Apr. 17, 1923.

1,452,062

L. P. BLOT

BENCH VISE

Filed Aug. 14, 1922

Fig. 1.

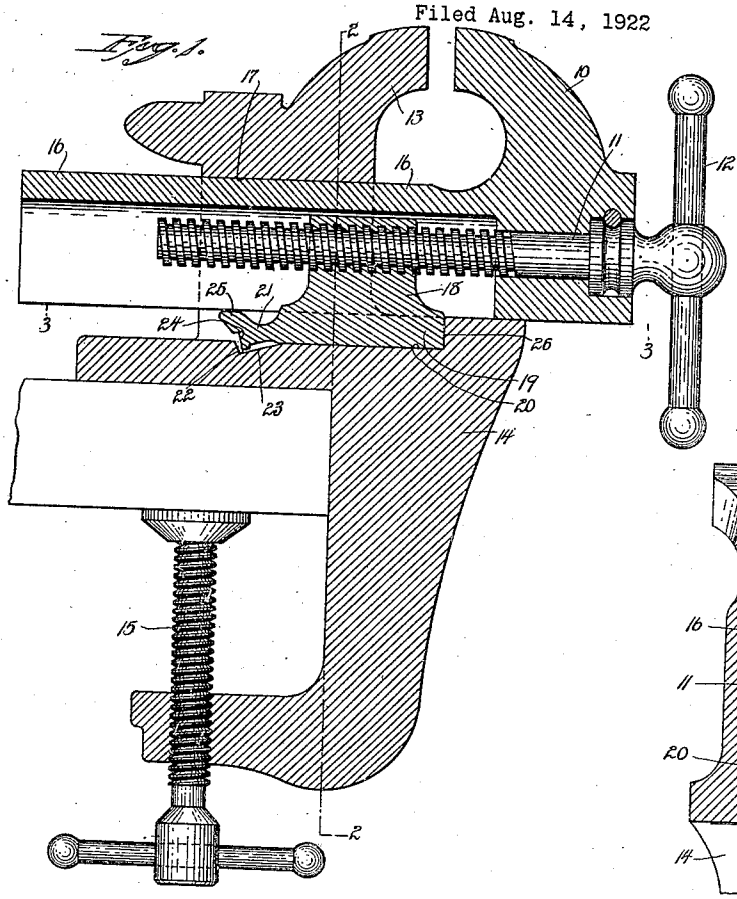


Fig. 2.

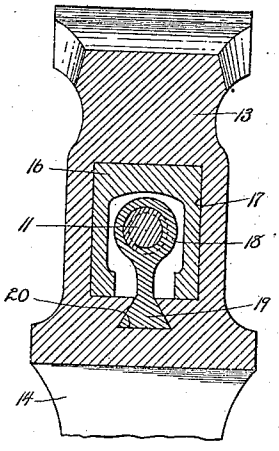


Fig. 3.

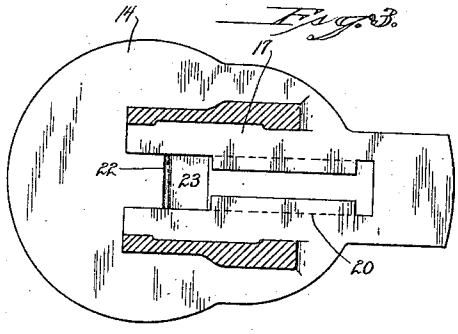


Fig. 4.

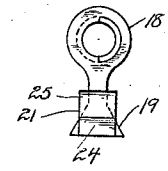


Fig. 5.

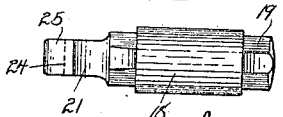
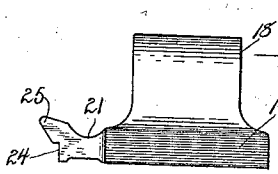


Fig. 6.



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Attys

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UNITED STATES PATENT OFFICE.

LUCIEN P. BLOT, OF SOUTHINGTON, CONNECTICUT, ASSIGNOR TO THE PECK, STOW & WILCOX CO., OF SOUTHINGTON, CONNECTICUT, A CORPORATION.

BENCH VISE.

Application filed August 14, 1922. Serial No. 581,564.

To all whom it may concern:

Be it known that I, LUCIEN P. BLOT, a citizen of the United States, residing at Southington, in the county of Hartford and State of Connecticut, have invented a new and useful Improvement in Bench Vises; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this application, and represent, in—

Fig. 1 a view in vertical central section of a bench-vise constructed in accordance with my invention.

Fig. 2 a broken view thereof in vertical transverse section on the line 2—2 of Fig. 1.

Fig. 3 a view thereof in horizontal section on the line 3—3 of Fig. 1.

Fig. 4 a detached view in rear elevation of my improved nut which receives the operating-screw of the vise.

Fig. 5 a plan view thereof.

Fig. 6 a view thereof in side elevation.

My invention relates to an improvement in bench-vises, the object being to produce, at a reduced cost for manufacture, a simple and reliable device constructed with particular reference to improved means for locking the nut of the operating-screw in place in the frame without the employment of a driven pin, liable to work loose and necessitating the coring of the frame of the vise.

With these ends in view, my invention consists in a bench-vise having its nut provided with a flexible extension adapted to be engaged with an abutment in the frame of the device for locking the nut in place therein.

My invention further consists in certain details of construction as will be hereinafter described and particularly pointed out in the claims.

In carrying out my invention, as herein shown, my invention is applied to a standard bench-vise having a sliding jaw 10 mounting an operating-screw 11 furnished at its outer end with a sliding, bar-like operating-lever 12. The sliding-jaw 10 coacts with a fixed jaw 13 formed integral with the upper portion of a vise-frame 14, the lower end of which is provided with the usual clamping-screw 15. The sliding-jaw 10 is formed, as usual, with a chambered supporting-arm 16, rectangular in cross-section and fitting into and sliding in a rectangular bearing opening 17 formed in the base-frame 14, at a point directly below the fixed jaw 13 thereof.

The operating-screw 11 aforesaid is threaded into a nut 18, by preference made of malleable iron and formed at its lower end with a dovetail rib 19 fitting into a dovetail slot 20 formed in the bottom wall of the rectangular opening 17 provided for the reception of the supporting-arm 16 of the sliding-jaw 10, the rib 19 and slot 20 being located below and parallel with the said screw.

Coming now to my present invention, it consists, as shown, in forming the rear end of the nut 18 with a flexible locking extension 21, adapted to be bent into position to be engaged with and disengaged from a locking-abutment formed in the frame 14. As shown, the said flexible extension 21 is adapted to be bent in the vertical plane so as to be engaged with and disengaged from an abutment 22 formed at the rear end of a depressed locking-notch 23 located at the rear end of the dovetail slot 20 aforesaid. As shown, the extension 21 is formed with a take-up shoulder 24 and with a beveled operating-finger 25.

In assembling the vise, it is only necessary to insert the dovetail rib 19 of the nut 18 into the rear end of the dovetail slot 20 in the frame 14 and slide the nut forward in the slot until the forward end of its rib abuts against the vertical forward wall 26 thereof. When the nut is thus positioned, it is permanently secured in place by merely bending its extension 21 downward so as to bring its take-up bevel 24 into opposition to the locking-abutment 22, as shown in Fig. 1. The nut is now permanently secured in place but not so rigidly as to prevent its accommodation to any slight variations in the construction of the parts. If it happens that there is an excess of endwise play in the nut, such play can be reduced or taken up altogether by a further depression of the extension 21, whereby its bevel 24 comes into closer relation to the abutment 22. On the other hand, if it is desired to remove the nut to replace it by another, or for any other purpose, it is only necessary to insert a wedge into the rear of the frame, into position to

engage with the beveled finger 25 of the extension, whereby the same may be bent upward and its bevel 24 cleared from the abutment 22, after which the nut may be removed.

I thus dispense with the employment of the driven pin heretofore commonly employed for holding the nut of a bench-vise in place. If desired, the extension may be changed in form from the form herein shown and adapted to be bent laterally as well as vertically, my invention being broadly characterized by the provision of the locking-nut of a bench-vise with a flexible extension adapted to be flexed, so as to be brought into or out of engagement with a retaining-abutment in the vise-frame.

I have spoken of the nut as being made of malleable iron, but it might be made of forged steel or brass, the only requirement in this respect being that its extension shall be capable of being flexed.

I claim:

1. A bench-vise having a frame, an abutment in fixed relation thereto, a fixed jaw, a movable jaw, an operating-screw, a nut for the said screw provided with an integral, flexible locking-member adapted to be engaged with and disengaged from the said abutment, whereby the said nut is anchored in place against longitudinal displacement, and means for preventing the vertical displacement of the nut.

2. A bench-vise having a frame, an abutment in fixed relation thereto, a fixed jaw, a movable jaw, an operating-screw, a nut for the said screw formed at its rear end with an integral, flexible locking-extension adapted to be bent into and out of engagement with the said abutment, whereby the said nut is anchored in place against longitudinal displacement, and means for preventing the vertical displacement of the nut.

3. A bench-vise having a frame, an abutment in fixed relation thereto, a fixed jaw, a movable jaw, an operating-screw, a nut for the said screw formed at its rear end with an integral locking-extension adapted to be bent downward or upward for engagement with or disengagement from the said abutment, whereby the said nut is anchored in place against longitudinal displacement, and means for preventing the vertical displacement of the nut.

4. A bench-vise having a frame, an abutment in fixed relation thereto, a fixed jaw, a movable jaw, an operating-screw, a nut for the said screw formed with a locking-extension having a take-up shoulder and adapted to be bent into and out of engagement with the said abutment in the said frame, whereby the said nut is held against longitudinal displacement, and means for preventing the vertical displacement of the nut.

5. A bench-vise having a frame, an abutment in fixed relation thereto, a fixed jaw, a movable jaw, an operating-screw, a nut for the said screw formed with a flexible locking-extension having an operating-finger and adapted to be bent into and out of engagement with the said abutment, whereby the said nut is held against longitudinal displacement, and means for preventing the vertical displacement of the nut.

LUCIEN P. BLOT.