No. 711,607. Patented Oct. 21, 1902.

E. S. & B. L. WILLIAMSON.

VISE.

(Application filed Feb. 28, 1902.)

(No Model.)

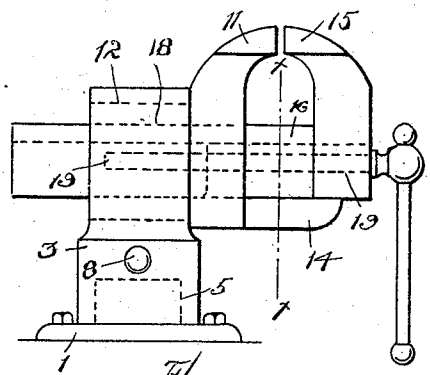


Fig. 1

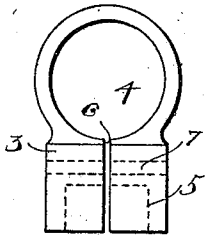


Fig. 3

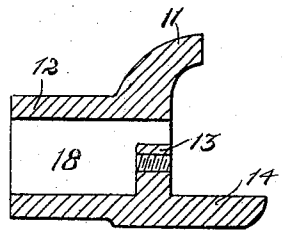


Fig. 4

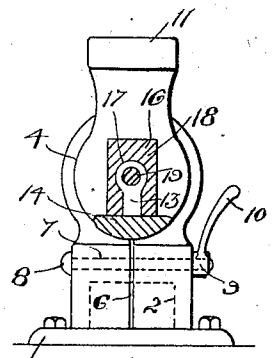


Fig. 2

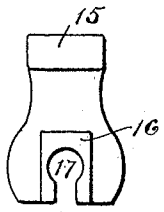


Fig. 6

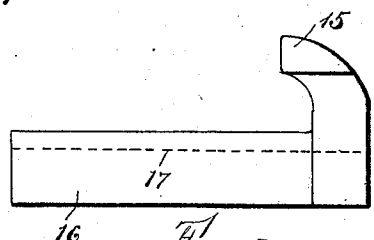


Fig. 5

WITNESSES.

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VISE.

SPECIFICATION forming part of Letters Patent No. 711,607, dated October 21, 1902.

Application filed February 28, 1902. Serial No. 96,164. (No model.)

To all whom it may concern:

Be it known that we, ELI S. WILLIAMSON and BENJAMIN L. WILLIAMSON, citizens of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Vises; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in bench-vises, and more particularly to that class in which provision is made for both the vertical and horizontal adjustment of the jaws in order that the object held between them may be of convenient access to the operator. Ordinarily the gripping-jaws are adjustably held in a revoluble frame to obtain the vertical and horizontal adjustments desired, and a variety of separate means are provided, first, to rigidly secure the jaws in any desired position in their vertical plane of adjustment, and, secondly, to set the revoluble frame in any desired position in its horizontal plane of adjustment.

The object of our present invention is to simplify and condense the operation of setting the jaws and frame in their different planes of adjustment by the employment of a single device requiring but one manipulation to simultaneously set the jaws in their frame and the frame in its base.

To that end our invention consists in the combination, with the jaws, of a frame carrying a vertical and horizontal socket, such frame being split between the sockets, and means operating at the split portions for simultaneously tightening the vertical socket around a supporting-post and the horizontal socket around the jaws.

In the drawings, Figure 1 is a side elevation of our improved vise. Fig. 2 is a vertical section of Fig. 1, taken in the line x x. Fig. 3 is a detached end elevation of the frame. Fig. 4 is a central vertical longitudinal section of the fixed jaw detached. Fig. 5 is a side elevation of the movable jaw and its shank, and Fig. 6 is an end elevation of Fig. 5.

Referring to the drawings, 1 is the base, adapted for rigid attachment to the bench or other support. This base is provided with the vertical cylindrical post 2, (shown in full and dotted lines in Fig. 2,) centrally arranged upon such base.

3 is the frame for adjustably carrying the jaws. This frame is provided with the upper cylindrical horizontal socket 4, adapted for the adjustable reception of the jaws, and the lower cylindrical vertical socket 5, in which the vertical cylindrical post 2 is adjustably seated. This frame is provided with the central vertical split 6, extending from the horizontal socket 4 down to and through the vertical socket 5. The frame is pierced between the sockets 4 and 5 and at right angles to the split 6 by the passage 7. A bolt 8, with screw-threaded end, is passed through this passage and engaged on the outside by the nut 9, provided with the turning-handle 10.

11 is the fixed jaw, provided with the horizontal cylindrical shank 12, adapted to be adjustably seated in the horizontal socket 4 of the frame 3.

13 is an integral screw-threaded nut interiorly arranged within the shank 12 of the fixed jaw, and 14 is a shelf or table integral with the jaw 11 and extending forwardly therefrom in a horizontal direction.

15 is the movable jaw, provided with the rectangular elongated shank 16, having the longitudinal groove 17, extending its entire length, opening downwardly and adapted for the sliding reception of the nut 13 when the shank 16 is in operative engagement with the rectangular socket 18 in the cylindrical shank 12 of the jaw 11, as clearly shown in Fig. 2.

The different parts just described are assembled as follows: The frame 3 is seated upon the vertical post 2 and is revoluble thereon in a horizontal plane. The cylindrical shank 12 of the fixed jaw 11 is seated in the horizontal socket 4 of the split frame and is revoluble therein in a vertical plane. The rectangular shank 16 of the movable jaw 15 is passed into the rectangular socket 18 of the fixed jaw and loosely surrounds and is in sliding engagement with the nut 13 of the fixed

jaw. An operating-screw 19 engages with the nut 13 to move the jaw 15 to or from the jaw 11 to grip or release the object. It is apparent that a tightening-band could be employed in lieu of the bolt, such band to be placed around the split frame between the sockets; but we prefer the bolt as being the simplest and most effective.

It will be seen that the jaws are susceptible of adjustment to any position in both a vertical and horizontal plane, and when adjusted to such desired position they can be rigidly fixed therein by a single manipulation of the tightening-nut 9, which simultaneously sets the jaws in the frame against movement in a vertical plane and the frame upon its supporting-post against movement in a horizontal plane.

With our improved construction both adjustments are therefore controlled by a single clamping device which necessarily and materially reduces the number and complexity of parts, thereby greatly simplifying the manipulation of the vise and effecting a corresponding reduction in the cost of manufacture.

We claim—

In a vise, the combination with the jaws, of a frame carrying a vertical and a horizontal socket, such frame being split between the sockets, and means operating at the split portions for simultaneously tightening the vertical socket around a supporting-post, and the horizontal socket around the jaws, as and for the purpose stated.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ELI S. WILLIAMSON.
BENJAMIN L. WILLIAMSON.

Witnesses:
C. B. BUTLER,
W. T. MILLER.