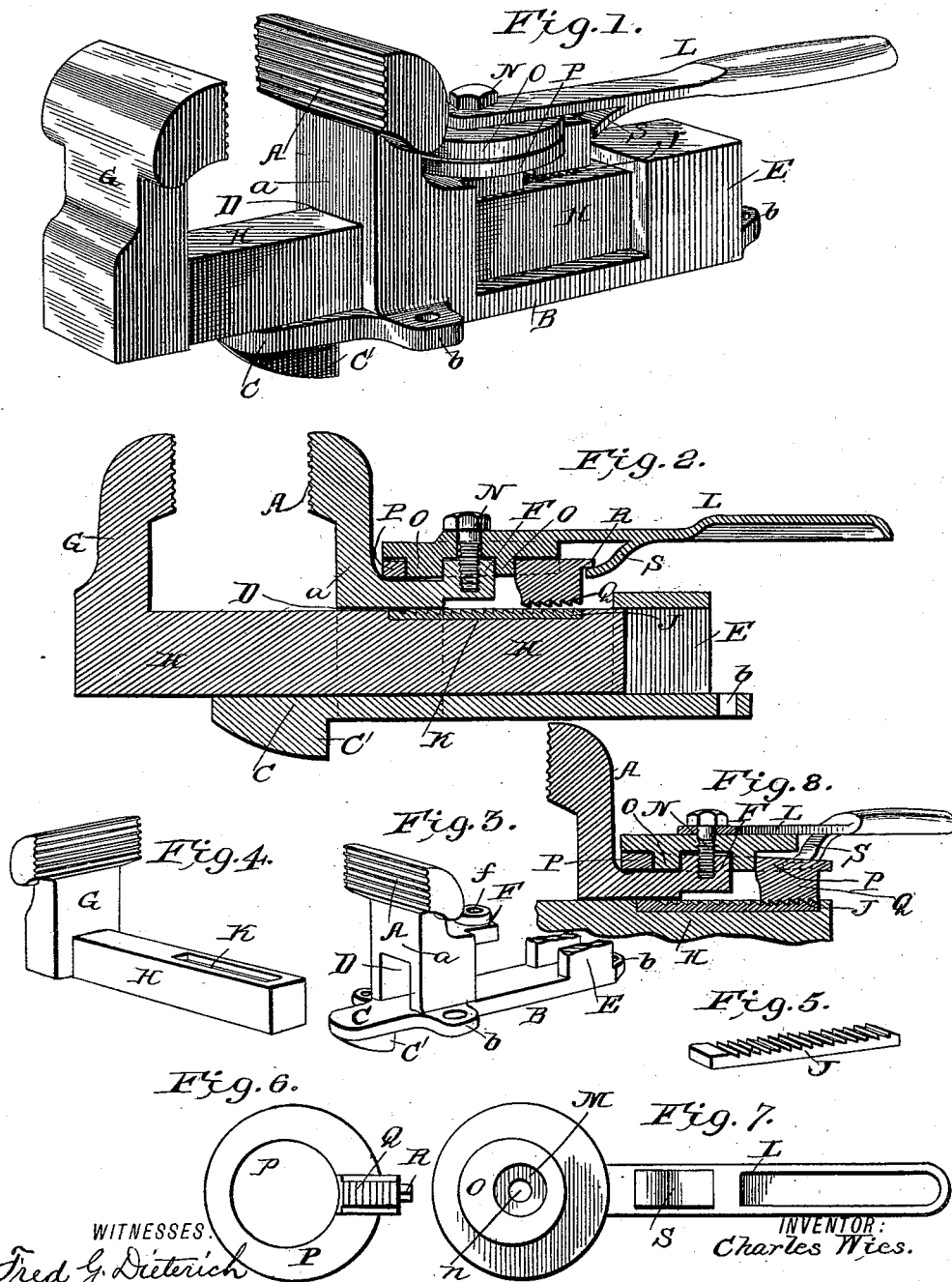


(No Model.)

C. WIES.
VISE.

No. 454,693.

Patented June 23, 1891.



WITNESSES:
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WISE.

SPECIFICATION forming part of Letters Patent No. 454,693, dated June 23, 1891.

Application filed December 10, 1890. Serial No. 374,249. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WIES, residing at Faulkton, Faulk county, and State of South Dakota, have invented a new and Improved Vise, of which the following is a specification.

My invention is an improvement in vises, and especially in that class of such vises in which a cam or eccentric is employed for clamping the sliding jaw; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view, and Fig. 2 is a vertical longitudinal section, of a vise constructed according to my invention. Figs. 3 and 4 are detail views of respectively the fixed and sliding jaws. Fig. 5 is a detail view of the toothed bar. Fig. 6 is a detail view of the eccentric-ring and toothed block. Fig. 7 is a detail view of the lever, and Fig. 8 is a detail sectional view.

The fixed jaw A has a base piece or bar B, which extends at C forward of said jaw and has such forward extension provided with a downwardly-projected rearwardly-facing shoulder C', arranged to abut the edge of the bench on which the vise is secured. I provide the base-piece B with perforated lugs b for the fastening bolts or screws, as will be understood from Figs. 1 and 3.

An opening D is formed through the upright portion a of jaw A for the passage of the shank of the sliding jaw, and upon the outer end of the base B, I form the guide E for steadying the movement of said sliding jaw. On the rear side of the jaw A, above the plane of the top wall of the opening D, I provide a circular bearing F for the operating-lever, which bearing has an opening f for the lever-fastening screw presently described.

The sliding jaw G has a shank H fitted to slide in the opening D and box E. This shank is provided with a toothed bar J, which is preferably made separate from the shank and fitted in a socket K, formed in the top side thereof, as shown, so that such toothed portion may be conveniently replaced when worn or broken.

The lever L is provided with an opening or socket M to fit on bearing F, an opening n for

the fastening-screw N, and on its under side with an eccentric O. This eccentric is formed to fit in the opening p of the eccentric strap or ring P. This ring P is provided with a toothed portion Q, having a tooth or teeth, which portion is preferably arranged at the rear side of the ring in position to adjust into engagement with the toothed bar of the sliding jaw-shank. As will be seen, this toothed portion Q drops by gravity into engagement with the toothed bar of the sliding jaw and is firmly engaged therewith when the hand-lever is moved to either the right or left. To hold the toothed portion Q clear of the toothed bar, I provide the eccentric-ring and the lever with interengaging parts, by which the lever, when in line with the toothed bar of the sliding jaw, will operate to lift the toothed portion of the eccentric-ring clear of engagement with the toothed bar. This is preferably effected by providing on the eccentric-ring a bearing R, beveled or inclined, as shown, and arranged for engagement by a bar S of the lever. By this construction it will be seen that when the lever is turned to a position over and in line with the tooth-bar of the sliding jaw the said jaw will be free to be moved by the hand forward or back, as desired. Then when the jaw has been adjusted to proper position the lever may be turned to either the right or left to tighten the jaws upon the object held therebetween, and also to clamp the jaws upon the said object.

It will be noticed that the vise is adapted for use as a right or left hand vise, as the jaws will be tightened and clamped by the movement of the lever either to the right or left, as may be desired.

If at any time in the use of the vise one or more of the parts should be broken, worn, or otherwise rendered useless, the said part or parts can be conveniently replaced at a small cost.

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

1. The combination, substantially as here-in described, of the fixed jaw having an upright portion provided with an opening and a base provided with a guide-box or loop, and having an open space between the upper side

of said loop and the upright portion, the sliding jaw having a shank fitted to move longitudinally in the opening in the upright portion and the box or loop of the fixed jaw and provided with the toothed bar or portion, and the operating devices including a toothed part arranged to engage the bar or portion of the shank, such operating devices being arranged between the upright portion and box or loop of the fixed jaw, whereby the shank is guided and braced in front and rear of the operating devices, and whereby the said operating devices may be arranged close to the said shank, all substantially as and for the purposes set forth.

2. The combination of the fixed jaw, the sliding jaw having a toothed bar, the lever pivoted to the fixed jaw and having an eccentric, and the eccentric-ring fitting on the said eccentric and having a toothed portion by which to engage the toothed bar of the sliding jaw, all substantially as and for the purposes set forth.

3. The combination, substantially as described, of the fixed jaw, the sliding jaw having a toothed bar, the lever pivoted on the fixed jaw and having an eccentric-cam, the toothed portion movable into and out of engagement with the toothed bar, a beveled or inclined bearing connected with said toothed portion, and a projection or portion on the lever arranged to engage said bearing and lift the toothed portion clear of the toothed bar, all substantially as and for the purposes set forth.

4. The combination of the fixed jaw, the sliding jaw having its shank provided in its upper side with a socket or opening and having the toothed bar fitted in the said socket or opening, the lever journaled on the fixed jaw and having an eccentric, the eccentric-ring fitted to receive the eccentric and provided with a toothed portion by which to engage the toothed bar of the sliding jaw and with an inclined bearing, and a projection or portion supported on the lever and arranged to engage the said bearing, all substantially as and for the purposes set forth.

5. The improved vise herein described, consisting of the fixed jaw having its upright provided with an opening, the sliding jaw having its shank movable longitudinally in the said opening and having the said shank provided in its upper side with a socket or opening, the toothed bar fitting removably in the said opening, the lever having an eccentric and provided with a projection or portion by which to engage the bearing of the eccentric-ring, and the eccentric-ring fitting on the eccentric of the lever and having a toothed portion by which to engage the toothed bar of the sliding jaw and an inclined or beveled bearing for engagement by the arm or portion of the lever, all substantially as and for the purposes set forth.

CHARLES WIES.

Witnesses:

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M. A. TUCKER.