

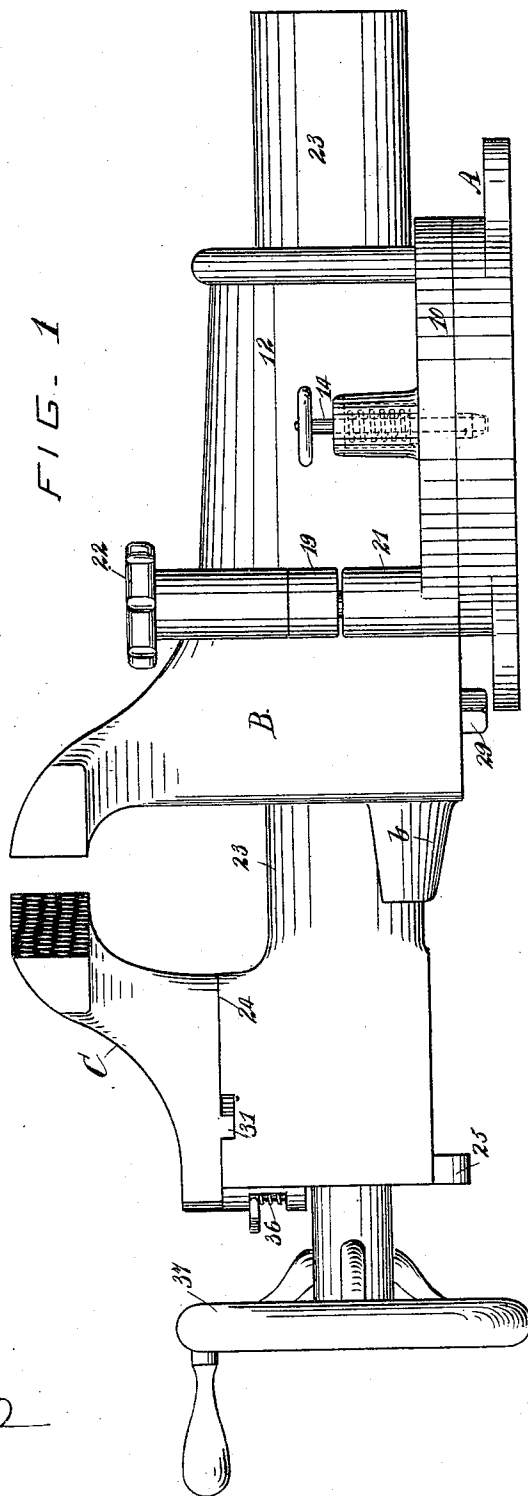
(No Model.)

3 Sheets—Sheet 1.

W. J. WANLESS.
VISE.

No. 579,618.

Patented Mar. 30, 1897.



Witnesses
H. Walker
J. F. Acker

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W. J. Wanless
Munn & Co
Attorneys

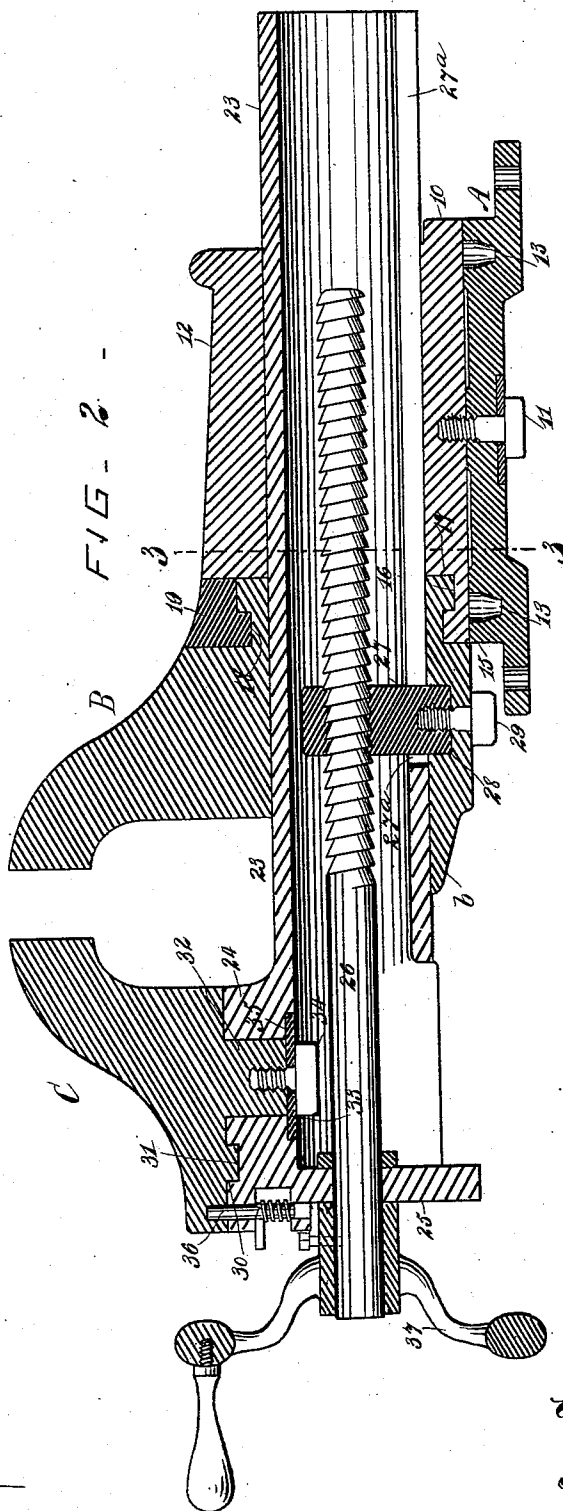
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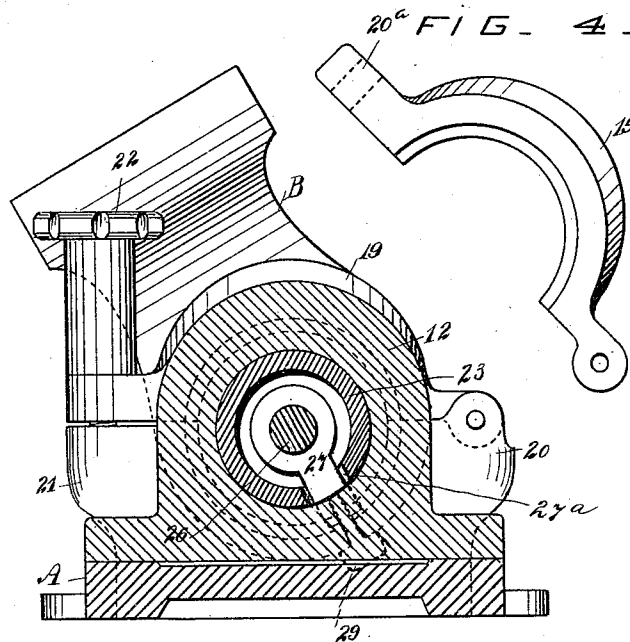


FIG. 3 -

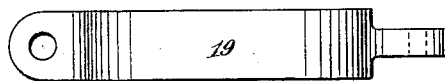


FIG. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM JOHN WANLESS, OF BAY CITY, MICHIGAN, ASSIGNOR TO THE
DRY DOCK IRON COMPANY, OF SAME PLACE.

WISE.

SPECIFICATION forming part of Letters Patent No. 579,618, dated March 30, 1897.

Application filed July 23, 1895. Serial No. 556,894. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JOHN WANLESS, of Bay City, in the county of Bay and State of Michigan, have invented a new and useful Improvement in Vises, of which the following is a full, clear, and exact description.

My invention relates to an improvement in vises; and it has for its object to construct a vise which will have, in conjunction with a swivel bottom, a swiveled front jaw constructed especially for holding either straight or tapered work; and a further object of the invention is to provide a means whereby after the jaws have gripped the work both jaws can be revolved, if desired, in a complete circle or held at any point in a circle that the character of the work may demand.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improved vise. Fig. 2 is a longitudinal vertical section through the same. Fig. 3 is a transverse section taken substantially on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the locking-band for one of the jaws, and Fig. 5 is a plan view of the said band.

In carrying out the invention the base A of the vise is screwed or otherwise secured to any suitable support, and it is preferably made circular in general contour, but may be otherwise formed. A bed 10 is held to turn on the said base by passing a pivot-screw 11 through the base into the bed, as shown in Fig. 2, and the said bed is further provided with a series of circumferentially-arranged openings or apertures 13, either of which apertures is adapted to receive a preferably spring-actuated bolt 14, carried by the bed, so as to hold the bed in any position in which it may be placed relative to the base.

A body-sleeve 12 is preferably made integral with the aforesaid bed 10, and the said sleeve is provided with a semicircular extension 15 at what may be termed its "inner" end, the said extension having a correspondingly-

shaped groove 16 made therein, as shown in Fig. 2.

The inner jaw B of the vise is provided with an extension *b* at its lower end, and the said inner jaw is provided with a recess and adjoining rib 17, (shown in Fig. 2,) the rib being adapted to enter the semicircular recess 16 in the body-sleeve, whereby the jaw B is guided in its movement in the sleeve and may be rotated as desired.

At the upper portion of the jaw B a recess 18 is made of angular formation, and this recess receives a clamping-band 19. The band is of semicircular formation and is provided with a shoulder upon its body adapted to fit into the recess 18 of the aforesaid jaw, and the band 19 is formed with a horizontal extension at both of its ends, one of the said extensions having a hinge connection with a stud or offset 20, formed upon the bed, as shown in Fig. 3, while the opposite extension of the band is provided with an aperture 20^a, as shown in Fig. 4. The apertured end of the band is carried over an offset or post 21 on that side of the bed opposed to that carrying the offset 20, to which the band is hinged, and an adjusting-screw 22 is passed through the said opening 20^a in the clamp to an engagement with the offset 21 on the bed.

A hollow cylinder 23 is passed loosely through the jaw B and through the sleeve 12, being adapted to extend beyond the outer end of the latter, and the said hollow cylinder 23 is provided with an offset 24 upon the upper portion of what may be termed its "forward" face, the said offset having a flat upper surface, and the forward end of the cylinder is closed by a head 25.

An adjusting-screw 26 is passed loosely through the head of the cylinder, and the threaded portion of the screw is passed through a correspondingly-treated aperture made in a block 27. The block is pivotally contained within the cylinder, the lower portion being passed outward through a slot 27^a, extending from a point near the center of the cylinder to its rear end. The block is held firmly in its set position by being introduced into a suitable socket 28, formed in the projection *b* of the jaw B, and through the medium of a set-screw 29, passed through said

projection or extension and into the aforesaid block, as shown also in Fig. 2.

The cylinder 23 carries the adjustable jaw C of the vise, and this jaw is placed upon the upper or flat surface of the forward projection 24 of the cylinder, and the said cylinder in the said flat surface, near its forward end, is provided with a segmental groove 30, which receives a lug or rib 31, made upon the under face of the adjustable jaw of the vise. The aforesaid adjustable jaw is further provided with a post 32, formed, preferably, integral with its under face and extending downward through an opening 33, made in the flat surface of the cylinder, the post and opening being of circular formation, and a set-screw 34 is passed up from within the cylinder through a suitable guide-plate 35 (shown in Fig. 2) into the pivot-post of the jaw C. Thus it will be observed that the jaw C may be carried at any desired angle to the clamping-face of the inner jaw B, so that an object of conical formation may be readily received and clamped between the two jaws, and the adjustable jaw may be held parallel with the front jaw by means of a pin 36, which is preferably spring-controlled and operated from the front of the vise, the said pin being adapted to enter an aperture produced in the bottom of the aforesaid front jaw. When the front jaw is loosened for swiveling, it will be self-adjusting to any conical form of work, the circular rib upon the under side being the stay.

The main adjusting-screw 26 of the vise, or, as it may be properly termed, the "clamping-screw," is manipulated through the medium of a hand-wheel 37 or its equivalent, secured upon the outer or forward end of the said screw. Thus it will be observed that the outer jaw C may be adjusted so that its clamping-face will be at any desired angle to the face of the inner jaw B, or may be placed parallel with said jaw, and that when the jaw C has been adjusted it is held rigidly in place by its connection with the cylinder 23 through the medium of the bolt 36. The entire vise may now be rotated horizontally on its axis by carrying the latch 14 out of engagement with the base A, and after such horizontal adjustment of the entire vise has been made both of the jaws may be rotated in a vertical direction, or on a horizontal axis consisting of the body-sleeve 12, by simply loosening the clamping-band 19 from engagement with the inner jaw B and turning either of the jaws to the desired position, since one jaw will follow the movement of the other, both of them being connected with the cylinder 23, and when this vertical adjustment has been made the jaws of the vise will be held in the ad-

justed position by bringing the clamping-band to positive engagement with the jaw B through the medium of the set-screw 22.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A vise comprising the base, a horizontally-adjustable bed turning thereon and formed on its upper side with a sleeve having a semicircular grooved inner end, the inner jaw provided with a tubular extension on its lower end rotating vertically on the grooved end of said sleeve, a semicircular clamping-band pivoted at one end to the bed to swing around the upper part of the said tubular extension and having a clamping-screw at its opposite end entering a threaded aperture in said base, a block within said tubular extension and having a threaded aperture, an outer jaw provided with a longitudinally-slotted tube passing through said tubular extension and sleeve to slide in and turn with said extension, and a longitudinal screw passed through said tube into engagement with said block, substantially as described.

2. A vise comprising the base having a circular series of apertures in its upper face, the horizontally-turning bed mounted on said base and provided with a vertical bolt or catch projecting down into any one of said apertures, a horizontal sleeve on the upper side of the bed having a semicircular grooved inner end and a hinged semicircular clamping-band opposite to said semicircular end portion and provided with a clamping-screw, the inner jaw having a horizontal tubular grooved extension turning within the circular bearing formed by said band and semicircular sleeve end, the block within said tubular portion having a threaded aperture, the outer jaw having a longitudinally-slotted tube extending through said tubular extension and sleeve and the longitudinal screw extending through the slotted sleeve and block, substantially as described.

3. A vise comprising the inner jaw, and bed, the longitudinal tube and its adjusting-screw, the upper side of the outer end of said tube being provided with a flat face having a curved recess and an aperture concentric therewith, the outer jaw having a flat lower face provided with a pivot turning in said aperture and a lug entering said groove, and a vertical bolt projecting up through said portion of the tube and entering an aperture in the lower face of said jaw beyond said lug, substantially as described.

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Witnesses:

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