

(No Model.)

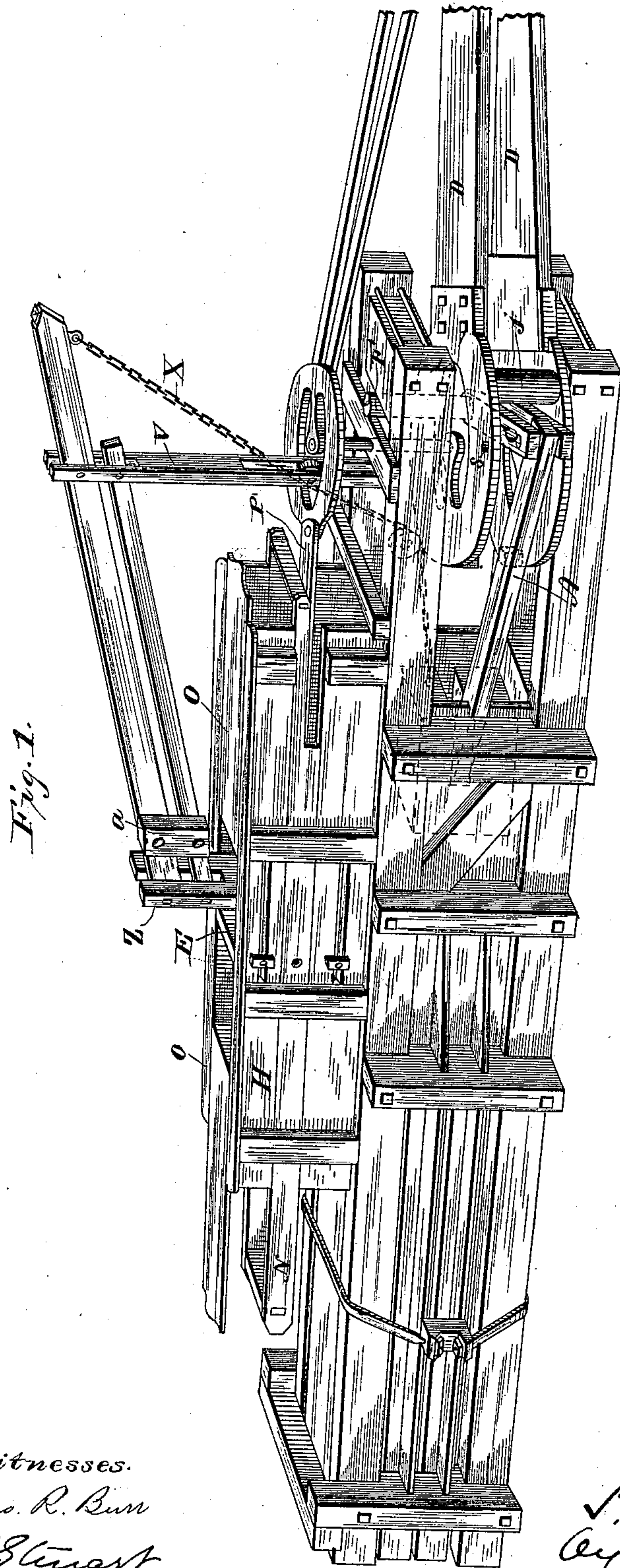
3 Sheets—Sheet 1.

P. K. DEDERICK.

BALING PRESS.

No. 334,005.

Patented Jan. 12, 1886.



Witnesses.
Chas. R. Bun
A. J. Stuart.

Inventor.
P. K. Dederick
By Chas. R. Bun & A. J. Stuart
His Attorneys.

(No Model.)

3 Sheets—Sheet 2.

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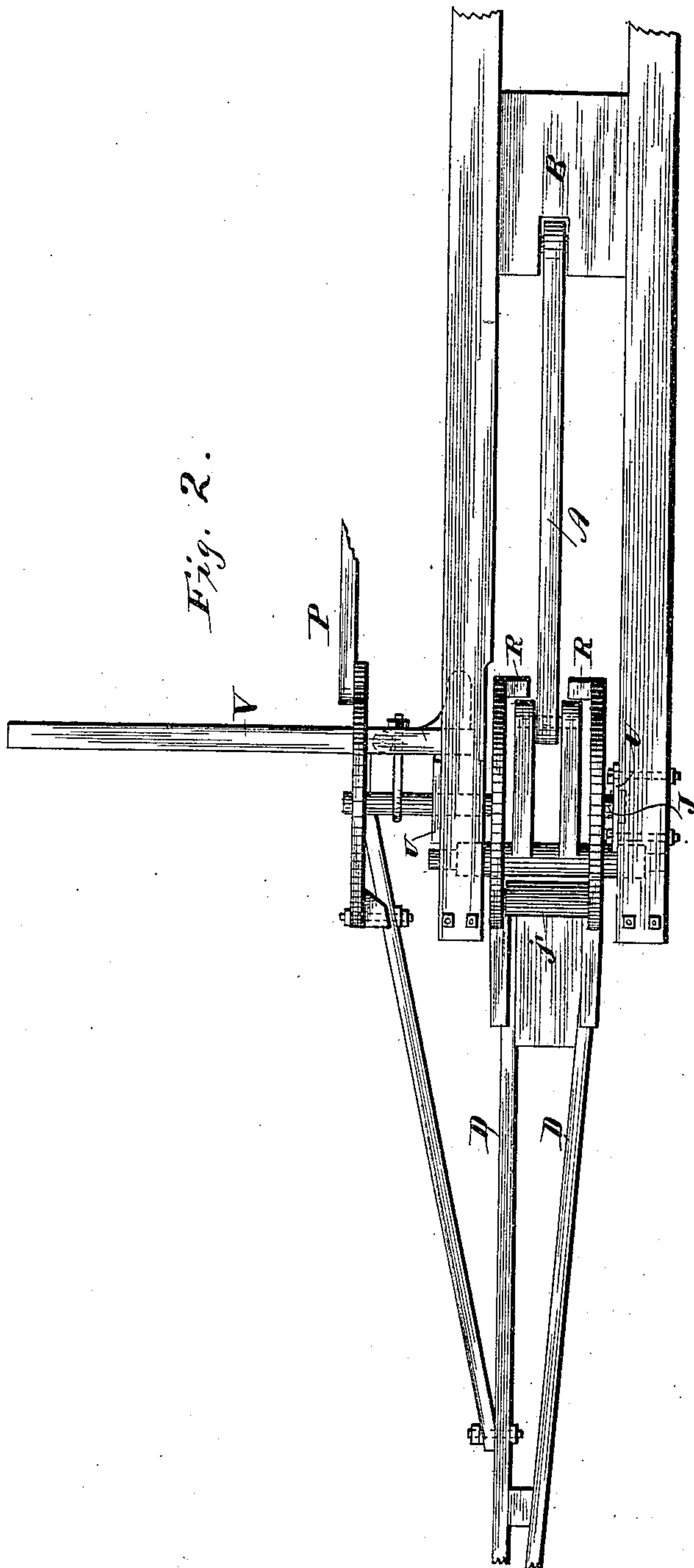


Fig. 2.

Fig. 9.

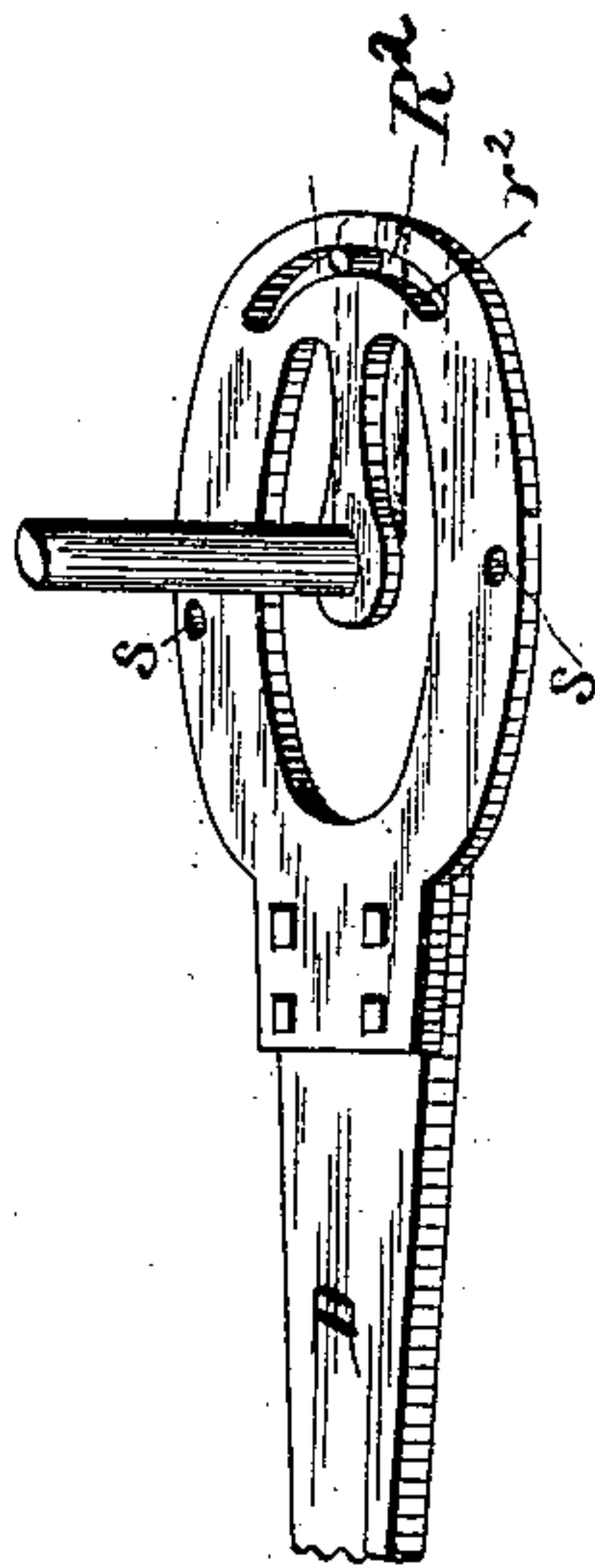
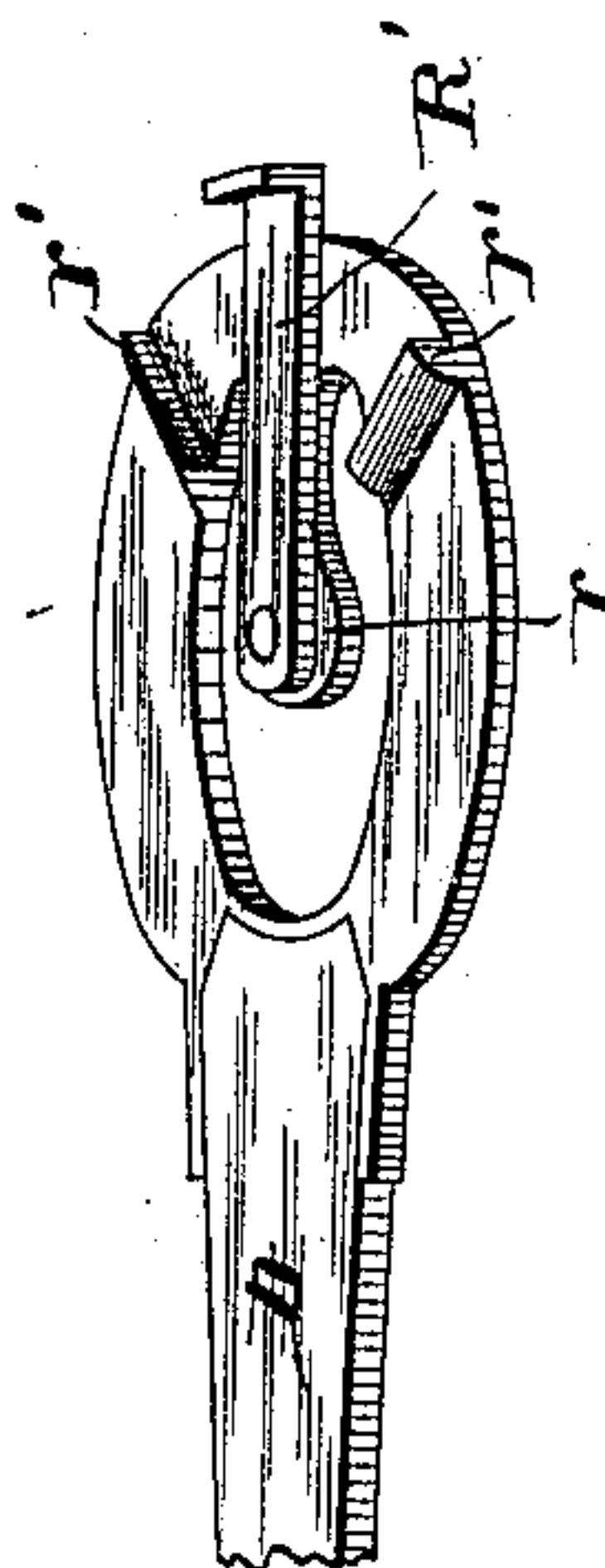


Fig. 8.



Witnesses.

Chas. R. Burr.

A. J. Stewart.

Inventor.

P. K. Dederick.
By Church & Church
His Attorneys.

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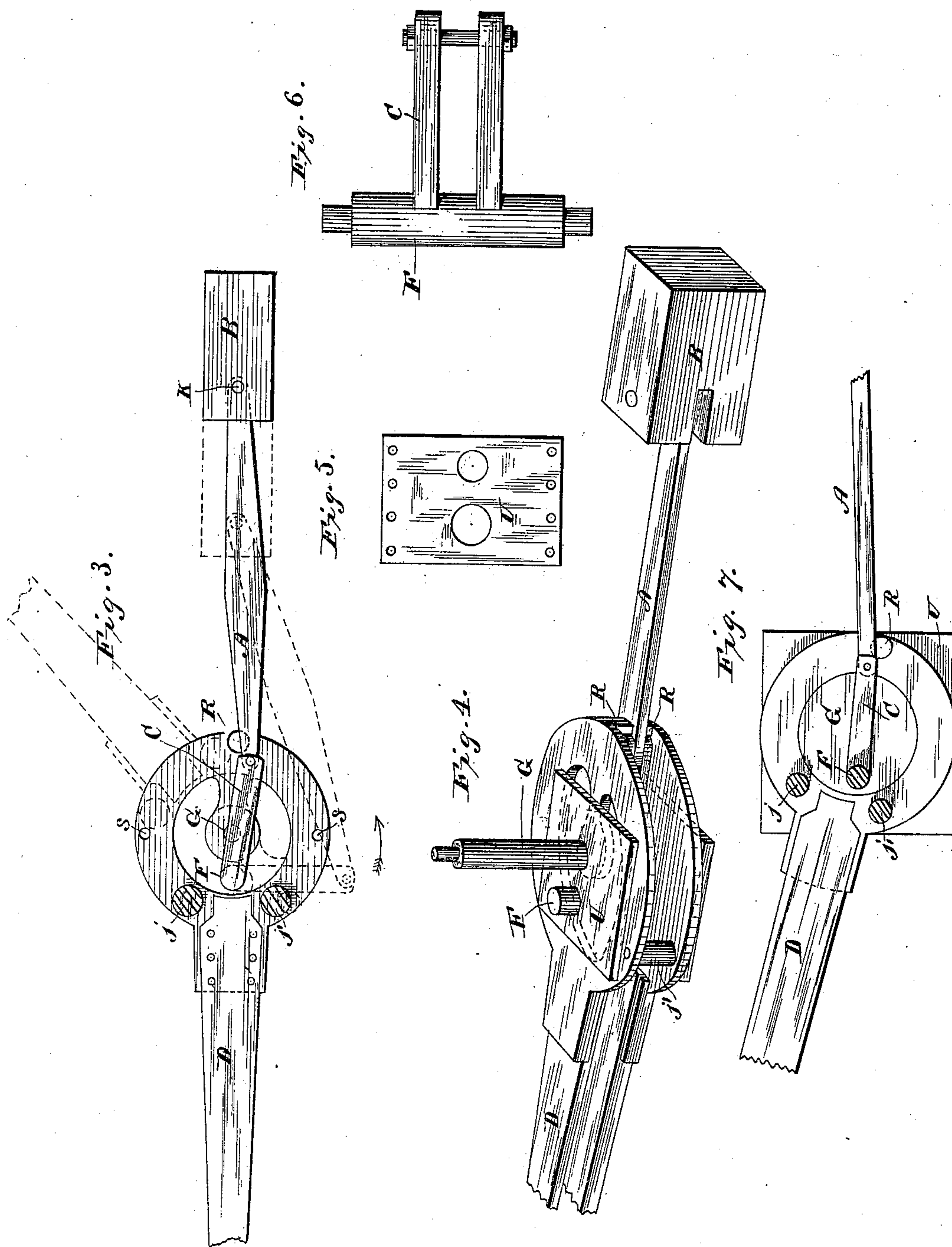
3 Sheets—Sheet 3.

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Witnesses.
Chas. R. Binn.
A. J. Stewart.

Inventor.
P. K. Dederick,
by Church & Church,
his Attorneys.

UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF LOUDONVILLE, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 334,005, dated January 12, 1886.

Application filed November 23, 1885. Serial No. 183,735. (No model.)

To all whom it may concern:

Be it known that I, PETER K. DEDERICK, of Loudonville, in the county of Albany and State of New York, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

In a contemporaneous application filed by me (No. 180,448) I have claimed, broadly, the combination, with the reciprocating traverser of a baling-press, of a pitman connected thereto, a guide for controlling the outer end of the pitman, a vibratory horse-lever or sweep, and intermediate connections between the horse-lever and pitman for causing the latter to approach and recede from a central line or dead-point twice or oftener at each movement of the horse-lever in either direction, and have shown a variety of embodiments of such generic invention, though I have not specifically claimed the details of construction contained in any of said embodiments.

The present application is intended to cover one of the several forms of the said generic invention, as well as certain improvements in the devices for preliminarily condensing the loose material and feeding it into the press-box, all as will be hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of a continuous baling-press with my improvements applied thereto; Fig. 2, a side elevation of the power devices; Fig. 3, a top plan view of the same; Fig. 4, a perspective view of a modification of the power device. Fig. 5 is a view of one of the bearing-plates; Fig. 6, a view of the crank-arms and shaft. Fig. 7 is a plan view, partly in section, of a modified form of bearing-plate; Figs. 8 and 9, views illustrating shifting intermediate stops or bearings for the horse-lever.

Similar letters of reference in the several figures indicate the same parts.

The letter A designates the pitman jointed at its inner end to the traverser, so that its outer end may be vibrated back and forth across a central line, being controlled in its movements by swinging crank-arms C, mount-

ed on a shaft or center, F, as shown in Figs. 1 and 3.

D is the horse-lever or sweep, pivoted on pivots G in front or to one side of the pivot of the crank-arms. Upon the head of the horse-lever are arranged two bearings, $j j'$ —one on each side, as shown in Fig. 3—while at an intermediate point is arranged a third bearing or bearings, R.

In the dotted lines, Fig. 3, the parts are shown in the position which they occupy when the traverser is withdrawn and the horses have reached one extreme of their movement and are about to be reversed. It will be observed that at this time the intermediate bearing, R, rests against one side of the crank-arm C. As the horses now move toward the opposite side, in the direction indicated by the arrow, the pressure of the bearing R upon the crank-arms causes the latter and the pitman to be brought up toward the central line. By reason of the crank-arms and the horse-lever being pivoted on different centers the intermediate bearing on the horse-lever is caused to travel toward the outer end of the crank-arm as the operation proceeds, and when the crank-arms and pitman are nearly but not quite in line the said intermediate bearing passes beyond the end of the crank-arms, thus releasing the latter, whereupon the expansion of the pressed material, acting through the traverser and pitman, throws the crank-arms back to first position and in front of the bearing j' , and the latter, under the continued movement of the horse-lever, in like manner carries the crank-arms up to and this time past the central line, so that the expansion of the pressed material will throw the crank-arm back upon the opposite side, in position to be acted upon by the intermediate bearing, R, when the horse-lever is reversed. It will thus be seen that with this contrivance two reciprocations of the traverser are effected at each movement of the horse-lever in either direction. Should it be desired to change the action of the power so that only one reciprocation of the traverser would take place at each movement of the horse-lever, it can be accomplished by omitting or removing the intermediate bearing, R, and shifting the bearings $j j'$ to the points $s s$. (Shown in Fig. 3.)

The several bearings may consist of pins or

stops of any desired form or construction, though I preferably employ friction rollers or sleeves.

The intermediate bearing, R, instead of being fixed to the head of the horse-lever, may be arranged to have an independent movement in respect thereto; and to this end it may be constructed in the form of a swinging bearing, R', pivoted at r and limited by stops $r' r'$, as shown in Fig. 8, or in the form of a sliding bearing, R², working within a slot, r^2 , as shown in Fig. 9. The effect of thus rendering the intermediate bearing movable is to allow the swinging crank-arms to be thrown back farther when forced past the central line.

I preferably form the crank-arms C and their shaft F in one piece, as shown in Fig. 6, and journal said crank-shaft, as well as the shafts or pivots upon which the horse-lever is mounted, in bearing-plates U, (shown in Figs. 4 and 5,) arranged above and below the head of the horse-lever, and secure them, by bolts or otherwise, removably to the frame of the press. The bearing-plate U and the shaft G for the horse-lever may be consolidated—that is to say, the bearing for the horse-lever may be enlarged and the shaft for the crank-arms passed through it, as shown in Fig. 7. In this arrangement, also, the horse-lever and crank-arms are caused to vibrate about different centers, and the intermediate bearing on the horse-lever moves toward the outer end of the crank-arm and passes off the same to permit the backward throw of the crank-arms to the starting-point.

The employment of the double-stroke reversible power illustrated herein necessitates rapid feeding of the press, and to relieve the feeding operator I employ an automatic feeding device such as shown in Fig. 1. This device, which is substantially the same as shown in my prior application, No. 161,478, consists, essentially, of an arm or lever pivoted to a standard, V, and carrying at one end a feed-blade, Z, and preferably a weight, a , also, and having connected to its opposite end a chain or rope, x , which passes over suitable guide-pulleys and connected to the traverser. As the traverser moves forward, the feed-blade, through the described connections, is automatically raised, and as the traverser is retracted the feed-blade automatically descends by gravity. The condensing arrangement which I preferably use in connection with this feeding device is substantially like that shown in my prior application, No. 137,578, and consists of a hopper, H, having double condensing-heads O O, which are operated simultaneously back and forth through slides N and a pitman, P, connected to the power contrivance and an intermediate partition or head E, mounted within the hopper so as to slide therein back and forth over the feed-orifice of the press-box. It will be seen that by this arrangement of feeding and condensing devices each complete movement of the horse-lever from side to side produces two recipro-

cations of the traverser, two corresponding reciprocations of the feeding-blade, and one complete reciprocation of the condensing-heads within the hopper, the sequence of operation being a compression of a charge of material between one of the condensing-heads and the movable head or partition, and the carrying of said charge over the feed-orifice of the press-box, the retraction of the traverser from under the feed-opening, and the downward thrust of the feeder-blade, to force the charge into the press-box in front of the traverser into position to be carried forward into the bale-chamber. As the traverser moves forward for its second stroke, this sequence of operation is repeated, save that the outer condensing-head is in turn made to approach the partition and carry it to the opposite side of the feed-opening, bringing the new charge also under the feed-blade.

I wish it understood that I do not claim herein specifically either the particular feeding devices or the particular condensing arrangement shown, but only in combination with each other, whereby the novel result is produced—to wit, the automatic condensing and feeding of two charges of material into the press-box at one complete movement of the horse-lever.

I claim as my invention—

1. In a power device for baling-presses, the combination, substantially as described, of the traverser, a pitman, and swinging arm, constituting the toggle, and a horse-lever or sweep mounted upon an axis or pivot separate from that of the swinging arm and having two bearings adapted to carry the toggle across the center from opposite sides, and a third or intermediate bearing adapted to carry the toggle nearly to the center and then release it, as and for the purpose set forth.

2. In a power baling-press, the combination, with traverser, pitman, and swinging arms, of the horse-lever or sweep pivoted to one side of the axis of the swinging arms, having the intermediate bearing adapted, when the horse-lever is moved, to bear upon the said swinging arm and travel toward and off of the outer end of the same, and having, also, the two remote bearings, substantially as described.

3. The combination, with the horse-lever, the crank-arms, and their shafts or pivots, respectively, of the removable bearing plates, substantially as described.

4. In a power device for baling-presses, the combination, substantially as described, of the traverser, a pitman, and a swinging arm, constituting a toggle, and a horse-lever or sweep having two bearings adapted to carry the toggle across the center from opposite sides, and a third intermediate and movable bearing adapted to carry the toggle nearly to the center and then release it, substantially as set forth.

5. The combination, with the condensing-hopper, the double condensing-heads, and the intermediate head or partition movable back

and forth across the feed-opening, of the automatic feeder operating to force each charge of condensed material down through the feed-opening, substantially as described.

- 5 6. The combination, with the condensing-hopper, the double condensing-heads, and the intermediate head or partition movable back and forth across the feed-opening, of the au-

tomatic feeder operating to force each charge of condensed material through the feed-orifice, and the double-acting traverser, substantially as described.

PETER K. DEDERICK.

Witnesses:

CYRUS R. DEDERICK,
W. A. SKINKLE.