

(No Model.)

T. B. JACKSON.
BENCH VISE.

No. 504,586.

Patented Sept. 5, 1893.

Fig. 1.

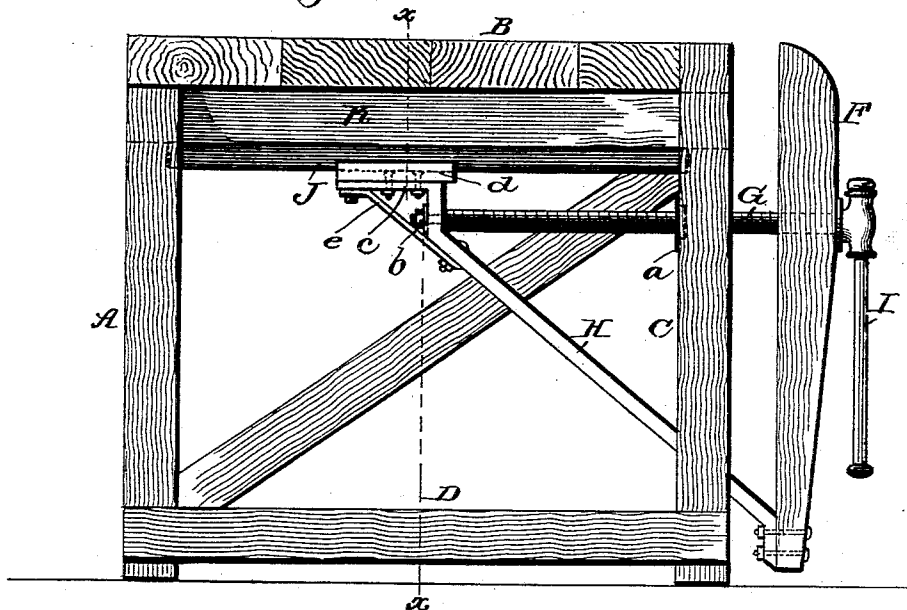
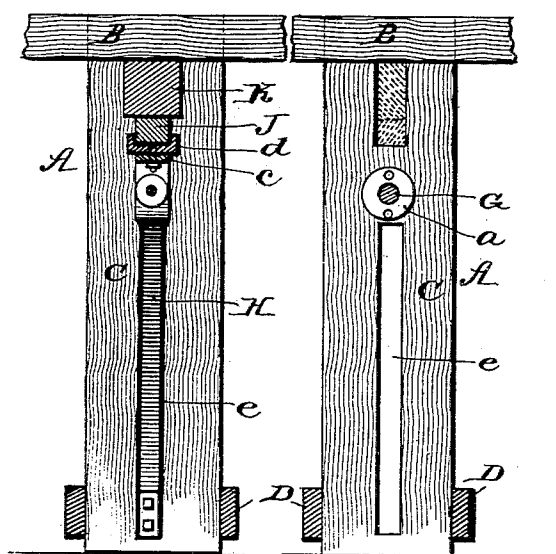


Fig. 2.

Fig. 3.



WITNESSES:

Fred G. Dietrich

Edw. W. Byrnes

Fig. 4.

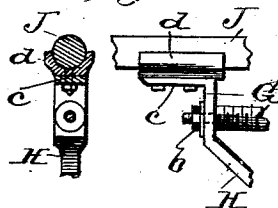
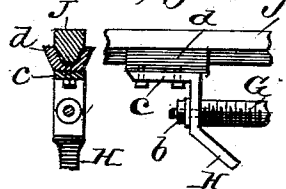


Fig. 5.



INVENTOR

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UNITED STATES PATENT OFFICE.

THOMAS B. JACKSON, OF SALEM, OREGON, ASSIGNOR OF ONE-HALF TO
DANIEL T. BROWN, OF SAME PLACE.

BENCH-VISE.

SPECIFICATION forming part of Letters Patent No. 504,586, dated September 5, 1893.

Application filed May 4, 1893. Serial No. 472,932. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. JACKSON, of Salem, in the county of Marion and State of Oregon, have invented a new and useful Improvement in Bench-Vises, of which the following is a specification.

My invention is in the nature of an improved bench vise, designed for simplicity, strength, cheapness, and convenient and easy operation.

It consists in the peculiar construction and arrangement of the parts, which I will now proceed to fully describe with reference to the drawings, in which—

Figure 1 is a vertical transverse section through the bench, the vise being shown applied thereto in side view. Fig. 2 is a vertical section through the line $x-x$ of Fig. 1. Fig. 3 is an inside view of the main standard C. Fig. 4 shows a section and a side view of a modification of the slide and guide of the movable jaw and Fig. 5 shows two similar views of another modification of these devices.

In the drawings, A B C D is the main frame of the work bench, B being the table surface of the bench, and C the main standard which sustains the movable jaw F. At the under side of the table surface a strong cross bar K is firmly held in the uprights or standards A and C, and to the under side of this cross bar a guide strip J is affixed, being held at its ends by mortises in the standards A and C into which mortises the ends of said guide strip are entered, as shown in dotted lines in Fig. 1.

In the movable jaw F there is swiveled the horizontal screw stem G, to whose outer end is affixed a T-shaped tubular head carrying the handle I. The middle portion of this screw stem is arranged to work in an internally screw threaded plate a firmly fixed in the standard C. The opposite end of the screw shaft is reduced in size and swivels in a brace H and is held against coming out by a screw nut b on the end of said shaft. The brace H is inclined in position and its lower end is bolted to the lower end of the movable jaw F and from this point extends inwardly through the slot in the standard and upward to the level of the screw shaft where it is bent to occupy a vertical position to form a bearing

for the screw shaft and above this point at c is bent again at right angles so as to occupy a horizontal position. The brace H may be strengthened by the brace e as shown in Fig. 1. To this horizontal portion is screwed or bolted the sliding shoe d . This sliding shoe is constructed with an open groove in its upper side to embrace the bottom and lower edges of the guide strip J, and this groove may be of rectangular cross section as in Fig. 2, or it may be round or V-shaped as shown in Figs. 4 and 5, to fit a correspondingly shaped guide strip. It does not entirely surround the guide strip, but simply presses up against it, and moves freely along under it, there being no necessity for any other connection, since it always presses upward no matter whether the jaw F be under a strain or not, for when it is loose and open, its gravity acting about the point a as a fulcrum tends to hold the shoe up, and when tightened to a clamping position, the outward strain of the upper end of the jaw tends to throw its lower end in, and this thrust is transmitted by the inclined brace in an upward direction to still hold the shoe up to the guide. It will thus be seen that I dispense altogether with yokes or slides that pass entirely around their guides, which are objectionable on account of their tendency to stick and bind, and a very practical construction is made to take its place which is simple and cheap in construction, easily accessible, never gets cramped or stuck, and is of easy and convenient adjustment.

I am aware that the lower end of the movable jaw of a bench vise has been connected to the screw shaft by an inclined brace through a yoke embracing a guide placed below the screw shaft, as shown in the expired Patent No. 79,565, and I make no claim to the inclined brace with guide movable jaw and screw except when constructed and arranged as herein shown and described.

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

1. In a bench vise, the combination with its standard C having a screw plate a fixed therein; of a horizontal screw having a movable jaw swiveled upon its outer end, an inclined brace connected to the lower end of the mov-

able jaw and extending upwardly and inwardly and carrying in a swiveling bearing the inner end of the screw, a slide fixed to this brace above the screw, and a transverse guide, 5 arranged above and parallel to the screw to control the slide substantially as and for the purpose described.

2. In a bench vise, the combination with its standard C having a screw plate *a* fixed therein; of a horizontal screw having a movable jaw swiveled upon its outer end, an inclined brace connected to the lower end of the movable jaw and extending upwardly and in-

wardly and carrying in a swiveling bearing the inner end of the screw, a transverse guide 15 fixed in the bench parallel with and above the screw, and a sliding shoe having an open groove on its upper side embracing the lower side of the guide only, and connected to and carried by the upper end of the inclined brace 20 substantially as shown and described.

THOMAS B. JACKSON.

Witnesses:

JOHN A. MCCARL,
J. A. DESLAURIERS.