

H. K. AND T. W. PORTER'S IMPROVEMENT IN VISES

72327

PATENTED  
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Fig. 1

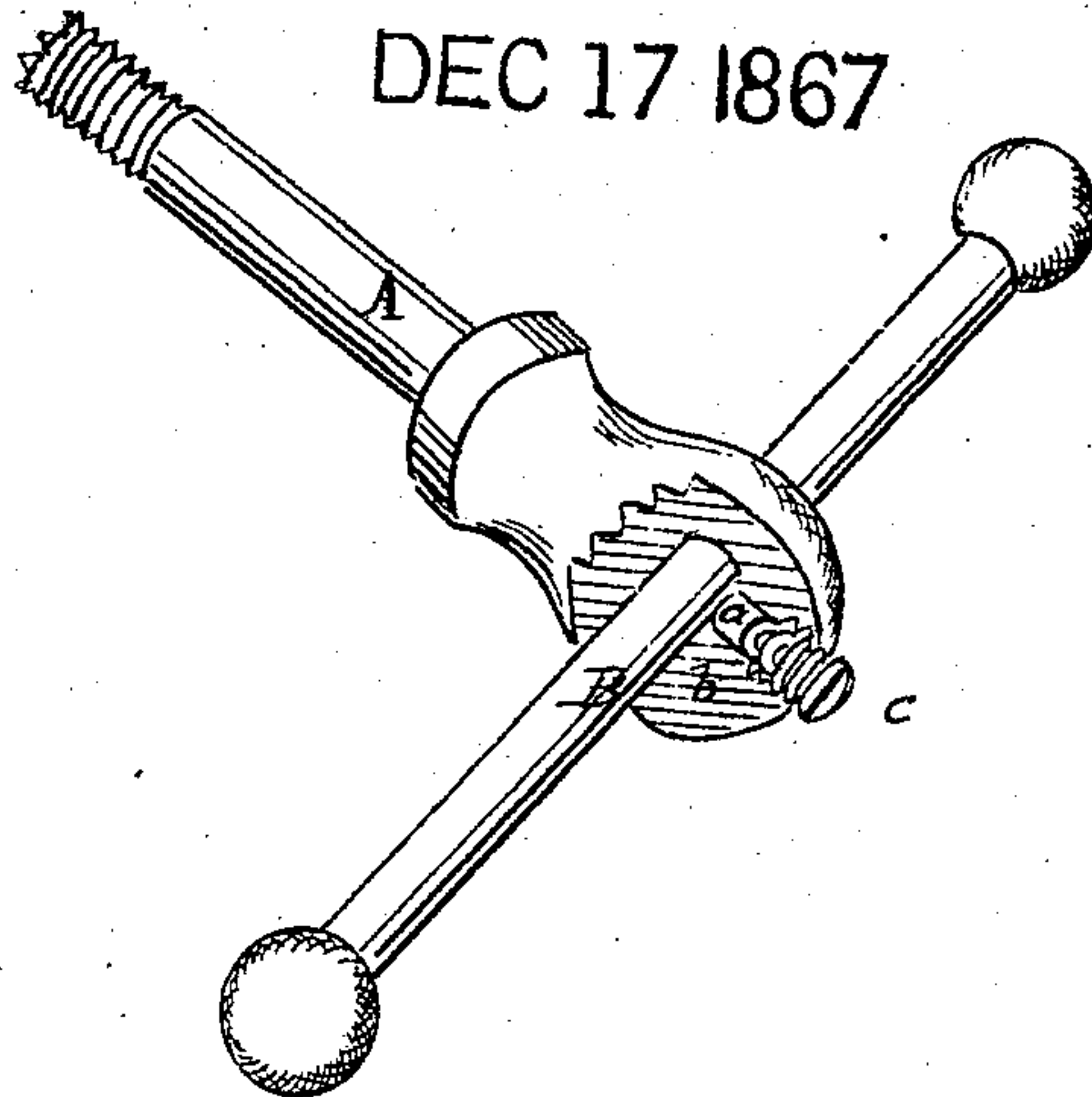
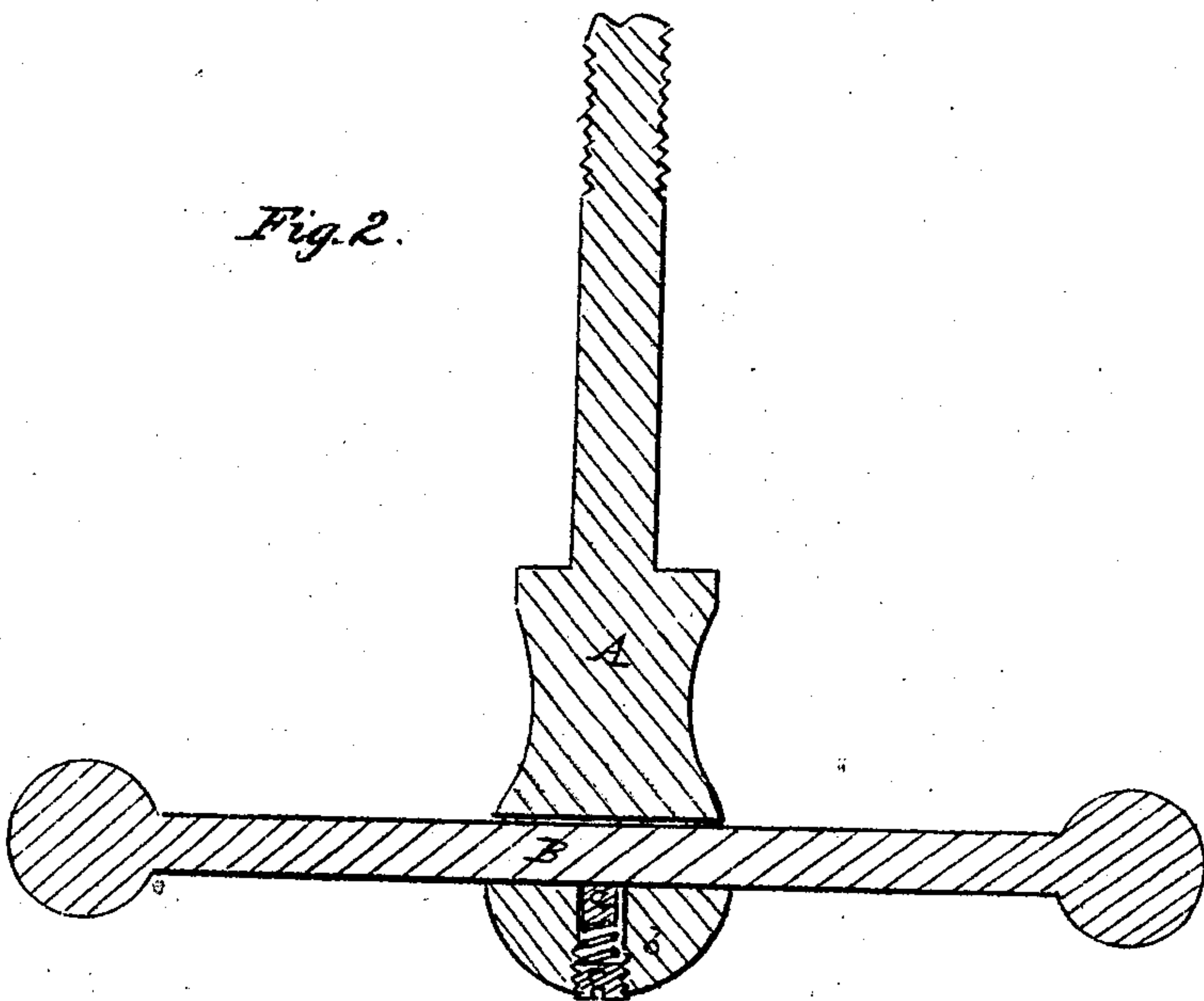


Fig. 2.



WITNESSES

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INVENTORS

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# United States Patent Office.

H. K. PORTER AND T. W. PORTER, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 72,327, dated December 17, 1867.*

## 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 we, H. K. PORTER and T. W. PORTER, of Boston, in the county of Suffolk, and State of Massachusetts, have invented a new and useful Improvement in Vises; and do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the vise-screw and lever, a portion of the screw-head being broken away to show our improvement, and

Figure 2 is a sectional view of the same.

Similar letters indicate corresponding parts in the several figures.

In the screw-heads of vises, the handle or lever by which they are turned is almost universally in practice free to slide in the hole made through such head, in order that the operative length and force of the lever may be changed at will. But when thus free, unless it hangs in a true vertical line, or lies in a true horizontal line, the force of gravitation tends to vary its position after the vise has been tightened, and so loosen or tighten its hold upon the article gripped in the jaws of the vise. If this pressure be gentle, as is often required, the lever, by loosening the screw, releases the article held. The sudden dropping of this lever when the workman has tightened or loosened the vise, and has not quickly removed his hand, is the cause of much annoyance and pain, as well as delay in the work, by reason of the very common accident of catching or pinching the fingers between the screw-head and the knob of the falling lever, causing contusions, and what are known as "blood-blisters."

For the rapid adjustment of the vise, it is also very desirable that the lever may project equally on both sides of the screw, and held in such position, or any other position in the head as long as may be convenient.

It is also desirable that the amount of pressure on the lever which serves to accomplish these last-mentioned purposes, as well as to avoid the disadvantages and inconveniences previously stated, should be such as to be adjustable and always under control, and that the devices for effecting this should be such as may serve to meet and compensate for the wear upon that surface which comes in contact with this frequently shifted lever.

To effect these results, and avoid these difficulties which constantly beset the workman, is the object of our invention, which consists in holding the levers in any desired position in the screw-head by means of adjustable and controllable elastic pressure, and also in a certain specific combination of devices to effect this purpose.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the drawings, A represents the vise-screw, and B the lever by which the screw is actuated. From the end of the screw-head, through to the hole for the reception of the lever, we bore a small hole in the axis of the screw. In this hole is inserted a plunger, *a*, a spiral metallic spring, *b*, which bears against the plunger, and then a set-screw, *c*, is inserted, the outer part of the hole being cut with a female screw for that purpose, and by actuating the set-screw, any desired degree of pressure may be exerted upon the lever B.

This invention is applicable to all varieties of vises, and can be applied at the most trifling expense. It will be apparent that a great variety of devices can be employed to produce pressure upon the lever for the purpose of controlling its movements. Either springs or packing can be used for such purpose. And it is our intention hereby to secure not only the device here shown in combination with the screw and lever, but also the right to control the lever by elastic adjustable pressure.

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

1. Controlling the sliding levers of vises by means of a spring, whose pressure may be varied at will by a screw inserted in the head of the vise-screw, substantially as set forth.
2. The combination of the plunger, the spring, and set-screw, substantially as and for the purpose described.

H. K. PORTER,  
T. W. PORTER.

Witnesses:

JOSEPH REED,  
E. C. PORTER.