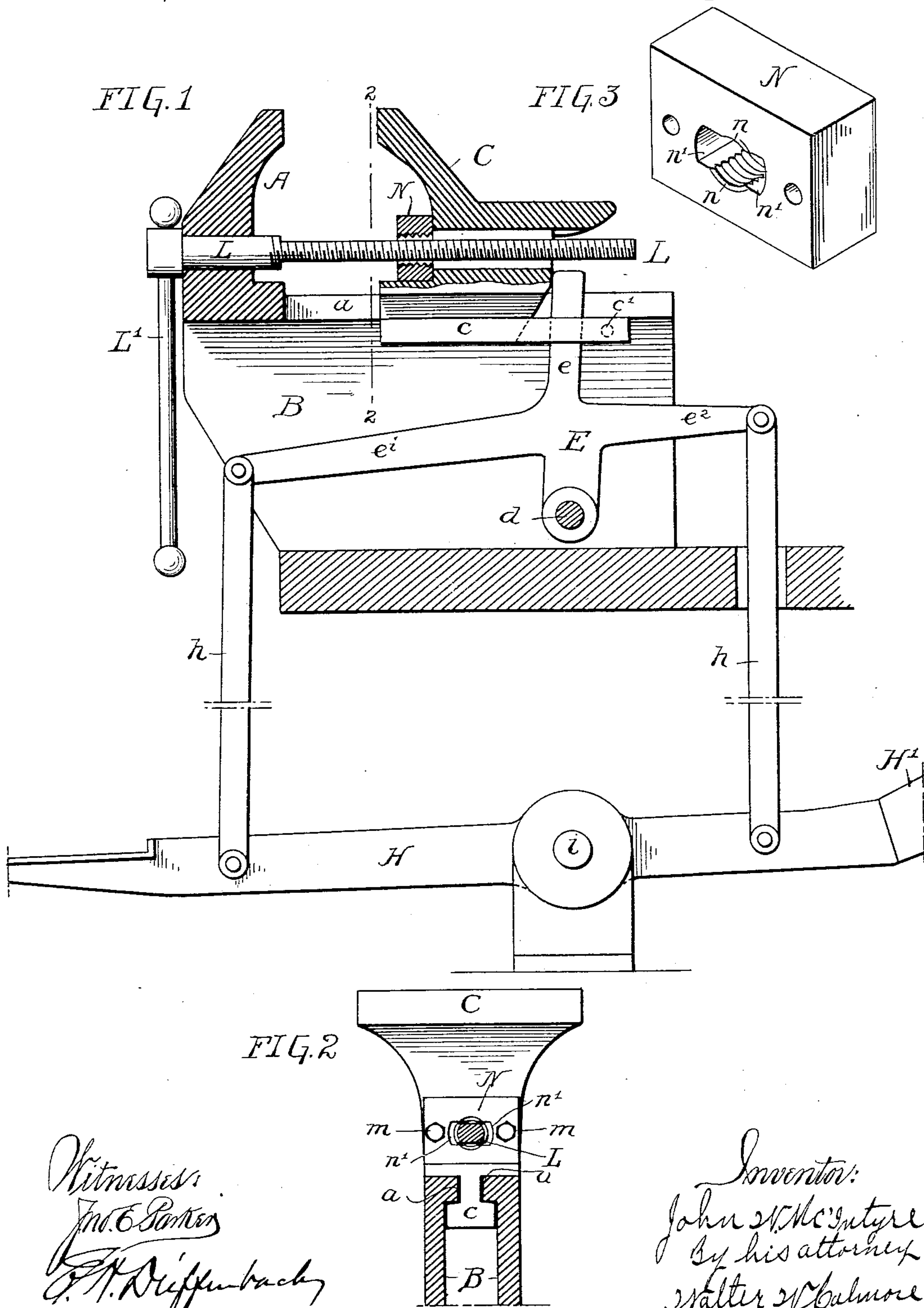


2 Sheets—Sheet 1.

No. 544,683.

Patented Aug. 20, 1895.



Witnesses:
Jno. E. Parker
J. H. Dieffenbach

Inventor:
John W. McIntyre
By his attorney
Walter W. Calmore

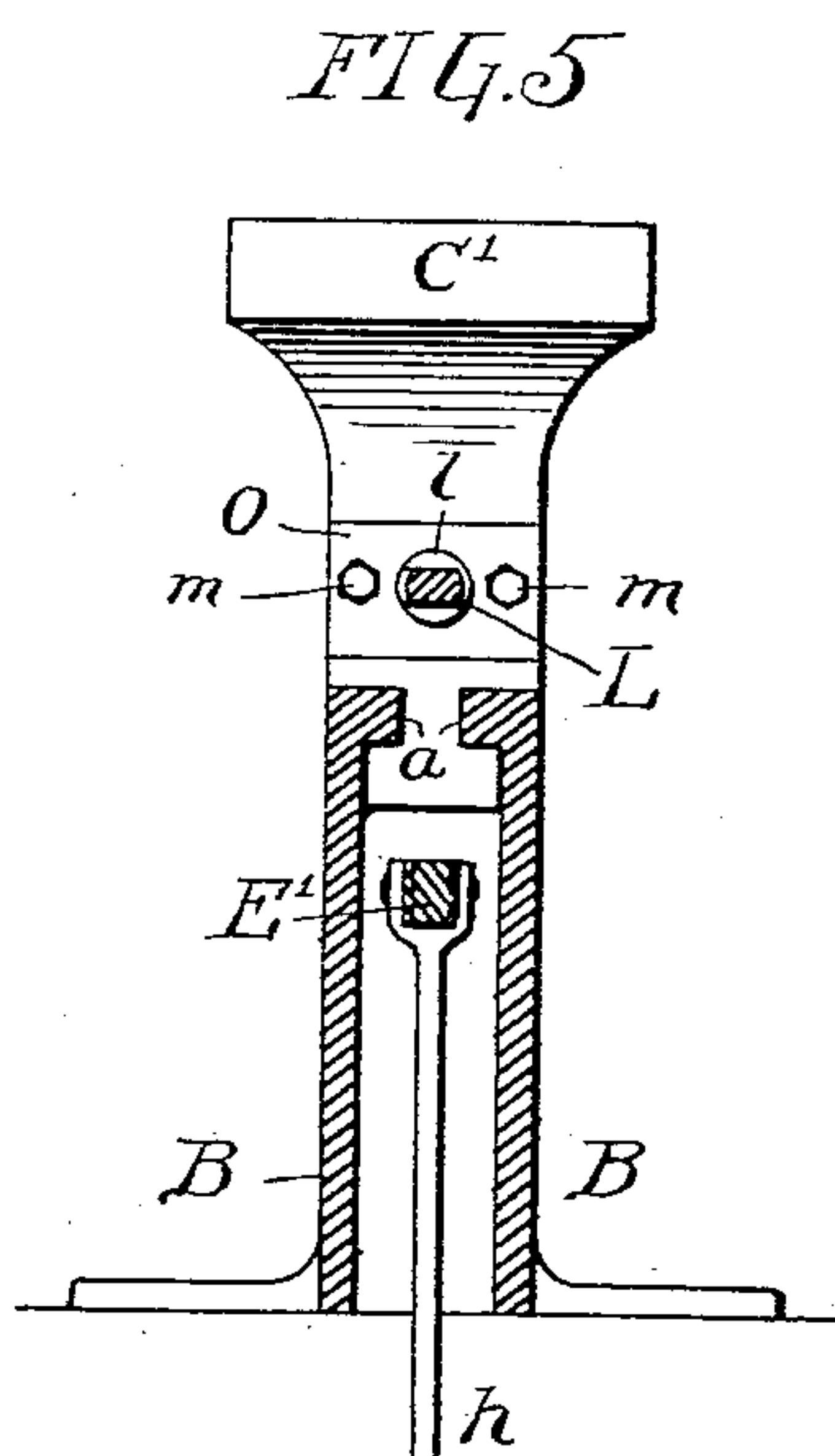
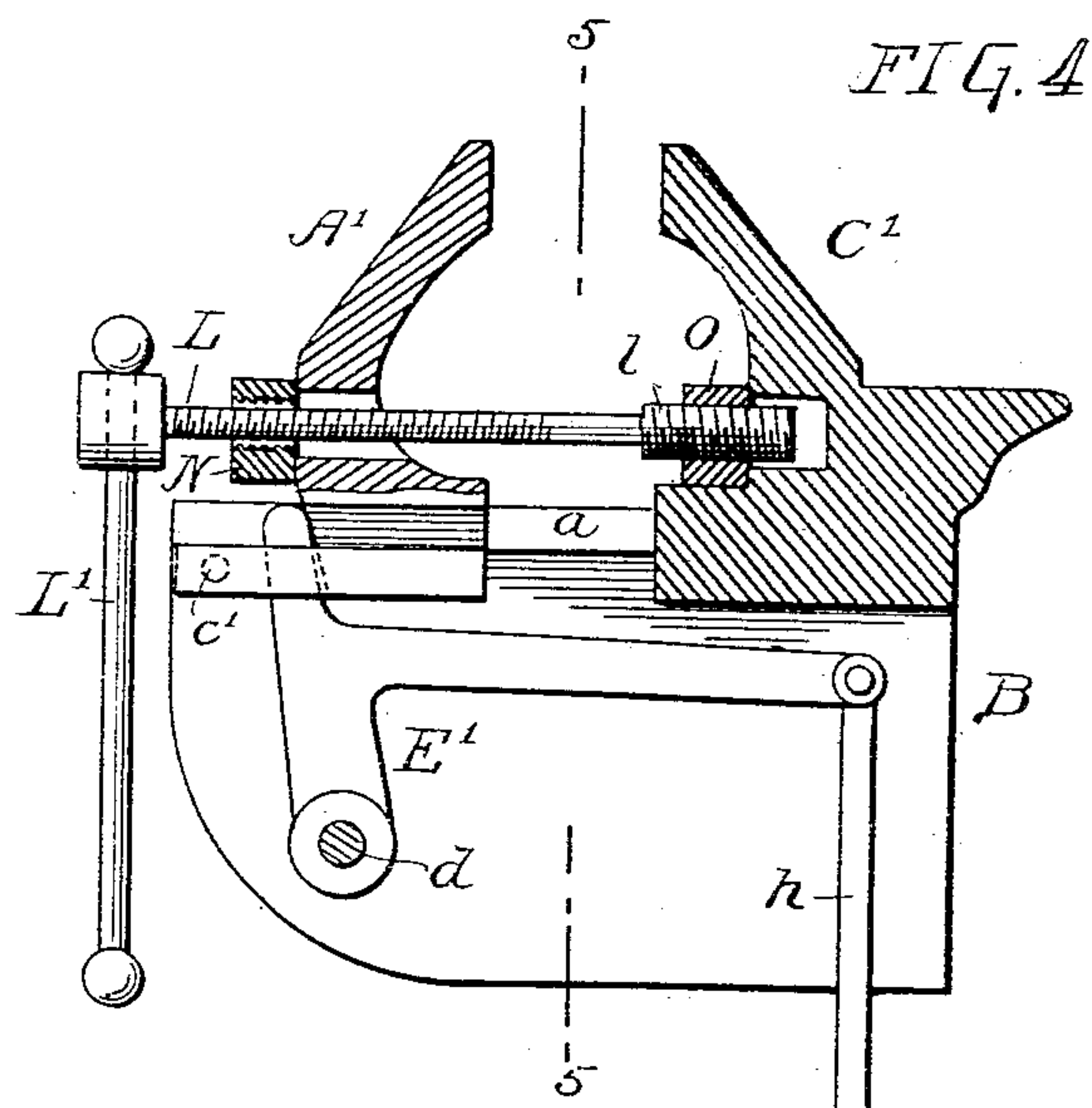
(No Model.)

J. W. MCINTYRE.
VISE.

2 Sheets—Sheet 2.

No. 544,683.

Patented Aug. 20, 1895.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN W. MCINTYRE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO CHARLES E. TAYLOR AND JOHN ECHTERNOCH, OF
SAME PLACE.

WISE.

SPECIFICATION forming part of Letters Patent No. 544,683, dated August 20, 1895.

Application filed September 29, 1894. Serial No. 524,472. (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, reference being had therein to the accompanying drawings.

10 My invention relates to certain improvements in bench-vises, and has for its object to provide a form of vise in which the clamping-jaws may be quickly and readily adjusted toward and from each other and then clamped
15 upon the work, as more fully set forth herein-after.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a vise constructed in accordance with my invention.
20 Fig. 2 is a transverse sectional elevation of a portion of the same on the line 2 2, Fig. 1. Fig. 3 is a perspective of the locking-nut detached from the vise. Fig. 4 is a longitudinal sectional elevation of a slightly-modified construction of vise; and Fig. 5 is a transverse
25 sectional elevation on the line 5 5, Fig. 4.

Referring to Figs. 1 and 2 of the drawings, A represents the fixed jaw secured at the front of the frame B of the vise. The rear jaw C
30 is of the usual form, and its lower portion is provided with an inverted-T-shaped bar *c*, adapted to guides *a*, provided upon the upper edges of the sides of the frame. This rear
35 jaw is movable in its guides toward and from the fixed forward jaw, but has no vertical movement, owing to the construction of the guides and the T-shaped bar *c*, as shown in Fig. 2.

Mounted on a pivot-pin *d*, within the side
40 walls of the frame B, is a three-armed lever E, having one vertical arm *e*, passing through the slotted rear end of the bar *c*, and two horizontal arms *e'* *e''*, connected by bars *h* to a weighted pedal-lever H, the fulcrum-pin *i* of
45 the pedal-lever being between the points of connection of the bars *h*. On one end of the pedal-lever is a weight H', tending to pull the arm *e''* of the lever E in a downward direction and to effect the rearward movement of the
50 jaw C, the arm *e* of the lever acting on a transverse pin *c'*, carried by the slotted bar *c*, when

moving the jaw to the rear, while in closing the jaws the depression of the pedal causes the arm *e* of the lever to act on the inclined rear face of the jaw.

55 Mounted in the jaw A is a screw-rod L, having, as usual, a sliding operating-handle L'. The rear end of the screw has a portion of its threads removed in such manner as to make two flat faces on opposite sides of the rod, as
60 shown in Fig. 2. This screw passes freely through the rear jaw C and does not engage with the same.

To the forward face of the jaw C is secured by screws *m* a nut N, having the upper and
65 lower portions of its central orifice *n* threaded to engage with the threads of the screw L, while the side walls are recessed, as at *n'*, so that when the screw L is turned to the position shown in Fig. 2 the nut and the jaw to
70 which it is secured may be freely moved to and fro by means of the pedal, and when the jaws are so moved as to clamp the work between them a quarter-turn of the screw is all that is necessary to lock the jaws firmly upon
75 the work, the pitch of the threads acting, moreover, to tighten the jaws upon the work. This nut N is made of steel and will stand considerable wear, while the jaws may be made of
80 softer cast metal. The nut, being secured in position by the screws *m*, takes all the wear and may be replaced from time to time as it is worn away.

A modification of my invention is illustrated in Figs. 4 and 5. In this structure the
85 rear jaw C' is fixed to or formed integral with the frame, while the front jaw A' is movable to and fro in this case by a two-armed lever E', connected by a single bar to a pedal-lever of any approved construction. The movable
90 jaw A' carries a nut N, such as that shown in Fig. 3, and the rear fixed jaw carries an ordinary nut O. The screw L' in this instance is flattened for a portion of its length where it engages with the nut N; but its rear end *l* is
95 cylindrical and is provided with a right-hand thread running in a direction opposite to the threads on the handled end, so that as the two threads are engaged the turning of the screw will act to greater advantage in clamping the
100 jaws upon the work.

The vise described may be rapidly operated

by means of the treadle, and in some classes of small work the screw L need not be employed to tighten the jaws, the operator keeping them clamped upon the work by exerting constant pressure upon the pedal.

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

1. The combination in a vise, of a fixed jaw, a frame carrying the same, a movable jaw, a flattened screw, a recessed nut carried by said movable jaw and engaging said screw, and means independent of said screw for moving said jaw substantially as specified.

2. The combination in a vise of a fixed jaw, a frame carrying the same, a movable jaw, a flattened screw, a recessed nut removably secured to said movable jaw and engaging said screw, and means independent of said screw for moving said jaw substantially as specified.

3. The combination of the fixed jaw, a frame carrying the same, a movable jaw, a flattened

screw, a recessed nut carried by the movable jaw for said screw, and means for moving said movable jaw independent of the screw, comprising a pivoted treadle and a lever pivoted to the fixed frame and having one arm engaging with said movable jaw and another arm connected to the treadle, substantially as specified.

4. The combination in a vise of the fixed jaw, a frame carrying the same, a movable jaw, a flattened screw having right and left hand threaded portions, a nut carried by the fixed jaw and engaging the cylindrical portion of the screw, and a recessed nut carried by the movable jaw and engaging the flattened portion of the screw, substantially as specified.

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

JOHN W. MCINTYRE.

Witnesses:

C. E. TAYLOR,

A. D. LAUER.