(No Model.) 2 Sheets—Sheet 1.

S. P. HARBAUGH.

BALING PRESS.

No. 247,051. Patented Sept. 13, 1881.

Fig. 1.

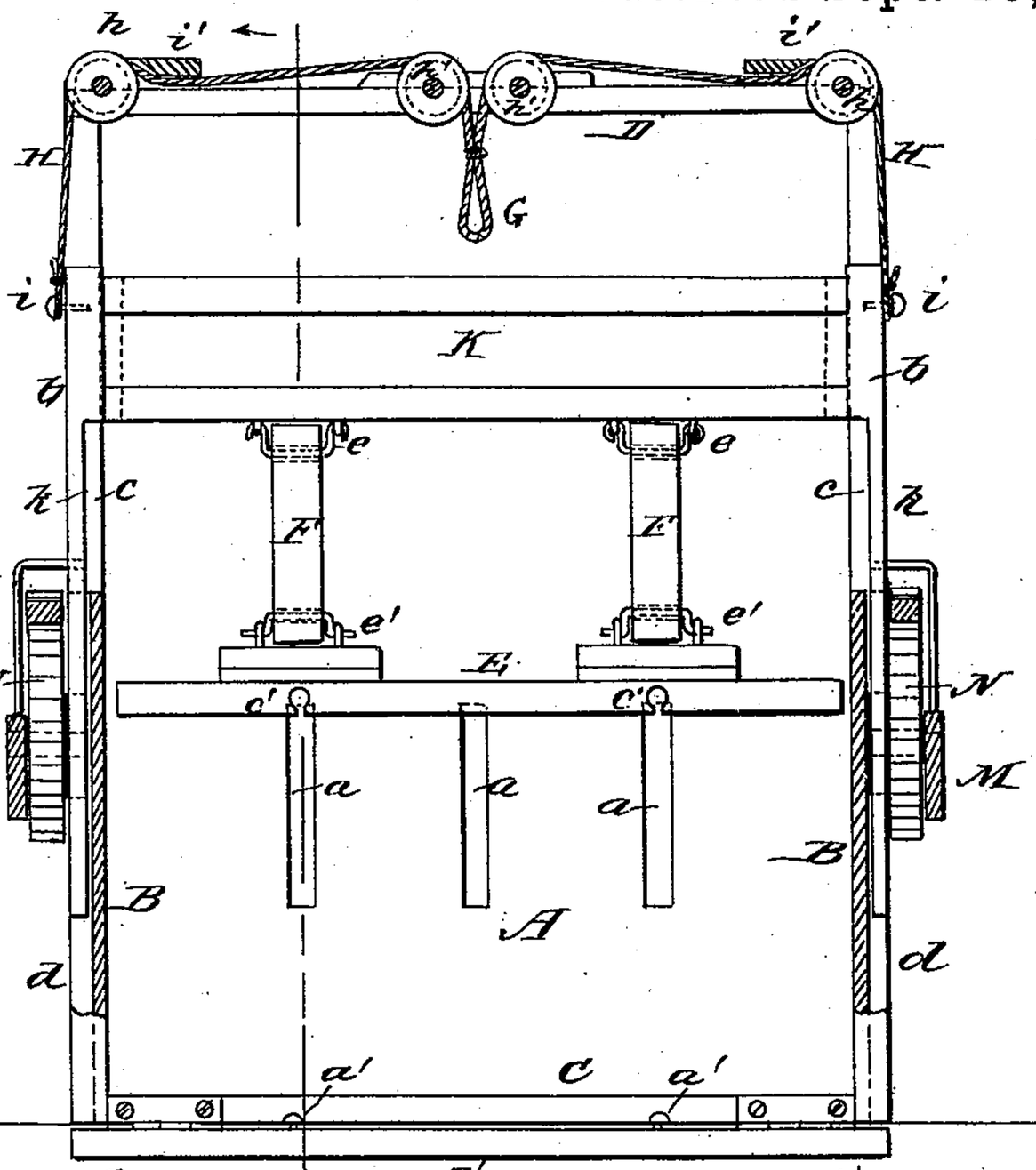


Fig. 2

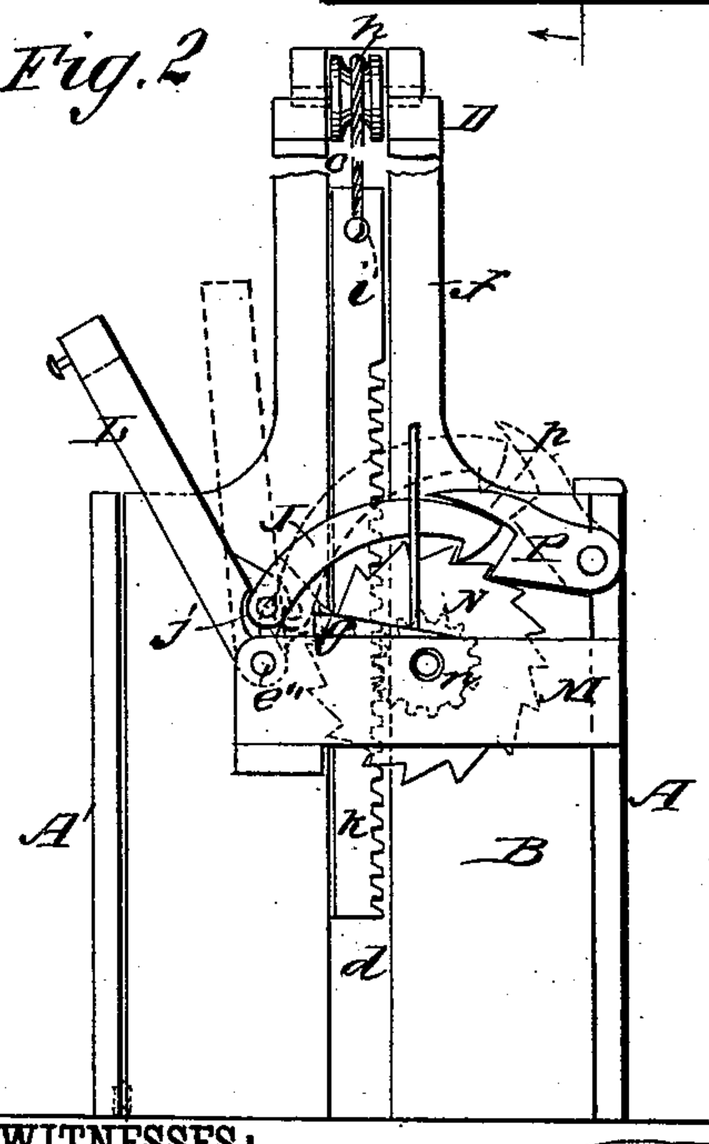
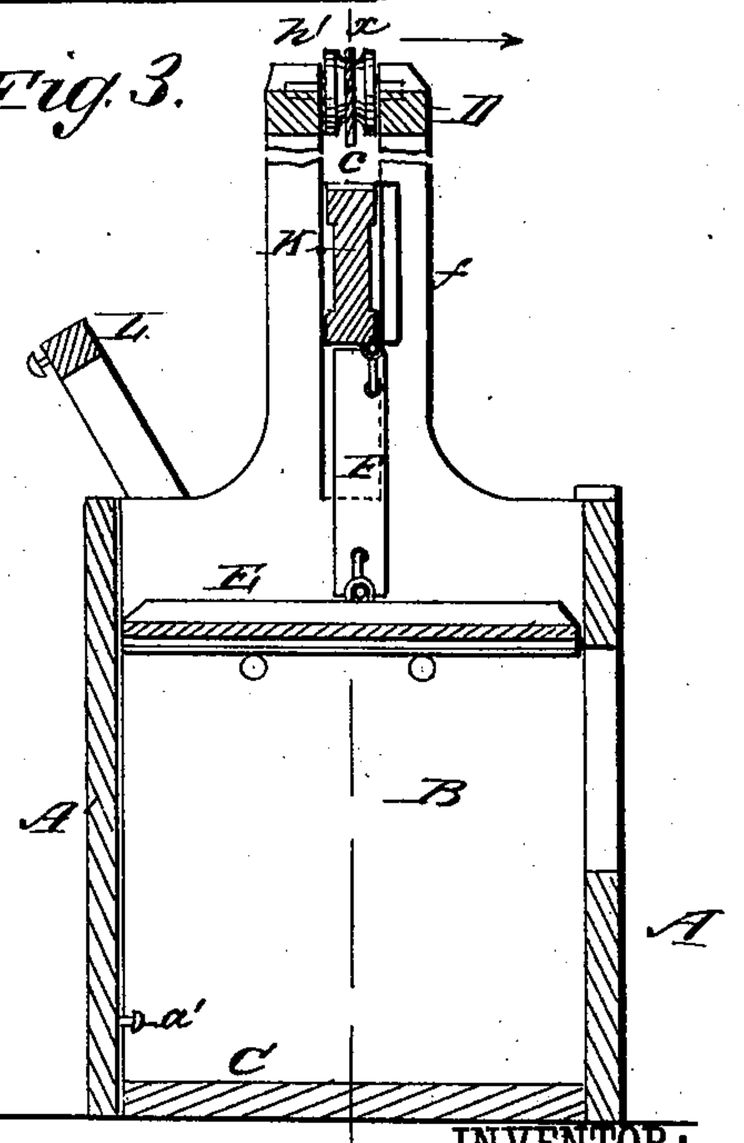


Fig. 3.



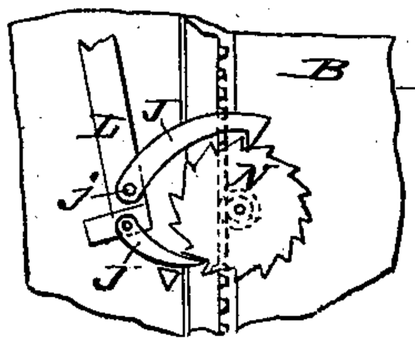


Fig. 4

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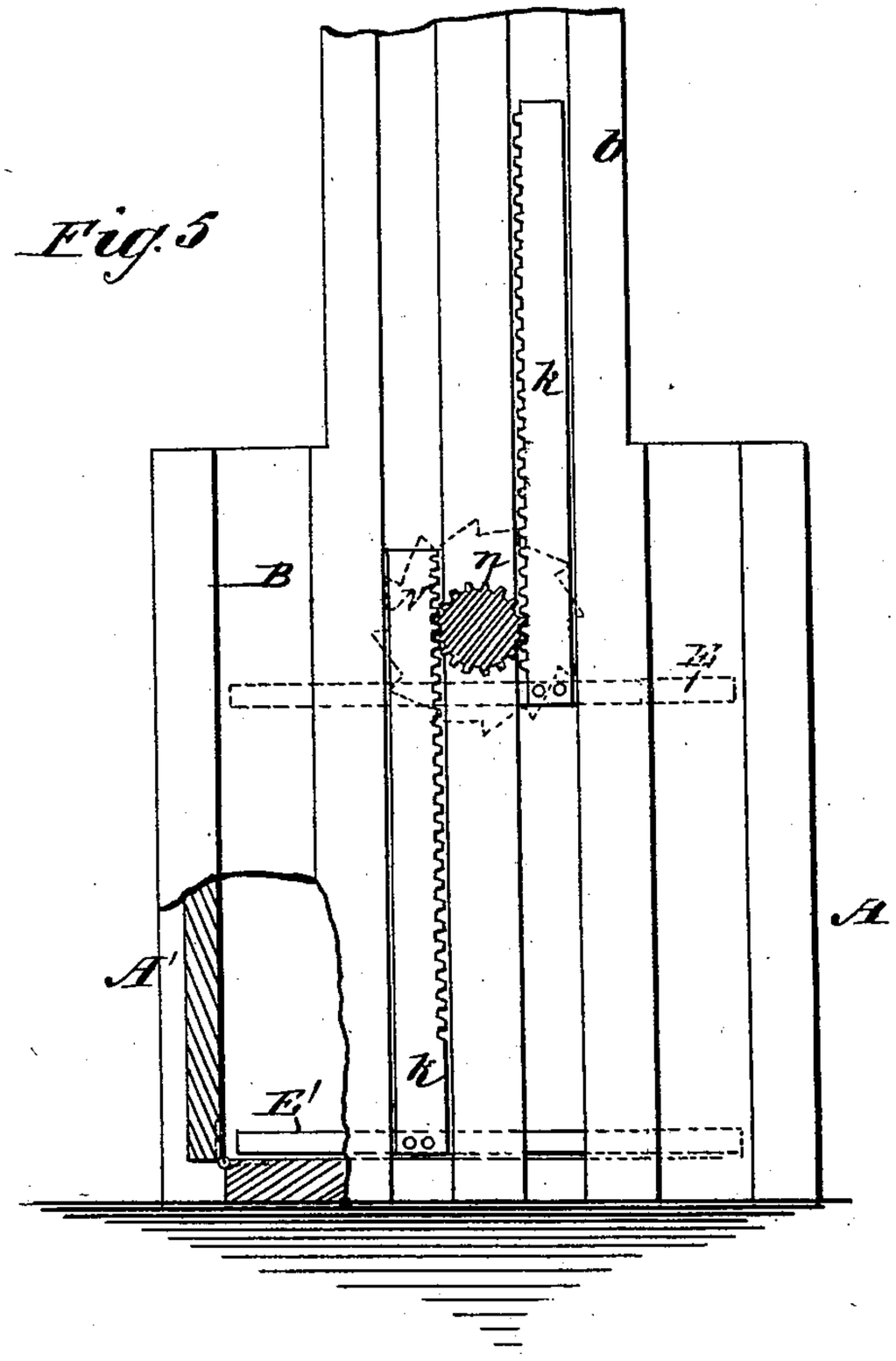
Fig. 5



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

SIMON P. HARBAUGH, OF CUMBERLAND, MARYLAND.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 247,051, dated September 13, 1881.

Application filed March 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, SIMON P. HARBAUGH, of Cumberland, in the county of Alleghany and State of Maryland, have invented a new and useful Improvement in Baling-Presses, of which the following is a specification.

The object of my invention is a hand-power press for baling hay, cotton, wool, rags, and similar materials, which shall be convenient and rapid in operation and durable and cheap of construction.

In the accompanying drawings, Figure 1 is a vertical section of my invention, taken on line *x x* of Fig. 3. Fig. 2 is a side elevation. Fig. 3 is a transverse section taken on line *y y* of Fig. 1. Fig. 4 represents a modification, and Fig. 5 an end view of another modification, showing construction, whereby the press is automatically reset.

Similar letters of reference indicate corresponding parts.

The body of the press is formed by the vertical end boards, B B, the bottom board, C, the side board, A, and the hinged side board or door, A′. The end boards, B B, are provided with the upward extensions *b b*, which are tied together at their top by the cross-piece D. The extensions *b b* are provided with the slots *c c*, which register with the channels or grooves *d d*, cut in the sides of the end boards, B B, and the frame composed of the rack-bars *k k* and the cross-beam K moves in these slots and grooves to raise and lower the follower E, which is attached to the under side of the beam K by the bars F F, which are hinged, as shown at *e e* and *e′ e′*, at top and bottom to the beam and the follower.

The frame and follower are lowered to press the cotton or other material by means of the lever L, pivoted at *e″* to the outside of the end pieces, B B, and the hooked dogs J, pivoted at *j* to the lever, as shown, the latter engaging with the ratchet-wheels N N, which carry the spur-wheels *n n*, which mesh with the rack-bars *k k*. The shaft of the wheels N *n* has its bearings in the side boards, B B, and the boards M, which are secured to the side boards so as to permit the wheels to be placed and move between them. The pawl P is pivoted to the side boards in such manner as to run in contact with the ratchet-wheel N, to retain the same while the lever is being raised to still further compress the material or to tie the bale. The pawl P has the forward projection or finger *p*, under which the forward end of the curved dog J passes, and which serves, when the lever is carried to the position shown in dotted lines in Fig. 2, to raise the pawls out of contact with the ratchets, the dog being thrown up for this purpose by the lower part of the dog coming in contact with the projections *g*, secured on the upper edge of the board M, and by this means the follower is free to be raised by the chains or ropes H, which are secured to the rack-bars at *i i* and pass over the pulleys *h h′*, secured at the ends and in the center of the cross-bar D.

The side board, A, is provided with the slots *a a a*, through which the wire or other tie passes, and the follower is provided in its lower face with corresponding cross-grooves *c′ c′*. The wire or other tie is first to be secured to the studs *a′ a′*, which are on the inside of the hinged door or side A′, and the ends of the wire passed through the slots. The door being open and the follower raised and swung back over the edge of the board A out of the way, the press is ready for filling. When filled the door A′ is closed and the follower forced down by the operation of the lever L. When the material is sufficiently compact the wires or other ties are passed back through the slots in the board A, and through the grooves *c′*, over the bale, and passed under the ends secured to the studs *a′ a′*, and fastened. The follower is now to be raised by simply throwing up the lever L, which disengages the pawl, as above described, and pulling on the cords or chains H, the loop G being provided for that purpose. The bale may now be removed by opening the door A′, and the press again filled and another bale formed, as above.

The modification shown in Fig. 4 consists in the additional dog J′, which is hinged on the end of the lever L below the dog J, and engages the ratchet-wheel N on the under side, which serves to divide the force applied to the lever and wheel and tends to prevent breakage of the parts.

It is obvious that instead of using the chains or cords and the pulleys for raising the follower, a spring or other means might be used for this

purpose without departing from the spirit of my invention.

By the construction shown in Fig. 5 the necessity of the above-described means for raising the follower is obviated. This construction consists, principally, in providing two press-boards, each having the rack-bars *k k*, which are held in contact with the pinion *n* upon opposite sides thereof, so that when power is applied to the lever and the pinion caused to revolve, the press-boards E E′ will move toward each other, and thus form the bale in the center of the press, so that when the ratchet is released by the lever, as shown in dotted lines in Fig. 2, the weight of the bale upon the board E′ will cause it to descend, and of course the board E to rise, thus automatically resetting the machine, ready to be again filled for making another bale.

It is obvious that in this construction the end boards, B B, and the extensions *b b* should be formed with two grooves for guiding the rack-bars *k k*, and that the end boards, B B, should be slotted from the bottom thereof near to the point where the pinion *n* is journaled.

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

1. In a baling-press, the end boards, B B, provided with upward extensions *b b*, tied together by cross-bar D, and grooves *d d*, registering with slots *c* in the extensions, in combination with the frame carrying rack-bars *k k* and cross-beam K, the latter connected by hinged bars F with the follower E, as shown and described.

2. The dog J, pivoted to the lever L, in combination with the pawl P, having the extension or finger *p* and the stud or projection *g*, substantially as and for the purposes set forth.

3. The follower E, having the grooves *c′ c′* in its under side, in combination with the side board, A, having the slots and the hinged side or door A′, having the studs or pins, substantially as and for the purposes shown and described.

SIMON P. HARBAUGH.

Witnesses:
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JAMES N. HENRY.