

T. J. FEGLEY & G. O. LEOPOLD.

WISE.

APPLICATION FILED MAR. 13, 1914.

1,120,466.

Patented Dec. 8, 1914.

Fig. 1.

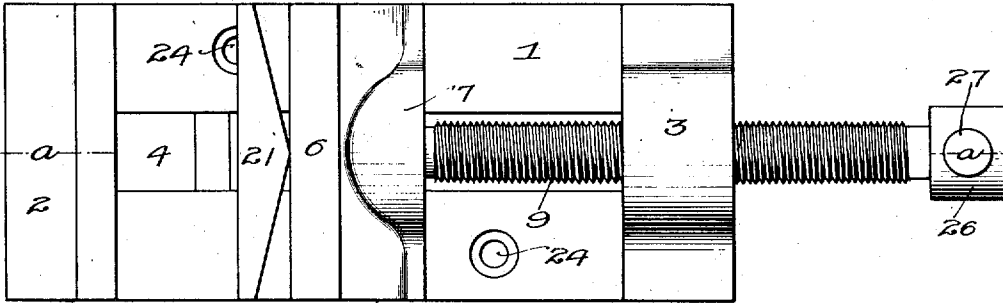


Fig. 2.

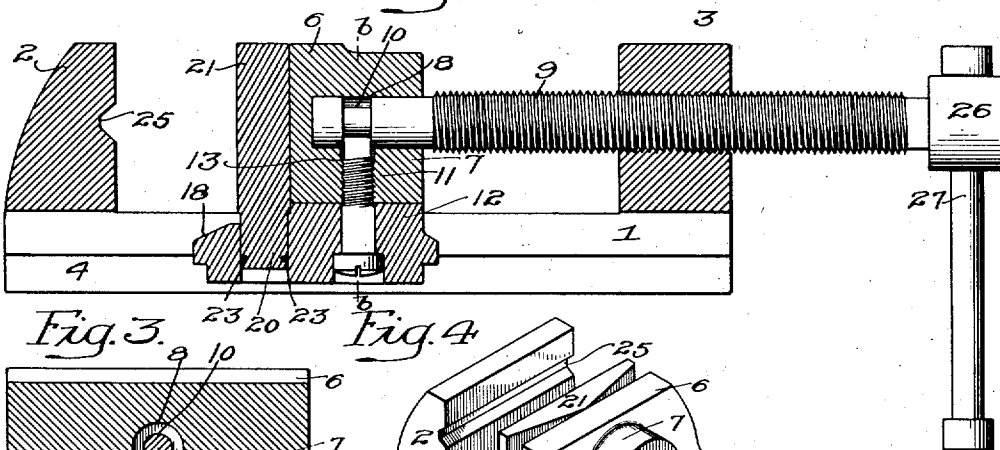


Fig. 3.

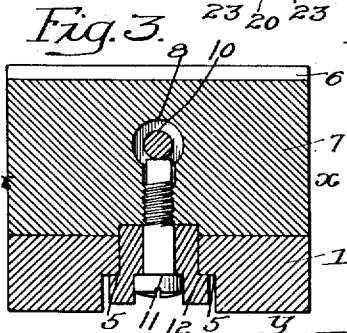


Fig. 4.

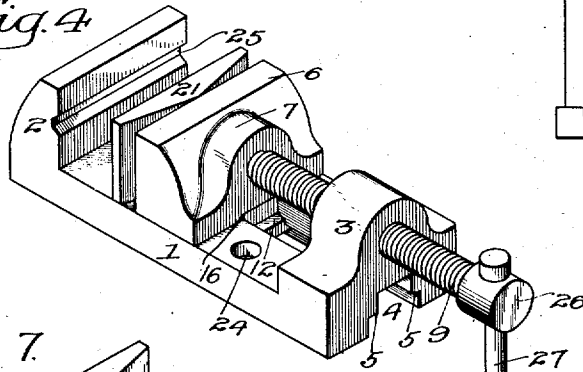


Fig. 6.

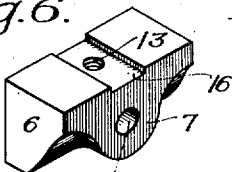


Fig. 7.

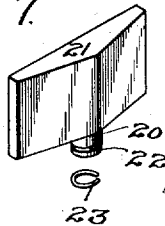
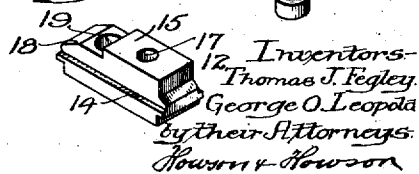


Fig. 5.



Witnesses:
William F. Nae
Walter B. Bunnell

Inventors:
Thomas J. Fegley
George O. Leopold
by their Attorneys:
Housner & Housner

UNITED STATES PATENT OFFICE.

THOMAS J. FEGLEY AND GEORGE O. LEOPOLD, OF PHILADELPHIA, PENNSYLVANIA,
ASSIGNORS TO NORTH BRO'S M'FG CO., OF PHILADELPHIA, PENNSYLVANIA, A
CORPORATION OF PENNSYLVANIA.

VICE.

1,120,466.

Specification of Letters Patent.

Patented Dec. 8, 1914.

Application filed March 13, 1914. Serial No. 824,457.

To all whom it may concern:

Be it known that we, THOMAS J. FEGLEY and GEORGE O. LEOPOLD, citizens of the United States, residing in Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain Improvements in Vises, of which the following is a specification.

One object of our invention is to make a simple and practical vise, adapted particularly for machinists' use, which can be used as a bench or surface plate vise or as a means for holding material to a drill or other machine.

Another object of the invention is to construct the device so that it can be accurately made and finished by simple machining and can be quickly assembled.

A further object of the invention is to construct the vise so that it can be used flat, with the jaws upright, or can be turned on either side, with the jaws in a lateral position.

These objects and other advantageous ends we attain in the following manner, reference being had to the accompanying drawings, in which:

Figure 1 is a plan view of our improved vise; Fig. 2 is a longitudinal sectional view on the line *a-a*, Fig. 1; Fig. 3 is a transverse sectional view on the line *b-b*, Fig. 2; Fig. 4 is a perspective view of the vise; Fig. 5 is a detached perspective view of the clamping block which secures the movable jaw in position; Fig. 6 is an inverted perspective view of the movable jaw; and Fig. 7 is a perspective view of the tilting jaw showing the spring retaining the ring detached.

Referring to the drawings, 1 is a base having a fixed jaw 2 made integral therewith and also having a bearing 3 made integral therewith. One element is at one end of the base and the other element is at the opposite end thereof. The base is slotted from end to end, as shown in Fig. 4, and the walls of the slot are shouldered at 5, as shown in Fig. 3. Arranged to slide on the base, between the fixed jaw and the bearing, is a movable jaw 6. The face of this jaw is parallel with the face of the fixed jaw. At the rear of the movable jaw is an enlargement 7 having an orifice 8 into which extends the end of the clamping

screw 9, which is threaded throughout its length and is adapted to a thread in the bearing 3. The portion of the feed screw projecting into the orifice 8 has an annular groove 10 therein to receive the end of a confining screw 11, which passes through a hole 17 in the block 12 and into a screw threaded hole 13 in the jaw 6. This single screw holds the jaw 6 and the block 12 in position on the base 1 and also locks the jaw to the clamping screw 9 so that it must move to and from the fixed jaw as the screw is turned in either direction.

The block 12 is made as shown in Fig. 5 and has a flange 14 at each side bearing against the shoulders 5 on the under side of the base 1, Fig. 3, and the portion 15 of the block extends through the narrow portion of the slot 4 and into a recess 16 in the under side of the jaw 6. The forward end of the block 12 projects beyond the face of the jaw 6 and is beveled at 18 so as to insure its passing under the fixed jaw 2 when the jaws are closed. In the projecting portion of the block 12 is a cylindrical opening 19 for the reception of the stem 20 of the tilting jaw 21, which is placed in the vise in front of the movable jaw when it is desired to retain tapered or other odd pieces.

In order to retain the jaw 21 in place, we groove the stem 20 at 22 to receive a spring ring 23, Fig. 7. This ring is so proportioned that, when the stem is inserted in the opening 19, the stem will readily pass into the opening and the ring will bind upon the walls thereof, preventing accidental displacement, but the jaw can be removed from the vise by force. In the base are countersunk holes 24 for the reception of pins or screws by which the vise can be held on a bench or other bed when desired.

It will be noticed, upon referring to Figs. 3 and 4, that the sides *x-x* of the vise are at right angles to the base *y*. This is important as the vise can be used on a surface plate or on the bed of a drilling machine, resting either on the base *y* or on either side *x*, according to the material which it is desired to clamp for the purpose of drilling and by making the sides of the vise and the face of the jaws accurately the vise will properly hold the work.

We preferably form a transverse V-shaped

groove 25 in the fixed jaw, as shown, so as to hold round bars or bars of any description.

The clamping screw 9 has a head 26, in the present instance, with a transverse opening therein to receive the sliding handle 27 by which it can be turned, although a hand wheel may be used instead of the sliding handle without departing from the spirit of the invention. The sliding handle, however, is preferred.

Thus it will be seen, from the above description, that we are enabled to make an exceedingly simple and substantial vise which can be used by a machinist on a bench or on a surface plate. The vise can be used on its base, or on either side, according to the work in hand.

When the tilting jaw is not used and it is desired to swivel the vise on a surface plate, a pin may project from the surface plate into the orifice 19 in the block 12 and, on turning the screw 9, the base will slide on the surface plate and on the block.

We claim:

1. The combination in a vise having a fixed jaw at one end and a fixed bearing at the opposite end and having an undercut slot extending from the jaw to the bearing; a sliding jaw mounted on the base between the fixed jaw and the fixed bearing and having a recess in its underside; a block having lateral portions overlapping the undercut slot and a central portion extending into the recess of the jaw; a screw confining the block to the sliding jaw; and a screw extending through the bearing and attached to the movable jaw.

2. The combination in a vise, of a base having a fixed jaw at one end and a bearing at the opposite end, said bearing having a screw threaded opening and the base having a shouldered slot extending throughout its entire length under the fixed jaw; a movable jaw mounted on the base; a block fitting the slot in the base; a clamping screw extending through the threaded opening in the bearing, the end of the screw projecting into the movable jaw; and a screw extending through the block and into the movable jaw and engaging the clamping screw.

3. The combination in a vise, of a base having a fixed jaw at one end and a bearing

at the opposite end and having a longitudinal shouldered slot extending under the fixed jaw; a movable jaw mounted on the base; a block having flanges mounted in the slot, the flanges resting against the shoulders; means for securing the block to the movable jaw; and a clamping screw extending through the bearing and secured to the movable jaw, the block extending beyond the movable jaw and having an orifice therein to receive a swivel jaw.

4. The combination in a vise, of a base having a fixed jaw at one end and a bearing at the opposite end, said bearing having a longitudinal slot with a shoulder at each side; a block having a bearing mounted in the slot and having a flange at each side bearing against the shoulders; a clamping screw mounted in the threaded bearing and having a groove at one end, the movable jaw having an opening to receive the grooved end of the clamping screw; a vertical opening in the block and in the jaw, the opening in the jaw being threaded; and a confining screw extending into the opening in the block and into the opening in the jaw, the end of the confining screw projecting into the groove in the clamping screw.

5. The combination in a vise, of a base having a fixed jaw at one end and a bearing at the opposite end, the latter having a screw threaded opening therein, the base having a longitudinal slot; a movable jaw mounted on the base between the bearing and the fixed jaw; a clamping screw extending through the bearing and attached to the movable jaw; a block mounted in the slot and secured to the movable jaw, said block projecting in front of the movable jaw and having a vertical opening therein; a tilting jaw having a stem extending into the opening in the block; and a spring ring mounted on the stem and adapted to frictionally hold the said tilting jaw in position.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

THOMAS J. FEGLEY.
GEORGE O. LEOPOLD.

Witnesses:

WM. E. SHUPE,
WM. A. BARR.