April 4, 1944. A. A. LINES 2,345,708

VISE

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Fig. 1.

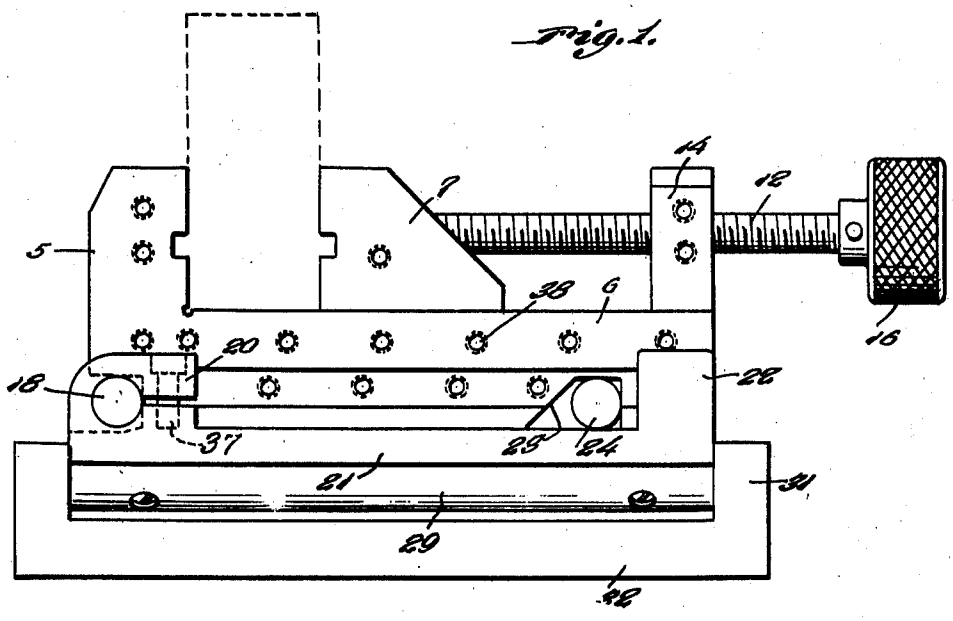

Fig. 2.

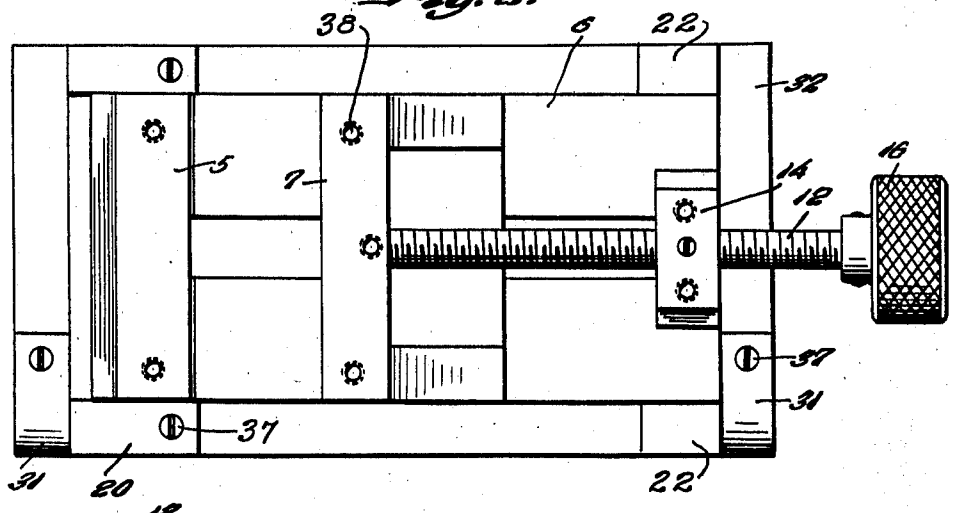

Fig. 14.

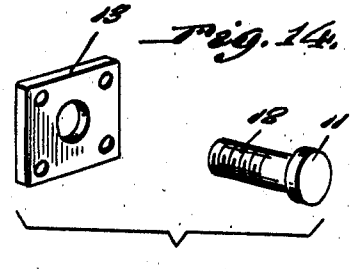

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Fig. 3.

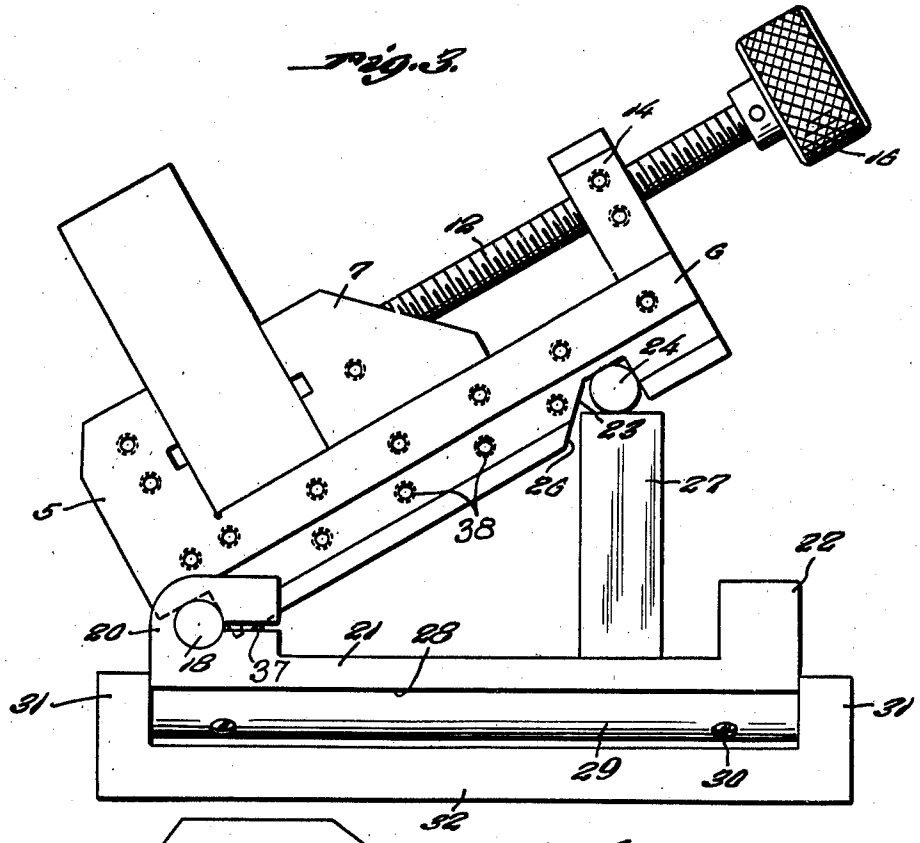

Fig. 4.

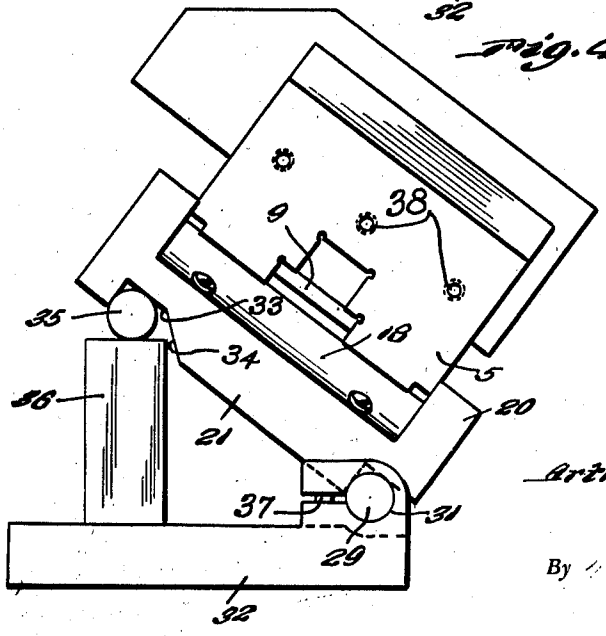

Fig. 13.

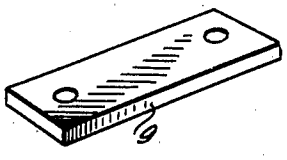

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Fig. 5.

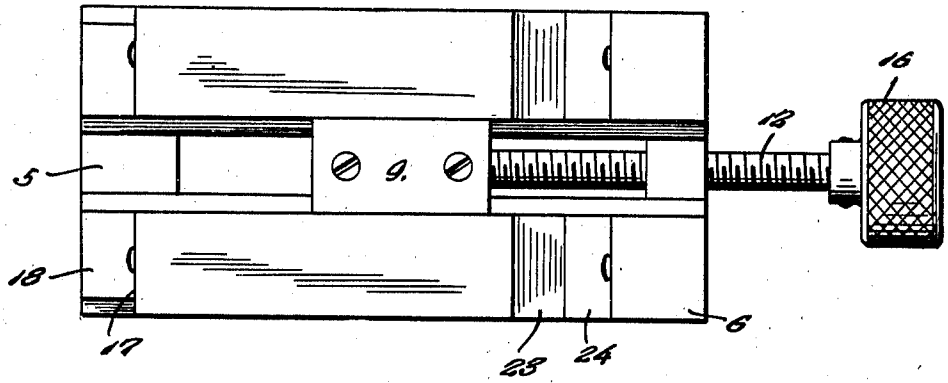

Fig. 6.

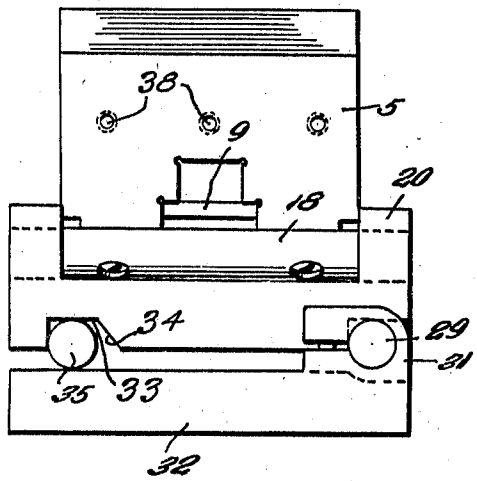

Fig. 11.

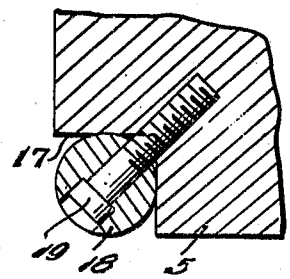

Fig. 12.

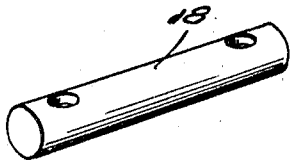

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Fig. 7.

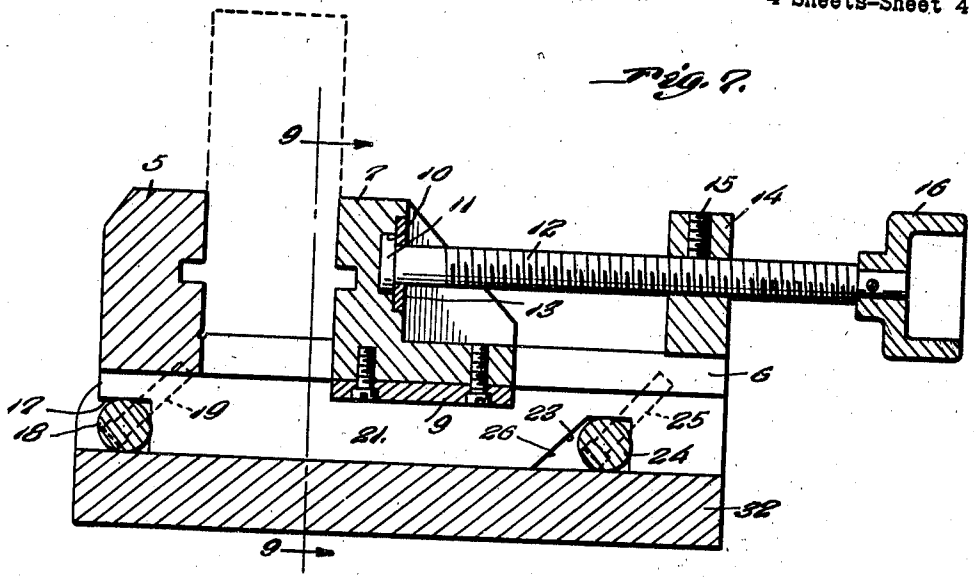


Fig. 8.

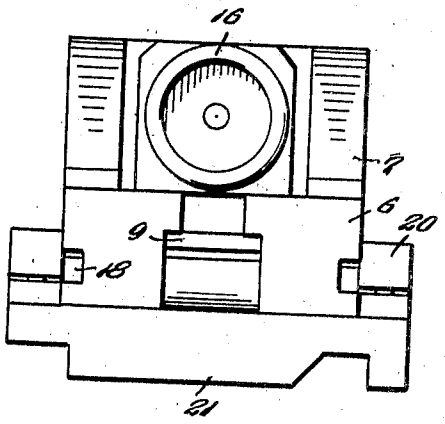
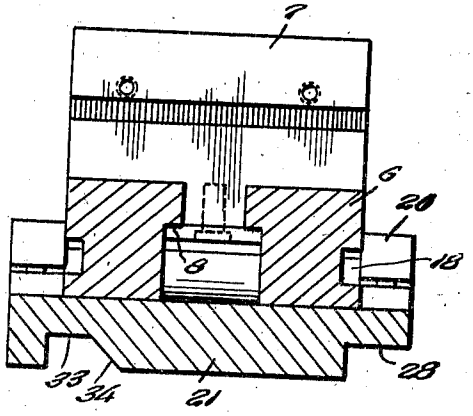


Fig. 9.



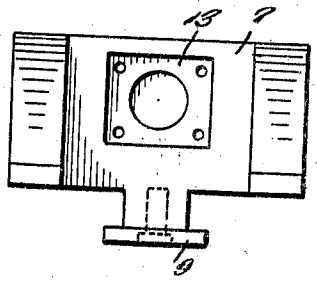


Fig. 10.

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UNITED STATES PATENT OFFICE

2,345,708

VISE

Arthur A. Lines, Marion, Ind.

Application January 2, 1942, Serial No. 425,457

2 Claims. (Cl. 90—60)

The present invention relates to new and useful improvements in vises, the invention having for its principal object to provide a mounting for the vise, by means of which one side and one end of the vise may be adjusted into a desired position.

A further important object of the present invention is to provide a mounting for the vise including an intermediate base member and a sub-base member, either of which are adapted to be detached from the vise, when desired.

A still further object is to provide a device of this character of simple and practical construction, which is efficient and reliable in performance, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view.

Figure 2 is a top plan view.

Figure 3 is a side elevational view showing the vise with one end supported in an adjusted position.

Figure 4 is an end elevational view showing the vise with one side supported in an adjusted position.

Figure 5 is a bottom plan view.

Figure 6 is a rear end elevational view.

Figure 7 is a longitudinal sectional view.

Figure 8 is a front elevational view.

Figure 9 is a vertical sectional view taken substantially on a line 9—9 of Figure 7.

Figure 10 is a rear elevational view of the sliding jaw.

Figure 11 is a fragmentary sectional view through one of the pivot rods for the vise.

Figure 12 is a perspective view of one of the pivot rods.

Figure 13 is a perspective view of the locking plate for the underside of the sliding jaw, and

Figure 14 is a group perspective view of the connecting plate and screw attached to the sliding jaw.

Referring now to the drawings in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates the stationary jaw of the vise from the inner face of which adjacent its lower edge extend the spaced parallel guides 6 on which the sliding jaw 7 is slidably mounted. The inner edges of the guides 6 are formed with shoulders 8 engaged by the plate 9 secured to the bottom edge of the jaw 7 to retain the jaw in position on the guides 6.

The rear face of the sliding jaw 7 is formed with a recess 10 swivelly receiving the head 11 on a screw 12 which is retained in the recess by a plate 13. The screw is threaded through a block 14 rising from the rear end of the guides 6. The block is provided with a set screw 15 adapted for engaging the screw to secure the latter in adjusted position. The rear end of the screw is provided with a manipulating head or handle 16.

The front lower edge of the stationary jaw 5 is formed with a kerf 17 in which is positioned a cylindrical rod member 18 secured in the kerf by screws 19, the diameter of the rod being substantially equal to the height and depth of the kerf, as shown to advantage in Figure 7 of the drawings, so that the lower edge of the rod is substantially on a plane with the bottom of the guides 6 of the vise.

The ends of the rod 18 project outwardly beyond the sides of the guides 6 and are rotatably mounted in split bearings 20 formed on the upper side edges of an intermediate base member 21, the base member 21 being of an area adapted to support the bottom of the vise thereon. Adjacent the front ends of the base member 21 at each side thereof, are upstanding lugs 22 between which the front end of the guides 6 are adapted to be positioned when the vise is disposed horizontally on the base.

The lower edge of the guides 6, adjacent the front ends thereof, are formed with notches 23 within which is positioned a second cylindrical rod 24 secured therein by bolts 25, the lower edge of the rod 24 likewise being substantially on a plane with the bottom of the guides 6. The rear wall of the notches 23 is inclined rearwardly as indicated at 26 so as not to interfere with the upper edge of a supporting member 27 which may be loosely positioned on the intermediate base member 21 and disposed under the rod 24, as shown to advantage in Figure 3 of the drawings, to support the front end of the vise in an upwardly elevated position. It will be understood that post or support 27 may be of any desired height.

One longitudinal side edge of the base member 21 is also formed with a kerf 28 within which is positioned a cylindrical rod 29 and secured therein by bolts 30. The ends of the rods 29 project beyond the front and rear ends of the intermediate base member 21 and are rotatably supported

in split bearings 31 at the front and rear side edges of a sub-base 32 which underlies the intermediate base member 21, as shown to advantage in Figure 3. The bottom of the intermediate base member 21, adjacent its side opposite from the kerf 28, is also formed with a longitudinally extending channel 33 having its inner wall inclined as shown at 34, and within the groove is positioned a cylindrical bar 35 secured therein in a manner as heretofore explained. The lower edge of the bar 35 is below the bottom of the intermediate base member 21 and is adapted to rest on a removable post or support 36 freely resting on the sub-base 32.

From the foregoing it will be apparent that the vise may be either tilted longitudinally at its front end on the bar 18 with its rear end supported in an elevated position, as shown to advantage in Figure 3 of the drawings, or the device may be tilted laterally on the bar 29 and one side thereof supported in an elevated position by the supporting member 36, as shown to advantage in Figure 4 of the drawings.

Each of the split bearings 20 and 31 may be secured in a clamping position on the ends of the respective bars by means of screws 37.

The various parts of the vise may be formed with a plurality of threaded taps 38 by means of which various attachments may be secured to the vise.

It is believed the details of construction, manner of use and advantages of the invention will be readily understood from the foregoing without further detailed explanation.

Having thus described the invention what I claim is:

1. A vise comprising a stationary jaw having longitudinally extending guides at its lower edge, a transverse kerf in the lower front edge of the jaw, a rod secured in the kerf with its ends projecting outwardly at each side of the jaw, an intermediate base member, bearings at the side edges of the intermediate base rotatably supporting the ends of the rod to provide a pivot for the rear end of the stationary jaw, spaced lugs rising from the intermediate base receiving the free ends of the guides of the stationary jaw to restrain lateral play of the guides, a kerf in one lower side edge of the intermediate base member, a rod secured in the last-named kerf with its ends projecting beyond the front and rear of the intermediate base, a sub-base, bearings on the front and rear ends of the sub-base rotatably supporting the last-named rod, a movable jaw slidably mounted in the guides, and screw means carried by the guides at the free ends thereof to manipulate the movable jaw.

2. A vise comprising a stationary jaw, a pair of horizontal guides extending longitudinally from the jaw at its lower edge, a kerf in the lower front edge of the jaw, notches in the lower edges of the guides adjacent their rear ends, transverse rods secured in the kerf and in the notches, an intermediate base, bearings on the front side edges of the intermediate base pivotally supporting the front rod, lugs rising from the rear side edges of the intermediate base between which the rear ends of the guides are adapted to rest to restrain lateral play of the free ends of the movable guides, a kerf in one lower longitudinal edge of the intermediate base, a longitudinal groove in the bottom of the intermediate base adjacent its other side edge, rods secured in the last-named kerf and groove, a sub-base, bearings on the side edges of the sub-base rotatably supporting the rod in said last-named kerf, and removable supports adapted for positioning under said rod at the rear end of the guides and said rod on the free edge of the intermediate base for supporting the same in an elevated position.

ARTHUR A. LINES.