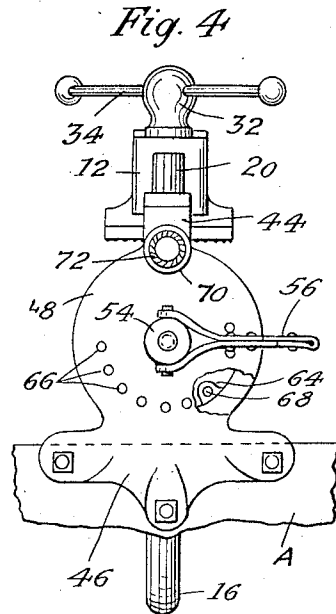
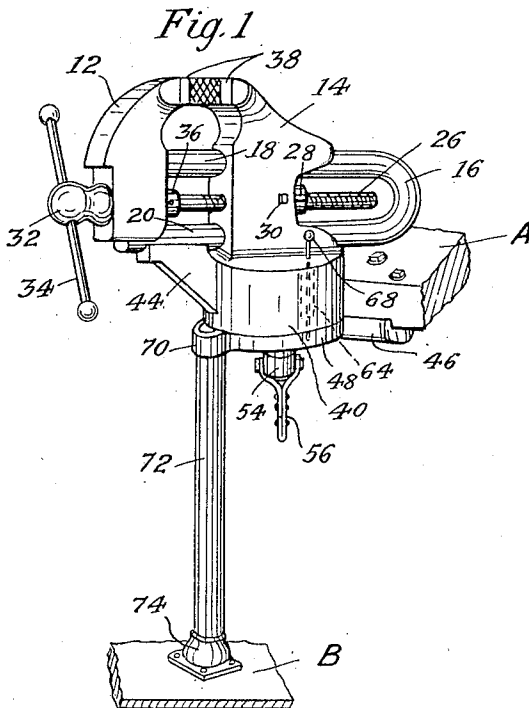
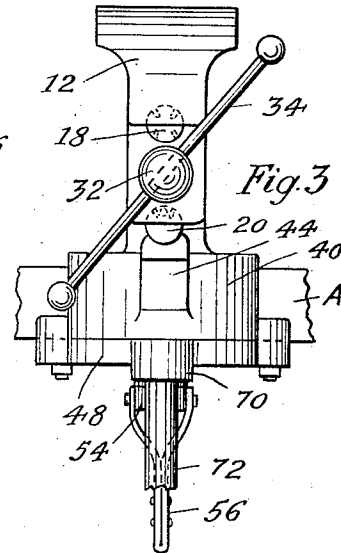
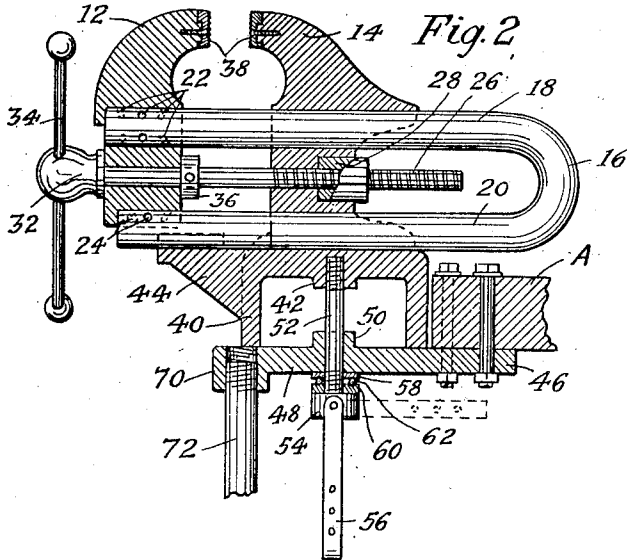


J. L. WARE.
 VISE.
 APPLICATION FILED JUNE 20, 1919.

1,375,876.

Patented Apr. 26, 1921.



Inventor:
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UNITED STATES PATENT OFFICE.

JOSEPH L. WARE, OF MINNEAPOLIS, MINNESOTA.

VICE.

1,375,876.

Specification of Letters Patent.

Patented Apr. 26, 1921.

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To all whom it may concern:

Be it known that I, JOSEPH L. WARE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Vises, of which the following is a specification.

My invention relates to vises and an object is to provide a construction therefor which will be particularly strong and durable. Another object is to provide a vise which may be secured to a bench in such manner as to project forwardly therefrom and which will be solidly supported. Another object is to provide a vise which may be quickly set at various angles relatively to the bench and which will be securely held in its adjusted position.

The full objects and advantages of my invention will appear in connection with the detailed description thereof and the novel features embodied in my inventive idea will be particularly pointed out in the claims.

Referring to the accompanying drawings which illustrate the application of my invention in one form,

Figure 1 is a view in perspective. Fig. 2 is a view in substantially longitudinally vertical section with certain parts appearing in side elevation. Fig. 3 is a front elevational view. Fig. 4 is a bottom plan view of the vise.

Referring to the particular construction shown in the drawings 12 designates the movable jaw member and 14 the fixed jaw member of the vise. A steel yoke 16 has two parallel arms or branches 18 and 20 passing slidably through the fixed member 14 with the forward ends of the arms anchored to the slidable member 12 by means of recesses 22 and 24 into which molten metal runs during the operation of casting the vise with the yoke in the mold, as described in my application filed June 20, 1919, Serial No. 305,589. An adjusting screw threaded rod 26 passes loosely through the holes in the jaw members and the screw threads of this rod engage the threads of an internal screw threaded sleeve 28 held in a recess in the fixed member 14 by one or more set screws 30. The front end of the rod 26 is provided with an enlarged portion 32 through which extends the customary operating handle 34. The rod 26 is held rotatably and non-slidably to the member 12 by means of the enlarged portion 32 and the collar 36 secured

to the rod. The jaw members are provided with steel face plates 38 secured thereto in suitable manner. Cast integrally with the stationary jaw member 14, upon the lower end thereof, is a hollow cylindrical base member 40, the upper flat portion of which is provided on its inner side with a boss 42. Cast integrally with the member 40 is a lug 44 upon which the arm 20 is slidably supported. The lug 44 constitutes a forward extension of the cylindrical base member 40 and this extension is concave upon its upper surface. The vise is attached to a bench A for swiveling movement in the following manner: A plate 46 is securely bolted to the bench and the forward portion of this plate is enlarged at 48 to constitute a support for the base member 40. The central portion of the support 48 is provided with a hole extending through a boss 50. A rod 52 extends through this hole and the upper end thereof is screw threaded into the portion of the member 40 which carries the boss 42. The lower portion of the rod 52 is screw threaded and provided with a nut 54 to which is pivotally attached a handle 56 which normally hangs down, as shown in full line position in Fig. 2, but which may be swung into dotted line position when it is desired to turn the nut. Between the nut 54 and the support 48 is placed a pair of washers 58 and 60 having grooves in their surfaces which face each other and mounted in these grooves are a series of balls 62. The provision of these balls enables the nut 54 to be readily loosened. When this is done the vise can be readily set to any desired angle relatively to the bench, since the base member 40 of the vise can be readily turned around the support 48 unless it is clamped thereto. When the vise has been adjusted to the desired position the nut 54 is turned to clamp the parts together and in order that they may be held together without liability of being jarred loose the following expedient may be employed: The base member 40 is provided with a hole which is preferably drilled in a lug 64 thereon and the support 48 is provided with a semi-circular series of holes 66. A bolt, or headed pin 68, is passed through the hole in the lug 64 and into one of the holes 66 when the vise has been adjusted to the desired position, and then when the nut 54 is turned tightly upon the adjusting washer the vise is securely held without liability of being jarred loose. The forward

end of the support 48 is provided with a lug 70 which has a screw threaded hole to receive the upper screw threaded end of a pipe leg support 72, the lower end of which is provided with a base 74 adapted to be secured to the floor B.

The operation and advantages of my invention will be readily understood from the foregoing description. The pipe leg support insures solidity against downward strokes of the hammer when the vise is in use. On account of the vise extending forwardly from the bench and having a swiveled adjustment whereby it can be set at the desired angle the workman can stand erect during continuous hours of labor at the vise. The ball bearing clamp permits the vise to be set at the proper angle quickly and held with great rigidity to its support, especially in connection with the headed pin which may be employed. The steel yoke to which the movable jaw member is secured provides a particularly strong and durable construction.

I claim:

1. A vise comprising stationary and movable jaw members, an inverted cupshaped member integral with and extending downwardly from said stationary jaw member, a support having a rear portion adapted to be secured to a bench and having a forwardly extending flat disklike portion for the lower margin of said cupshaped member to rest upon for swiveling movement, means for clamping said cupshaped member in desired adjusted position, said flat disklike portion containing a circular row of

holes, a pin adapted to pass through a hole in said cupshaped member and enter any one of the holes of said row for additionally securing said cupshaped member in adjusted position, a lug member on the front of said flat disk-like portion, and a leg secured to said lug member.

2. A vise comprising stationary and movable jaw members, a yoke member having its ends secured to said movable jaw member and having its arms extending slidably through said stationary jaw member, an inverted cupshaped member integral with and extending downwardly from said stationary jaw member, a support having a rear portion adapted to be secured to a bench and having a forwardly extending flat disk-like portion for the lower margin of said cupshaped member to rest upon for swiveling movement, means for clamping said cupshaped member in desired adjusted position, said flat disklike portion containing a circular row of holes, a pin adapted to pass through a hole in said cupshaped member and enter any one of the holes of said row for additionally securing said cupshaped member in adjusted position, a forward extension on said cupshaped member concaved upon its upper side for additionally supporting the lower one of said yoke arms, a lug member on the front of said flat disklike portion, and a leg secured to said lug member.

In testimony whereof I hereunto affix my signature.

JOSEPH L. WARE.