

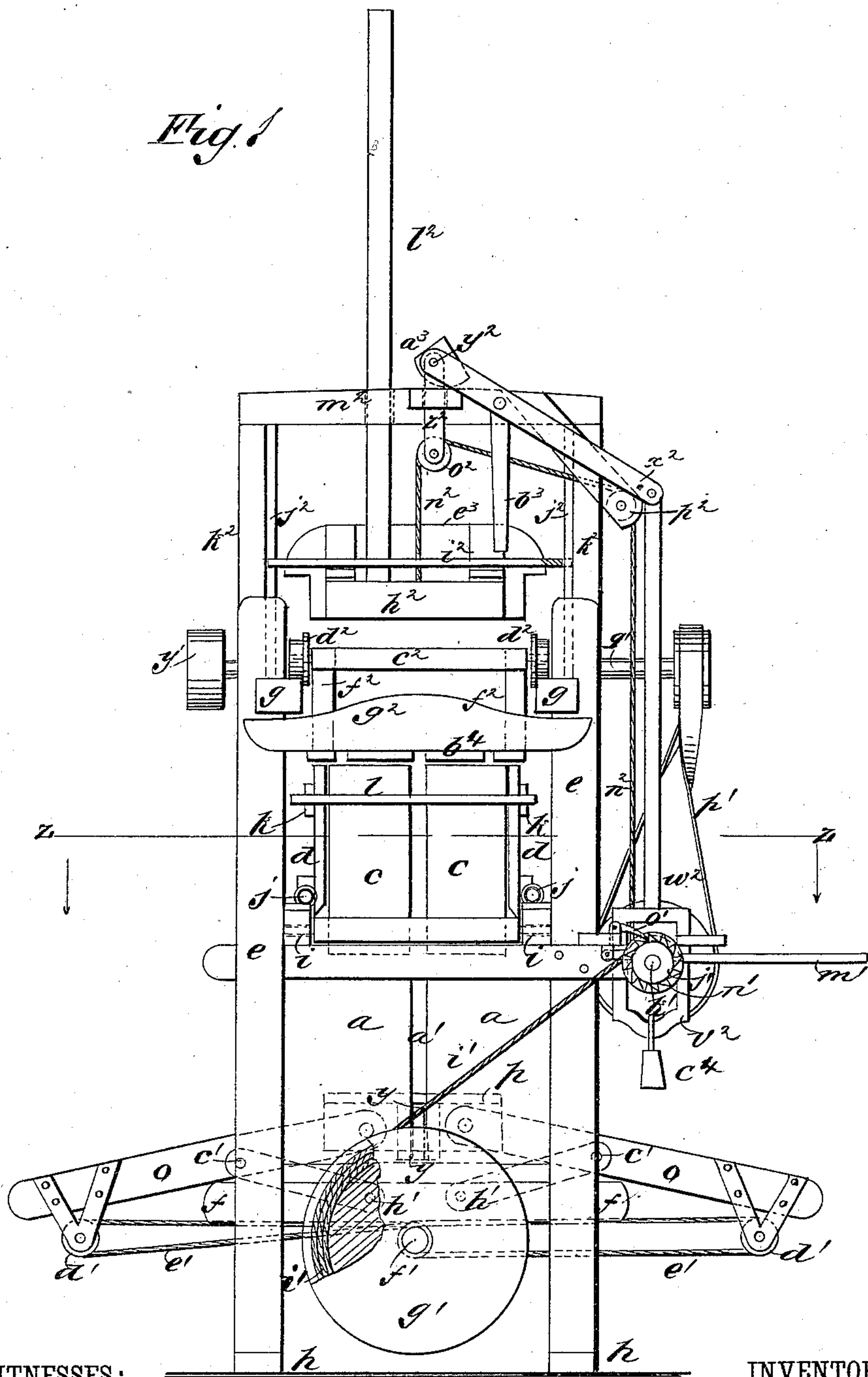
(No Model.) W. F. SMITH & W. W. ADAMS 4 Sheets—Sheet 1.

4 Sheets—Sheet 1.

BALING PRESS.

No. 311,266.

Patented Jan. 27, 1885.



WITNESSES:

St. M. Ardle.
C. Sedgewick

INVENTOR:

W. F. Smith
W. W. Adams

BY

Allen Co

ATTORNEYS.

(No Model.)

W. F. SMITH & W. W. ADAMS.

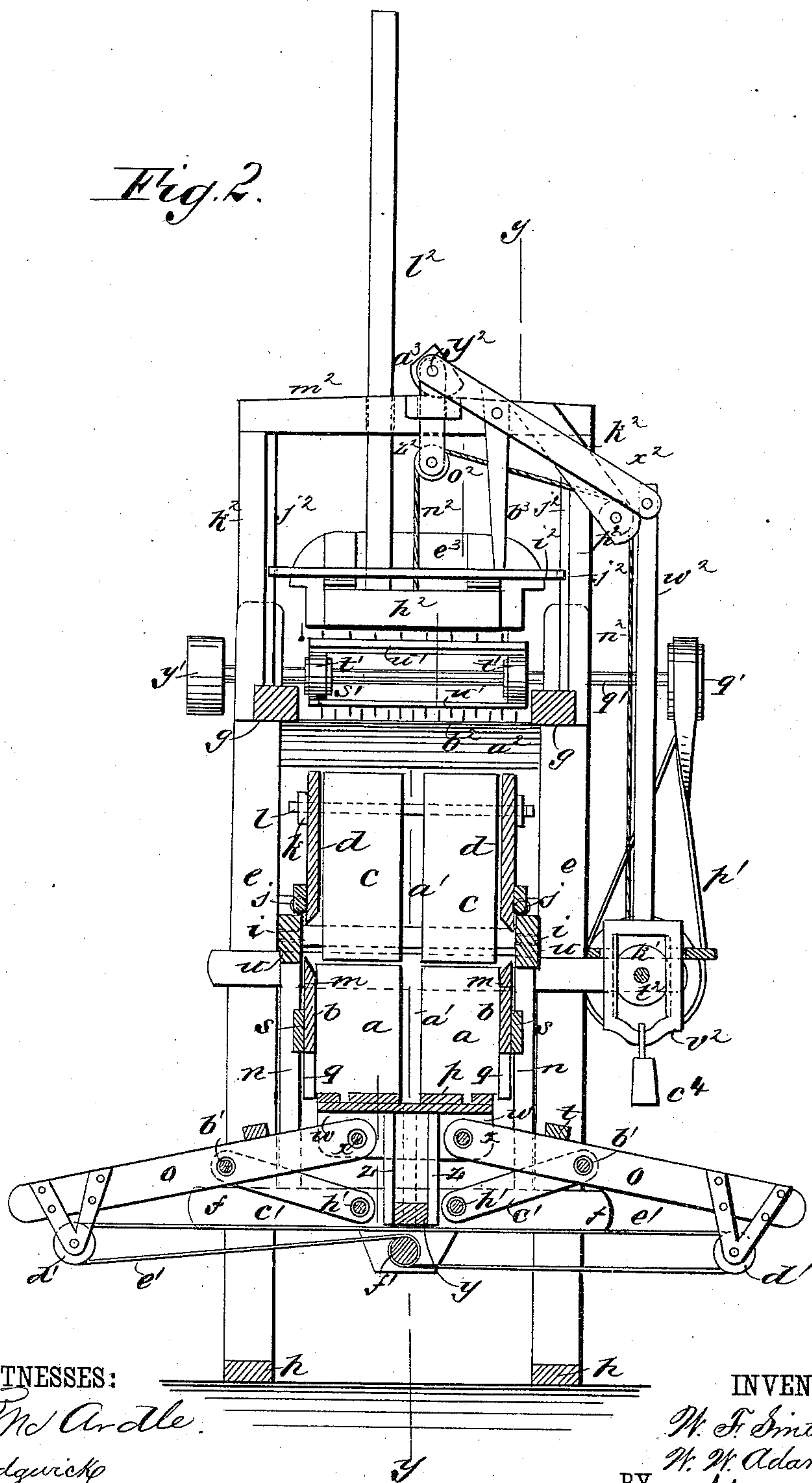
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Fig. 2.



WITNESSES:

F. Mc Ardle.
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(No Model.)

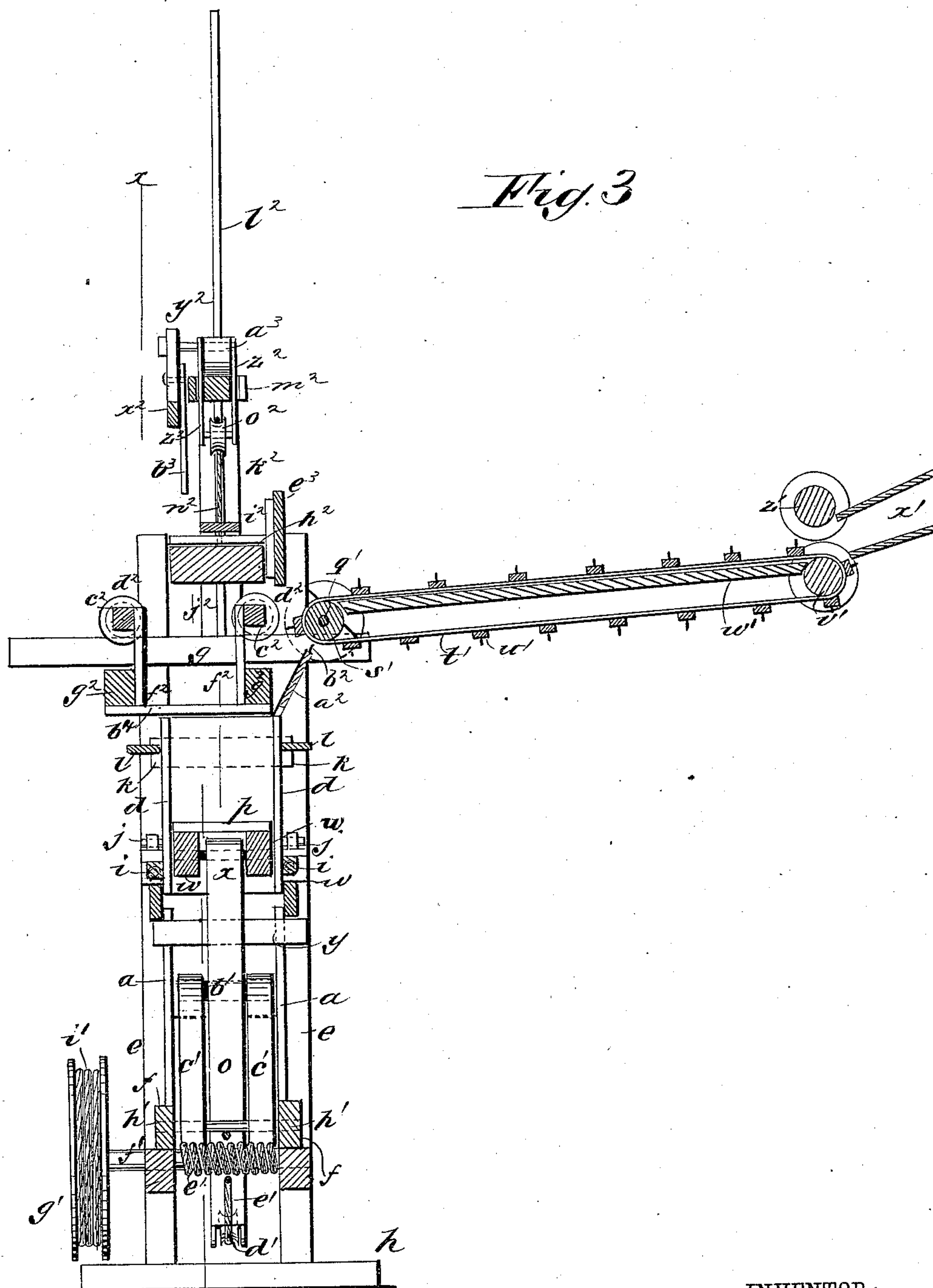
W. F. SMITH & W. W. ADAMS.

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INVENTOR:

W. F. Smith
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4 Sheets—Sheet 4.

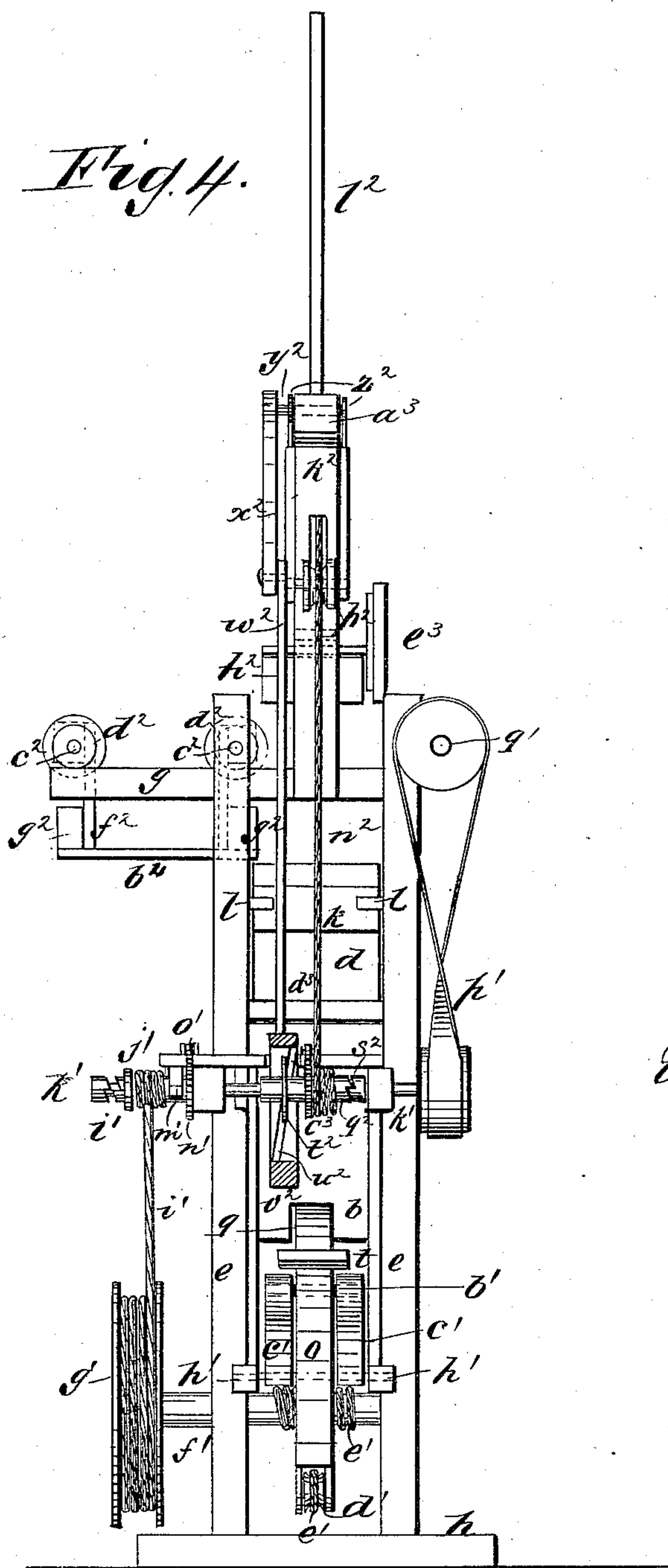
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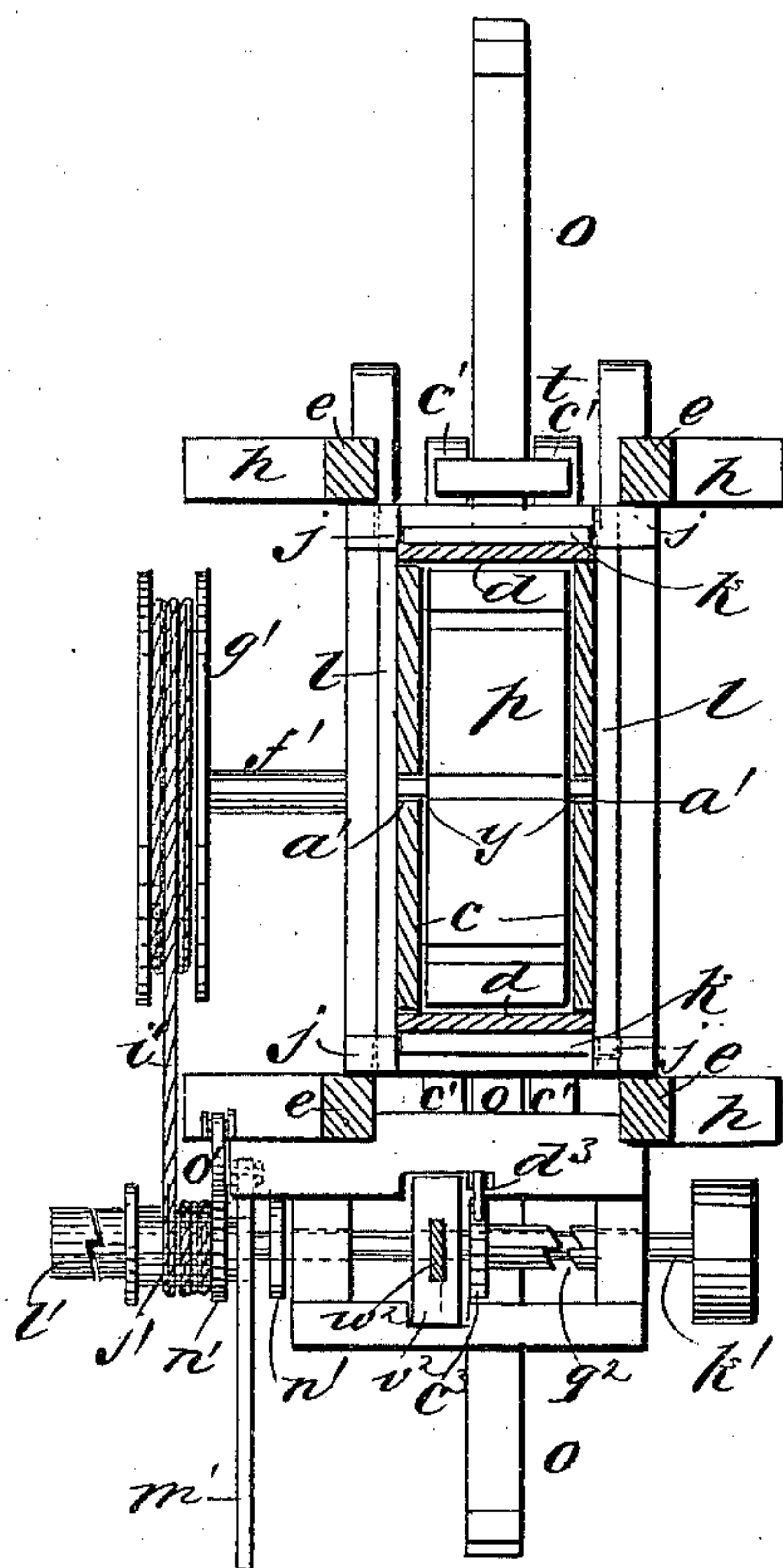
Fig. 4.



WITNESSES:

J. M. Apple.
C. Sedgwick

Fig. 5.



INVENTOR:

W. F. Smith
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UNITED STATES PATENT OFFICE.

WILLIAM F. SMITH AND WILLIAM W. ADAMS, OF OZARK, ARKANSAS;
SAID SMITH ASSIGNOR TO SAID ADAMS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 311,266, dated January 27, 1885.

Application filed June 12, 1884. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM F. SMITH and WILLIAM W. ADAMS, of Ozark, in the county of Franklin and State of Arkansas, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

Our invention consists of a contrivance of feed and compressing mechanism with the press for a simple and efficient means of mechanically and compactly delivering the lint from the gin into the press; also, of an improved automatic tramping mechanism for beating down the lint compactly in the case prior to the action of the follower, and of certain combinations of parts, substantially as hereinafter more fully set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of our improved press. Fig. 2 is a sectional elevation parallel to the side view of Fig. 1 and on the line xx of Fig. 3. Fig. 3 is a section on the line yy of Fig. 2. Fig. 4 is an elevation of the right-hand side of Figs. 1 and 2 with a part in section, and Fig. 5 is a horizontal section on the line zz of Fig. 1.

The case in which the lint or other material to be baled is tramped and pressed consists of a lower section composed of two permanent sides, a , and two movable sides, b , and an upper section composed of four movable sides, c c and d d , arranged vertically within the four posts e , having suitable cross beams or ties, f g , and base-sills h . The doors c are fitted on pivots i at the lower end, and doors d are fitted on pivots j , to be opened by swinging downward for tying and discharging the bales, and they are held together at the upper ends while the lint is being tramped and pressed by the interlocking bars k and l . The movable sides b of the lower section of the press are suspended by lugs of their upper corners in notches m of the upper corners of the permanent sides a , so as to hang inside of the retaining-bars n , which hold said sides against the outward pressure of the lint, but allow the lower ends to swing inward a little and permit the whole

of the sides to be lifted upward by the levers o when forcing up the follower p , for enabling said levers to have much longer range than they can have with permanently-fixed sides, so that said levers may be longer and more effective. The sides b are notched at q in the lower end, to allow the levers o to rise up to that extent in the said sides before lifting them, and said side doors have a cleat, s , under which cross-bars t , attached to the levers, take effect at the proper time to carry up the sides b out of the way of the levers, said bars t being so placed on the levers o and the cleats s on the sides b that the lifting of the sides will begin when the follower p has passed above the upper ends of said sides b . Sufficient space is provided between the upper ends of sides b and the lower ends of sides d , inside of the bars u , to enable the lugs of sides b to rise out of the notches m of sides a before said ends of the respective sides will meet, and the lower ends of sides d are beveled, so that sides b will escape from obstruction by the ends of sides d by being forced inward along the beveled edge should the sides b be raised so far; but generally the sides b will not rise above the lower ends of sides d , as ample space may be had between the respective sides b and d for the rise of the sides b . The upper ends of the sides b are also beveled, which facilitates the tramping of the lint down on the follower, and the bevel edges of the sides d facilitate the forcing of the lint upward by the follower when passing it into the bale. The follower p is pivoted at its ends to the upper ends of the pair of toggle-levers o , which enter the space between the side timbers, w , and are coupled thereto by the pivot-bolts x . Said follower has a cross-head, y , suspended from the middle by bars z , which extend at the ends into the slots or groove a' in the sides of the press-case, to form guides which prevent the cross-head from being thrust upward more at one end than the other by the levers, as might be the case with uneven resistance on the ends of the follower. The levers o are pivoted at b' to the toggle-links c' , and extend a suitable distance beyond said links for the required leverage, and carry a roller, d' , at their outer extremities, around

which the rope e' works, which applies the power from the shaft f' , to which the ends of said rope are connected, so as to wind on it from the opposite directions, said shaft being turned by the drum g' . The toggle-links c' are pivoted to the bars f' by the strong pivot-bolts h' , adapted to sustain the resistance of the follower. The drum g' is turned by the rope i' , running on the spool j' , fitted loosely on the shaft k' , and adapted to engage therewith by the clutch l' when shifted laterally by the hand-lever m' , which is also contrived to bear on the spool and serve for a brake, to hold the spool back when unclutched, and prevent the follower from descending too rapidly. The spool is also provided with a ratchet-disk, n' , and a holding-pawl, o' , to engage and hold the spool, while the follower is required to remain up after the clutch l' is disconnected for tying the bale. The catch is to be lifted out of the notch of the ratchet n' by hand after the bale has been tied, to let the follower down. The shaft k' is turned by the crossed belt p' from the shaft q' , that carries the rollers s' , that work the endless carrier, consisting of said rollers s' , the belts t' , toothed cross-bars u' , roller v' , and table w' , by which the lint is to be automatically fed into the pressing-case from the discharge-spout x' of the gin, which it is to be supposed is located on the floor above the room containing the press, or may be located on the same floor with press, said shaft q' being the main driving-shaft of the machine, to which the power is to be applied by a belt running on the pulley y' .

At the mouth of the gin-spout x' we arrange a roller, z' , in such relation to the roller v' that the lint must pass between them to be pressed, and passed upon the teeth of bars u' , to insure such effectual hold of the teeth that the lint will be properly drawn out of the mouth of the spout and carried to the press.

For stripping off the lint from the teeth of the carrier and discharging it into the pressing-case we arrange a chute, a^2 , with teeth b^2 at the upper edge, projecting upward obliquely under roller s' , so that the teeth of the carrier will pass between them and deliver the lint upon the chute a^2 , down which it passes into the press-box, to be tramped and pressed, said box being opened at the top by sliding the cover or press-head b^4 off at one side along the beams g , from which said head is suspended by the truck-axles c^2 , having rollers d^2 , to which said head is connected by the hangers f^2 . The head b^4 is re-enforced by the strong cleats g^2 , which project at their ends under the beams g , and sustain the head against the upward thrusts of the follower. While the lint is thus being discharged into the open box or case it is also to be tramped and beaten by the heavy drop tramper-head h^2 , which is fitted by a plate, i^2 , in vertical guides j^2 of an upper extension, k^2 , of the press-frame, and has a guide-bar, l^2 , extending up through a guide-slot in the top bar, m^2 , to control the

tramper, which is made to rise and fall as follows: The rope n^2 , attached to the tramper-block, extends up therefrom to the pulley o^2 , suspended directly over where the rope is attached to the tramper. Thence said rope passes over the guide-pulley p^2 and down to the spool q^2 , fitted loosely on the shaft k' , with a clutch, s^2 , for connecting and disconnecting it to wind on or unwind the rope n^2 . The spool q^2 has a disk, t^2 , which runs at the edge in an inclined slot, u^2 , of a vertically-shifting yoke, v^2 , so that when the yoke descends it will connect the clutch to wind the rope n^2 upon the spool, and when the yoke rises it will disconnect the clutch to allow the rope n^2 to unwind from the spool. The yoke v^2 is suspended by the rod w^2 from the end of a lever, x^2 , that is pivoted at y^2 to the upper ends of a vertically-shifting stirrup, z^2 , fitted in the top bar, m^2 , so as to shift up and down a little, and having the pulley o^2 suspended in its lower end. The pivot y^2 is carried in the axis of an eccentric segmental roller-bearing, a^3 , that rests on the top of bar m^2 and turns with the lever x^2 .

Between pivot y^2 and the rod w^2 lever x^2 carries a hanger, b^3 , against the lower end of which the tramper strikes when near the upper end of its range, to raise said lever x^2 , and thereby raise yoke v^2 , to trip the clutch of pulley q^2 for allowing the tramper to fall again. The weight of the yoke v^2 alone, or of it and an additional weight, c^4 , causes it to descend for connecting the clutch to raise the tramper, and the eccentric bearing a^3 , which is arranged to slide against its seat on the bar m^2 and at the same time raise the stirrup z^2 and pulley o^2 against the pull of the rope n^2 , acts as a brake to prevent the falling of the yoke and the engaging of the clutch until after the tramper has taken effect on the lint. The spool q^2 has a ratchet-disk, c^3 , and holding-latch d^3 , to hold up the tramper while the bale is being pressed. The tramper has a gate, e^3 , attached to the side next to the chute a^2 , to hold back the lint while the tramper is down, and prevent the lint from falling on the top of the tramper.

The carrier may be arranged to ascend from the same floor on which the press stands, to elevate the lint therefrom to the press when it may be preferred to arrange the gin and the press on the same floor.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination of an endless carrier or elevator consisting of endless belts t' , toothed bars u' , and suitable rollers, s' and v' , with the compressing-roller z' , cotton-gin chute x' , toothed chute a^2 , and the baling-press, substantially as described.

2. The combination, with the baling-press case, of the endless carrier or elevator, chute a^2 , tramper h^2 , provided with the gate e^3 on the tramper, substantially as described.

3. The combination, with a baling-press, of a tramper, h^2 , hoisting-rope n^2 , suitable guide-

5 pulleys, o^2 and p^2 , clutch-spool q^2 , driving-shaft k' , and mechanism, substantially as described, for automatically clutching and unclutching the spool for raising and dropping the tramper, as set forth.

10 4. The combination of the disk t^2 , grooved yoke v^2 , suspending-rod w^2 , lever x^2 , and the hanger-bar b^3 , with the tramper h^2 , hoisting-rope n^2 , and the clutch-spool q^2 , substantially as described.

5 5. The combination of the eccentric bearing a^3 and stirrup z^2 with the lever x^2 , spool-shifting yoke v^2 , hoisting-rope n^2 , pulley o^2 , and the tramper, substantially as described.

15 6. The sides b of the lower section of the case, spaced distantly from the sides of the upper section and suspended in notches m of the sides a , in combination with the levers o ,

acting upon said slides b , by which the follower is raised, substantially as described. 20

7. The sides b of the lower section of the case, arranged to be lifted up by the follower-levers o , and having cleats s , in combination with the lifting-bars t on said levers, substantially as described. 25

8. The combination of the driving-shaft k' , clutch-spool j' , shifting and brake lever m' , rope i' , drum g' , and shaft f' with the rope e' , toggle-levers o , and follower p , substantially as described.

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Witnesses:

B. W. WEBB,
T. C. MOORE.