Dec. 16, 1930. J. BLUMER 1,785,613

SAW VISE

Filed Oct. 20, 1928

FIG. 1.

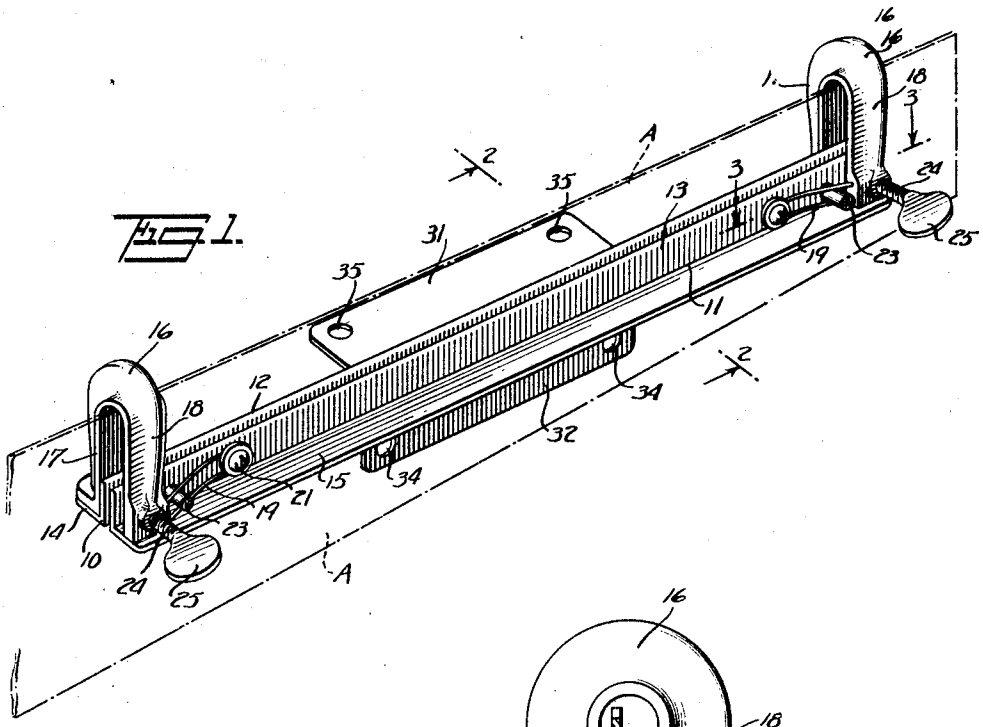


FIG. 2.

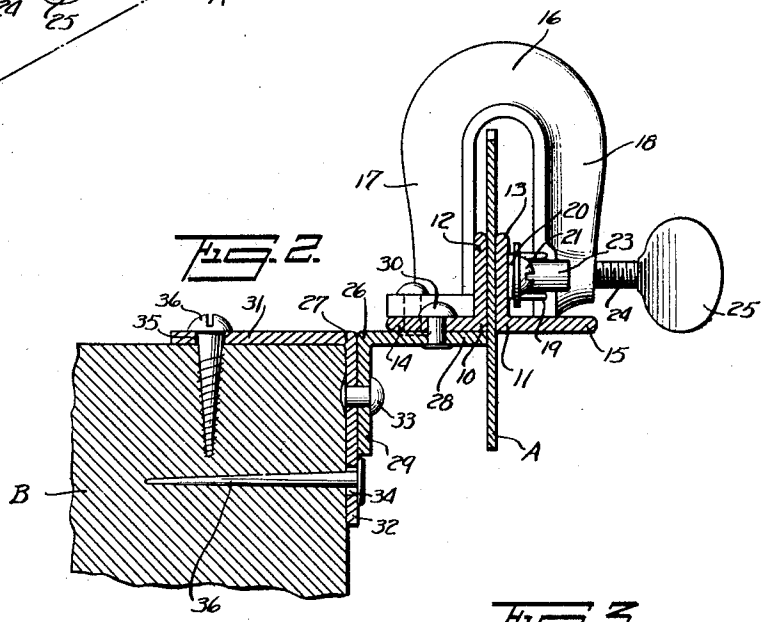
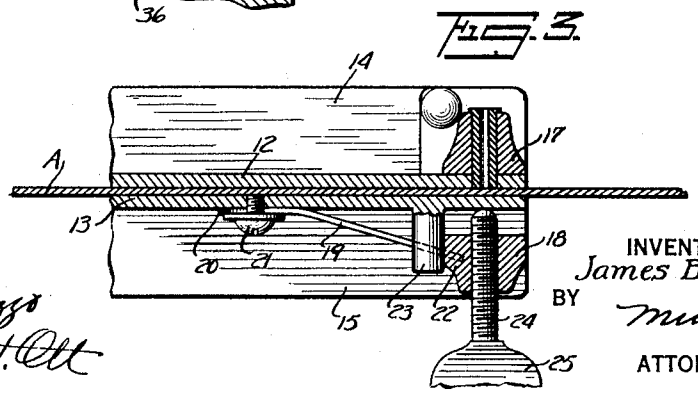


FIG. 3.



WITNESSES

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SAW VISE

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This invention relates to work supports, and has particular reference to certain improvements in vises or clamps for supporting tools, such as saws.

The invention primarily comprehends a vise which is readily attachable to a support for holding and clamping the saw or other object in a position to facilitate the sharpening of the teeth or other operations thereupon.

One of the outstanding objects of the present invention resides in the provision of a novel connection between the stationary or fixed jaw and the movable jaw which permits of a limited compound relative movement therebetween whereby the jaws will accommodate themselves to the opposite surfaces of the object which is being clamped thereby.

The invention further contemplates a vise in which the jaws and supporting bracket are constructed entirely of angle material so as to obtain the maximum strength in a device of minimum weight.

Other features of the invention reside in the simplicity of construction and mode of use of the device, the economy with which it may be produced and the general efficiency derived therefrom.

With the above recited and other objects in view, reference is had to the following description and accompanying drawings in which there is exhibited one example or embodiment of the invention, while the claims define the actual scope of the same.

In the drawings:

Figure 1 is a perspective view illustrating the manner in which the saw or other object to be operated upon is supported by the device.

Figure 2 is a transverse sectional view therethrough on an enlarged scale taken approximately on the line indicated at 2—2 in Figure 1.

Figure 3 is a fragmentary horizontal sectional view on an enlarged scale taken approximately on the line 3—3 of Figure 1.

Referring to the drawings by characters of reference, the vise includes a fixed jaw 10 and a movable jaw 11 which are constructed of angle iron and which present vertical flanges 12 and 13 respectively and horizontal flanges 14 and 15 respectively, the horizontal flanges extending in diametrically opposite directions and being disposed approximately in the same plane whereby the confronting faces of the vertical flanges 12 and 13 serve as clamping surfaces between which the article to be operated upon is clamped. The fixed jaw 10 has secured thereto adjacent its opposite ends, substantially inverted U-shaped brackets 16, the leg 17 of each of which is rigidly secured to the jaw 10 and the leg 18 of each of which is spaced from the outer face of the vertical flange 12. In order to allow for a limited compound relative sliding and rocking movement between the jaws, the following connection between the movable jaw 11 and the leg 18 of each bracket is employed, whereby the said movable jaw 11 may rock on a horizontal axis. This connection consists of a U-shaped spring 19, the bight portion 20 of which is secured to the vertical flange 13 of the jaw 11 in any desired manner, such as by a screw 21. The free terminals of the legs of the spring 19 are anchored at 22 in the lower end of the leg 18 of the bracket 16 while a guide stud 23 projecting outwardly from the flange 13 is loosely straddled by the legs of the spring 19. The tension of the spring 19 is such as to normally effect relative separating movement of the jaw 11 with respect to the jaw 10, this separating movement being limited by the contact of the flange 13 with the lower ends of the legs 18 of the brackets 16. In order to provide means for effecting movement of the movable jaw 11 toward the fixed jaw 10, screws 24 are threaded through the lower ends of the legs for engagement with the vertical flange 13 of the jaw 11. These screws 24 are preferably in the nature of thumb screws having the usual form of head 25. Obviously, from this construction and arrangement, the saw or other object A which is to be operated upon may be clamped between the confronting faces of the vertical flanges 12 and 13, and in event the opposite surfaces of the object A are non-parallel, the jaw 11 due to its connection may assume an angle

with respect to the jaw 10 to compensate for this condition.

In order to provide a suitable supporting and attaching means which will not entail very great expense and which will not be of excessive weight but which at the same time will possess considerable strength, a supporting bracket has been devised which consists of two lengths of angle iron 26 and 27. The angle iron piece 26 includes a horizontal flange 28 and a vertically depending flange 29, the former flange 28 being disposed beneath and in flat contact with the horizontal flange 14 of the fixed jaw 10 and riveted or otherwise securely fastened thereto as at 30. The second length or piece of angle iron 27 is provided with a horizontal flange 31 and a vertically depending flange 32, which flange 32 is of greater width than the flange 29. The vertically depending flanges 29 and 32 are disposed in flat contact with each other and riveted or otherwise secured together as at 33 with the horizontal flanges 28 and 31 disposed approximately in the same plane. That portion of the flange 32 which extends below or projects beyond the free edge of the flange 29, is formed with apertures 34 while the flange 31 is similarly formed with apertures 35. These apertures are designed to receive therethrough fastening elements, such as screws or nails 36, which are driven into and anchored in the supporting element B, such as the corner of a bench or the like. Obviously, by employing an angle iron strip 27 which has a flange of greater width than the flange 29 of the angle iron piece 26, the necessity of drilling the apertures 34 through both of the flanges 29 and 32 is obviated.

What is claimed is:

1. In a saw vise, fixed and movable jaws constructed of angle iron to provide vertically disposed parallel flanges and horizontal flanges at the lower edge of each vertical flange projecting respectively in opposite directions, inverted U-shaped brackets rigidly secured to the fixed jaw and straddling the vertical flanges of both jaws, a flexible resilient U-shaped spring carried by each bracket and secured to the movable jaw, a stud projecting outwardly from the vertical flange of the movable jaw and extending between the legs of the U-shaped spring and means extending through the free ends of the bracket, adapted to coact with the movable jaw for advancing the same toward the fixed jaw.

2. In a saw vise including fixed and movable jaws constructed of angle iron to provide vertically disposed parallel flanges and a horizontal flange at the lower edge of each vertical flange projecting respectively in an opposite direction and a connection therebetween permitting of limited compound relative movement thereof, a supporting bracket for the fixed jaw comprising a pair of angle iron members having vertically depending parallel flanges secured together and each having a horizontal flange at the upper edge projecting respectively in opposite directions, one of said horizontal flanges being secured to the horizontal flange of the fixed jaw and the flanges of the other angle iron section of the bracket being provided with apertures for the reception of fastening elements.

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