

No. 774,574.

PATENTED NOV. 8, 1904.

R. G. FLEISCHMANN.

WISE.

APPLICATION FILED DEC. 21, 1903.

NO MODEL.

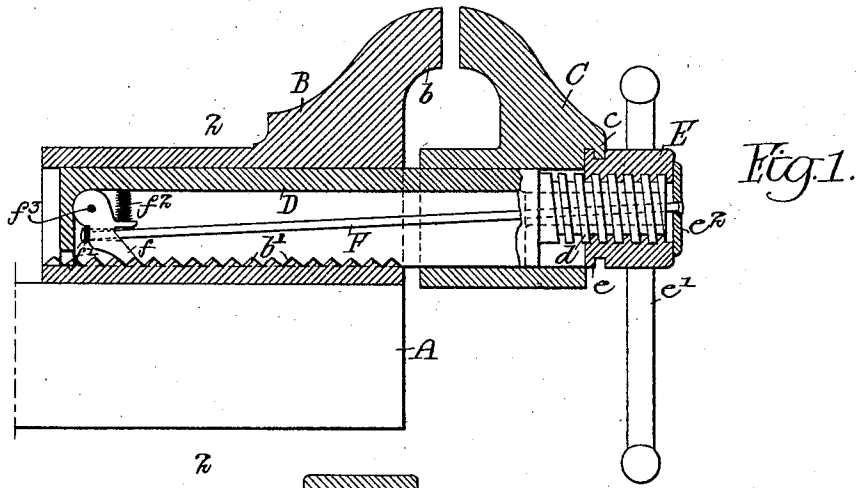


Fig. 1.

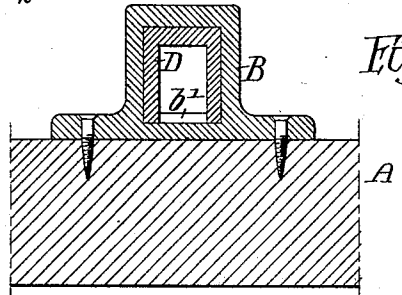
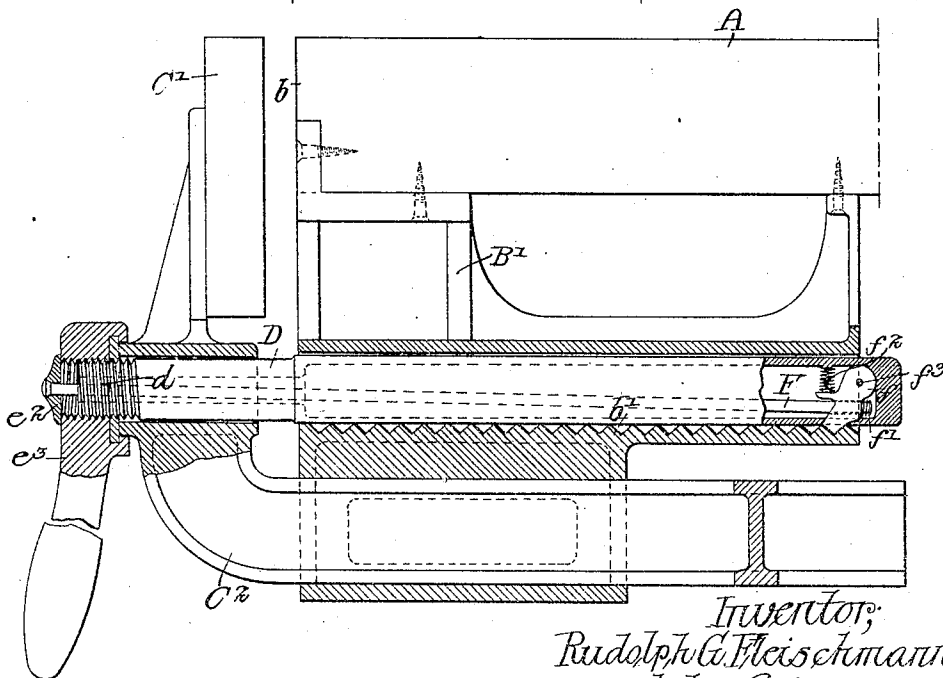


Fig. 2.



Witnesses:-
Louis F. Buck.
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Inventor;
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by his Attorneys;
Horsman & Howard

UNITED STATES PATENT OFFICE.

RUDOLPH G. FLEISCHMANN, OF PHILADELPHIA, PENNSYLVANIA.

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SPECIFICATION forming part of Letters Patent No. 774,574, dated November 8, 1904.

Application filed December 21, 1903. Serial No. 186,015. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH G. FLEISCHMANN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Vises, of which the following is a specification.

My invention relates to certain improvements in vises; and it consists more particularly in an improved mechanism for holding and releasing at will the movable bar of a vise.

The object of the invention is to provide a simple and inexpensive device of a substantial nature by which the movable member of a vise will be held so that the vise-jaw thereon is at any desired distance from the fixed jaw and which may be quickly adjusted so as to permit the said movable member to be brought to any other desired position and that in a relatively short time.

A further object of the invention is to provide means whereby the movable jaw of a vise may be adjusted to suit work of various dimensions which shall have releasing mechanism operated when the vise-handle is moved so as to loosen the hold of the jaw.

These objects I attain as hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of a vise constructed according to my invention. Fig. 2 is a vertical sectional elevation of the line 2 2, Fig. 1; and Fig. 3 is a sectional elevation of another form of vise also embodying my invention.

In the above drawings, A represents a work-bench or other suitable support for a vise, to which is secured the body or main frame B of the vise, which is provided with an outwardly-extending portion *b*, formed in the shape of a jaw. There is in this body an opening for the reception and guidance of a sliding bar D, upon whose outer end is mounted the movable jaw C of the vise, said jaw being free to move relatively to said bar which is provided with a threaded portion *d*.

A nut E, having a collar *e* in engagement with a suitable flange *c* or equivalent portion

of the movable jaw, is threaded to the portion *d* of the bar D and has the customary headed bar or handle *e'*, by which the vise may be operated.

As shown in Figs. 1 and 2, the body of the bar D is rectangular in section and hollow, being open along its lower face, while the threaded portion *d* is formed so as to permit the passage of a rod F. This rod extends between a plate *e*², fixed to the nut E, and a pawl *f*, pivoted to the rear end of the hollow bar D, it being preferably provided with a head on each end and having a spring *f'* between its inner head and the pawl.

There are teeth *b'* formed in the bottom of the opening in the vise-body B for the bar D, with which the pawl *f* is normally kept in engagement by means of a spring *f*² compressed between the said pawl and the top of the interior of said bar.

In operation it will be seen that when the nut E is turned, by means of the handle *e'*, so as to move the jaw C toward the jaw B there is no action upon the rod F, and the bar D is immovably held by the pawl. When, however, said nut is turned so as to move the jaw C away from the jaw B and is consequently unscrewed from the end of the bar D, tension is immediately exerted upon the rod F so as to move the pawl *n*² on its pivot *f*³ and cause it to rest out of engagement with the teeth *b'*. This leaves the movable jaw and the bar D free to be moved by hand, so as to secure any desired opening between the two jaws of the vise, after which the first inward screwing of the nut E will release the pawl so that it will engage the teeth *b'*.

In the form of vise shown in Fig. 3 a movable jaw C' is supported upon the casting C², which has a portion free to slide in a suitable guideway formed in the vise-body B'. The handle *e*³ in this instance is formed integral with the threaded nut, which engages a suitably-formed portion of the casting C². The bar D is, as before, threaded at the end and made hollow, it also having a longitudinal opening extending for the greater portion of its length for the passage of the end of the

pawl. The other parts of this form of my invention are in all essential points similar to that described above.

I claim as my invention—

5 1. A vise having a fixed and a movable jaw, a toothed structure, a sliding bar provided with a threaded portion and having pivoted to it a pawl, a nut for said threaded portion operative upon the movable jaw, with means
10 in addition to said bar and the threaded portion for transmitting motion from said nut to the pawl, substantially as described.

2. A vise having a fixed and a movable jaw, a toothed portion connected to said fixed jaw,
15 a sliding bar carrying a pawl and provided with means, including a threaded bar, for moving the jaws toward each other, with a device independent of said threaded bar for transmitting motion from the jaw-operating
20 means to the pawl, substantially as described.

3. A vise having a fixed and a movable jaw, a bar directly supporting a pawl and having means whereby it may be moved relatively to the movable jaw and a connecting-link in addition to said bar extending between the said
25 pawl and the means for moving the bar relatively to the movable jaw for moving the pawl, substantially as described.

4. The combination of a vise having jaws
30 and a toothed portion fixed relatively to one jaw, a bar having within it a pawl, a nut operatively connecting one of the vise-jaws with said bar, means for turning the nut so as to move the jaw relatively to the bar and means
35 in addition to the bar for connecting the pawl and one of the movable parts comprised by the bar and the said jaw, substantially as described.

5. The combination of a vise having jaws, a
40 bar movably connected to one of said jaws, means for moving said bar relatively to said jaw, a device including a member carried by said bar for holding the same immovable relatively to the other vise-jaw, means in addition
45 to the means for moving the jaw for releasing said holding means, the same extending within the bar and being operatively attached to the said jaw-moving means, substantially as described.

50 6. The combination in a vise having jaws of a toothed portion fixed relatively to one of said jaws, a bar carrying a pawl for engagement with said toothed portion, and means normally tending to cause the pawl to engage
55 said portion, a nut engaging the other jaw of

the vise and said bar, said nut having means whereby its revolution causes relative motion of said two parts, and a link extending between the nut and the pawl, substantially as described. 60

7. The combination in a vise having two jaws and a toothed surface, of a longitudinally-movable bar having pivoted to it a pawl normally engaging a portion of the toothed surface, means for moving the bar relatively to
65 the movable jaw of the device, a rod extending between said means and the pawl, for transmitting motion to the latter, said rod extending substantially parallel to said bar, substantially as described. 70

8. The combination in a vise of two jaws, a hollow bar, means for guiding the bar having a toothed surface adjacent thereto, a nut connecting the bar and one of the vise-jaws, means whereby revolution of the nut is made to cause
75 relative motion of said two parts, a pawl carried by the said bar and a rod extending from said nut to said pawl, substantially as described.

9. The combination in a vise of two jaws, a
80 hollow bar, means for guiding the same having a toothed surface adjacent to said bar, a nut connecting the bar and one of the vise-jaws, means whereby the revolution of the nut is made to cause relative motion of said
85 two parts, a pawl carried by the bar, and a rod extending from said nut to said pawl, said rod having a spring for taking up lost motion between itself and the pawl, substantially as described. 90

10. The combination in a vise of a framework having a portion serving as a fixed jaw and including an arm guided in said framework, a movable jaw, a hollow bar also guided in said framework and having a toothed surface
95 adjacent to it, a pawl pivoted adjacent to one end of said bar, a nut having means whereby it may be turned, and operatively connected to the bar and to the movable jaw, with a rod extending through the bar and attached
100 to the pawl and to said nut, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RUDOLPH G. FLEISCHMANN.

Witnesses:

WILLIAM E. BRADLEY,
JOS. H. KLEIN.