

No. 762,367.

PATENTED JUNE 14, 1904.

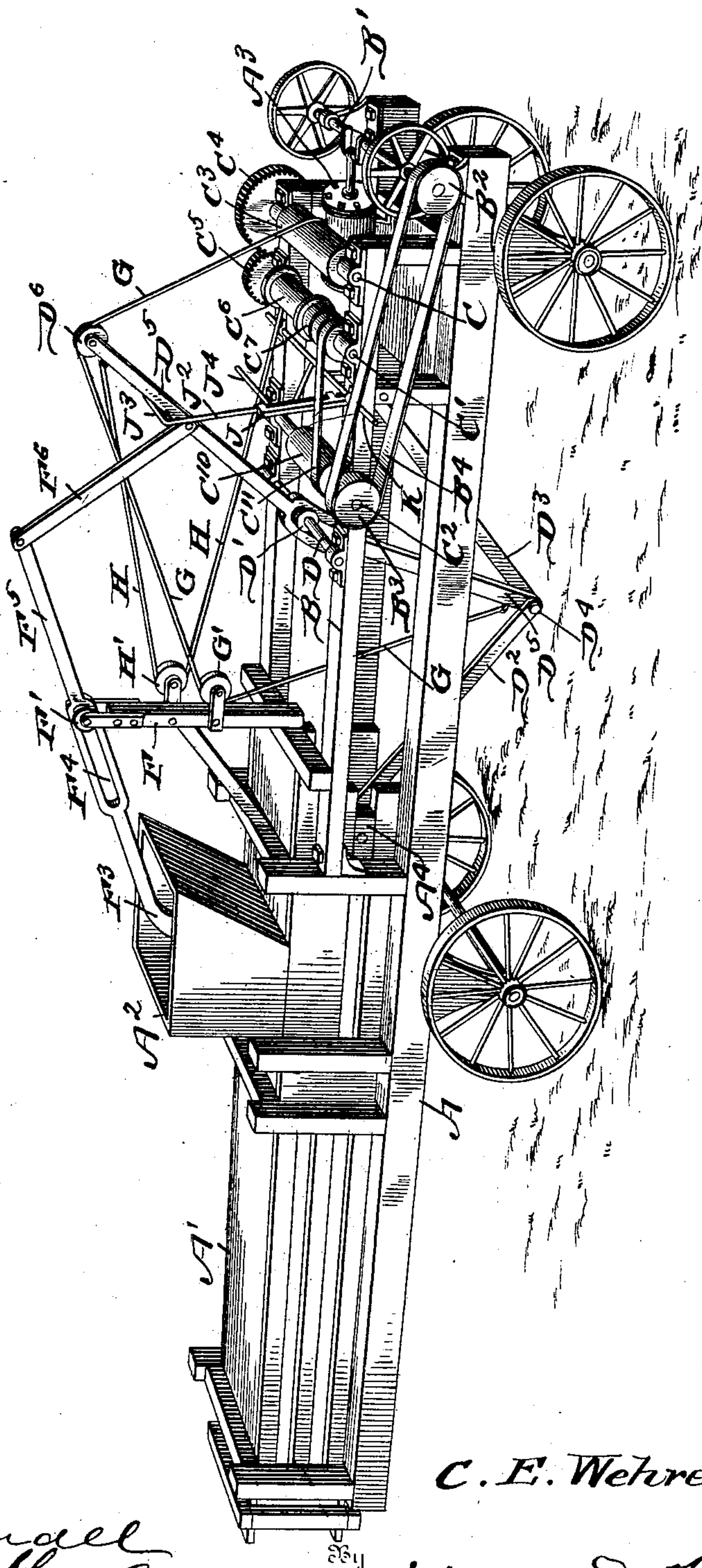
C. E. WEHRENBURG.  
HAY PRESS.

APPLICATION FILED AUG. 29, 1903.

NO MODEL.

3 SHEETS—SHEET 1

Fig. 1.



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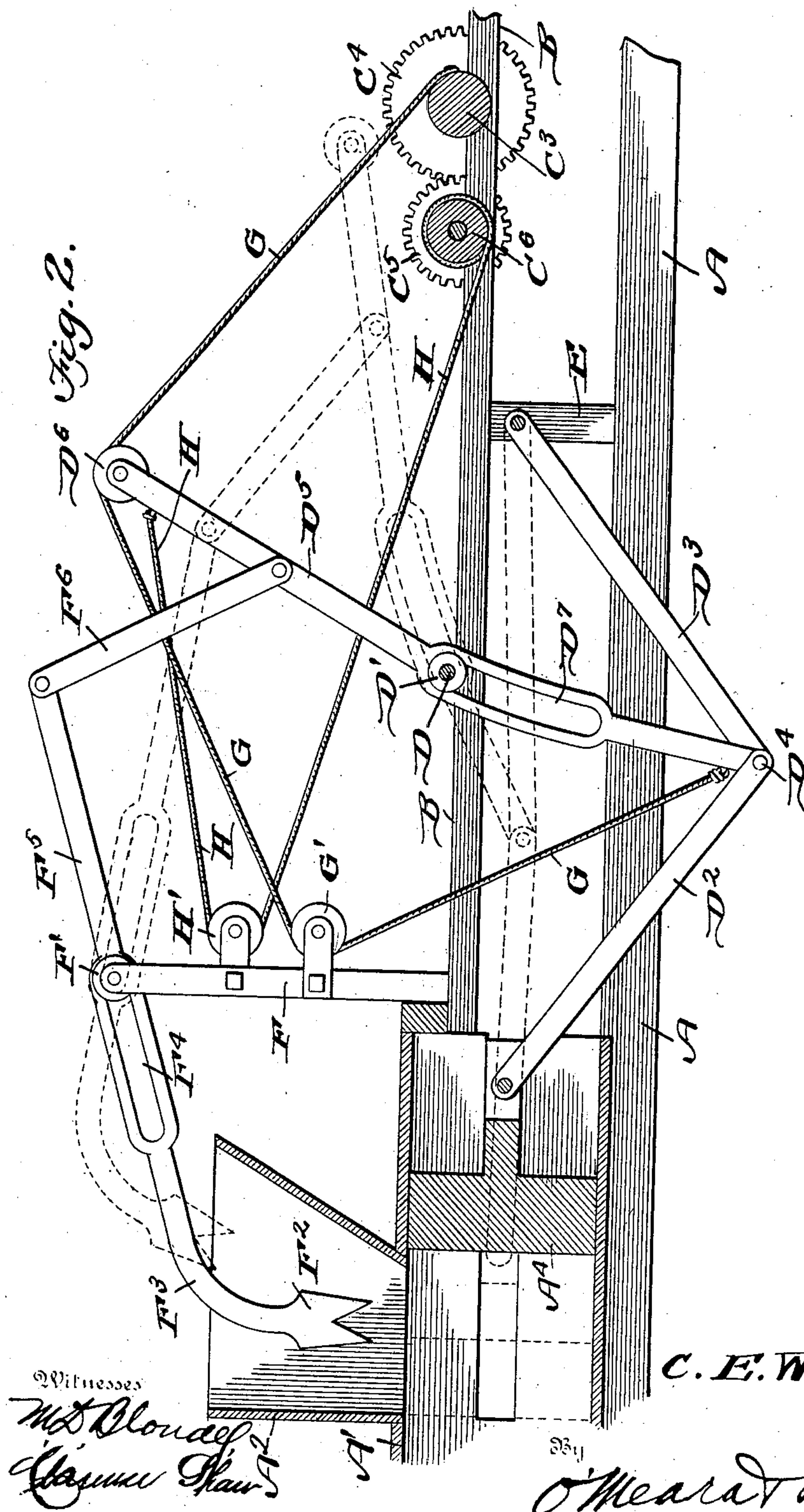
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3 SHEETS—SHEET 3.

Fig. 3.

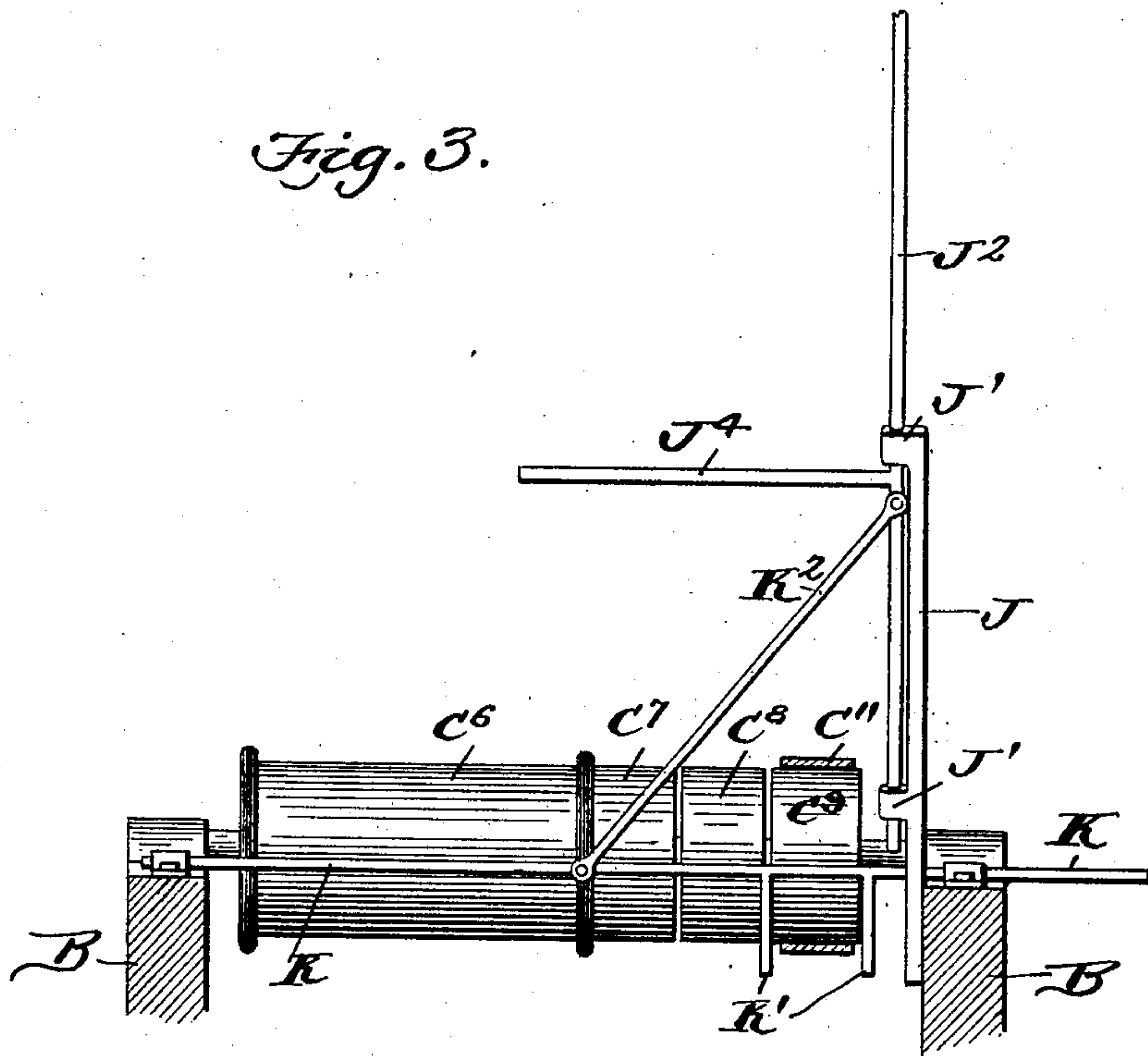
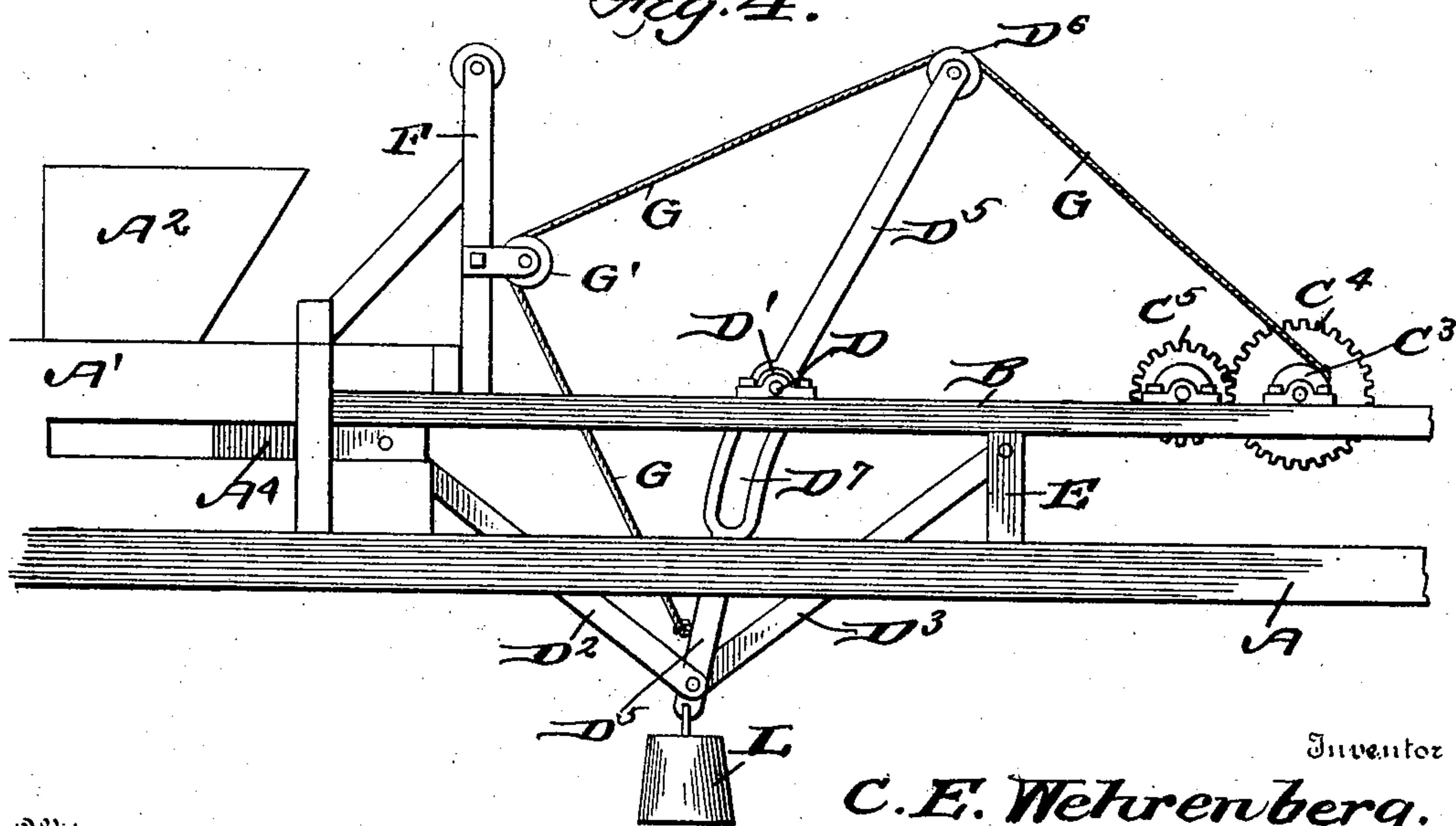


Fig. 4.



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# UNITED STATES PATENT OFFICE.

CHARLES E. WEHRENBURG, OF MOUND CITY, ILLINOIS.

## HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 762,367, dated June 14, 1904.

Application filed August 29, 1903. Serial No. 171,200. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES E. WEHRENBURG, a citizen of the United States, residing at Mound City, in the county of Pulaski and State of Illinois, have invented a new and useful Hay-Press, of which the following is a specification.

My invention is an improvement in hay-presses; and the object is a press in which the leverage given the plunger-actuating mechanism is so arranged that as the hay becomes compact an increased pressure will be applied to it by the plunger.

My invention consists in the novel features of construction and combination of parts hereinafter described, particularly pointed out in the claims, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my press. Fig. 2 is a partial longitudinal section, the plunger-actuating mechanism being shown in elevation. Fig. 3 is a view in elevation of the automatic belt-shifter. Fig. 4 is a side elevation showing arrangement of the parts when the device is hand-operated.

In the drawings, A represents a truck-frame having a baling-chamber A' mounted on one end, and over the forward portion of this baling-chamber is a feed-hopper A<sup>2</sup>. At the opposite end of the truck is an engine A<sup>3</sup> of any desired type. A plunger A<sup>4</sup> works in the baling-chamber. To support the plunger-actuating mechanism, parallel beams B are arranged on the truck.

Journalled at the end of the truck in advance of the engine is a cranked shaft B', driven by the engine pitman-rod in the usual manner and having the usual balance-wheels and a drive-pulley B<sup>2</sup>.

Journalled in suitable brackets arranged on the beams B are three parallel shafts C, C', and C<sup>2</sup>. The shaft C carries intermediate the beams a drum C<sup>3</sup>, rigid with the shaft, and at one end a gear-wheel C<sup>4</sup>. The shaft C' carries at one end a gear-wheel C<sup>5</sup>, meshing with the gear-wheel C<sup>4</sup>. Between the beams and adjacent the gear-wheel C<sup>5</sup>, which is fixed to the shaft C', is a drum C<sup>6</sup>, which is loose on the shaft. This drum is flanged, and at the inner end a portion C<sup>7</sup> extends inward beyond

the flange. Adjacent the drum is a loose pulley C<sup>8</sup>, and between the loose pulley and the adjacent beam is a pulley C<sup>9</sup>, rotating with the shaft. The shaft C<sup>2</sup> carries at one end a pulley B<sup>3</sup>, and a belt B<sup>4</sup> runs from this latter pulley to the pulley B<sup>2</sup>. A drum-pulley C<sup>10</sup> is fixed on the shaft C<sup>2</sup> opposite the drum portion C<sup>7</sup> and pulleys C<sup>8</sup> and C<sup>9</sup>. A belt C<sup>11</sup> runs from the drum-pulley C<sup>10</sup> to the drum and pulleys on the shaft C', being shifted automatically by means hereinafter described. On a fixed shaft D to the rear of the other shafts is loosely mounted a flanged roller D'. To drive the plunger, a pitman D<sup>2</sup> is pivoted at one end to the plunger and at the opposite end to a link D<sup>3</sup>, which is in turn pivoted at its opposite end to a short standard E. At the pivotal point D<sup>4</sup> of the pitman and link is pivoted the lower end of a lever D<sup>5</sup>, extending upwardly and forwardly and carrying at its upper end a roller D<sup>6</sup>. This lever has intermediate its ends a slotted link portion D<sup>7</sup>, slightly curved, the said slotted portion traveling on the flanged guide-roller D'. The portions of the lever at the opposite ends of this link portion are straight and arranged at a slight angle to each other.

A standard F is arranged adjacent the hopper and has a roller F', similar to the roller D', mounted at its upper end. A feeder, comprising a pronged head F<sup>2</sup> and a curved stem F<sup>3</sup>, has a slotted link portion F<sup>4</sup>, traveling on the roller F', and a straight forwardly-extending portion F<sup>5</sup>, which latter is pivoted at its forward end to one end of a link F<sup>6</sup>, which at its other end is pivoted to the lever D<sup>5</sup> intermediate the roller D<sup>6</sup> and the link D<sup>7</sup>.

To the drum C<sup>3</sup> is attached one end of a cable G, which passes over the flanged roller or pulley D<sup>6</sup> and is then passed over an idle pulley G', carried by a bracket arranged on the standard F, and is fastened to the lever D<sup>5</sup> adjacent the pivotal point D<sup>4</sup>.

A cable H is secured at one end to the drum C<sup>6</sup> and is carried over a pulley H', arranged in a bracket carried by the standard F, and the opposite end of the cable H is fastened to the lever D<sup>5</sup> adjacent the roller D<sup>6</sup>. To shift the belt C<sup>11</sup>, a standard J is secured to the



beam B adjacent the belt, and this bracket has perforated guide-lugs  $J'$ , arranged in vertical alinement, in which slides vertically a rod  $J^2$ , and this rod carries upper and lower horizontal arms  $J^3$  and  $J^4$ . A rod K is transversely and slidably arranged on the beams B and has depending arms  $K'$ , which extend downward on each side of the belt  $C''$ . A rod  $K^2$  is pivoted loosely at one end to the rod  $J^2$  and at the other end to the rod K, and vertical movement of the rod  $J^2$  will, by the rod  $K^2$ , transmit a horizontal movement to the rod K, thus sliding the belt.

When it is desired to operate the device by hand-power, the engine, belts, &c., are omitted, and a suitable crank-handle is arranged on the shaft C, and a weight L is attached to the lower end of the lever  $D^5$  and serves to retract the plunger. This construction is shown in Fig. 4.

The operation of my device is as follows: The belt  $C''$  being on the tight pulley  $C^3$ , the shaft  $C'$  will be driven, and the gear  $C^5$ , meshing with the gear  $C^4$ , will rotate the drum  $C^3$ , winding up the cable G. This cable will draw up the lower end of the lever  $D^5$  until the parts assume the position shown in dotted lines in Fig. 2. At first the hay will be loose and but little pressure will be required, but as the plunger advances into the chamber the hay will become more compact; but as the pitman  $D^2$  and link  $D^4$  are gradually brought into alinement the pressure will increase, due in part to this change of position, but due still more to the fact that the link  $D^7$  has been traveling over the roller  $D'$ , which is the fulcrum-point of the lever, and as the plunger moves inward the distance between the pivotal point  $D^4$  and the fulcrum-point  $D'$  is constantly decreasing, while the distance between the point  $D'$  and the outer upper end of the lever is increasing. It will be obvious from the drawings and the previous description that the feeder will be withdrawn from the hopper and the cable H unwound from its drum by the movement of the lever  $D^5$ , just described. As the upper or outer end of the lever  $D^5$  nears the limit of its path in this direction it will strike the arm  $J^4$  and shift the belt to the drum portion  $C^7$ , and the drum will immediately commence to rewind the cable H on the drum portion  $C^6$ . This will commence a reverse movement of the parts, the plunger being withdrawn and the feeder forced downward into the hopper. This movement will continue until the lever  $D^5$  strikes the horizontal arm  $J^3$ , the parts being shown at this point of the operation in Fig. 1, and the belt is again shifted back to the pulley  $C^3$ . By shifting the belt to the pulley  $C^3$  the baling operation can be discontinued without stopping the engine.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. In a hay-press comprising a hopper, baling-chamber, and plunger, a pivoted pitman, a lever pivoted at one end to the pitman, means for swinging said lever, and means for changing the fulcrum-point of the lever as the plunger advances into and withdraws from the chamber.

2. In a hay-press comprising a hopper, baling-chamber and plunger, a pivoted pitman adapted to actuate the plunger, a lever pivoted at its lower end to the pitman and fulcrumed above it, means for swinging said lever, and means for decreasing the distance between the pivotal point of the lever and pitman and the fulcrum-point of the lever as the plunger advances into the baling-chamber.

3. The combination with a baling-chamber and a plunger therein, of a pitman pivoted at one end to the plunger and at the opposite end to a pivoted link, a lever having an automatically-adjustable fulcrum-point, rotatable drums, cables attached to the drums and the lever, one of said cables being adapted to move the lever in one direction and the other to move it in the opposite direction, and means for rotating the drums.

4. The combination with a baling-chamber and plunger, of a pivoted pitman, a lever having a changeable fulcrum-point, said lever being pivoted to the pitman, a plurality of drums, a cable attached at one end to one of said drums, and at the opposite end to the lever adjacent its pivoted end, a cable attached at one end to the other drum and at the other end to the lever adjacent its free end, a belt adapted to drive said drums, and means actuated by movement of the lever adapted to shift said belt.

5. The combination with a hopper, baling-chamber and plunger, of a pivoted pitman, a lever having a movable pivotal point intermediate its ends and pivoted at its lower ends to the pitman, a roller at the free end of the lever, rotatable drums, a standard having a roller at its upper end, idle pulleys carried by the standard, cables attached to the drums, one of said cables passing over the roller at the end of the lever and over one of the idle pulleys and attached to the lever adjacent its pivoted end, the second cable passing over an idle pulley and being attached to the lever adjacent the roller, a feeder extending into the hopper and having a slotted link portion working on the roller carried by the standard, a pivotal link connecting the lever and feeder, and means for alternately winding and unwinding the cables on the drums.

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Witnesses:

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