

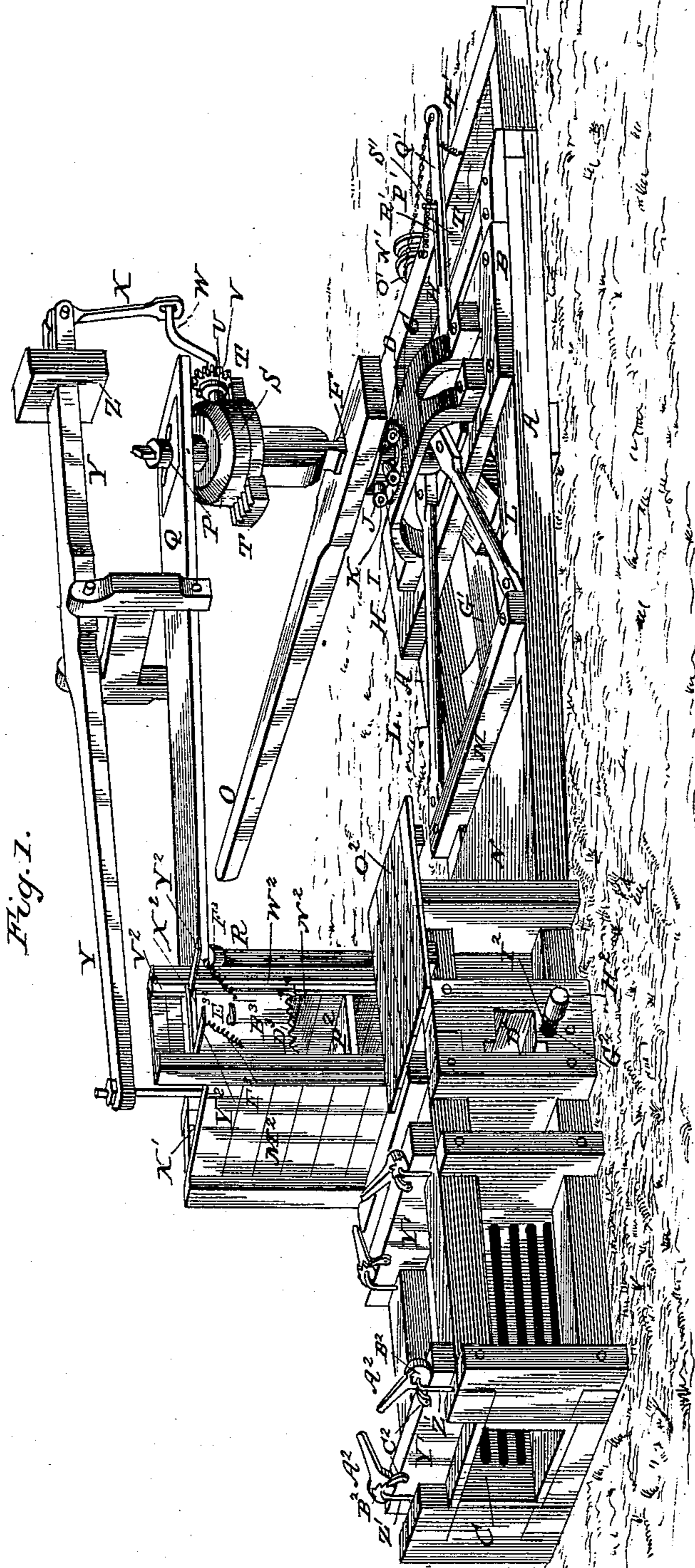
(No Model.)

3 Sheets—Sheet 1.

J. E. CHIDESTER.  
BALING PRESS.

No. 316,234.

Patented Apr. 21, 1885.



**WITNESSES:**

Fred. S. Dietrich.  
 Arthur L. Mossell.

INVENTOR.

INVENTOR.  
John E. Chidester  
By Louis Bagger & Co.  
ATTORNEYS.

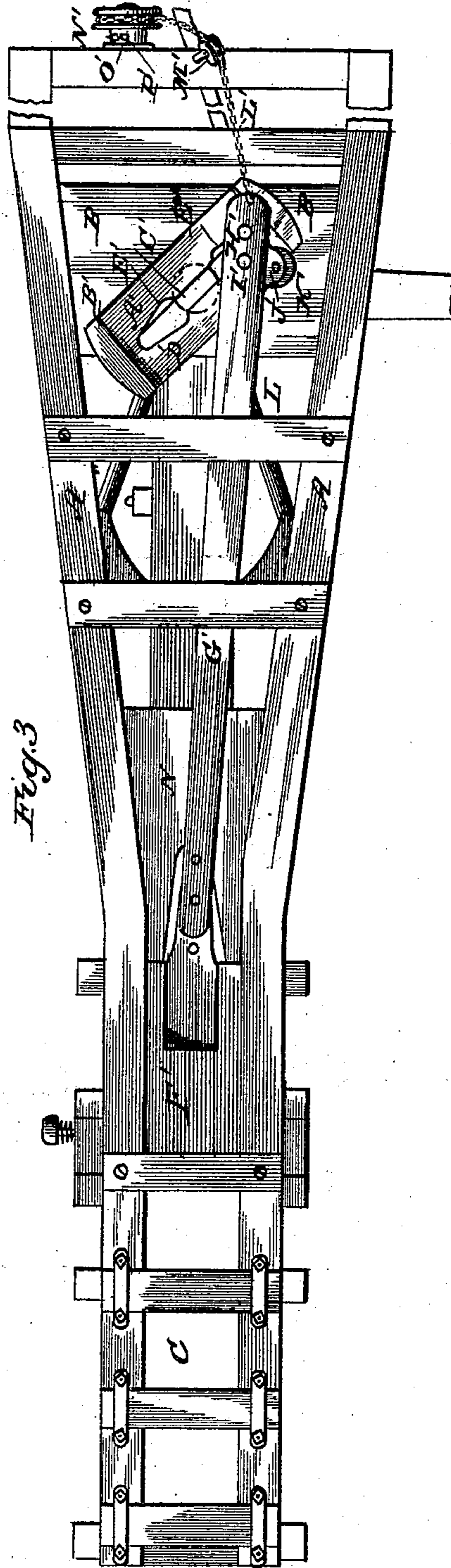
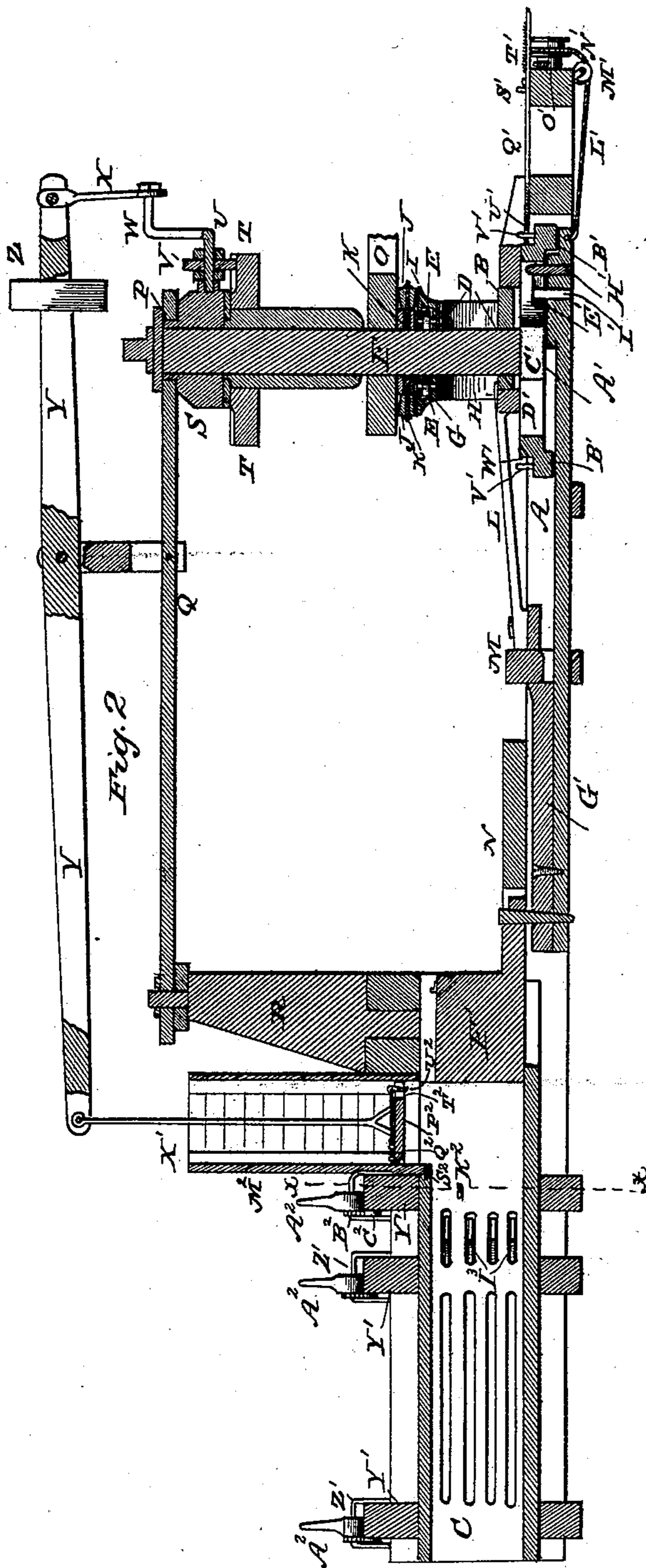
(No Model.)

3 Sheets—Sheet 2.

J. E. CHIDESTER.  
BALING PRESS.

No. 316,234.

Patented Apr. 21, 1885.



WITNESSES:

*Frederick S. Dietrich,*  
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(No Model.)

3 Sheets—Sheet 3.

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Fig. 4

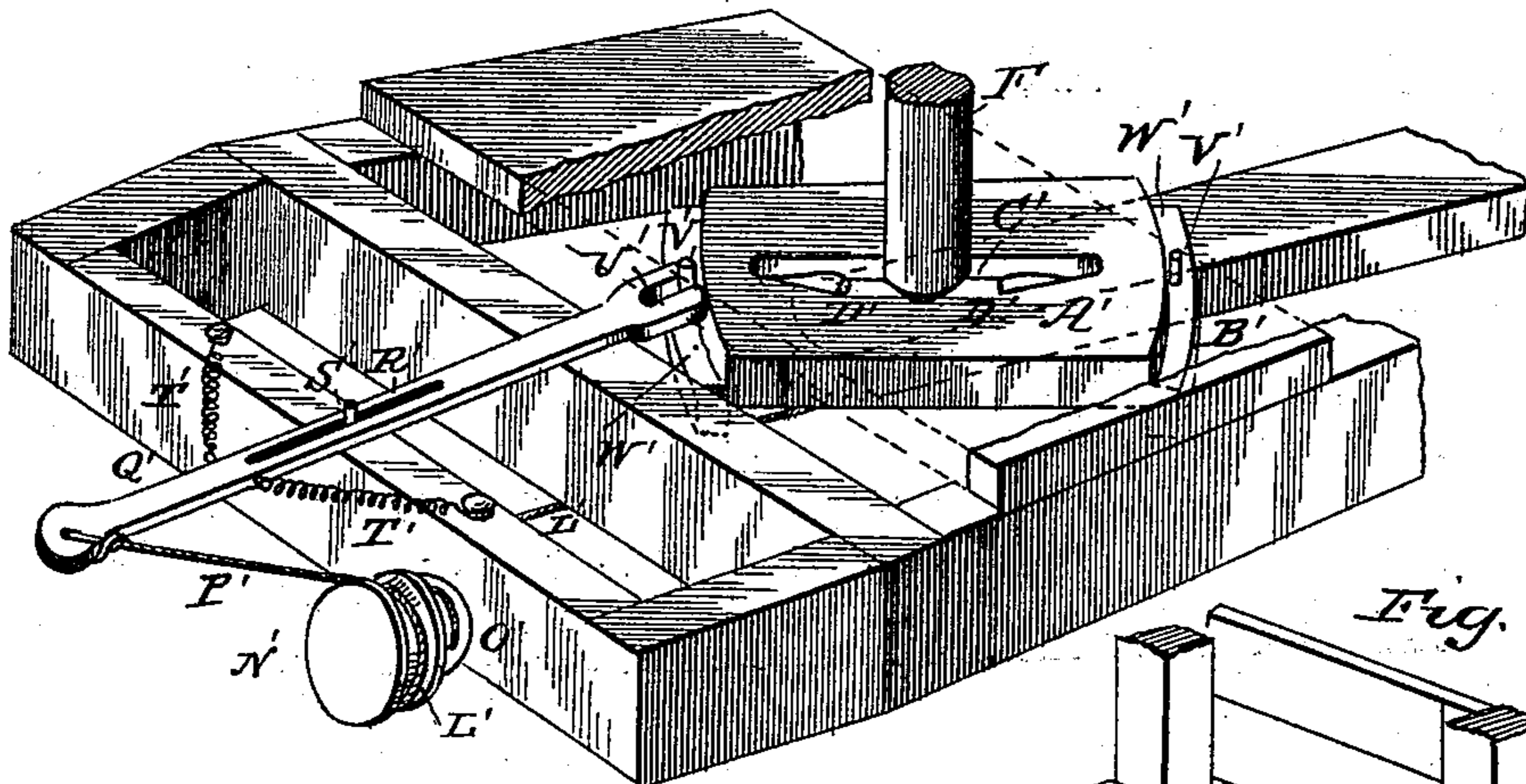


Fig. 7

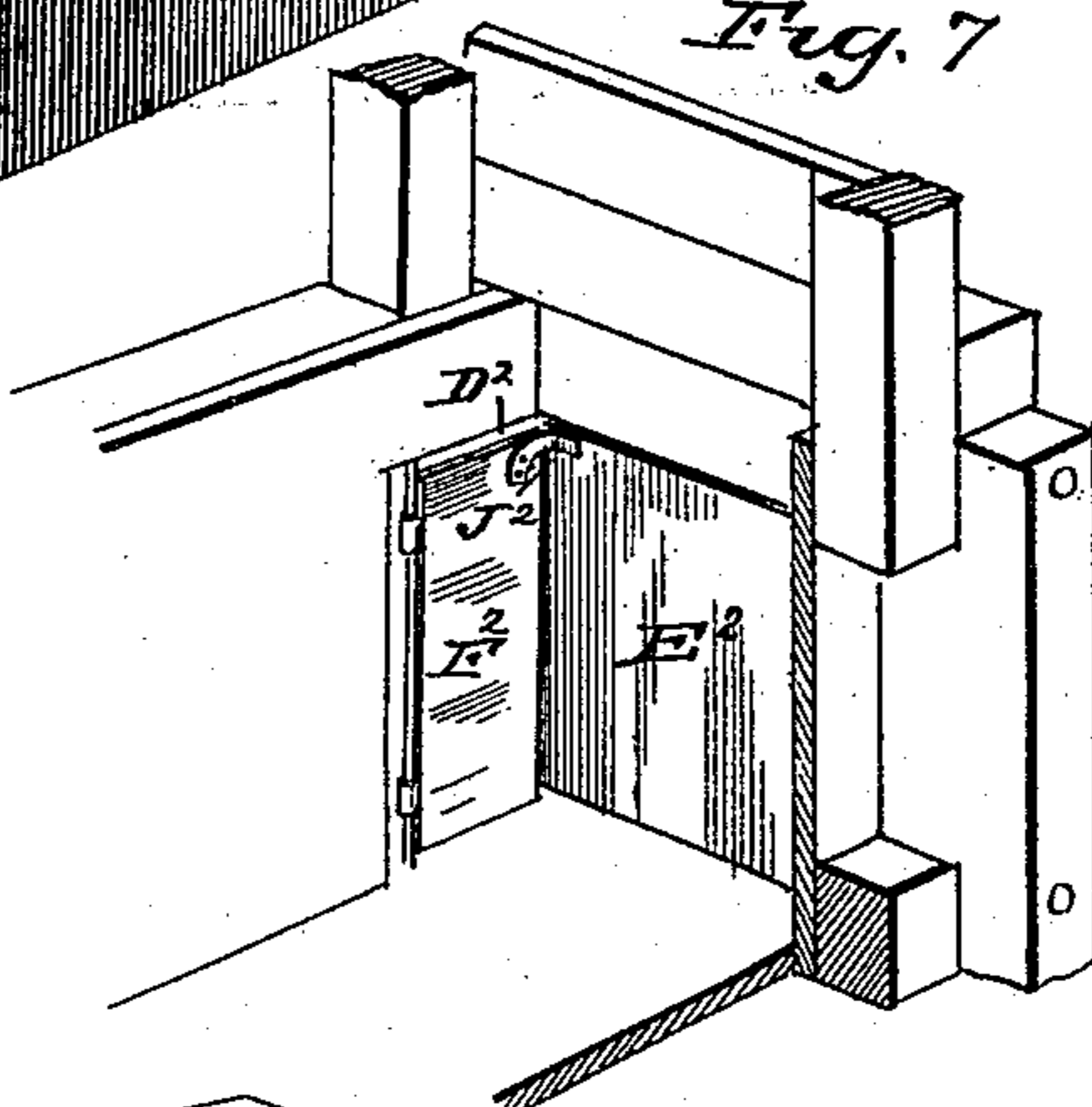


Fig. 5.

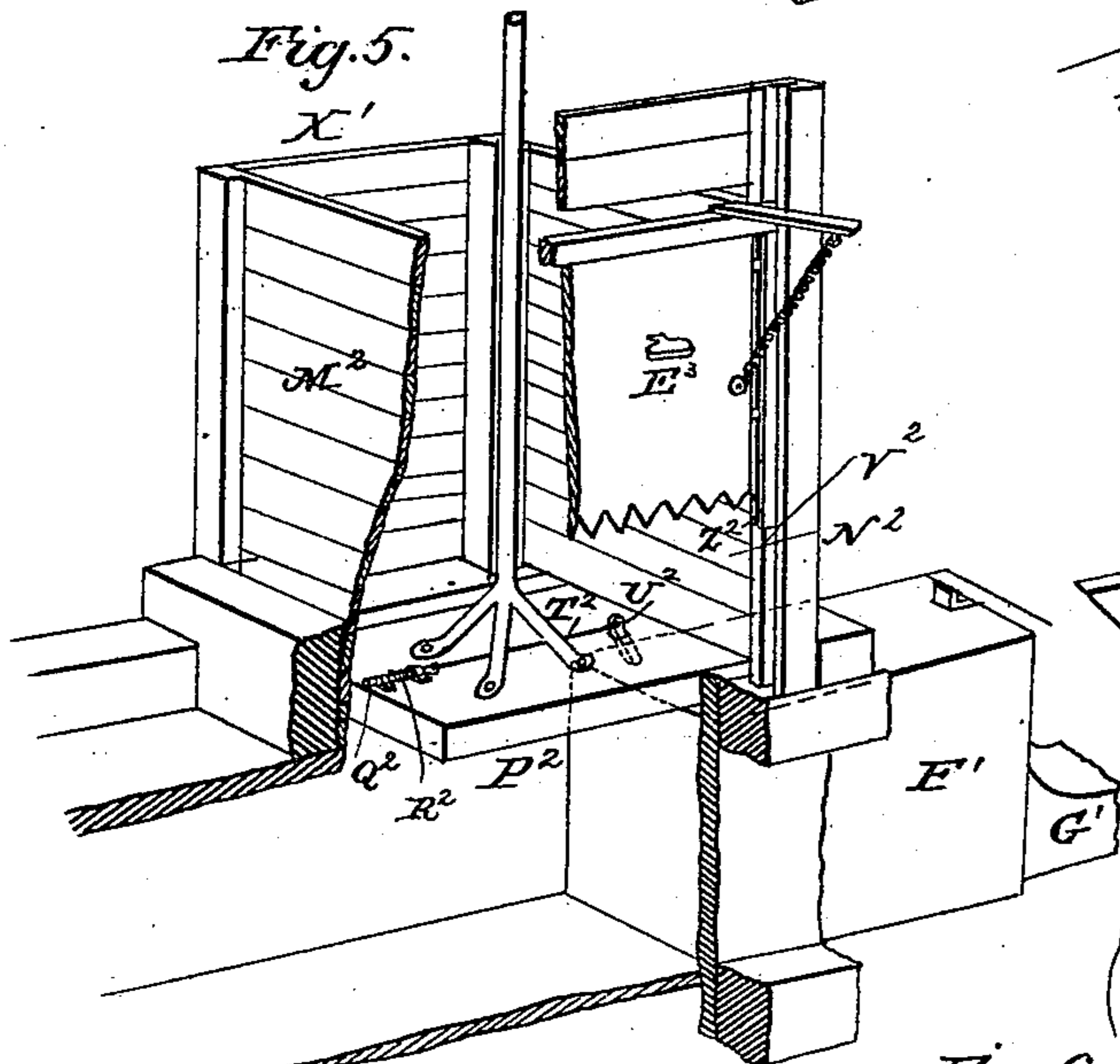


Fig. 8.

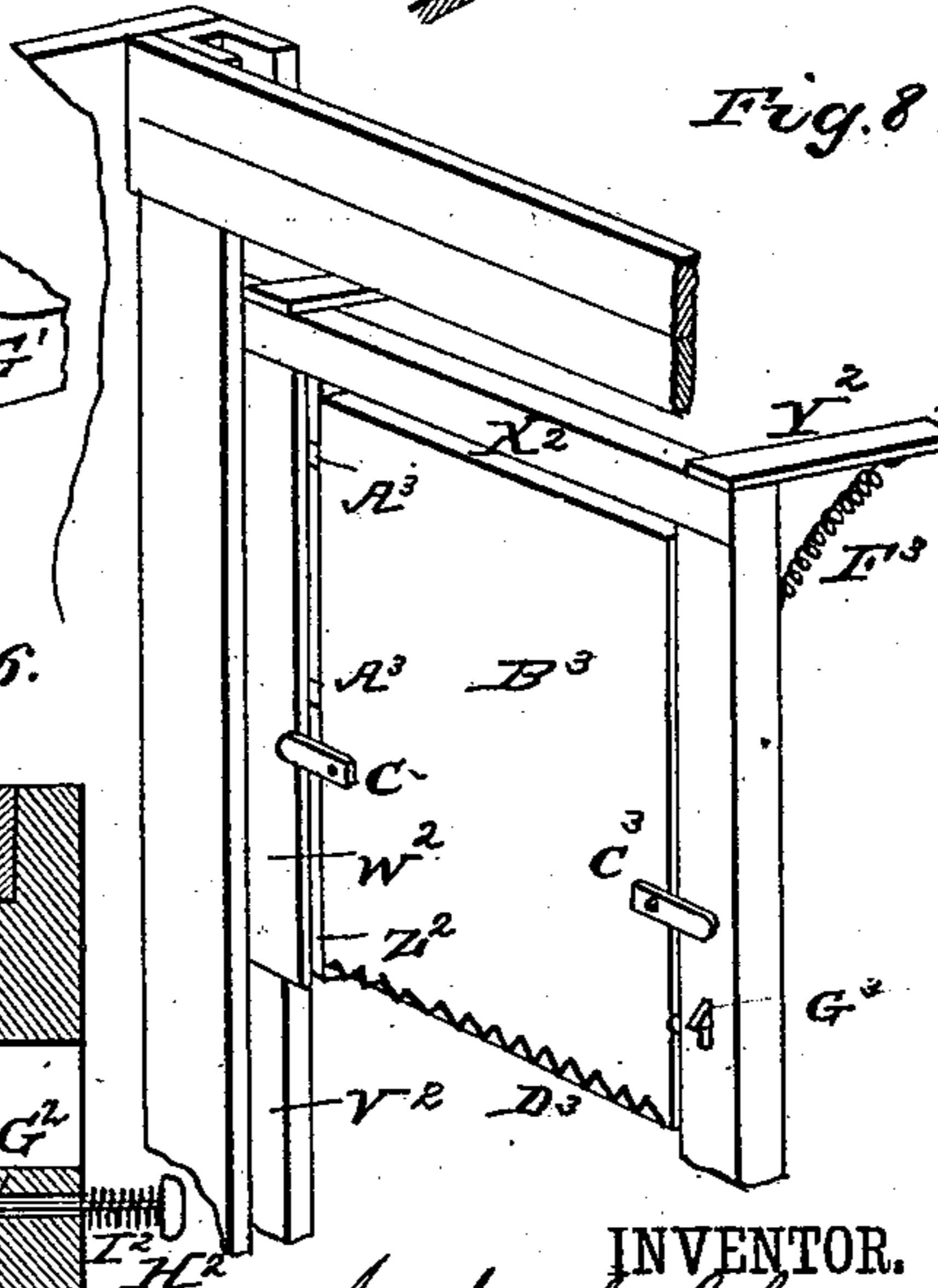


Fig. 6.

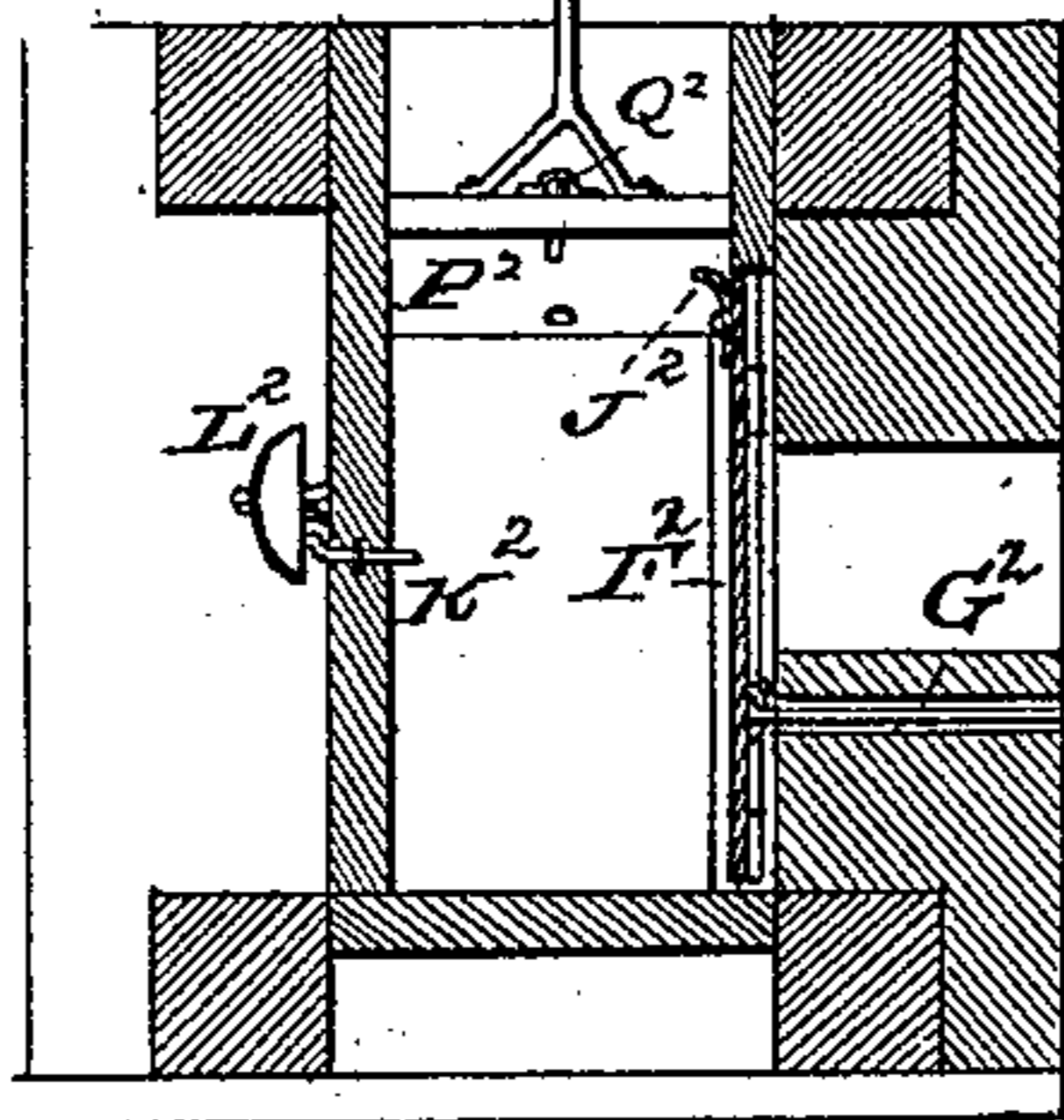
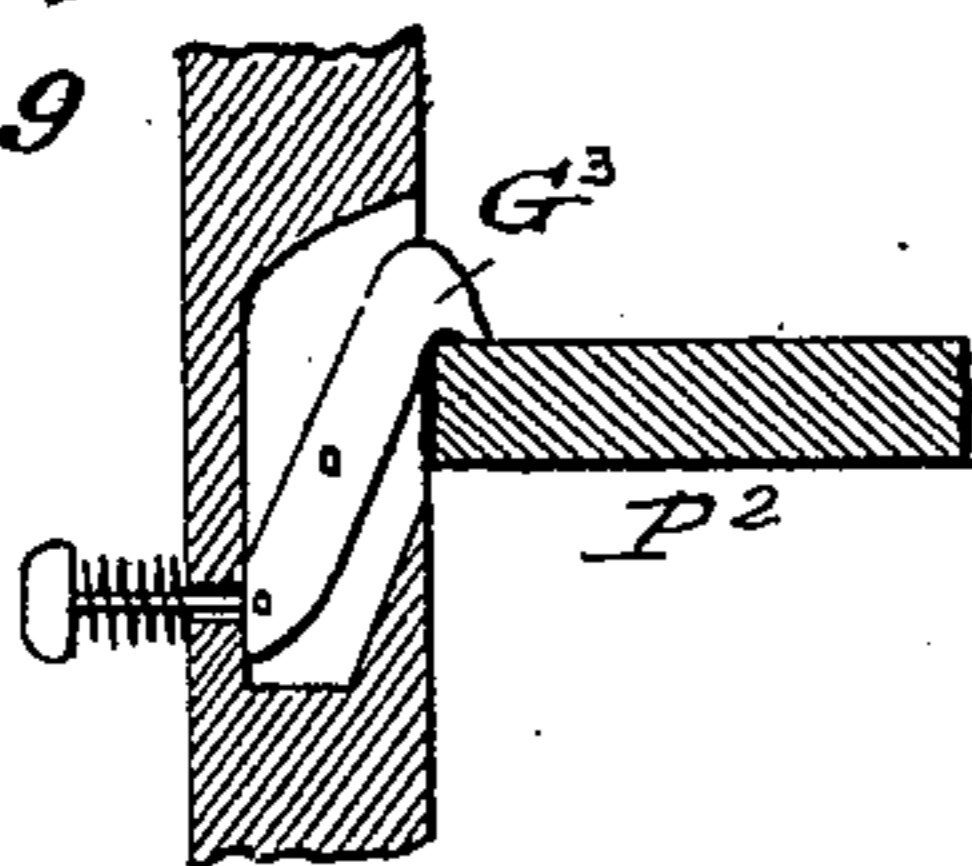


Fig. 9



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# UNITED STATES PATENT OFFICE.

JOHN E. CHIDESTER, OF WALLER, TEXAS.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 316,234, dated April 21, 1885,

Application filed February 23, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN E. CHIDESTER, a citizen of the United States, and a resident of Waller, in the county of Waller and State of Texas, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved baling-press. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a view of the underside of the press. Fig. 4 is a perspective detail view of the slotted bar at the lower end of the vertical power-shaft and of the head of the pitman. Fig. 5 is a similar view, with portions broken away, of the feeder-box. Fig. 6 is a vertical cross section on line *x x*, Fig. 2. Fig. 7 is a perspective detail view seen from the inside of the press-casing of the gate closing the aperture for the insertion of the follower-blocks, showing a follower-block in position. Fig. 8 is a similar view of the gate closing the feed-opening in the feeder-box, and Fig. 9 is a view of the device for raising said the gate together with the plunger of the feeder.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to continuous horse-power baling-presses; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letters A A indicate two sills, which are connected at one end by means of a cross plank or platform, B, while their converging ends have the press box or casing C secured upon their upper sides.

The center of the platform B is provided with a vertical bearing, D, having anti-friction rollers E, in which bearing the vertical sweep-shaft F is journaled, and a casting, G, having diverging feet H, is secured upon the upper side of this platform and formed with a

flat disk, I, at its center, upon which disk a number of anti-friction rollers, J, travel, the said rollers being journaled upon laterally-projecting lugs or arms K upon the sweep-shaft, and supporting the said shaft vertically.

Two braces, L L, are secured with their ends to the bearing D, and have their diverging ends secured to a cross-piece, M, secured between the sills, and a bridge, N, is secured to the upper sides of the sills at the end of the press-box, over which bridge the horse may travel, the horse being hitched to the end of a sweep, O, secured to the sweep-shaft above the laterally-projecting anti-friction rollers.

The upper end of the sweep-shaft is journaled in a vertical bearing, P, formed in the end of a beam, Q, supported at its other end upon an upright, R, secured upon the top of the press-box, and the sweep-shaft has a disk, S, secured under the vertical bearing P, upon the edge of which disk are secured two segmental flanges, T, at points diametrically opposite to each other, the upper sides of which flanges are formed with cogs.

A short shaft, U, is journaled to turn with its inner end in a bearing at the outer side of the vertical bearing P, and is provided with a pinion, V, which meshes with the cogged flanges, and the outer end of this short shaft is formed into a crank, W, to the pin of which is pivoted a short connecting-rod, X, which is pivoted at its upper end to a lever, Y, having its fulcrum upon the beam Q, and having its outer end provided with a suitable weight, Z.

A longitudinally-slotted flat and wide bar, A', is secured at its middle upon the lower end of the sweep-shaft, and has at its ends two downwardly-bent flanges, B', grooved upon their inner sides. The wide bar has a longitudinal slot, C', and the sides of this slot are cut away one at each side of the center of the bar and at opposite sides of the slot, to form outwardly-facing shoulders D', the sides of the slot being cut away obliquely from the shoulders to the ends of the slot, and at the sides of the slot opposite to the shoulders are cut recesses E', extending from the under side of the bar through a portion of its thickness and registering with the shoulders.

The press-box consists of the feeding por-

tion and the baling portion, and the plunger F' travels in the feeding portion, stopping at the inner end of the baling portion, and this plunger is connected pivotally at its inner end 5 to the pitman G', which oscillates between the sills of the machine-frame. The head of this pitman is provided with a pin or bolt, H', which slides in the slot of the bar A', and which may bear and rest against the shoulders in the 10 said slot, and a pin, I', projects into the slot at the rear of bolt H', and may be accommodated in the recesses E' as the flat slotted bar revolves with the sweep-shaft.

One side of the pitman-head is provided 15 with a laterally-projecting lug, J', upon the upper face of which is journaled a disk or roller, K', which may roll in the grooves upon the inner sides of the downwardly-projecting flanges at the ends of the flat bar as the said 20 bar revolves.

It will now be seen that as the sweep-shaft and the flat slotted bar are revolved the shoulders in the slot of the bar will catch and engage the bolt H' of the pitman and force the 25 pitman toward the press-box, and after the flat bar has passed its longitudinal position, or its position in the longitudinal axis of the entire machine, the pin at the rear of the bolt will bear against the side of the slot and force 30 the bolt out of engagement with the shoulder, so as to allow the pitman to be forced outward by the expansion of the hay in the press, the bolt sliding out into the end of the slot nearest to the outer end of the machine-frame, thus 35 allowing the shoulder at that end of the slot to engage the bolt as the bar is revolved, causing the slotted bar to force the pitman toward the press-box twice in each revolution, and consequently causing the plunger to make 40 two strokes in each revolution of the sweep.

For the purpose of drawing the pitman outward, if the expansion of the hay in the box acting against the plunger should fail to force it out, a chain is secured to the pitman-head, the said chain being lettered L' in 45 the drawings, and this chain passes under a guide-pulley, M', journaled upon the frame, from which pulley the chain passes over a larger grooved pulley, N', to the periphery of 50 which it is secured. This larger pulley is journaled upon the end of the base-frame of the machine, and has a sleeve or wide hub, O', upon its inner face, to which hub a chain, P', is secured, which chain winds upon the hub 5 and is secured at its other end to the end of a lever, Q', which is pivoted with a longitudinal slot, R', upon a pin, S', upon the upper side of the end of the machine-frame. Two 60 springs, T', are secured to the outer end of this lever and to the end piece of the base or machine-frame, forcing it to slide inward with its slot upon the pin, and the inner end of the lever is bifurcated, as shown at U', and may engage with this bifurcated end, one of 65 two upright pins, V', projecting upon the upper side of the ends of the slotted flat bar,

which ends are slightly recessed at their edges, as shown at W'; and it will be seen that as the flat slotted bar revolves the pins will engage the bifurcated end of the lever and tilt it, at 70 the same time forcing it outward with its slot upon the pin, and in tilting the lever its outer end will draw the chain upon the hub of the pulley, revolving the pulley, which again will wind the chain L' upon the pulley and draw 75 the pitman outward.

If the expansion of the hay in the press-box is sufficient to force the plunger and pitman outward, the chain L' will remain slack, and there will consequently be no strain upon it, 80 excepting when it is necessary for it to perform its function.

The press-box is a long rectangular box, and consists of the feed-compartment and the baling-compartment, and the feed-compartment 85 has an aperture, X', in its top, around which the feeder-box is placed with its lower end, which box will be described later, the said aperture being a distance from the inner end of the press-box equal to the length of the 90 plunger.

The baling-compartment has the usual open sides for the insertion of the ties for the bale, and the entire press-box has a number of cross-pieces, Y', at its top, which are retained in 95 place over the top by means of bails Z', having their parallel ends passing through the side beams of the box down to the under side of the same, where they are provided with retaining-nuts, and the said bails straddle the 100 ends of the cross-pieces, and have the inner eccentric ends of a number of cam-levers, A<sup>2</sup>, pivoted upon their straight end pieces, which levers by raising them may be brought to bear with their increasing eccentric ends against 105 the ends of the cross-pieces, thus causing the said levers to tighten the cross-pieces against the top of the box. For the purpose of retaining the said cam-levers in their raised position their eccentric heads are provided 110 with ratchet-disk B<sup>2</sup> upon one side, which disks may be engaged by dogs or pawls C<sup>2</sup>, and if by the constant strain upon the top cross-pieces the cam-levers are raised to their highest point, so that they cannot be brought 115 to tighten the cross-pieces further, the bails may be supported by means of wedges, the cam-levers tilted until they bear with their lowest portions, whereupon the lower ends of the bails may be tightened, so as to draw the 120 bails farther down and allow the cam-levers to be adjusted again.

The feed-compartment of the press-box has an aperture or slot, D<sup>2</sup>, in its side, through which slot the blocks or followers E<sup>2</sup>, which 125 separate the bales, may be inserted, and this slot is covered upon the inner side of the box by a door, F<sup>2</sup>, hinged to the inner side of the box and swinging inward, so as to allow it to be opened and a follower-block inserted, when 130 desired. For the purpose of facilitating the opening of this door a rod, G<sup>2</sup>, slides in a per-

foration in the side of the box and bears with its inner end against the door, while its outer end is provided with a knob, H<sup>2</sup>, and a spring, I<sup>2</sup>, serves to force this bar outward, causing it to draw the door closed at the same time.

A small spring, J<sup>2</sup>, is secured to the free edge of the door, pointing outward with its free end, and projecting slightly inward, and the follower-block may bear against this spring and be supported after it has been inserted through the slot, preventing it from falling backward after its insertion.

A trigger, K<sup>2</sup>, is attached to the side of the press-box at the point where the end of the finished bale is to be, and this trigger is connected to a bell, L<sup>2</sup>, which will be sounded by the trigger when a follower-block passes it, notifying the operator that the bale is ready for the insertion of the ties.

The feeder-box M<sup>2</sup> is placed over the aperture in the feed-compartment of the press-box, and three sides of the box are closed, while the fourth side is formed with an opening, N<sup>2</sup>, having a table, O<sup>2</sup>, secured projecting out of its lower edge. The hay is fed from this table into the feeder-box, and a plunger, P<sup>2</sup>, fits within the feeder-box and is attached to the lower end of a plunger-rod which is pivoted to the end of the lever Y, which will reciprocate the said plunger within the box, so as to cause it to force the hay down into the feed-compartment, from which it will be forced by the press-plunger into the baling-compartment in which it is compressed by the aforesaid plunger.

The feed-plunger is provided upon its upper side with a bolt, Q<sup>2</sup>, which is forced outward by a spring, R<sup>2</sup>, so as to cause it to enter a perforation, S<sup>2</sup>, in the inner side of the outer wall of the feeder-box, and the inner end of this bolt is attached to a rod, T<sup>2</sup>, the other end of which is pivotally connected to the upper end of a lever or trigger, U<sup>2</sup>, pivoted in the inner edge of the plunger and projecting so far below the lower side of the same so as to be engaged by a stop upon the rear edge of the upper side of the press-plunger. By means of this bolt the feed-plunger will be retained in place, covering the aperture in the feed-compartment until the press-plunger has forced the hay away from the feed-compartment and into the baling-compartment, when the stop upon the plunger will tilt the trigger, which again will draw the rod and the bolt, allowing the plunger to be raised by the weight upon its outer end.

The opening N<sup>2</sup> in the side of the feeder-box has grooves V<sup>2</sup> in its jambs, in which grooves the side pieces, W<sup>2</sup>, of a three-sided frame, X<sup>2</sup>, slide, and the upper ends of these side pieces are provided with outwardly-projecting brackets Y<sup>2</sup>, while the inner sides of the said side pieces are formed with ways Z<sup>2</sup>, in which the lugs A<sup>3</sup>, projecting laterally from the upper edge of a swinging gate, B<sup>3</sup>, slide. This gate is provided at its side edges with lat-

erally-projecting lugs or stops C<sup>3</sup>, which bear against the inner sides of the side pieces of the three-sided frame, preventing the gate from swinging outward, and the lower edge of the gate is cut away to form sharp and pointed teeth D<sup>3</sup>, which may serve to catch the hay which may protrude over the lower edge of the feed-opening and force it down when the gate is forced down inside of the lower portion of the feeder-box, a step, E<sup>3</sup>, being secured upon the outer side of the gate for the operator to place his foot upon, pressing the gate down.

Two springs, F<sup>3</sup>, are secured to the upper portion of the gate and to the brackets Y<sup>2</sup>, and serve to raise the gate when the hay has been forced down clear of the lower edge of the feed-opening, and a catch, G<sup>3</sup>, is provided upon the lower end of a side piece of the three-sided frame, which catch may be engaged by the plunger when it is raised in the box, and which may be released by hand when sufficient hay has been filled into the box, allowing the three-sided frame and the gate to drop when the gate may first be forced down to draw down all overhanging hay, whereupon the gate is allowed to slide up, and will in that position serve to close the feed-opening in the box.

It will thus be seen that the hay is fed into the feeder-box through the feed-opening, the operator standing by the feed-table, and after having filled the feeder-box the operator drops the three-sided frame and the gate, when the feed-plunger descends, pressing the hay into the feed-compartment of the press-box. The operator thereupon forces the sliding gate downward, forcing the overhanging hay down, whereupon the frame and the gate are raised by the plunger, which in the meantime has been released by the presser-plunger traveling forward and forcing the hay into the baling-compartment of the press-box. When sufficient hay has been forced into the baling-compartment to form a bale, a follower-block is inserted through the slot in the side of the press-box, and when this block arrives to the inner end of this compartment the trigger and bell will be operated, sounding the alarm, which will warn the operator at that compartment that the bale is finished and ready to be tied.

The cogged flanges upon the disk at the upper end of the sweep-shaft are placed, registering with the ends of the wide slotted bar at the lower end of the shaft, so that the said flanges will turn the crank operating the lever and the feed-plunger, and force the said plunger downward when the press-plunger has completed its stroke in the press-box and has been drawn back by the expansion of the hay in the press-box or by the chain attached to the end of the pitman-head.

The press-box is provided with the usual stops, I<sup>3</sup>, at the inner end of the baling-compartments, which stops prevent the bundles

of hay forced into it by the plunger from passing back into the feed-compartment, and also prevent the follower-blocks from being forced back.

5 Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a continuous horse-power press, the combination of a revolving vertical sweep-  
10 shaft, a flat, wide bar secured at its middle to the lower end of this shaft, and having a longitudinal slot formed with outwardly-facing shoulders, one at each side of its center and on opposite sides of the slot, and with recesses  
15 opposite to the shoulders, and a plunger-operating pitman having a bolt sliding in the slot of the bar and engaging the shoulders, and a pin secured at the rear of the bolt and passing in the recesses of the slot, as and for  
20 the purpose shown and set forth.

2. In a continuous horse-power baling-press, the combination of a revolving sweep-shaft, a flat, wide bar secured to the end of the shaft  
25 at its middle, and having a longitudinal slot formed with outwardly-facing shoulders, one at each side of the middle of the slot and on opposite sides of the same, and a plunger-operating pitman having a bolt sliding in the slot of the bar and bearing against the shoulders  
30 in the same, as and for the purpose shown and set forth.

3. In a continuous horse-power baling-press, the combination of a revolving sweep-shaft, a flat, wide bar secured at its middle to the end  
35 of the shaft, having a longitudinal slot formed with outwardly-facing shoulders, one at each side of the middle of the slot and on opposite sides of the same, and with recesses opposite to the shoulders, and having downwardly-  
40 projecting flanges at its ends, grooved upon their inner sides, and a plunger-operating pitman having a bolt sliding in the slot, having a pin secured at the rear of the bolt, and  
45 having a laterally-projecting lip at one side provided with a disk or roller traveling in the grooves of the flanges upon the flat slotted bar, as and for the purpose shown and set forth.

4. In a continuous horse-power baling-press,  
50 the combination of a flat, wide bar secured at its middle to the end of the sweep-shaft, and having a longitudinal slot provided with outwardly-facing shoulders, one at each side of its middle and on opposite sides of the slot,  
55 and having a step formed in the upper sides of its ends, provided with a pin at the middle, a plunger-operating pitman having a bolt sliding in the slot of the bar and bearing against the shoulders of the slot, a pulley having a grooved periphery and a wide hub or  
60 central sleeve, a chain secured to the grooved periphery of the pulley winding upon the same and secured at the head of the pitman, a chain winding upon the hub or sleeve of the pulley,  
65 a lever having a longitudinal slot pivoted upon a pin projecting through the said slot in

a plane with the upper side of the slotted wide bar, having a bifurcated inner end engaging the pins at the ends of the slotted bar and having the chain attached to its outer end, 70 and springs forcing the slotted lever toward the slotted wide bar, sliding the lever upon its pivotal pin with the slot, as and for the purpose shown and set forth.

5. In a continuous horse-power baling-press, 75 the combination of the press-box having a feed-aperture, a feeder-box secured over the said opening and having a reciprocating feeder-plunger, the sweep-shaft having segmental cogged flanges projecting laterally below its  
80 bearing, a shaft provided with a pinion journaled in the bearing above the cogged flanges and having a crank at its outer end, the pinion engaging the cogged flanges, a connecting-rod pivoted to the crank, and a lever having the  
85 connecting-rod pivoted to one end and the plunger pivoted to the other end, as and for the purpose shown and set forth.

6. In a continuous horse-power baling-press, the combination of the press-box formed into 90 a feed-compartment having an aperture in its top and a baling-compartment, a feeder-box fitting over the opening in the feed-compartment, a plunger reciprocating in the feeder-box, a bolt engaging a perforation in the lower  
95 end of the feeder-box and having a spring forcing it outward, the said bolt being secured to the upper side of the forward edge of the plunger, a connecting-rod attached to the rear end of the bolt, a trigger pivoted at the  
100 rear edge of the plunger and attached at its upper end to the connecting-rod, and the presser-plunger provided upon its upper side with a stop engaging the trigger upon the plunger, as and for the purpose shown and  
105 set forth.

7. In a continuous horse-power baling-press, the combination of a vertical feeder-box having a feed-opening in one side formed with  
110 grooved ways in its jambs, a plunger reciprocating in the feeder-box, a three-sided frame sliding with its side pieces in the grooved ways of the feed-opening, having the inner sides of its side pieces grooved and having outwardly-  
115 projecting brackets at the upper ends of the side pieces, a gate sliding with laterally-projecting lugs at its upper edge in the grooved side pieces of the three-sided frame, having a serrated lower edge provided with a step  
120 upon its outer side, and having laterally-projecting lugs upon its side edges bearing against the inner sides of the side pieces of the three-sided frame, and springs secured to the sliding gate and to the ends of the brackets of the frame, as and for the purpose shown and set  
125 forth.

8. In a continuous horse-power baling-press, the combination, with the press-box having a vertical slot in its side for the insertion of the follower or dividing blocks, of a door hinged  
130 upon the inside of the box at the rear edge of the slot, a rod sliding in the side of the box

attached to the door at its inner end and having a knob at its outer end, a spring forcing the said rod outward, and a flat spring secured to the upper end of the free edge of the door,  
5 projecting forward and inward to catch and support the follower-blocks, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN E. CHIDESTER.

Witnesses:

WM. SECHER,

WM. H. BENTON.