

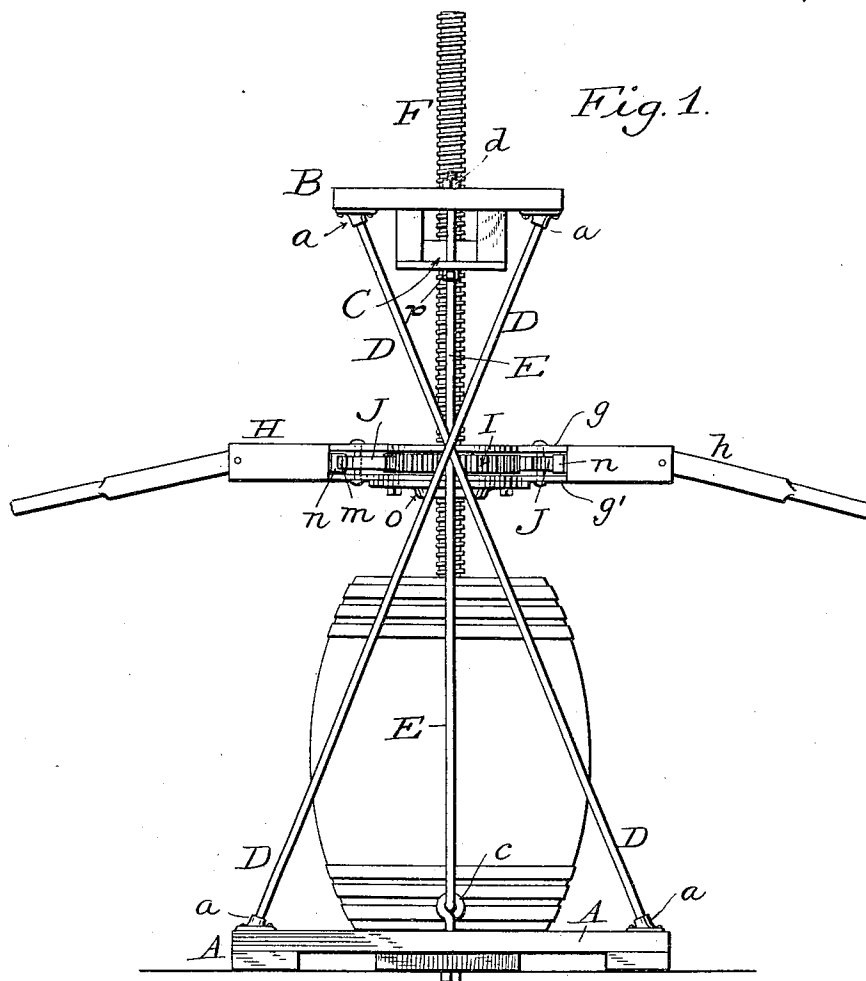
(No Model.)

3 Sheets—Sheet 1.

P. STEELE.
PRESS.

No. 547,041.

Patented Oct. 1, 1895.



Patterson Steele

Inventor

Witnesses

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Attorneys.

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Fig. 2.

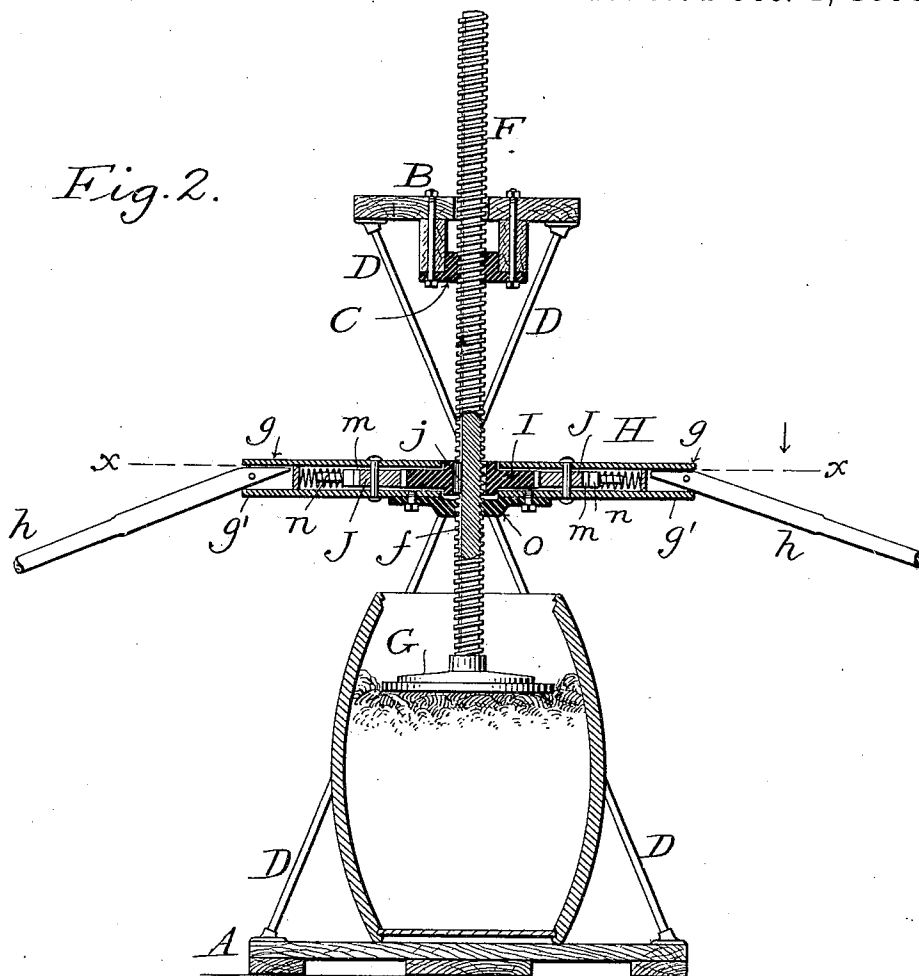
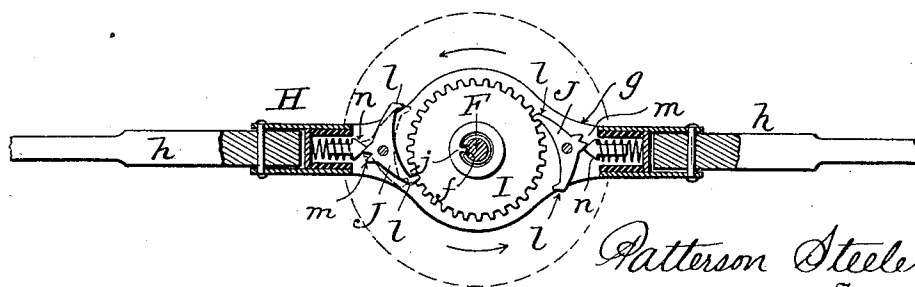


Fig. 3.



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(No Model.)

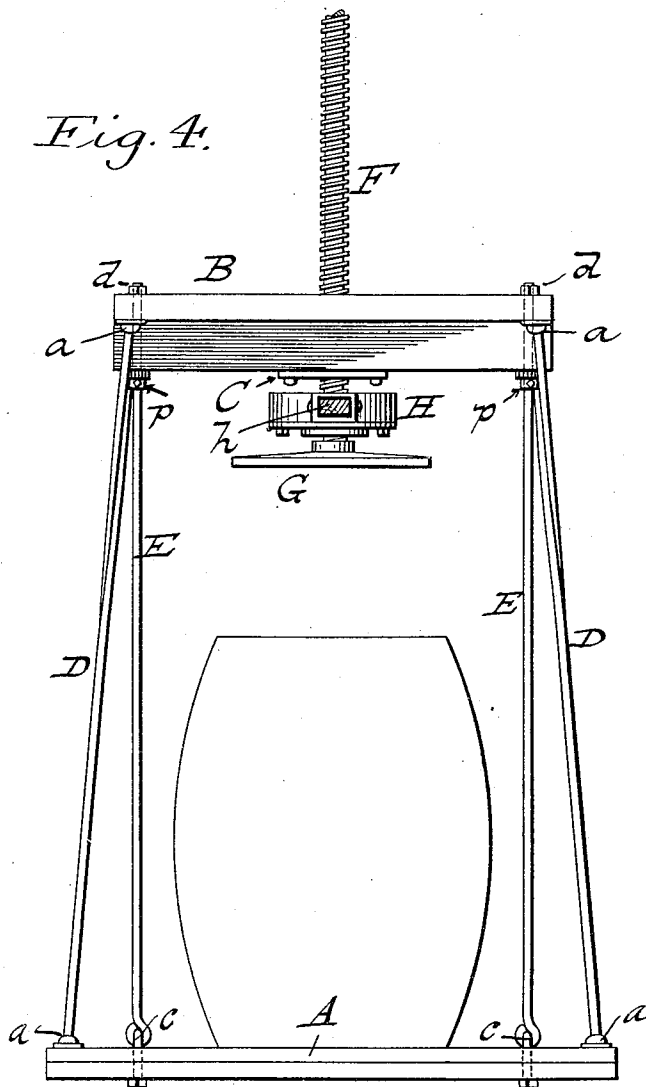
3 Sheets—Sheet 3

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Fig. 4.



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UNITED STATES PATENT OFFICE.

PATTERSON STEELE, OF ELK CHESTER, KENTUCKY.

PRESS.

SPECIFICATION forming part of Letters Patent No. 547,041, dated October 1, 1895.

Application filed June 10, 1895. Serial No. 552,292. (No model.)

To all whom it may concern:

Be it known that I, PATTERSON STEELE, a citizen of the United States, residing at Elk Chester, in the county of Fayette and State of Kentucky, have invented certain new and useful Improvements in Presses, of which the following is a specification.

My invention relates to presses, and has reference more particularly to that class of portable presses known as "screw-presses," and in which the screw engages a nut on the frame and is turned or rotated to cause the plunger or follower-plate to rise and fall therewith.

In the drawings, Figure 1 is a side elevation of my press; Fig. 2, a vertical sectional view; Fig. 3, a horizontal sectional view on the line $x x$ of Fig. 2, and Fig. 4 a face view of the press.

The main frame comprises a suitable base A, a top B, carrying the fixed nut C, crossed braces D D, and the tie-rods E. The braces D, which are made of gas-pipe or wood, have their ends seated in sockets $a a$, secured to the top and to the base, as in Fig. 1, and cross each other at a point at or near (preferably above) their mid-length for a purpose presently explained, and after the frame is set up the braces are held rigid by means of the tie-rods E, which are connected at their lower ends to eyes c , secured to the base, and provided at their upper ends with nuts d and collars p .

The top B is provided with a hole to receive the upper end of the rod, while the collar p , adjustably secured to the rod, bears against the under side of a cross-plate on the under side of the nut-supporting beams.

In assembling the main frame the top B is slipped onto the upper ends of the tie-rods and rests upon the collars p . The braces are next put into place and the nuts d screwed down, thus holding the braces in position and forming a rigid frame.

F indicates the screw passing up through the nut C and the top B, and carrying at its lower end a disk or follower-plate G, the said screw being slotted longitudinally, as at f , Figs. 2 and 3.

H indicates a frame which may be variously constructed, but which in the present instance is shown as comprising two plates $g g'$,

carrying the handles or levers h , which are generally pivoted in sockets formed in the frame. Between the plates $g g'$ is a ratchet-wheel I, Figs. 2 and 3, which while free to turn relatively to the frame, or vice versa, is provided with a key, feather, or spline j to fit the longitudinal groove in the screw, so that it may turn or rotate the screw and also permit the latter to rise and fall freely there- through without turning. Pivoted between the plates $g g'$ are two pawls J J, Figs. 2 and 3, which are each provided with two fingers $l l$ to engage the ratchet-wheel I, and also with an M-shaped head m to be engaged by the spring-pressed dogs n . When the pawls are in operative position, as in Fig. 3, the dogs n bear against the side of the head m ; but when it is desired to hold the pawls out of work they are forced around on their pivots by hand, so that the dogs may engage the notch in the head m , as indicated by dotted lines in said figure. When the pawls are disengaged from the ratchet-wheel, as just described, and the handles or levers are removed, the frame may be raised and lowered by hand upon the screw. To the lower plate g' is secured a nut o , as shown in Fig. 2, which nut always remains in engagement with the screw.

When the parts are in the position shown in full lines in Fig. 3, with the pawls in engagement with the ratchet-wheel, and the frame turned in the direction of the arrow, the ratchet will be locked to the frame and turn therewith; but as the ratchet is locked to the screw by the key j the screw will also be turned, and by reason of the engagement of the screw with the nut C the screw will be forced down into the cask or barrel. The frame H and its ratchet-wheel I and nut o thus all turn with the screw-shaft. As the handles or levers $h h$ project from the frame they have under former constructions struck or been limited in their movement by the braces; but under the present arrangement the crossing of the braces in the same plane as that in which the frame H turns permits me to make practically a full movement of the said frame. After the frame has been turned as far as permitted by the crossed braces the movement of the frame is reversed; but during this return movement the fingers or noses of the

pawls will ride back over the teeth of the ratchet-wheel without giving motion to the latter. In other words the wheel does not rotate backward with the frame, because it is desired to raise the frame upon the screw during this backward movement a distance equal to the distance it was carried down with the screw when the frame was turned forwardly, and it is apparent that if the wheel partook of the backward as well as the forward movement this result could not be attained. When, therefore, the frame H is turned backward, the nut *o* carried thereby rides up on the screw a distance equal to the distance it was previously carried down with the screw, the wheel I carried by the frame sliding lengthwise or longitudinally of the screw-shaft. From this it will be seen that upon every forward movement of the rotatable frame the screw will be carried downward a certain distance, and that upon every reverse or backward movement of the frame the latter will be raised upon the screw, so that it and its actuating-levers may occupy the same plane relatively to the crossed braces.

When it is desired to retract the screw, the pawls are reversed, so that upon a forward movement of the frame the screw will be turned backward and raised, while upon a reverse movement of the frame the latter will be moved downward (instead of upward) upon the screw. From this it will be seen that it is only necessary to reverse the pawls to run the screw back to starting-point, and that by throwing the pawls out of action and removing the handles or levers the rotatable frame may be turned by hand and caused to take any position on the screw.

The crossed braces, besides giving great latitude in the movement of the levers, also produce a stiff and rigid frame with a broad base and one that will not twist when in use.

Having thus described my invention, what I claim is—

1. In a press, the combination with a main frame; of a nut carried thereby; a screw to engage the nut; a frame mounted upon the screw; and connections between said frame and screw; whereby movement of the frame in one direction rotates the screw, and movement in the reverse direction allows the screw to remain at rest and causes a return of the frame to its normal elevation.

2. In a press, the combination with a main frame, nut, and screw; of a rotatable frame mounted upon the screw to turn the latter; and connections between the frame and screw whereby said frame moves with the screw when turned a limited distance in one direction, and moves upon the screw when turned a limited distance in the opposite direction.

3. In a press, the combination with a main frame, a nut C, and a grooved screw F; the frame H provided with a nut *o*, and pawl J; means for turning frame H; and the loose ratchet wheel I keyed to the screw.

4. In combination with the main frame, nut and grooved screw; the rotatable frame provided with a keyed ratchet wheel I; a reversible pawl J to engage the wheel; and a nut to engage the screw.

5. In combination with the main frame, nut and slotted screw; a rotatable frame provided with a nut to engage the screw; a ratchet wheel keyed to the shaft and loose in the rotatable frame; and a reversible pawl to engage the wheel.

In witness whereof I hereunto set my hand in the presence of two witnesses.

PATTERSON STEELE.

Witnesses:

FAUST FOUSHEE,
H. G. SMITH.