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D. L. GORBATENKO ET AL

2,190,983

SHOE VISE

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Fig. 1

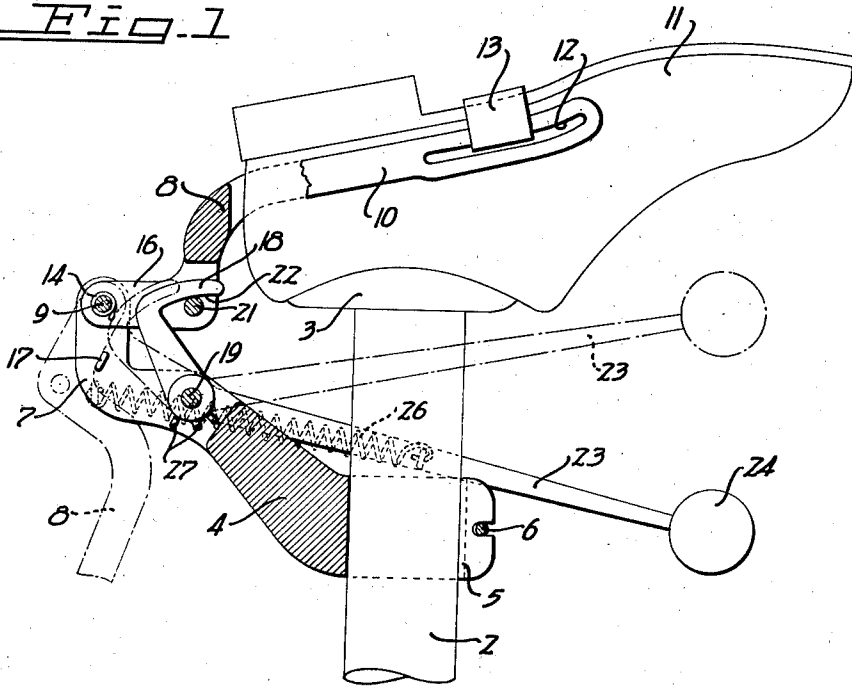


Fig. 2

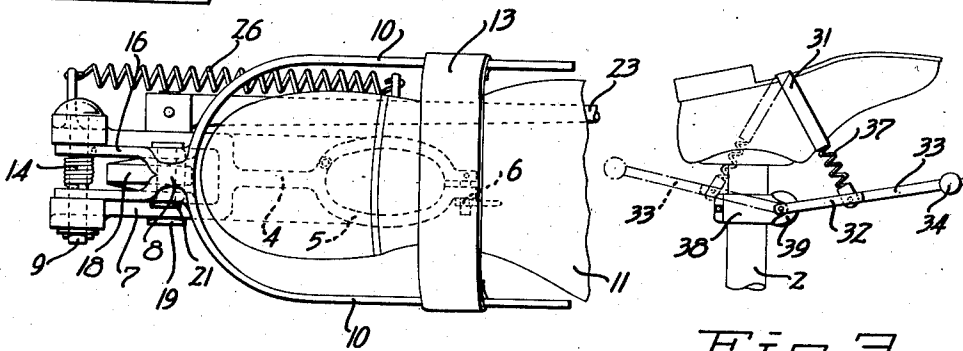
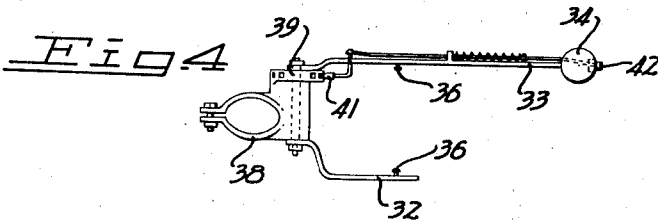


Fig. 3



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SHOE VISE

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4 Claims. (Cl. 12—123)

Our invention relates to a device for clamping a shoe on a shoemaker's last; and the broad object of the invention is to provide a vise mounted on the supporting stand of the last and having means by which a shoe may be simply and quickly clamped to or released from the last.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of our invention. It is to be understood that we do not limit ourselves to this disclosure of species of our invention as we may adopt variant embodiments thereof within the scope of the claims.

Referring to the drawing:

Figure 1 is a side view, partly in section and partly in elevation, showing the shoe vise embodying our invention; and

Figure 2 is a plan view of the same.

Figure 3 is a side elevational view of a modified form of construction; and

Figure 4 is a detail plan view of the operating arm mounting.

In the past it has been the practice of shoemakers or cobblers to hold a shoe on a last by means of a strap or sling passing over the shoe and looped down to receive the cobbler's foot. This requires that the cobbler always have a foot in the sling while working on a shoe, which prevents freedom of movement and is generally a clumsy method of holding the shoe. With our improved shoe vise the cobbler does not have to keep his foot in a strap.

In terms of broad inclusion, the shoe vise embodying our invention is mounted on a shoe last supporting stand. The vise comprises means for holding a shoe on the last, and means for fastening the same in shoe holding position. The shoe holder is preferably a pivotally mounted arm having a strap for engaging the shoe, so that when the arm is fastened down the strap is tightened against the shoe.

In greater detail, and referring to Figures 1 and 2 of the drawing, our shoe vise is mounted on the ordinary stand 2 which supports a shoemaker's last 3. The vise comprises a bracket 4 having a sleeve portion 5 embracing the stand. The mounting sleeve has a hinged section and the parts are clamped about the stand by any suitable means, such as a hinged bolt and lever nut 6. The bracket extends upwardly and rearwardly and terminates in a forked portion 7.

A shoe holding arm 8 is pivotally mounted on the bracket on a pin 9 between the legs of fork 7. This arm is yoke-shaped, and in the shoe

holding position shown in Figure 1, fingers 10 of the yoke project forwardly about the sides of a shoe 11 on the last. The yoke fingers have slots 12 for carrying a strap 13 extending across the shoe in much the same manner as the hold-down straps now used. Strap section 13 may be of any suitable material, such as strong webbing, and is looped back at the ends to engage the yoke fingers. Slots 12 allow adjustment of the strap.

As seen in Figure 1, shoe holding arm 8 is pivoted well below the upper surface of the shoe, and the yoke portion extends upwardly and forwardly below the shoe sole, so that the upper surface of the shoe is left substantially clear for working purposes. Strap 13 of course extends across the top, but that is also true of straps previously used. Arm 8 is movable from its shoe holding position to a retracted position extending rearwardly, as shown by dotted lines in Figure 1. In this retracted position the arm is out of the way, and the shoe is free for removal from the last.

Means are also provided for urging arm 8 into retracted position, so that as soon as the arm is released it swings back out of the way. For this purpose a spring 14 is preferably coiled about the pin with one end anchored in the fixed pin and the other end fastened to the arm. Rear end 16 of the arm is preferably bifurcated as shown in Figure 2, to give a wider bearing and to allow a central placing of spring 14. Suitable stops or lugs 17 on the arm and bracket serve to limit the arm in retracted position.

Means are provided for clamping arm 8 down in shoe holding position to tighten strap 13 against the shoe. For this purpose a hooked-shaped cam 18 is pivotally mounted by a pin 19 extending between fork 7 of the bracket, and is adapted to engage a pin 21 extending between the sides of bifurcated arm portion 16. Face 22 of the cam is designed to apply downward pressure on arm 8 when the cam rotates ahead; and the hook of the cam extends forwardly so that the cam rides off pin 21 to free the arm when the cam rotates backwardly.

Means are provided for actuating the cam. As best shown in Figure 1, a lever 23 is also fixed on pin 19 and extends forwardly to provide an operating handle or knob 24 conveniently arranged below the last. The lever is movable between clamping and release positions; the latter being indicated by dot and dash lines in Figure 1. An unbalanced spring 26 is connected between the bracket and lever and serves to urge the lever into one or the other of its positions as the spring

passes over the pivot center. Stops or lugs 27 on the lever and bracket serve to limit movement of the lever; and the upper limit is set so that pin 21 clears the end of cam 18 to allow arm 8 to be brought down.

In the operation of the vise, arm 8 is first brought down and lever 24 is then pushed down to engage cam 18 with pin 21. Once engaged, arm 8 is automatically held, and further downward movement of the lever tightens strap 13 against the shoe by reason of the cam action. After the strap has been tightened, arm 8 stays in the clamped position because of the friction between cam 18 and pin 21, and also because of the tension in spring 26 tending to hold lever 23 down. Cam surface 22 need not be steep, since a small movement here results in a large movement at the end of the arm. Thus there is little tendency of arm pin 21 to move back out on the cam.

When it is desired to free the shoe it is only necessary to throw lever 23 into its up position, thus releasing arm 8 and allowing the latter to swing back into its retracted position. With arm 8 out of the way, the shoe may be worked on without being clamped down, or the shoe may be removed.

While we have shown the pivot mounting of arm 8 at the heel side of the last, it is understood that the whole arrangement may be reversed to position the bracket under the toe.

Figures 3 and 4 show a modified construction comprising a strap 31 connected to a yoked-shaped arm having fingers 32, one of which extends into a lever 33 terminating in a handle knob 34. The strap is pivotally connected to the yoke fingers at 36; and the strap is preferably elastic or resilient, as by incorporating a spring 37, to give a certain measure of elasticity.

The yoke arm is pivoted to a bracket 38 fastened to the stand, so that the arm may swing from one side of the stand to the other. Means are also provided for holding or fastening the arm in a selected position. For this purpose a disc or segment 39 is formed on the bracket and is provided with notches for receiving a spring-pressed dog 41 actuated by a button 42 at the end of the handle. By this simple arrangement the lever may be pressed down and locked when sufficient tension has been put in the strap.

When the stand is turned around for the cobbler to work from the heel end of the shoe, the yoke arm is thrown over to the opposite side,

as indicated by dotted lines in Figure 3, to tension the strap from the opposite angle. The action of the hold down strap is thus substantially the same as the slings now used, except that the foot of the cobbler is left free.

The yoke-shaped shoe holding arm is so pivoted that the strap pulls down at substantially the same angle for either side of the stand; and the yoke finger length is such that the strap automatically clears the shoe when the arm is thrown over. When the device is not in use the arm and strap hang down in retracted position alongside the stand where they are completely out of the way.

We claim:

1. The combination with a shoe last and supporting stand, of a shoe vise comprising an arm pivotally mounted for movement between operative positions extending from opposite sides of the stand, and a strap on the arm for engaging a shoe on the last in either position of said arm.

2. The combination with a shoe last and supporting stand, of a shoe vise comprising an arm pivotally mounted for movement between operative positions extending from opposite sides of the stand, a strap on the arm for engaging a shoe on the last in either position of said arm, and means for holding the arm in either of its oppositely extending positions.

3. The combination with a shoe last, of a shoe vise comprising a strap for straddling the instep of a shoe on the last, the depending ends of the strap slanting forwardly in one position to draw the heel of the shoe against the last and slanting rearwardly in another position to draw the toe of the shoe against the last, and means for tensioning the strap in said positions.

4. The combination with a shoe last, of a shoe vise comprising a strap for straddling the instep of a shoe on the last, the depending ends of the strap slanting forwardly in one position to draw the heel of the shoe against the last and slanting rearwardly in another position to draw the toe of the shoe against the last, and means including an arm pivoted about an axis lying below said instep and movable from one side to another of said axis for tensioning the strap in its forwardly and rearwardly slanting positions.

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