(No Model.)

J. W. McINTYRE.

VISE.

No. 472,311. Patented Apr. 5, 1892.

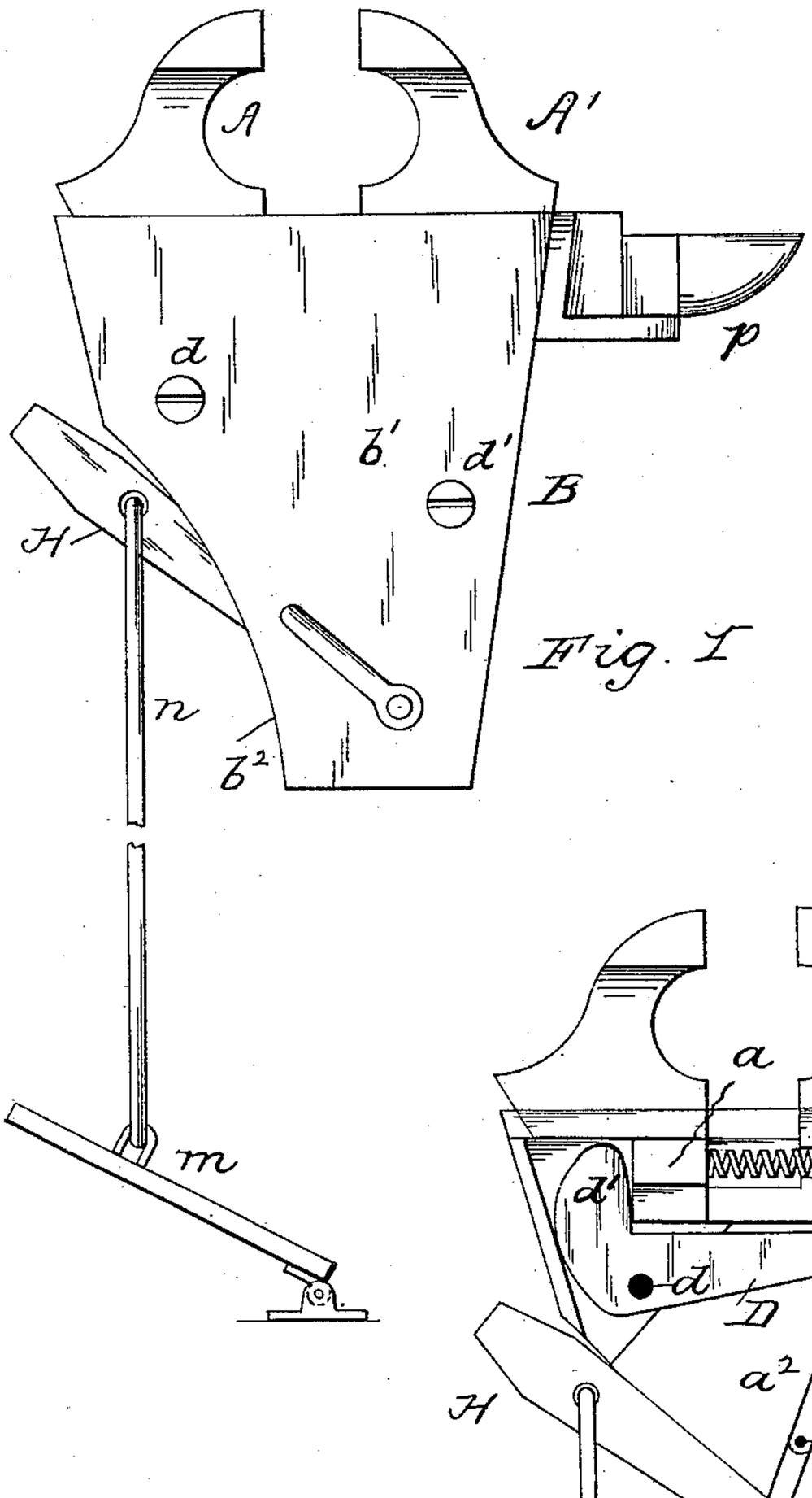

Fig. 1

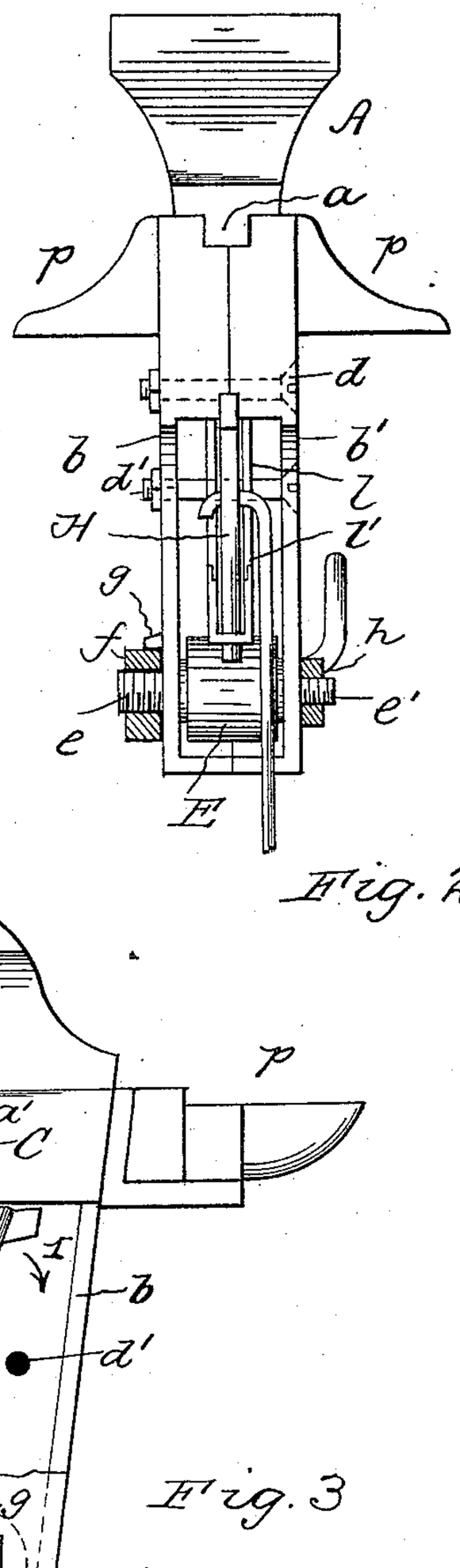

Fig. 2

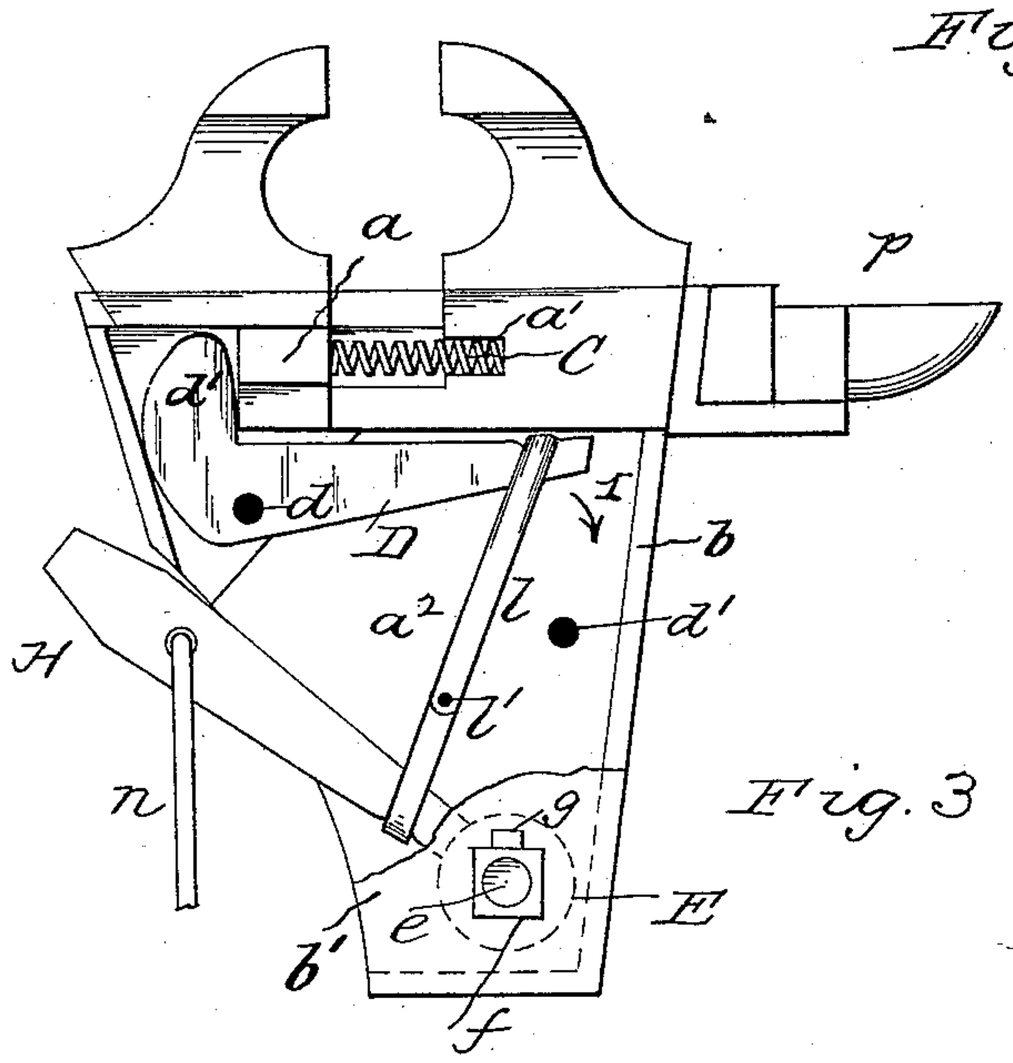

Fig. 3

WITNESSES:

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VISE.

SPECIFICATION forming part of Letters Patent No. 472,311, dated April 5, 1892.

Application filed August 25, 1891. Serial No. 403,671. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. MCINTYRE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Vises, of which the following is a specification.

My invention has relation to vises of that form wherein the movable jaw is moved toward or closed upon the fixed jaw by mechanism actuated by hand or foot power, and which also acts to hold said jaw in clamping position relatively to the fixed jaw against the reaction pressure of a spring which, when free to do so, returns the movable jaw to its normal or open position, said vise being particularly adapted for light work.

My invention has for its object a simple and effective construction of such form of vise which is easily and quickly actuated and the parts of which are detachable for repairs or replacement.

My invention accordingly consists of the combinations, constructions, and arrangements of parts, as hereinafter described in the specification, and pointed out in the claims.

Reference is had to the accompanying drawings, wherein—

Figure 1 is a side elevation of a vise embodying my improvements. Fig. 2 is a front elevation of same, partly sectional; and Fig. 3 is a view similar to Fig. 1 with one of the sides of the vise broken away.

A A′ represent the jaws of the vise, the former being the movable and the latter the fixed jaw mounted in or upon a two-part frame B, composed of vertically-divided sections *b b′*, constructed and configured as desired.

In the drawings, the section *b* is shown as having formed or cast with it at its top edge the fixed jaw A′ and part of the guideway *a* for the movable jaw A, the other part of said guideway being formed or cast on the section *b′*, as shown more plainly in Fig. 2. Said guides *a* may be of any suitable configuration in cross-section, and the foot or block of the movable jaw A is correspondingly configured to fit and slide in or on said guideway. Between the jaws A A′ is a suitably-located spring C, which acts to return the jaw A to its normal or open position. In the drawings the spring C is illustrated as being a spiral, one end of which is mounted or located in a socket *a′* in jaw A′, and the other end thereof abuts against the base or foot of jaw A. (See more plainly Fig. 3.)

D represents a lever pivoted on a screw or bolt *d* in the chamber or space a^2 between the frame-sections *b b′*, and having a cam end *d′* abutting against the outer face of the foot of jaw A, so that when said lever is moved in the direction of arrow 1 its cam end *d′* will move the jaw A toward the jaw A′ to clamp an article placed between them. The sections *b b′* are loosely secured together, so as to have a lateral movement, by two bolts or screws *d d′*, located at or near the horizontal middle thereof, the former of which is the pivot or fulcrum for the lever D.

Journaled in openings in the lower part of the sections *b b′* is a cross-shaft E, having projecting threaded ends *e e′*, one being a right and the other a left handed thread; or they are oppositely threaded. On the end *e* is a nut *f*, held in position to prevent its turning by a lug *g* on section *b*, impinging against one of its sides or edges, as shown in Fig. 3. On the end *e′* is a similar nut *h*, having preferably a handle or turning device for adjusting the same to regulate the clamping pressure of the nuts *f* and *h* against the sections *b b′* of frame B. Engaging with shaft E is a lever H, projecting through an open side b^2 of frame B, and having a suitable link connection *n* with a treadle or other actuating device *m*. Lever H has an adjustable band or link connection *l* with lever D, by means of which the latter is actuated to move jaw A. The band or link is adjustable at *l′* in any suitable manner. By actuating the lever H the lever D is oscillated in the direction of arrow 1 to move jaw A toward the jaw A′, and at the same time the shaft E is oscillated to cause its oppositely-threaded ends *e e′*, working in the nuts *f h*, to laterally move or exert a pressure upon the frame-sections *b b′* to bind them or their upper ends against the sides of the foot or block of the movable jaw A to hold or lock it in a clamping position relatively to jaw A′ and the article inserted between said jaws. As soon as the treadle or actuating device *m* is released the spring C automatically opens jaws A A′ by reversing

the described movements of said parts or returning them to their normal positions.

If desired, the vise may be provided with any suitably-formed anvil or like device *p*.

What I claim is—

1. In a vise, the combination of two-part or sectional frame B, having a fixed jaw A′, a movable jaw, an actuating-lever D, and retracting-spring C for jaw A, a shaft E, mounted in said frame B and having right and left threaded ends, nuts on said ends, a lever H, engaging with shaft E, and a link connection between levers H and D, substantially as and for the purpose set forth.

2. A vise composed of a fixed jaw, a movable jaw having a retracting-spring, an actuating-lever for said movable jaw, a right and left screw-threaded clamping or locking device in engagement with said movable jaw, and actuating mechanism between said clamping device and said lever, substantially as set forth.

3. In a vise, the sectional or two-part frame B, having shaft E, with right and left threaded ends *e e′*, a fixed nut *f* on one of said ends, and an adjusting-nut *h* on the other end, substantially as and for the purpose set forth.

4. In a vise, the combination of the jaws A A′, spring C between said jaws, lever D, shaft E, having oppositely-threaded ends, lever H, engaging with said shaft and having a treadle mechanism *m*, and mechanism interposed between levers D and E, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. McINTYRE.

Witnesses:

JOHN RODGERS,

S. J. VAN STAVOREN.