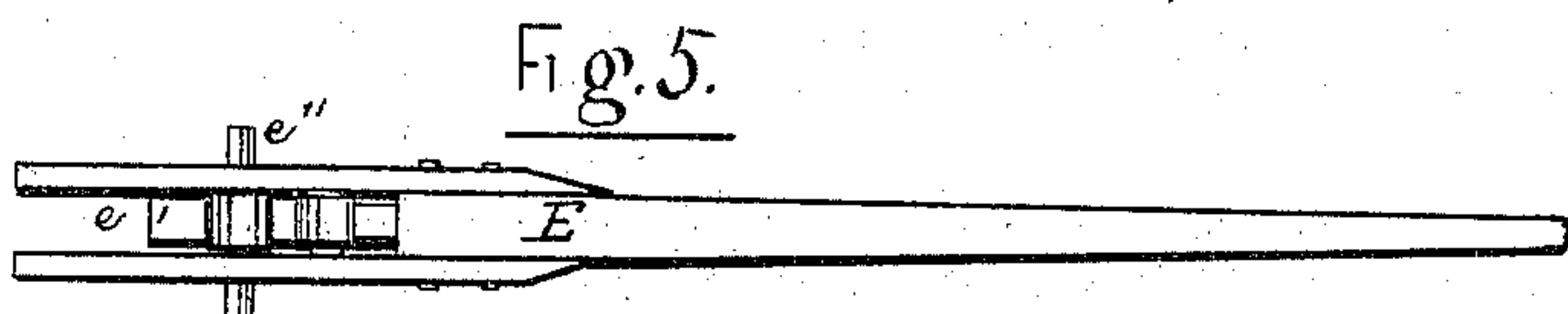
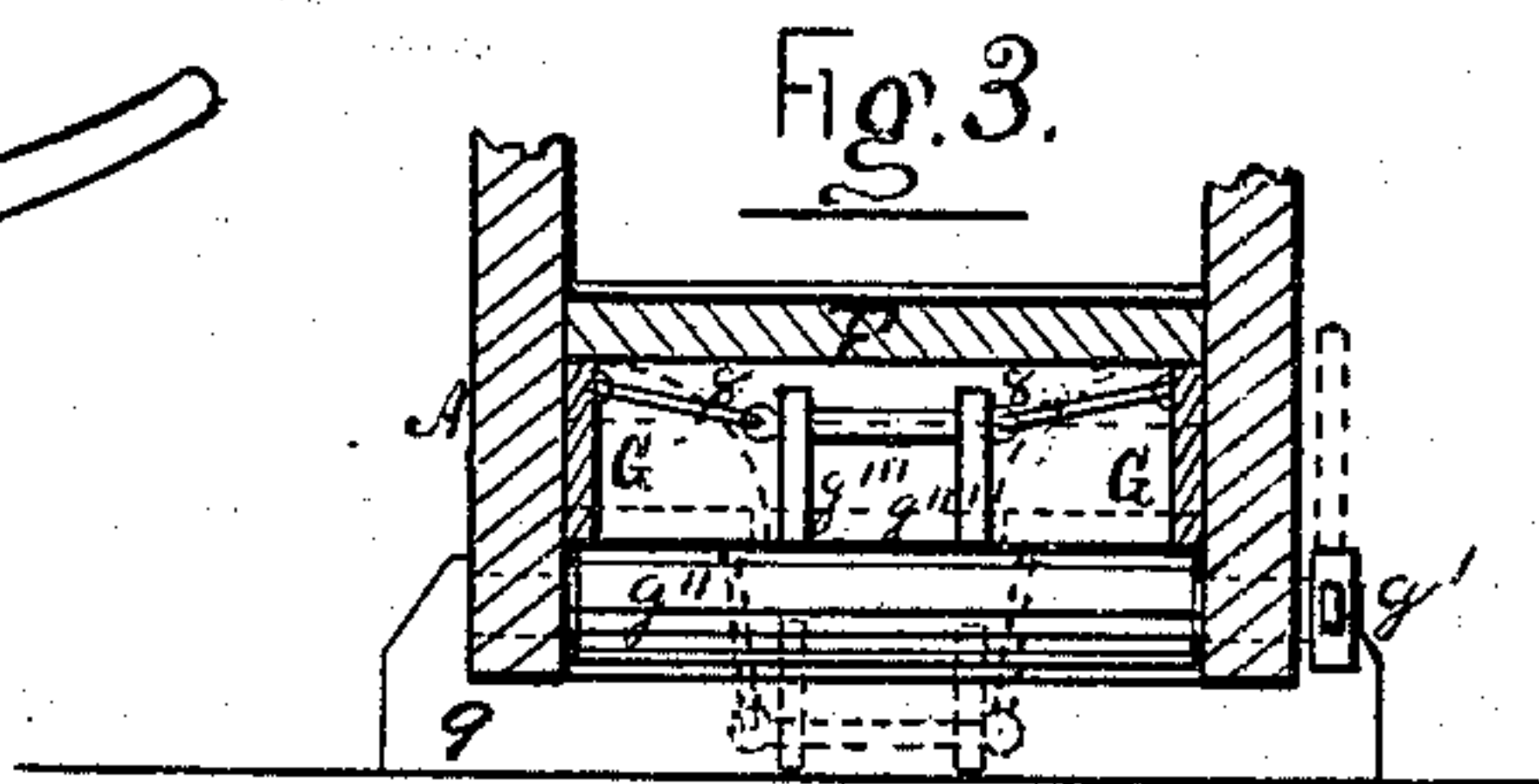
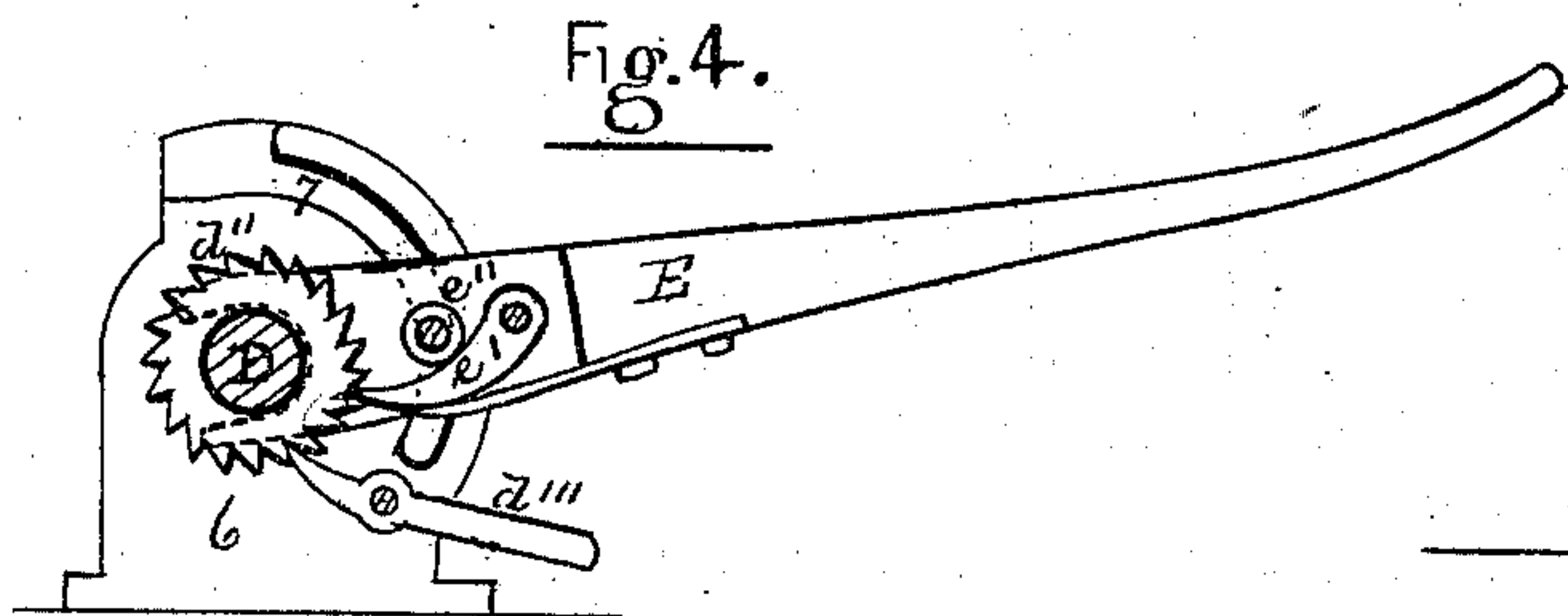
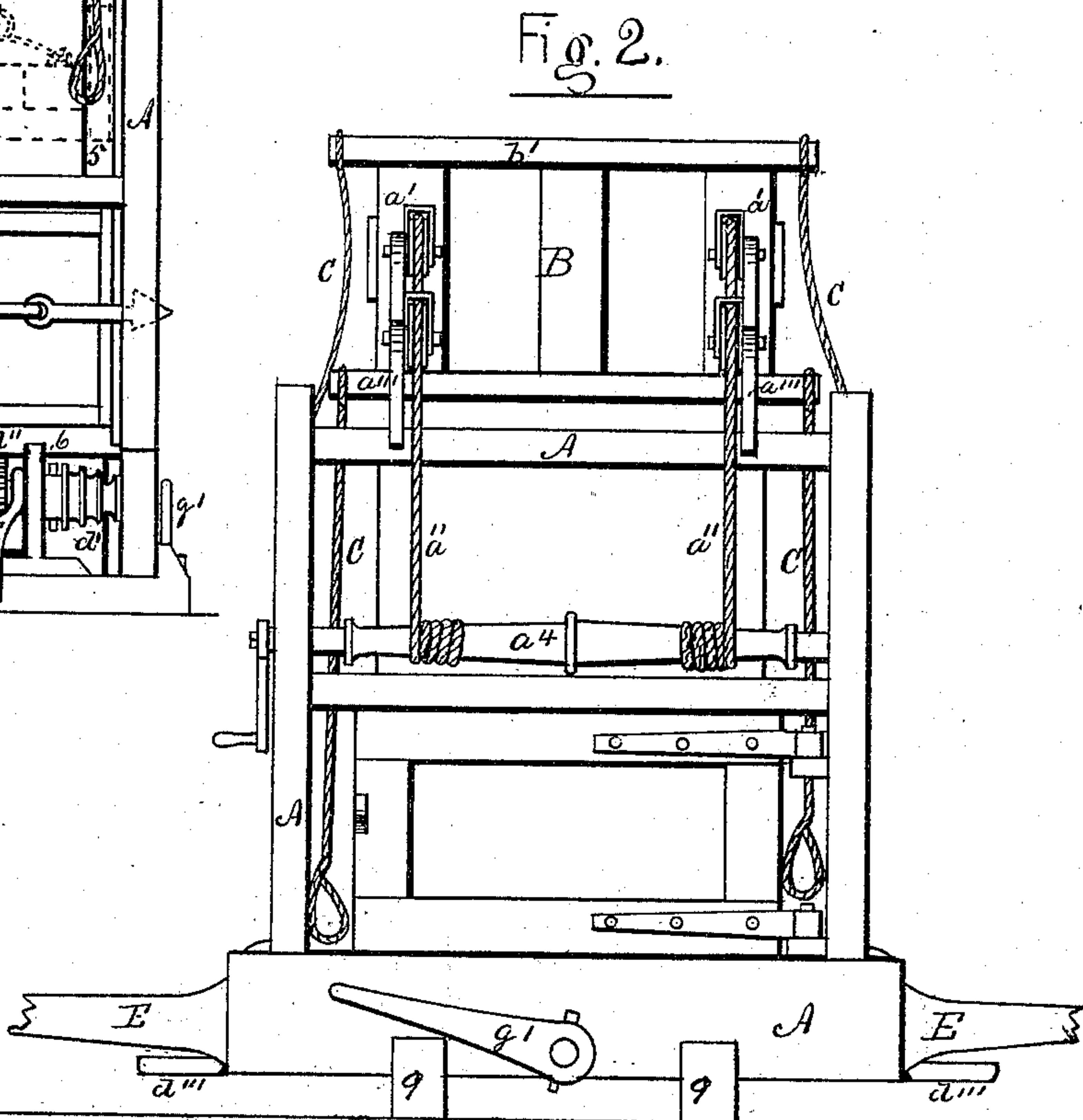
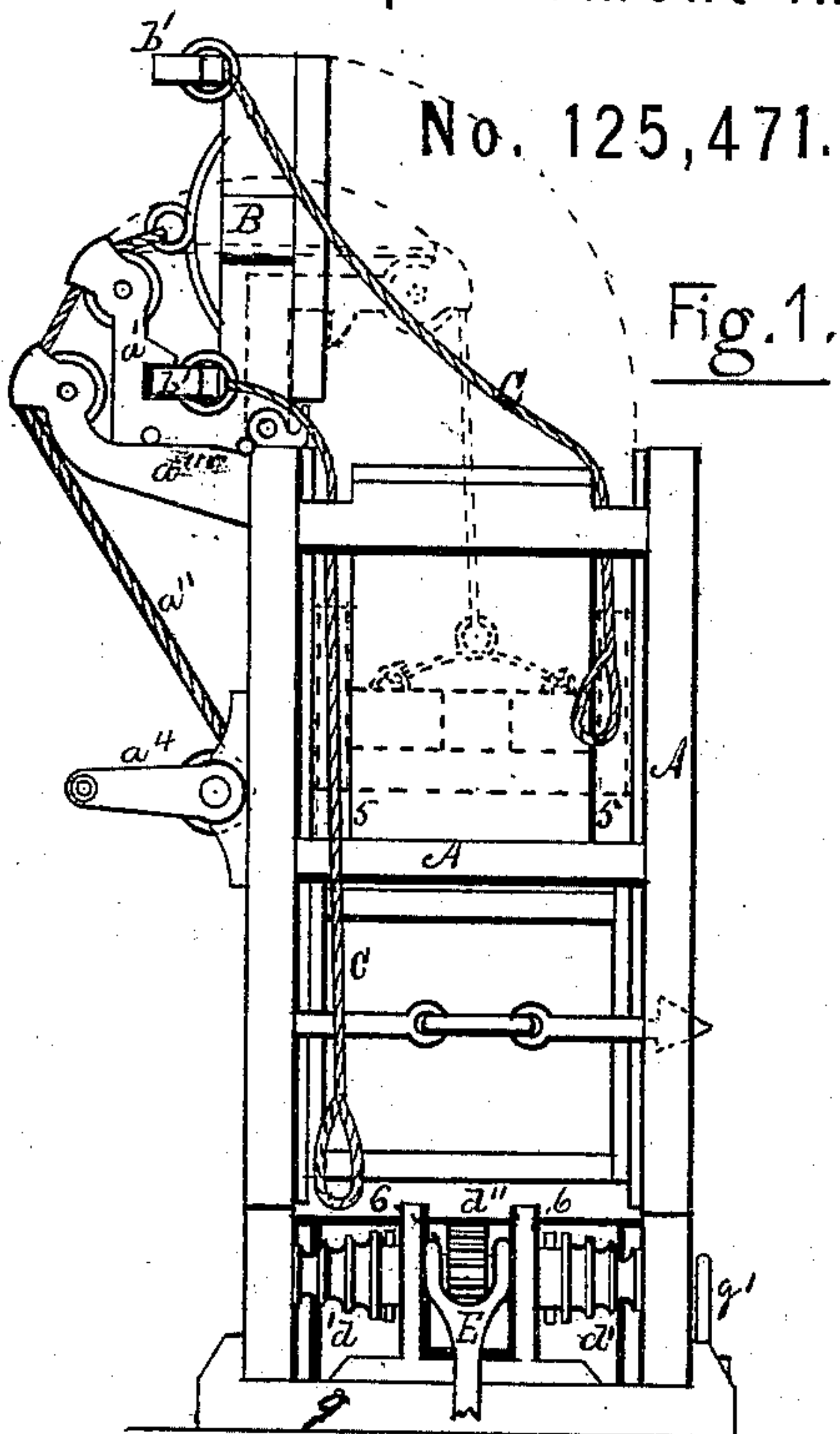


JOHN W. McINTYRE.

Improvement in Hay and Cotton Presses.

No. 125,471.

Patented April 9, 1872.



WITNESSES:

Benj. Morrison
Chas. H. Morrison.

INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN W. MCINTYRE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HAY AND COTTON PRESSES.

Specification forming part of Letters Patent No. 125,471, dated April 9, 1872.

Specification describing certain Improvements in Presses for Hay, Cotton, &c., invented by JOHN W. MCINTYRE, of the city of Philadelphia, in the State of Pennsylvania.

The first part of my invention relates to the arrangement of a groove in the inner side of each of the two middle bearings of the shaft of the spirally-grooved drawing-cones, so as to be open at its upper ends, and also concentric with and near enough to the shaft to receive and allow a corresponding pin on each side of a detachable operating spring-pawl lever to enter and slide therein as the said lever, bearing upon the shaft as its fulcrum, is vibrated up and down, in contact with the ratchet-wheel on the said shaft, to rotate the cones in drawing down the follower; the object of this part of my invention being to afford facility for attaching and detaching the two operating levers, and also allowing the follower to be more quickly released from pressure, as may be desired. The second part of my invention relates to the combination of two adjustable supporting-bars under the bed-piece of the press with an operating lever on the outside of the latter, in such a manner that the said bars can be readily turned upon their edges to support the said bed-piece at the proper height for pressing, or turned down upon their sides to lower the bed-piece accordingly; the object of this part of my invention being to give clearance to the bale from the top of the door-frame in rolling it out.

Figure 1 is an end elevation of the press embodying my invention. Fig. 2 is a side elevation of same; Fig. 3, a transverse section of the lower part of the press, showing the bed-piece and its two adjustable supporting-bars in their upright positions beneath it. Fig. 4 is a sectional side view of one of the operating pawl-levers applied to the drawing-shaft, and ratchet-wheel with its detent. Fig. 5 is a plan view of the upper side of said lever and pawl.

A is the frame of the machine, which frame sustains the inside lining and the doors in the usual manner, and should be substantially constructed to resist the lateral, the end, and the bottom pressure to which it may be subjected. B is the follower, which follower is fitted to slide easily up and down within the

lining, and is suspended (see the dotted lines in Fig. 1) from two tilting cranes, $a' a'$, by means of two ropes or chains, $a'' a''$, which run on pulleys in the respective ends of $a' a'$, and also run over respective pulleys in the ends of two stationary off-holding arms, $a''' a'''$, the tilting frames $a' a'$ and arms $a''' a'''$ being attached to the upper edge of the same side of the frame A. The outside ends of the ropes or chains $a'' a''$ are each attached to a windlass, a^4 , so that, by rotating said windlass, the said ropes or chains will be wound around it and the follower B raised upward to the top of the frame A into contact with the tilting cranes $a' a'$, and then turned outward together, the tilting cranes $a' a'$ and off-set arms $a''' a'''$ at the same time coming into contact and supporting the follower A edgewise upon that side of the frame A, as represented in Figs. 1 and 2. Along near the side edges of the upper side of the follower B two strong bearing-ribs, $b' b'$, are respectively secured firmly, with their ends projecting beyond the two ends, respectively, of the said follower far enough to project through respective slots 5 5, which are made or left for the purpose in the end lining of each end of the upper half of the press, and to their four projecting ends the upper ends of the four draw-ropes or chains C C C C are permanently attached. The lower ends of the said draw-ropes or chains C are each looped so that they can be readily attached to or detached from the respective studs or hooks in the usual grooved cones or fuzes $d' d'$ on the drawing-shaft D at each end of the press. The drawing-shafts D, with their two fixed cones, $d' d'$, are respectively rotated by means of respective detachable bifurcate levers E E, each of which is provided with a spring-pawl, e' , which alternately slips over and catches in the teeth of a ratchet-toothed wheel, d'' , which is fixed on each of the drawing-shafts D, as the said forked lever is vibrated upward and downward with the shaft as its bearing or center of motion, and thus the winding or rotary motion of the said shafts and cones at the two ends of the press are rotated, and the follower B drawn downward so as to powerfully compress the contents of the former. Connecting successively with the teeth at the lower edge of the ratchet-wheel d'' there is a lever-pawl

or detent, d''' , which interlocks with the teeth and prevents any return movement of the shaft when the lever E is being raised. In the inner side of each of the two middle bearings 6 6 there is a groove, 7, which is open at its upper end, concentric with and at a short distance from the shaft D. Corresponding with these grooves 7 7 there is a bar, e'' , fixed transversely through the two prongs of the lever E, so as to project at each side in such a manner as to adapt the projections to traverse the respective grooves as the lever is vibrated up and down, and thus keep it in position against the shaft, and, at the same time, allow the said lever to be readily attached or detached when held in a vertical position for the purpose. The bed-piece F (see Fig. 3) is supported upon two longitudinally-arranged girders or bars, G G, the bottom edges of which are hinged to the bottom sill-pieces 9 9 of the frame A, in such a manner that when turned up so as to rest upon their respective edges the movable bed-piece F will be firmly supported thereby in the proper elevated position in condensing the contents of the press, and when turned down upon their flat sides the bearing pieces G and the bale will fall sufficiently to allow the latter to be rolled out through the space

afforded by opening the side door on either side. The supporting-bars G G are raised and lowered by means of an outside lever, g' , which is fixed on the projecting end of a transversely-arranged shaft, g'' , provided with two connected posts, $g''' g'''$, which are respectively articulated, by two connecting-rods, 8 8, to the upper edges of the respective bars or girders G G.

I claim as my invention—

1. The concentric groove 7 in each of the middle bearings 6 6 of the drawing-shaft D, the said grooves being constructed and arranged to operate, in combination with the projecting ends of the bar e'' of the lever E, substantially as and for the purpose hereinbefore set forth.

2. The arrangement of the adjustable supporting-bars G G between the bed-piece F and the bottom sill-pieces 9 9 of the frame A, in combination with the operating lever g' , bar g'' , and the connecting parts g''' and 8 8, substantially as and for the purpose hereinbefore set forth.

JOHN W. MCINTYRE.

Witnesses:

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WM. H. MORISON.