. The tube  $k$  is also provided with a longitudinal slot, 7, for the reception of a projection, 8, on the under side of the exterior of the tube  $i$ .

When the movable jaw is to be separated or moved farther from the stationary jaw, for the reception of the object to be operated upon, the handle of the screw-shaft is revolved in the direction of the arrow  $w$ , and the tube  $h$  is drawn out from within the tube  $i$ , until the projection 5 strikes against the end of the slot 6, formed in the tube  $i$ , when the latter tube is drawn out from within the tube  $k$ , until the projection 7 on the tube  $i$  comes in contact with the end of the slot 8 in the tube  $k$ , and the several tubes are thus drawn out their whole length over the screw-shaft, thereby covering it so as to preclude the possibility of shavings, &c., falling thereon.

When the movable jaw is closing up to the stationary jaw, the several tubes,  $h i k$ , fit into each other, similar to the sections of a telescope.



Instead of making the tubes *h* and *k* separate from their respective jaws, and afterward securing them thereto, each of these tubes may be formed in one and the same piece with its jaw, and the form of the covering of the shaft, as well as the material of which it is composed, may be varied; for instance, each jaw may be provided with a slot above the screw-shaft, for the reception of a flat or curved strip, the ends of which are free to slide as the jaws are opened or closed.

I am aware that screw-shafts of vises have been covered, by means of tubes, to protect them from the shavings, filings, and other dirt; but these tubes have been heretofore made in a single piece, requiring a length of the vise sufficient for their convenient operation and protection. My invention consists in providing vises with a sectional tube, composed of three parts, which slide one within the other, to effect the same purpose, and to thus save space, and render the vise more compact.

*Claim.*

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

The method of protecting the screw-shafts of vises with the sectional tubes *h*, *i*, and *k*, arranged and operating substantially as described.

QUIMBY S. BACKUS.

Witnesses:

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