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PATENTED MAY 17, 1904.

A. H. & L. C. O'QUINN.  
HAY PRESS.

APPLICATION FILED DEC. 10, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

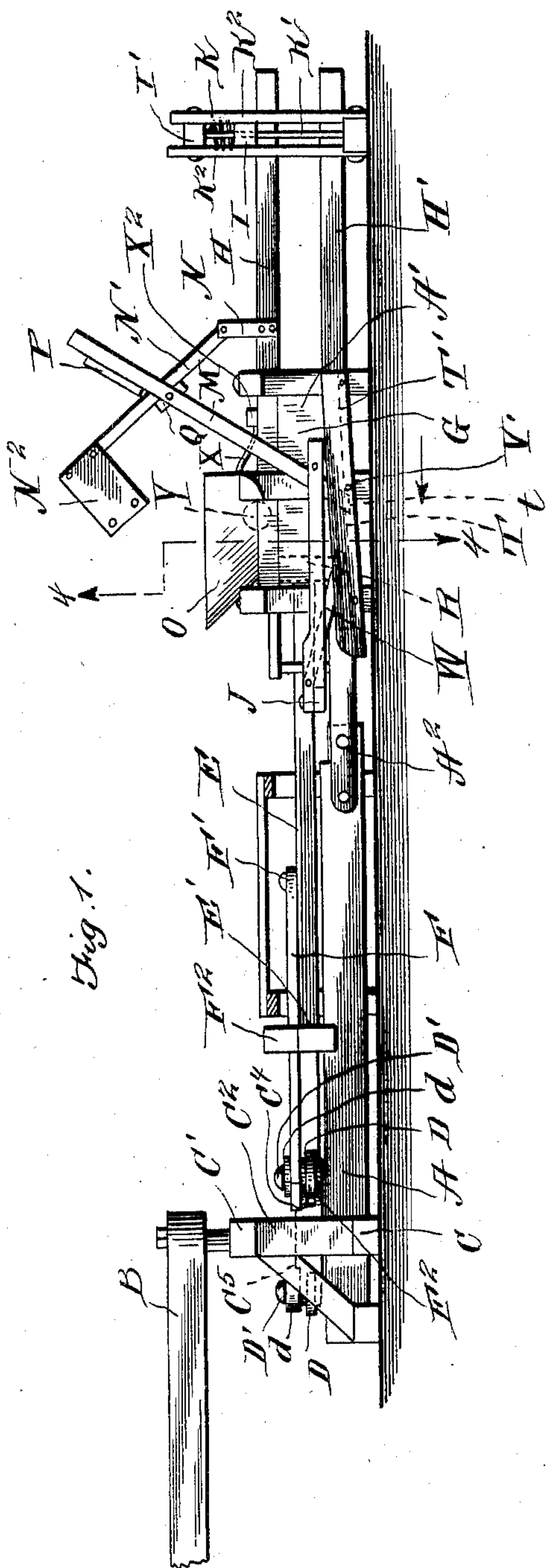
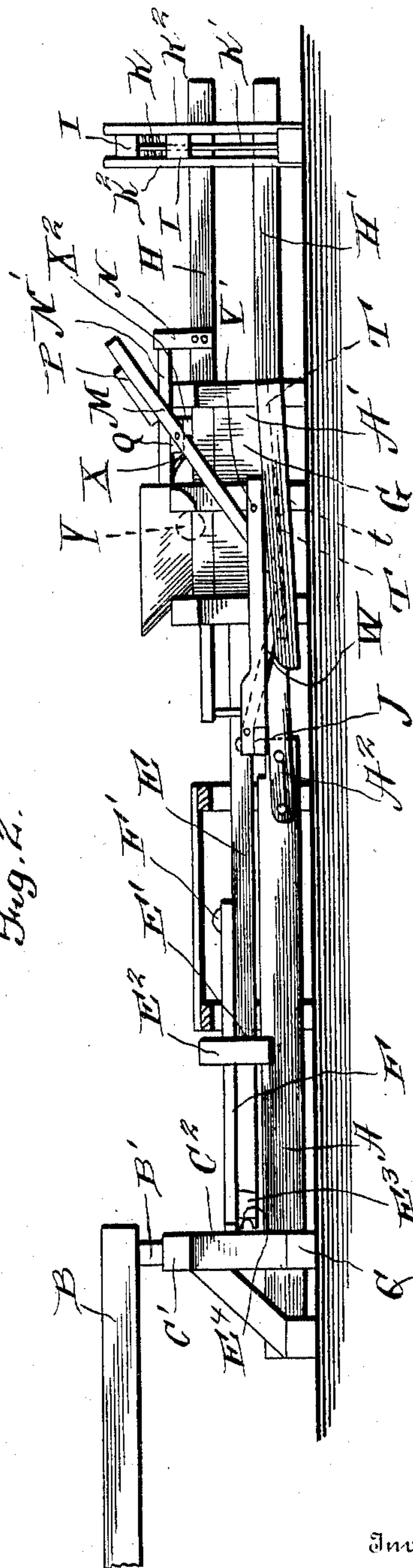


Fig. 1.



Aug. 2.

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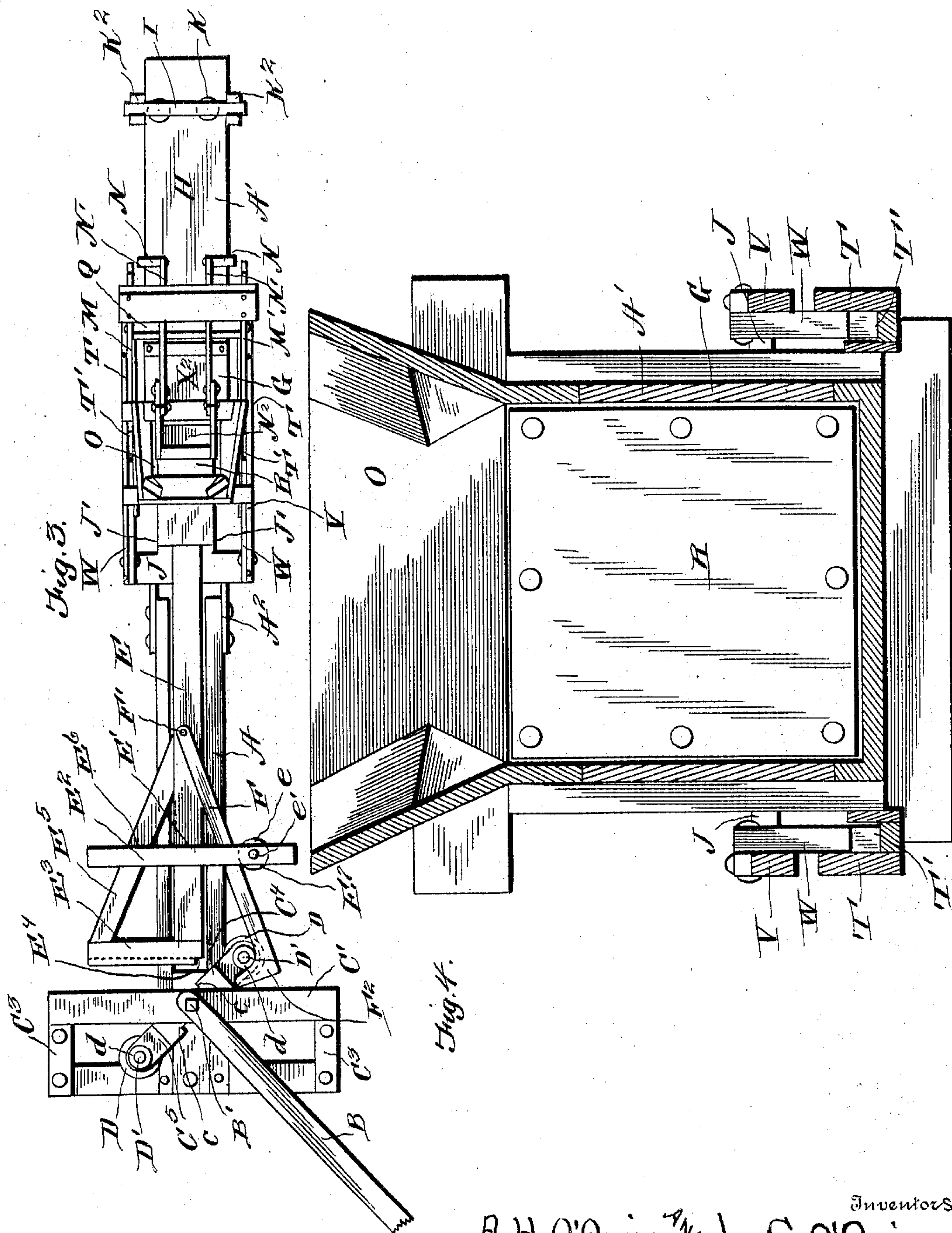
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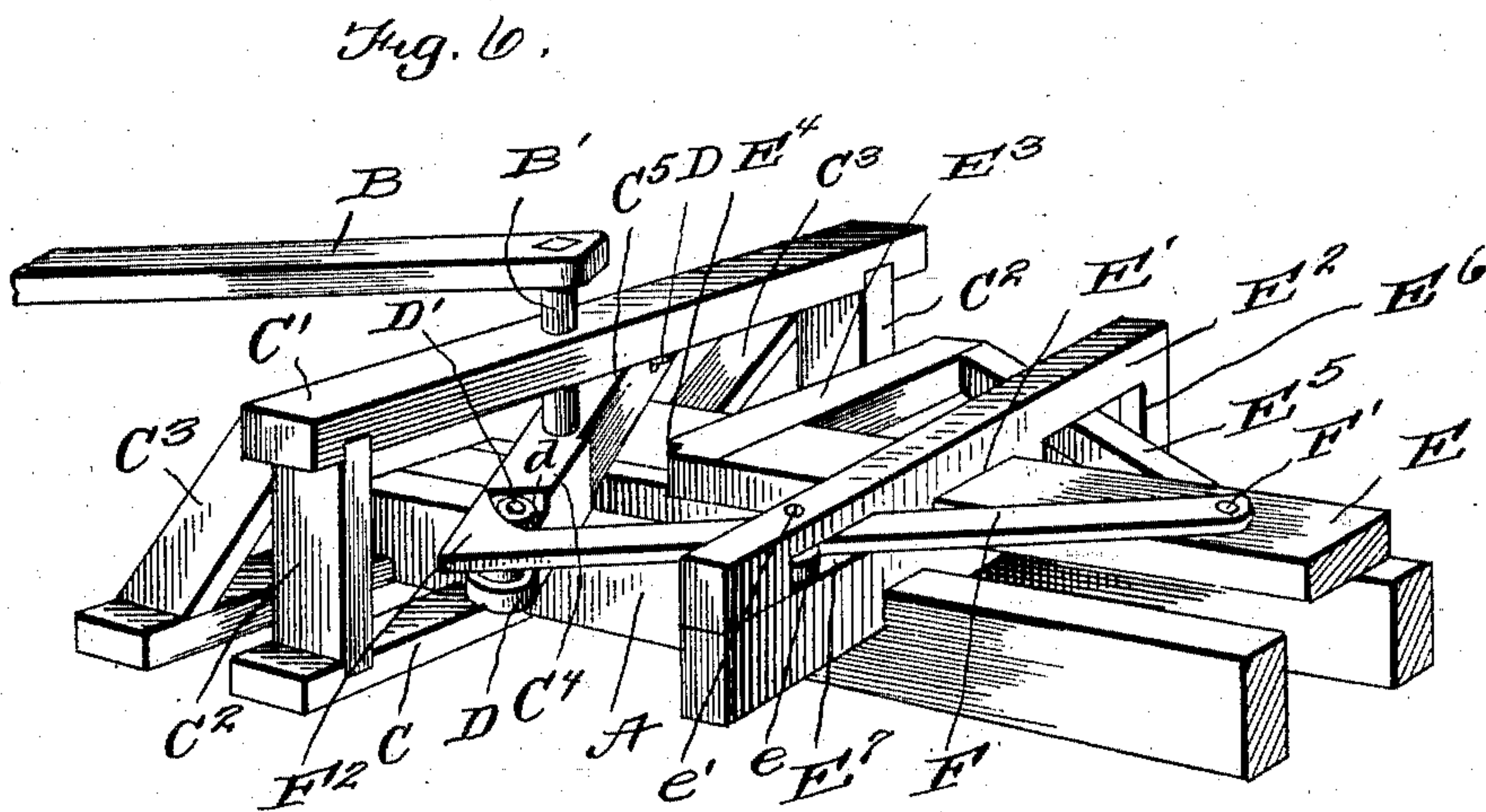
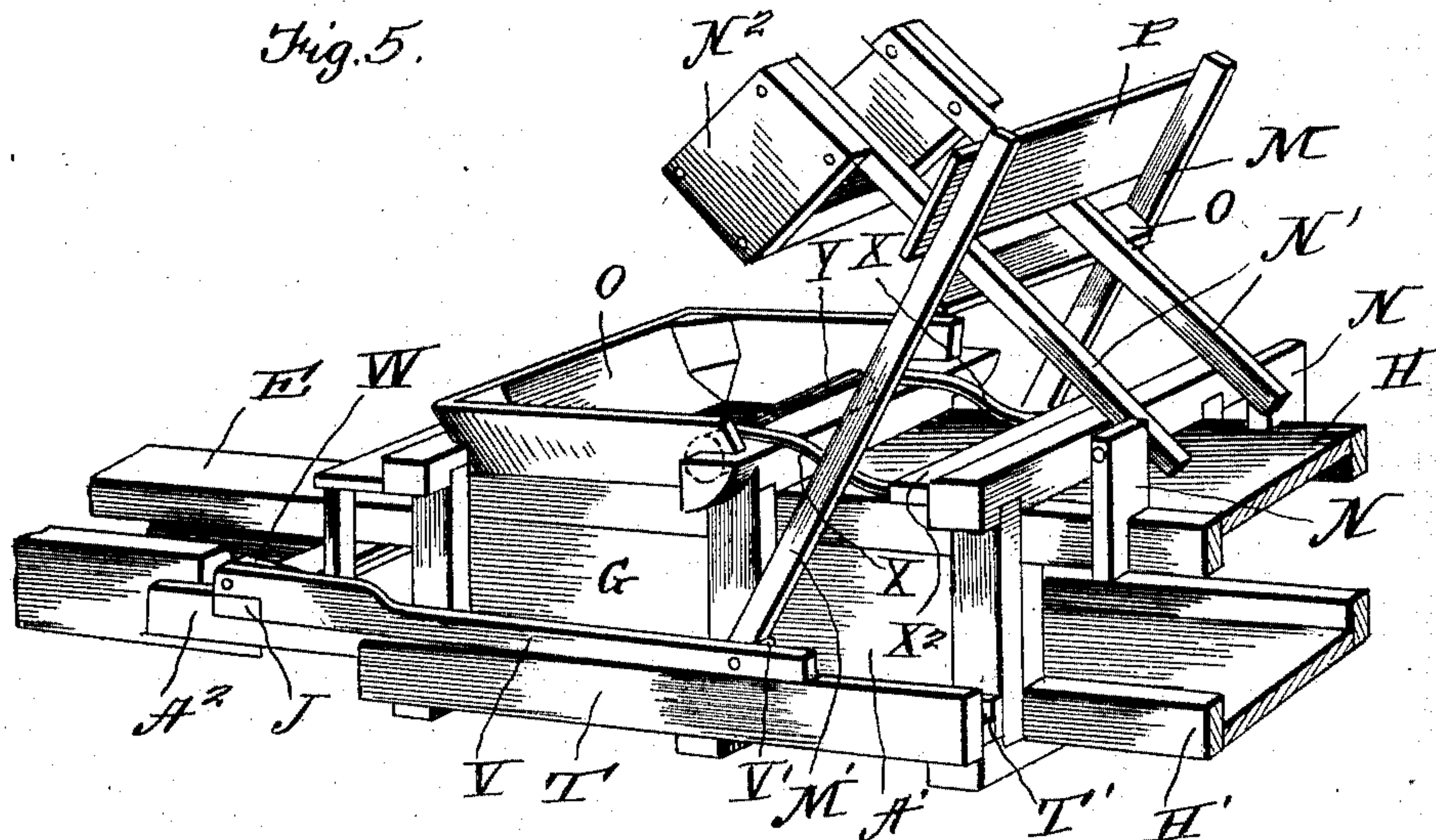
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3 SHEETS—SHEET 3.



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## UNITED STATES PATENT OFFICE.

ALEXANDER H. O'QUINN AND LEONARD C. O'QUINN, OF JESUP, GEORGIA.

## HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 760,014, dated May 17, 1904.

Application filed December 10, 1903. Serial No. 184,704. (No model.)

*To all whom it may concern:*

Be it known that we, ALEXANDER H. O'QUINN and LEONARD C. O'QUINN, citizens of the United States, residing at Jesup, in the  
 5 county of Wayne and State of Georgia, have invented certain new and useful Improvements in Hay-Presses; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others  
 10 skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to new and useful improvements in baling-presses; and the object of the invention is to generally improve upon this class of inventions, and in carrying out our invention we provide means for automatically feeding the material to be baled into the presses, said feeding mechanism being actuated by the stem of the plunger and the plunger operated by means of a sweep which actuates a rotary post having arms carrying  
 20 antifriction-rollers and provided with means for retracting the plunger after it has been driven forward to its farthest limit.

Our invention comprises various details of construction and combinations of parts, which  
 30 will be hereinafter fully described and then specifically defined in the appended claims.

We illustrate our invention in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this  
 35 application, and in which drawings similar letters of reference indicate like parts in the views, in which—

Figure 1 is a side elevation of our improved baling-press, showing the feeding mechanism  
 40 raised to its highest limit. Fig. 2 is a view showing the feeding mechanism depressed and the plunger withdrawn. Fig. 3 is a top plan view of our improved press, showing the mechanism in readiness to cause the plunger  
 45 to be withdrawn. Fig. 4 is a sectional view on line 4 4 of Fig. 1. Fig. 5 is an enlarged detail in perspective of the feeding mechanism. Fig. 6 is an enlarged detail in perspective of the plunger feeding apparatus and  
 50 means for retracting the plunger.

Reference now being had to the details of

the drawings by letter, A and A' designate two sections of the framework of the baling-press, which are preferably pivoted together at A<sup>2</sup> in any suitable manner and so arranged  
 55 as to render the frame convenient for transportation by detaching the two sections. The section A carries the sweep B, which is mounted and adapted to rotate the post B', which latter is journaled in the cross-pieces C and C'  
 60 of the frame. Said cross-pieces C are supported by the vertical beams C<sup>2</sup> and braced by the pieces C<sup>3</sup>. Fixed to and adapted to turn with said post B' are horizontally-disposed arms C<sup>4</sup> and C<sup>5</sup>, each of which has an  
 65 antifriction-wheel D, journaled in a recess in the end of each arm. Each of said antifriction-wheels is mounted upon a pin D', the end of which projects above the upper face of the arm and is adapted to form a bearing for an  
 70 antifriction-roller *d*.

E designates the plunger-beam, which is adapted to reciprocate in a recess E', formed in the cross-piece E<sup>2</sup>, and at the outer end of said beam is fastened a beam E<sup>3</sup> at right angles thereto and has a notch E<sup>4</sup>, which notch  
 75 is provided to coöperate with a shoulder *c* upon the arm C<sup>5</sup>, adjacent to the post carrying the same, for the purpose of preventing the plunger's rebounding. A diagonally-disposed brace E<sup>5</sup> is fastened at one end to the  
 80 piece E<sup>3</sup>, while its forward end is fastened to the beam E, as shown clearly in Fig. 3 of the drawings. Said brace E<sup>5</sup> has a play through an elongated slot E<sup>6</sup> in the end of the cross-  
 85 piece E<sup>2</sup>. A bar F is pivoted at F' to the plunger-beam E and passes through an aperture E<sup>7</sup> in the cross-piece E<sup>2</sup> and is adapted to bear against an antifriction-wheel *e*, journaled on a pin *e'*, passing through said slot  
 90 or aperture E<sup>7</sup>, while the free end of the bar F is formed into a hook, as at F<sup>2</sup>. (Clearly seen in Figs. 3 and 6 of the drawings.) Said bar F is so positioned that at each forward throw of the plunger-beam the outer edge of  
 95 said bar will contact with the antifriction-wheel and throw the free end of the bar toward the plunger-beam and into the position illustrated in Fig. 3 of the drawings, in which one or the other of the antifriction-  
 100 rollers *d* will contact with said hook, and upon further rotary movement of the sweep



the bar F will cause the plunger to be withdrawn from the baling-press. After the arms C<sup>4</sup> and C<sup>5</sup> are substantially in alinement with the cross-piece C the antifriction-roller which is in contact with the hooked end of the bar F will roll away from the hook and the plunger will be at rest until the antifriction-roller on the end of the other arm comes in contact with the cross-piece E<sup>3</sup> at the end of the plunger-beam E. In order that the antifriction-wheels D may be guided and held to the cross-piece E<sup>3</sup>, we provide grooves in the face of the cross-piece E<sup>3</sup>, in which the antifriction-wheels are adapted to run.

The section A' of the apparatus comprises the baling-box G and the extension-tables H and H', which are adapted to contact with the upper and lower faces of a bale after it has been pushed forward from the baling-press. In order to hold the table H yielding against the bales, springs K are provided, which are mounted upon the rods K', mounted in the uprights K<sup>2</sup>, said springs bearing between the cross-piece I, mounted on the table H, and the cross-piece I', which is fastened to the uprights K<sup>2</sup>.

O designates a hopper through which the material to be baled is fed into the press, and pivotally mounted upon the pieces N, which rise from the table H, are arms N', which carry a feeding-head N<sup>2</sup>, made preferably of two side plates connected by a cross-piece, as shown clearly in Fig. 5 of the drawings, and of such size as to nearly fill the feeding-aperture in the press-bottom. A rack comprising two beams M and M' (shown clearly in Fig. 5 of the drawings) is provided, which has a cross-piece P connecting their upper ends and is provided with a second cross-piece Q, spaced apart from the cross-piece P, and through said space pass the two beams N'. The cross-piece Q is pivotally mounted in the beams M and M', and the arms N' are fixed to the cross-piece Q, so that as the lower ends of the beams M and M' are driven toward the exit end of the baling-press by means which will be presently described the feeding member N<sup>2</sup> will be raised in the position shown in Figs. 1 and 5 of the drawings, and as the feeding member is thrown to its highest position the cross-piece Q will rock upon its pivotal pins.

Fastened to the plunger-beam is a bar J, (shown clearly in Figs. 3 and 5 of the drawings,) said bar being provided with recesses J' on one longitudinal edge thereof, which recesses come in contact with the vertical post of the feeding-box and limit the forward throw of the plunger. The plunger-head is designated in the drawings by letter R and may be of any suitable construction which may be found adapted for the purpose. Upon the opposite sides of the press-box are two horizontally-disposed grooved ways (designated in the drawings by letter T) having grooves T', as

shown in Fig. 5 of the drawings, provided with a recess *t*, in which the lower ends of the beams M and M' engage when they are driven forward as the plunger enters the press-box. Fastened to the ends of the cross-piece J are two bars W, which are slightly inclined, and each of which is adapted to rest and move in a groove T', and the purpose of said bars is to push the lower ends of the beams M and M' forward as the plunger compresses the bale and for the purpose of causing the lower ends of the beams M and M' to engage the recesses *t* and hold the feeding member N<sup>2</sup> suspended and at rest for a moment while the plunger is being withdrawn and affording an opportunity for an operator to place a new supply of material underneath the bar N<sup>2</sup> to be forced down into the press-box.

In order to throw the feeding member down into the opening in the press-box, we provide the beams V, which are fastened to the cross-piece J and carry near their forward ends the pins V', which project from the inner faces of said beams and are adapted to draw against the rear edges of the beams M and M' near their lower ends as the plunger is withdrawn from the press. A detail of this feature is clearly shown in Fig. 5 of the drawings, in which one of the pins is shown as in contact with the rear edge of the beam M, and as the plunger begins to be withdrawn the pressure of the pin upon the beam will cause the lower end thereof to be raised out of the recess in which it seats and to be driven forward in advance of the pin.

X X designates springs, which are fastened at their rear ends to the cross-piece X<sup>2</sup> upon the table H, and mounted upon the free ends of said springs is an antifriction-roller Y, which normally rests over the edge of the filling-aperture in the press-box, and against which the inner edges of the feeding member N<sup>2</sup> contact as said feeding member is forced down into the press-box. By the provision of the roller Y referred to the hand feeding is rendered much easier and less dangerous to the operator than would be the case without said roller, and in case the hands of the operator accidentally are caught by the feeding member the springs will yield and allow the operator to withdraw his hands. Another object of the roller is to cause the material being baled to readily enter the press-box and to prevent the same from catching over the edge of the aperture leading into the box.

The operation of our press is simple and is as follows: A horse or other power being applied to the sweep, as the post carrying the sweep may be rotated and as one or the other of the antifriction-wheels carried upon the arms of the post comes in contact with the cross-piece of the plunger-beam the latter will be driven forward. As said plunger is driven forward the arms W, secured to the cross-piece fastened to the plunger-beam, will con-



tact with the lower free ends of the beams M and M' and push said beams forward and cause the feeding member to be raised out of the press-box. As the plunger completes its inner or forward throw the lower ends of the beams M and M' will drop into the recesses *t* in the grooved ways, and the feeding mechanism will be at rest until the plunger reaches its farthest outward limit or until the pins V' at the ends of the arms V come in contact with the rear edges of the beams M and M', and as the plunger completes its outer throw said pins will cause the beams M and M' to be drawn forward, and the feeding member will be forced down into the opening into the press-box. The intermittent movement which is imparted to the feeding mechanism is sufficient to allow the operator to place material underneath the feeding mechanism while the plunger is still in operation.

By the provision of a baling-press embodying the features of our invention it will be observed that an apparatus is produced for greatly expediting the baling of materials and of an efficient and simple automatic means for feeding material into the press-box.

While we have shown a particular form of apparatus embodying the features of our invention, it will be understood that we may make alterations, if desired, in the detailed construction of the same without in any way departing from the spirit of the invention.

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

1. A baling-press comprising in combination with a press-box, a feeding mechanism mounted thereon, a plunger working in said press-box, a plunger-beam, a rotary post with a sweep secured thereto, arms projecting from said post, antifriction-wheels carried by said arms adapted to contact with the outer end of the plunger-beam to drive the same forward as the post is rotated, a pivotal bar mounted upon the plunger-beam having a free hooked end, engaged by said antifriction-wheels as the post rotates, whereby the plunger may be withdrawn from the press-box, and means actuated by the plunger-beam for operating the feeding mechanism, as set forth.

2. A baling-press comprising in combination with a press-box, a feeding mechanism mounted thereon, a plunger working in said press-box, a plunger-beam, a rotary post, arms projecting therefrom and antifriction-wheels carried by said arms and adapted to contact with the outer end of the plunger-beam to drive the plunger into the press-box, a hooked bar pivotally mounted upon the beam of the plunger, and adapted to be engaged by said antifriction-wheels, a cross-piece having an aperture through which said bar is guided, and means actuated by the plunger-beam for operating the feeding mechanism, as set forth.

3. A baling-press comprising in combina-

tion with a press-box with feeding mechanism mounted thereon, a plunger working in said box, a beam projecting from said plunger, an apertured cross-piece through which said beam is guided, a rotary post with plunger-driving arms mounted thereon, antifriction-wheels journaled in the ends of said arms, a pivotal hooked bar mounted upon the plunger-beam and guided through an aperture in said cross-piece, said antifriction-wheels adapted to contact with the hooked end of said bar to withdraw the plunger from the press-box as the post is rotated, and means for preventing the plunger-beam from rebounding, and mechanism actuated by the plunger-beam for operating the feeding apparatus, as set forth.

4. A baling-press comprising in combination with a press-box and feeding mechanism mounted thereon, a plunger working in said box, a beam secured to said plunger, an apertured cross-piece through which said beam is guided, an antifriction-wheel mounted in an aperture in said cross-piece, a hooked bar pivoted to the beam and passing through an aperture in the cross-piece and against said antifriction-wheel, a rotary post with arms thereon, antifriction-wheels carried by said arms, a grooved member secured to the plunger-beam and in which the antifriction-wheels carried by said arms are adapted to travel as the beam is driven forward by the rotary movement of said post, said antifriction-wheels upon said arms adapted to engage the hooked end of said bar to withdraw the plunger from the press-box, and means actuated by the plunger-beam for operating the feeding mechanism, as set forth.

5. A baling-press comprising in combination with a press-box, a feeding mechanism mounted thereon, a plunger-beam secured thereto, a rotary post with arms projecting therefrom, antifriction-wheels carried by said arms, an apertured cross-piece through which said plunger-beam is guided, a grooved bar at the end of the plunger-beam, a brace between said bar and plunger-beam and guided through an aperture in said cross-piece, a pivotal hook-shaped bar mounted upon the plunger-beam and guided in an aperture in the cross-piece, said antifriction-wheels adapted to engage said hooked bar as the post rotates, whereby the beam may be withdrawn from the press-box, and means actuated by said beam to actuate the feeding member, as set forth.

6. A baling-press comprising a frame made up of two sections connected together, a press-box carried by one of said sections, a feeding mechanism mounted upon said press-box, an apertured cross-piece mounted upon the other of said sections, a rotary post with arms projecting therefrom, antifriction-wheels carried by said arms, a plunger and plunger-beam, the latter guided through an aperture in said cross-piece, a hooked bar pivoted to said beam



guided through an aperture in said cross-piece, said antifriction-wheels adapted to contact with the free end of said hooked bar to withdraw the plunger from the press-box, as set forth.

7. A baling-press comprising in combination with a press-box and feeding mechanism mounted thereon, a plunger, a beam secured to said plunger, means for limiting the outer throw of said plunger, a rotary post with arms projecting therefrom, antifriction-wheels carried by said arms, a shoulder on one of said arms, a grooved bar fixed to the outer end of the plunger-beam and securely braced, a recess formed in the outer face of said grooved bar, a pivotal hooked bar mounted upon the plunger-beam, an apertured cross-beam through which said plunger and hooked bar are guided, said antifriction-wheels adapted to contact with the free hooked end of said bar to withdraw the plunger, and means actuated by the plunger-beam for operating the feeding mechanism, as set forth.

8. A baling-press comprising in combination with a press-box and frame therefor, a plunger, a beam secured to said plunger and means for reciprocating said beam, a pivotal feeding member having arms mounted upon the frame of the press-box, a rack fixed to the arms of said feeding member, arms carried by the plunger-beam and adapted to contact with said rack to raise the feeding member from the press-box, pin-carrying bars carried by the plunger-beam adapted to draw the lower portion of the rack forward and throw the feeding member into the opening of the press-box, as set forth.

9. A baling-press comprising in combination with a press-box, a plunger working therein, a beam secured to said plunger, a feeding member pivotally mounted above the press-box, a rack having a pivotal cross-piece mounted thereon, beams secured to said rack, guideways in which the lower ends of the beams of the rack travel, means carried by the plunger-beam for moving the beams of the rack forward and back, whereby said feeding member may be raised and lowered from the press-box, as set forth.

10. A baling-press comprising in combination with a press-box, a plunger working therein, a beam secured to said plunger, means for reciprocating the plunger, a feeding member comprising arms pivotally mounted upon the frame of the press-box, and a cross-piece connecting plates fastened to said arms, a rack, beams secured thereto, a movable cross-piece mounted upon said rack to

which said arms are fastened, guideways on the opposite sides of the press-box in which the beams of said rack travel, the bottoms of the grooves of said guideways being recessed to receive the ends of the beams of the rack to hold the feeding member at its highest limit, and means carried by the plunger-beam for moving said rack forward and back, as set forth.

11. A baling-press comprising in combination with a press-box, a plunger mounted therein, a beam secured to said plunger and means for actuating the plunger, a pivotal feeding member mounted upon the press-frame, guideways upon opposite sides of the press-box, a rack having a pivotal cross-piece to which the arms of the feeding member are fixed, beams secured to said rack with their lower ends adapted to slide in said grooved ways, the bottoms of the grooved ways being recessed to receive the ends of said beams and hold the feeding member at its highest limit, a cross-piece secured to the plunger-beam, and arms carried by said cross-piece and adapted to operate said rack, as the plunger reciprocates, as set forth.

12. A baling-press comprising in combination with a press-box, a plunger working therein, a beam secured to said plunger, means for reciprocating the plunger, a feeding member pivotally mounted over the press-box, grooved guideways on the opposite sides of the box, a rack having a pivotal cross-piece to which the arms of said feeding member are fixed, beams connected to said rack with their lower ends adapted to slide in said grooved ways, the bottoms of the grooves of said ways being recessed, a cross-piece secured to the plunger-beam, arms carried by said cross-piece and designed to contact with the ends of the beams of the rack to throw the same into said recesses as the plunger is driven forward, bars fastened to said cross-piece and pins carried at the ends of said bars adapted to contact with the edges of the beams of the rack as the plunger-beam is driven outward, whereby the lower end of the beams may be moved in the direction of the outer throw of the plunger, and the feeding member drawn down toward the press-box, as set forth.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

ALEXANDER H. O'QUINN.  
LEONARD C. O'QUINN.

Witnesses:

H. T. McCALL,  
S. F. ELLIS.