

Dec. 4, 1923.

W. McDANIEL ET AL

1,476,628

BENCH VISE

Filed Sept. 29, 1922

3 Sheets-Sheet 1

Fig. 1.

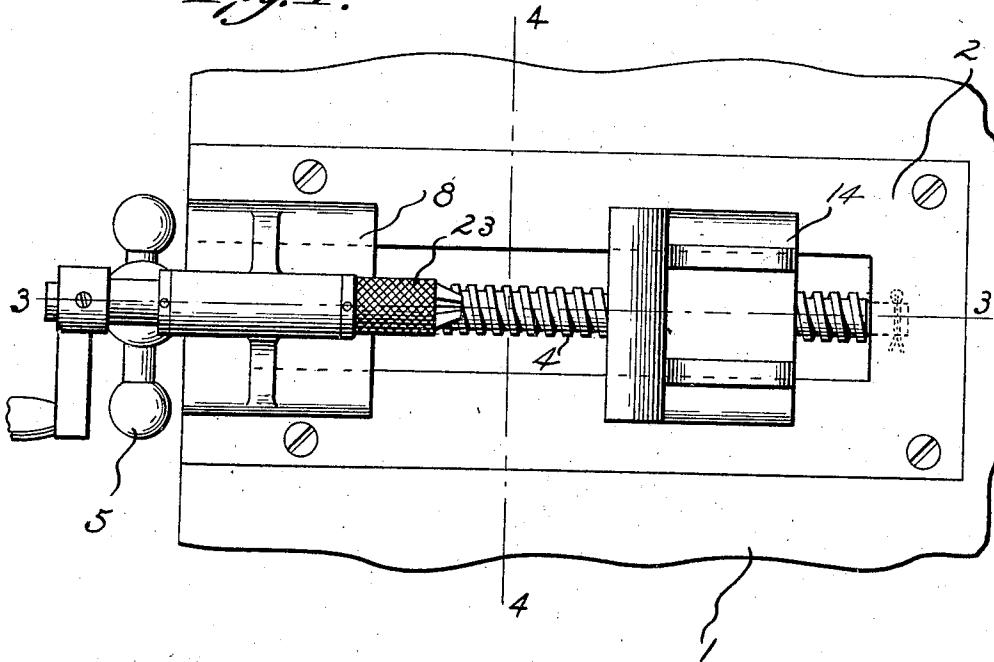
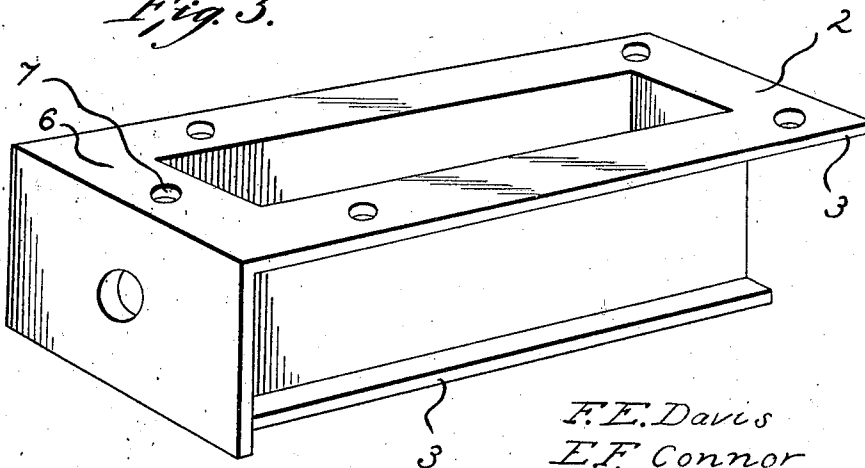


Fig. 5.



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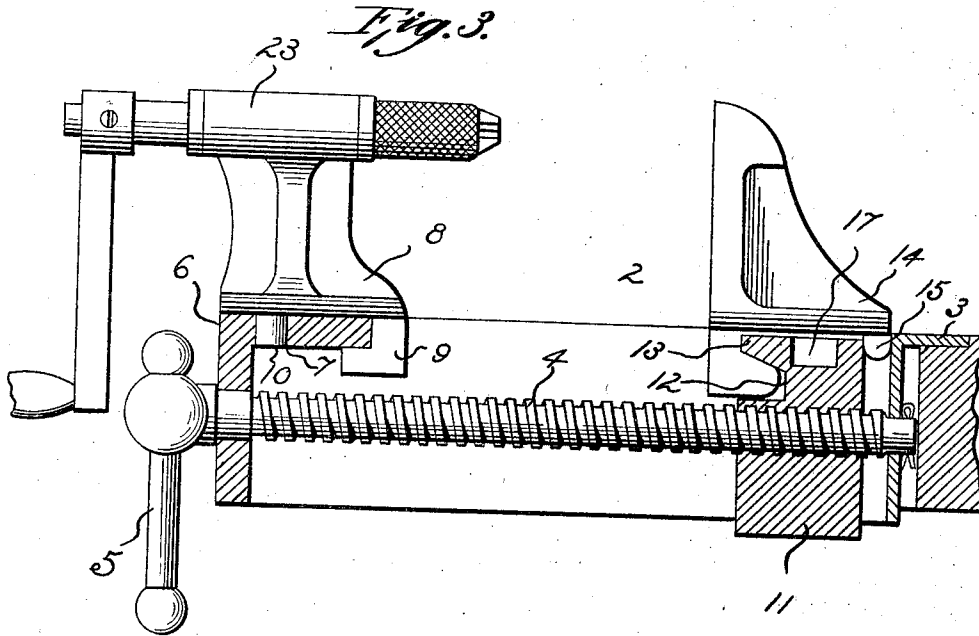


Fig. 2.

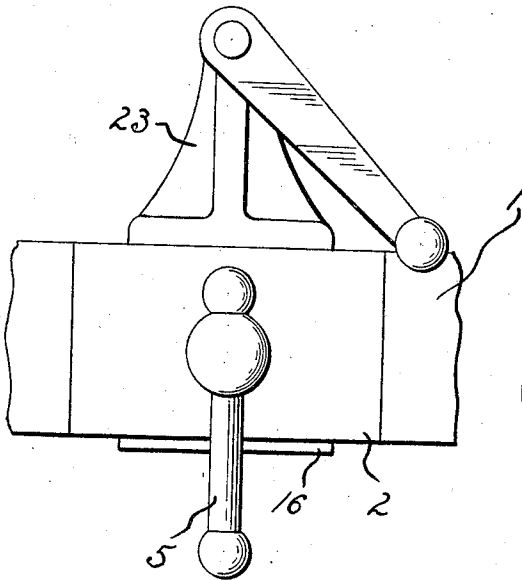
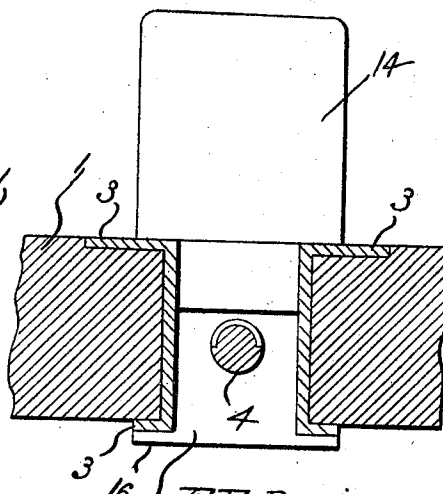


Fig. 4.



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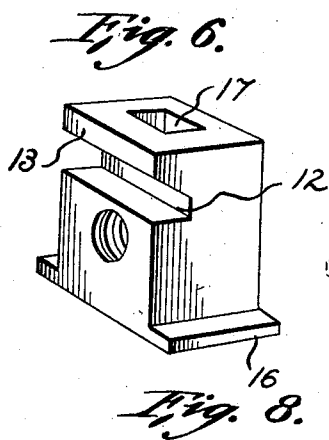
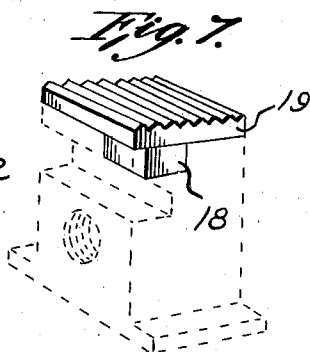
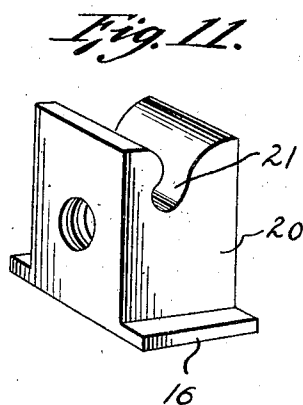
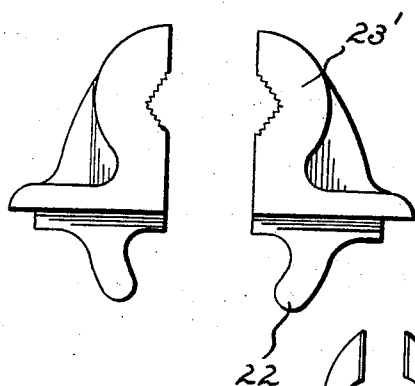
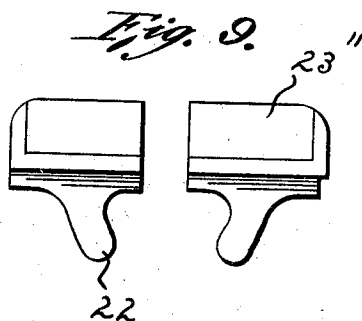
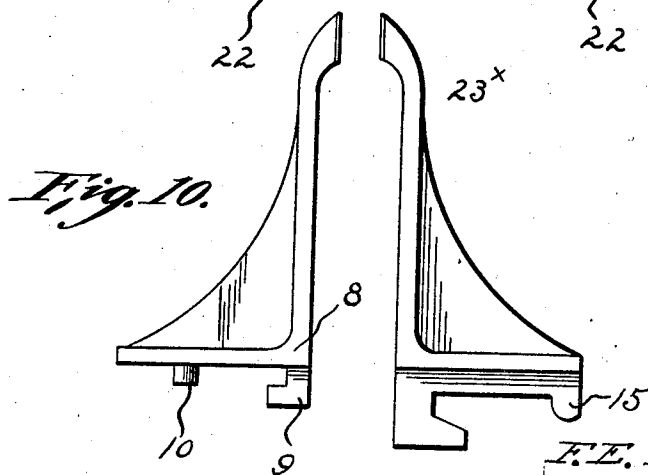
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BENCH VISE

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

WALTER McDANIEL, FRANK E. DAVIS, AND EUGENE F. CONNOR, OF BREMERTON,
WASHINGTON.

BENCH VISE.

Application filed September 29, 1922. Serial No. 591,397.

To all whom it may concern:

Be it known that WALTER McDANIEL, FRANK E. DAVIS, and EUGENE F. CONNOR, citizens of the United States, residing at Bremerton, in the county of Kitsap and State of Washington, have invented new and useful Improvements in Bench Vises, of which the following is a specification.

This invention relates to a bench vise, the general object of the invention being to provide a vise with removable jaws so that the jaws can be removed when not in use and thus leave the entire bench free of obstructions.

Another object of the invention is to provide interchangeable jaws for the vise so that it can be used for different kinds of work.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing our invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a plan view of a portion of a bench showing our invention in use.

Figure 2 is an end view.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is a section on line 4—4 of Figure 1.

Figure 5 is a view of the frame of the vise removed from the bench.

Figure 6 is a detail view of one of the blocks employed in our invention.

Figure 7 is a similar view showing a plate associated with the type of block as shown in Figure 6.

Figure 8 is a detail view of one form of jaws used in this invention.

Figure 9 is a similar view of a modified form of jaws.

Figure 10 is a further modified form of jaws.

Figure 11 is a modified form of block.

In these views 1 indicates the bench and 2 indicates the frame or base of the vise, which is located in a recess formed in the bench. This frame is provided with the up-

per and lower flanges 3 which engage portions of the bench as shown. A screw shaft 4 is rotatably mounted in the frame and this shaft is adapted to be turned by means of the handle 5. The front or outer end of the frame is provided with a flange 6 which has a hole 7 therein. This flange is adapted to support the stationary jaws 8, each of these jaws having an L-shaped part 9 forming a recess which receives the edge of the flange and with a projection 10 for engaging the hole 7. Thus the stationary jaw is securely connected with the frame though it may be easily detached and a different kind of stationary jaw substituted. Blocks 11 are provided with screw threaded bores which are engaged by the shaft 4. One set of these blocks are provided with grooves 12 and tongues 13 for engaging similar tongues and grooves in the movable jaws 14, the jaw being provided with the rounded projection 15 for engaging the rear part of the block. Thus the jaws are detachably secured to the blocks. The blocks are provided with the flanges 16 at their lower ends which overlap the bottom flanges 3 of the frame. Each block of this set is also provided with a hole 17 in its top for receiving a projection 18 on a plate 19 so that this plate is detachably connected with the jaw. This plate acts as a bench stop. The other set of blocks, shown at 20, are provided with the curved recess 21 in their upper ends for receiving the curved projections 22 of the jaws 23. This simply shows a different manner of connecting the jaws with the blocks. As shown in the drawings the stationary jaws may be made to carry a bit, as shown at 23. In this case the jaw 14 acts as a press for the drill. The stationary jaw 8 can be removed and a second block and jaw used with the movable jaw when desired. The detail figures show the various forms of jaws which may be used with the device. For instance, the jaws 23' can be used for holding pipes and the like. The jaws 23'' are low wood worker's jaws. The jaws 23* are used for holding a saw for filing the same. It will of course be understood that other types of jaws can be used. The shaft 4 is preferably held in the frame by a cotter pin 24 or the like passing into a hole in its end so that by removing this pin the shaft can be removed to attach or remove the blocks. By removing all

the jaws the bench will be clear of all obstructions. This is especially desirable where the bench room is limited.

It is thought from the foregoing description that the advantages and novel features of our invention will be readily apparent.

We desire it to be understood that we may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What we claim is:—

1. A device including a rectangular frame designed to be mounted in a longitudinal slot in a body, upper and lower outwardly extending flanges extending from opposite sides of the frame and adapted to embrace the sides of the body adjacent the slot, a stationary jaw arranged at one end of the frame, a movable jaw slidable in the frame and means for operating the movable jaw for association with the fixed jaw.

2. In combination with a bench, a frame disposed in an elongated recess formed therein, a screw threaded shaft longitudinally disposed in the frame, and a member rotatably mounted on the shaft and being adapted to carry independent jaws as and for the purpose specified.

3. In combination with a bench, a frame, and said frame being provided with flanges adapted to hold the frame fixed to the bench, a screw shaft detachably and longitudinally disposed through the frame, a handle for rotating the shaft, a member mounted for longitudinal movement on the shaft and adapted to carry interchangeable jaws, and a plate detachably associated with the member as described.

In testimony whereof we affix our signatures.

WALTER McDANIEL.
FRANK E. DAVIS.
EUGENE F. CONNOR.