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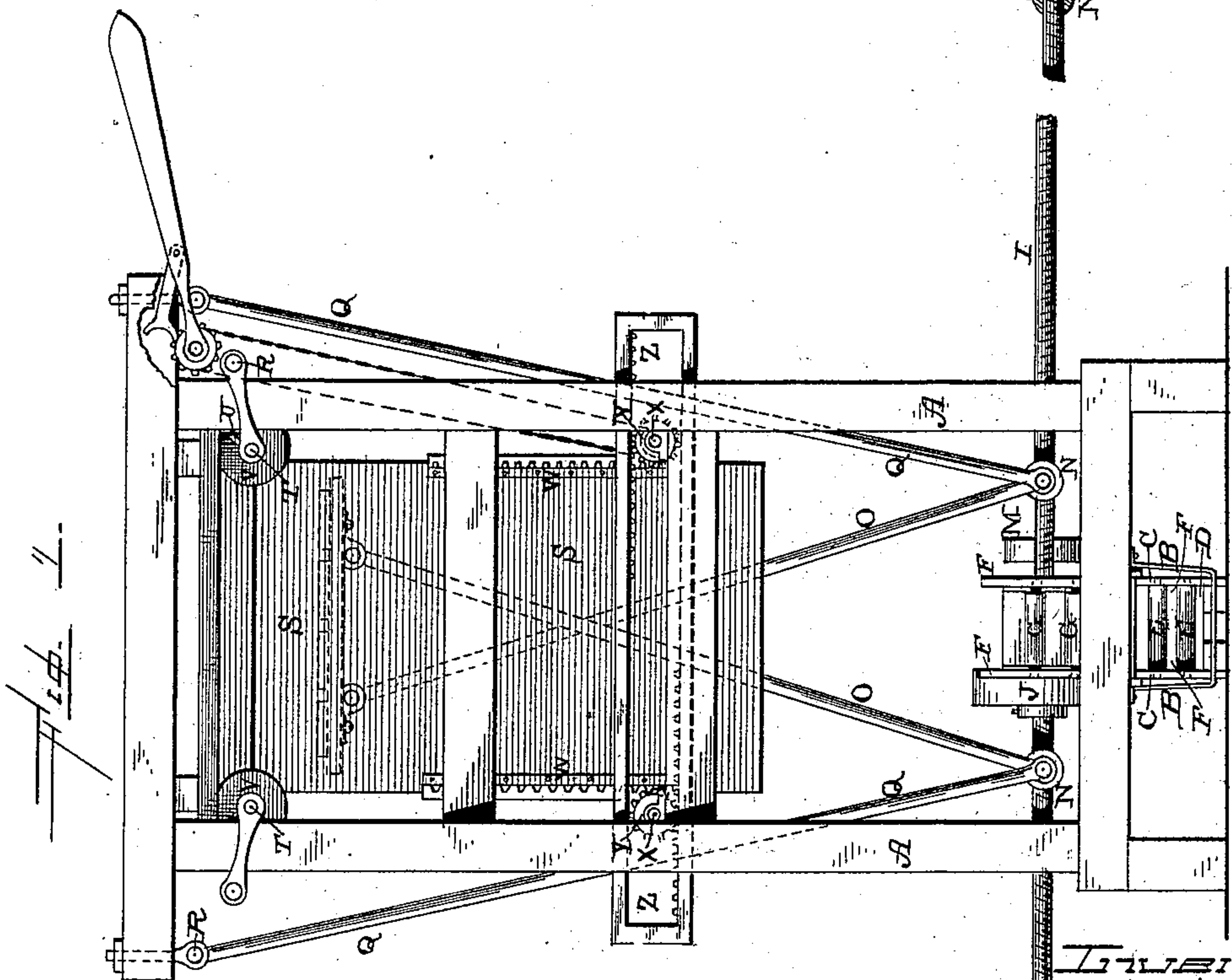
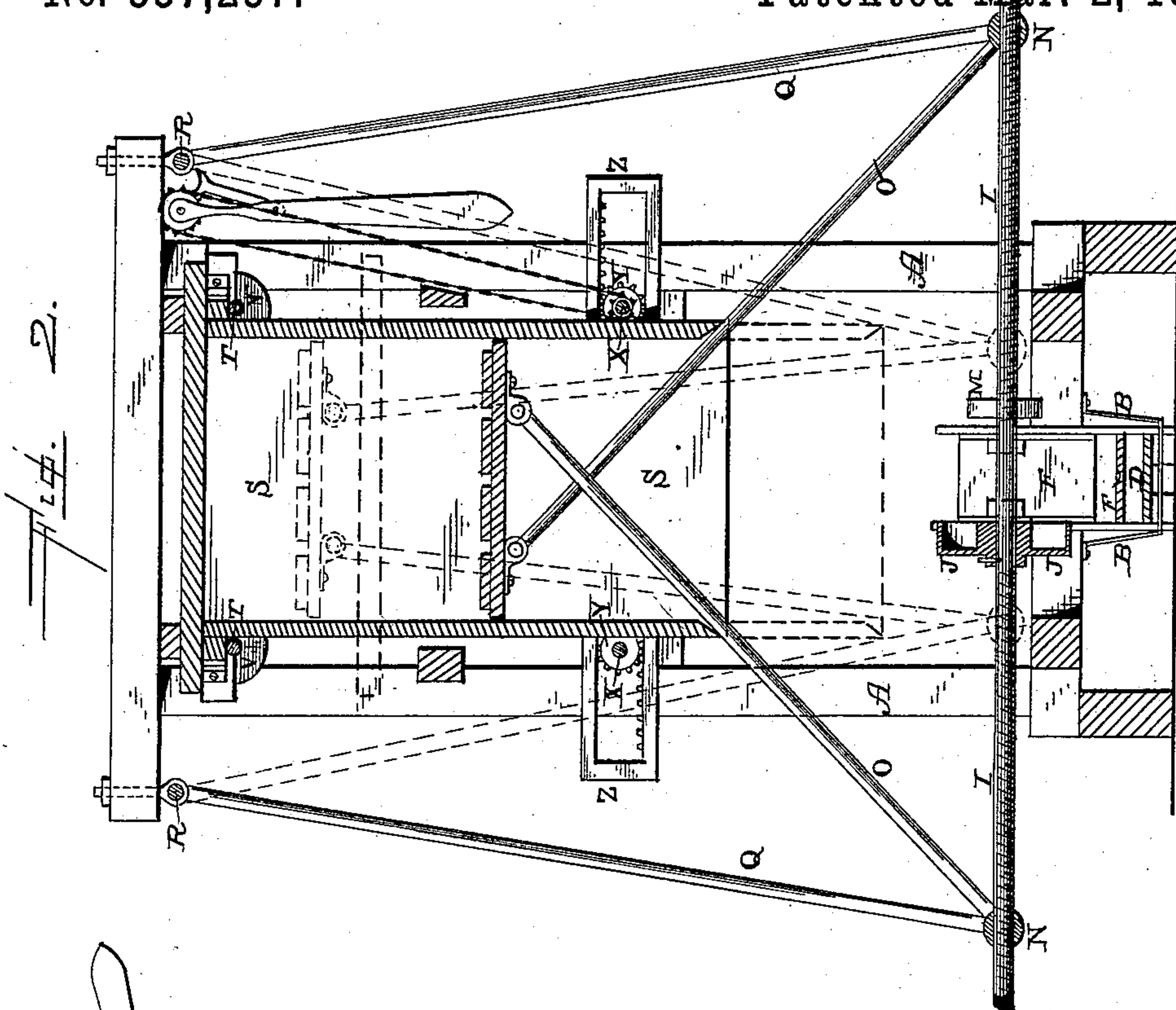
2 Sheets—Sheet 1.

W. S. BRYAN.

BALING PRESS.

No. 337,237.

Patented Mar. 2, 1886.



WITNESSES.

X. F. Gardner  
S. L. Burket.

W. S. Bryan,  
per  
P. A. Lehmann  
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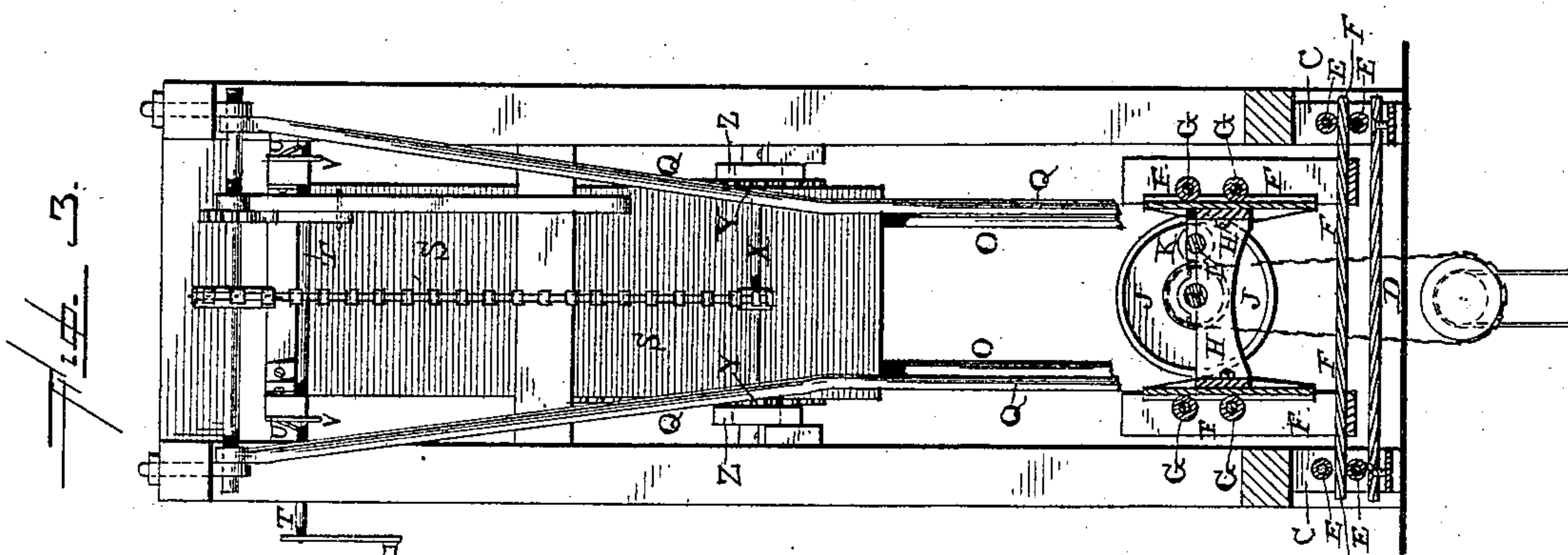
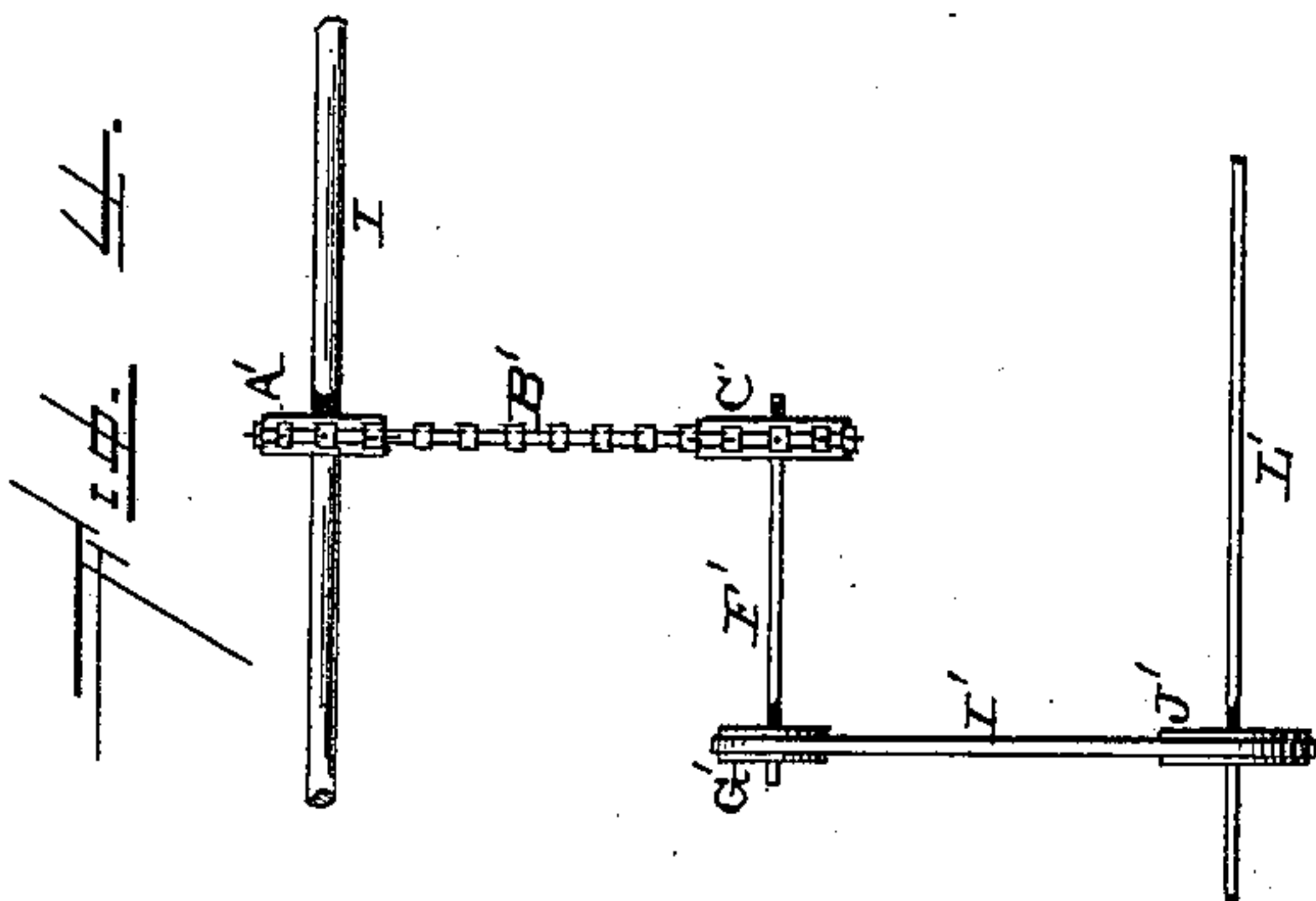
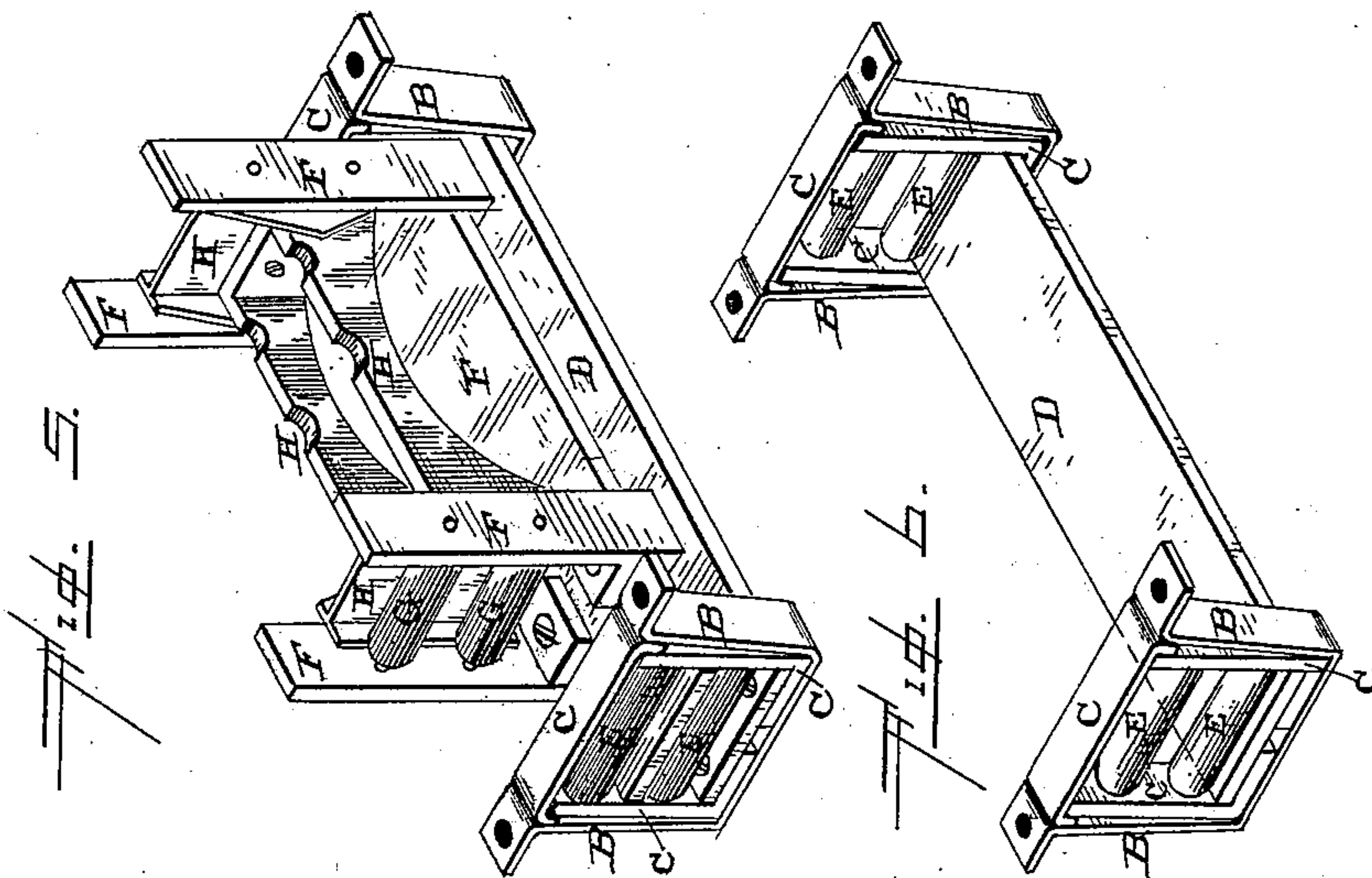
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—WITNESSES.—

R. T. Gardner  
S. L. Burket

—INVENTOR.—

W. S. Bryan,  
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att'y.



# UNITED STATES PATENT OFFICE.

WALTER S. BRYAN, OF KOSSE, TEXAS, ASSIGNOR TO HIMSELF AND  
GEORGE DALLAS JOHNSON, OF SAME PLACE.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 337,237, dated March 2, 1886.

Application filed November 27, 1885. Serial No. 184,109. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER S. BRYAN, of Kosse, in the county of Limestone and State of Texas, have invented certain new and useful  
5 Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being  
10 had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in baling-presses; and it consists in, first, the combination of the right-and-left-hand screw,  
15 which operates the follower, the rods by which the follower is operated, the bearing or frame in which the screw is journaled, and a frame in which the bearing moves vertically; second, the combination of the right-and-left-hand  
20 screw, the rods connected thereto for operating the follower, the bearing in which the screw is journaled, the frame in which the bearing moves vertically, and the frame which has a lateral movement; third, the combination  
25 of the operating-screw with its journal or bearing, said screw having a limited universal movement; fourth, the combination of the right-and-left-hand screw, the bearing in which it is journaled, and which has a vertical move-  
30 ment, and the two frames in which the bearing is held, one of them being provided with friction-rollers; fifth, the combination of the box having sides which are movable at their upper ends, the cams on the sides, and the  
35 rods provided with projections to engage the cams, whereby the sides of the box can be loosened from the bale; sixth, the combination of the box having sides which are movable at their upper ends, clamping-rods for operating  
40 these sides, and the vertically-moving follower; seventh, the combination of the right-and-left-hand screw, which operates the follower, the rods by which the follower is operated, the bearing or frame in which the screw is jour-  
45 naled, and a frame in which the bearing moves vertically, all of which will be more fully described hereinafter.

The objects of my invention are to give a universal motion to the bearing in which the  
50 right-and-left-hand screw is journaled so that all of the parts connected to this screw will

work without any binding, and so construct the box that after the bale has been formed the box can be dropped downward from around the follower, leaving the bale in position ready  
55 to have the bands or wires applied to it.

Figure 1 is a side elevation of a press embodying my invention complete and showing the box in a raised position. Fig. 2 is a vertical section of the same, showing the box dropped  
60 downward. Fig. 3 is an end view, partly in section. Figs. 4, 5, and 6 are detail views.

A represents the frame-work of the press, which may either be of the construction here  
65 shown or any other that may be preferred.

Secured to the under side of the bottom timbers of the frame-work of the press are  
70 suitable metallic frames, B, which form supports for the frames C, which are placed inside of them, and which are connected across the under side of the press by means of the cross-bar D.

In each of the frames C are journaled a suitable number of friction-rollers, E, between  
75 which the ends of the laterally-sliding frame F are placed. The bottom portion of this frame F projects beyond each side of the frame proper, and it is these projecting ends which pass in between the rollers and which permit the frame F to slide laterally. The frame  
80 F has its vertical sides to project upward a suitable distance, and in between these sides are journaled the frictional rollers E.

Placed in between the flanges on the inner side of the frame F and bearing against the  
85 rollers G is the bearing H, in which the right and-left-hand screw I is journaled. The bearing H has simply a vertical movement in the frame F, while the frame F has no other than a lateral movement. As the bearing H can  
90 rise and fall in the frame F, and as the frame can move freely from side to side, it will readily be seen that the screw I is given a limited universal movement, so that the parts connected thereto can operate at all times with-  
95 out any unnecessary friction or binding. Were this universal movement not given to the screw, any inequality in the substance being compressed or any of the parts being slightly out of true, the parts bind in such a  
100 manner as to not only endanger the safety of the parts, but add greatly to the power re-



quired to operate the press. The right and left portions of the screw I are connected together by means of the friction-wheel J, which has a wide flange, with the interior surface of which the friction-wheel K engages. This wheel K is placed upon one end of the driving-shaft L, to which the power is applied through the pulley M for causing the screw I to revolve. By reversing the movement of the belt upon the pulley M the screw I is driven in either direction desired. The two portions of the screw I pass through the long nuts N, which have connected to them the rods O, which connect with the under side of the follower S, and the rods Q, which extend up to the top of the frame and are journaled upon rods or rivets R. These rods O Q follow the movements of the follower as it is moved freely back and forth by means of the nuts upon the screws. The follower is of the ordinary construction, and moves vertically within the box S, which is made entirely without doors, but which has a vertical movement in relation to the follower, as shown in Fig. 2. The box is filled from the top, at which point it is made slightly expansible for the purpose of causing it to loosen its hold upon the bale whenever it is desired to remove the bale from the press. For the purpose of slackening the frictional hold of the box upon the bale, a rod, T, is passed through the box from each side, and is provided with the projections U. Upon each side of the box are placed cams V, which correspond with the projections U, and by means of which the sides of the box can be closed inwardly. While the material is being compressed so as to be formed into bales the sides of the box are forced inward by means of the projections and cams; but when it is desired to discharge the bale and have the box drop downward in the position shown in Fig. 2, the rods T are turned so as to slacken the projections U upon the cams V, and then the sides of the box spring outward, so as to free the box from the great pressure of the bale.

For the purpose of raising the box upward, there is formed upon each corner a rack-bar, W, and upon the two shafts X, which extend across the frame on opposite edges of the box, are placed the pinions Y, which engage with the rack W. These two shafts X and pinion Y are geared together by means of the rack Z, which engages with the top of one pinion Y and the under side of the other. Upon one of the shafts is placed a sprocket-wheel, and from this sprocket-wheel extends a chain, which passes up over a shaft at the top of the frame, and which shaft is operated by means of a lever provided with a pawl, which engages with a ratchet on the shaft. After the box is dropped down from around the follower and the bale from its own gravity into the position shown in Fig. 2, the bale is left upon the top of the follower in position to have the wires or bands applied to it in the usual manner. When it is desired to press another bale, the

box is raised upward by means of the lever carrying the pawl, and then the follower is lowered by revolving the screw I in a reverse direction. 70

Another way of operating the follower is shown in Fig. 4. Upon the screw-shaft I is placed a sprocket-wheel, A', and around this wheel A' is passed the driving-chain B', which also passes around a sprocket-wheel, C', on the shaft F', which extends parallel with the screw-shaft I. Upon this shaft F' is also a pulley, G', around which passes a driving band or belt, I', from the pulley J' on the driving-shaft L'. 75 80

Having thus described my invention, I claim—

1. The combination of the operating-screw which has a vertical movement, the bearing in which it is journaled, the frame in which the bearing is placed and which has a vertical movement with the screw, the nuts, and the rods which connect the screw with the follower, substantially as described. 85 90

2. The combination of the right-and-left-hand screw, the bearing in which it is journaled and which has a vertical movement with the laterally-moving frame in which the bearing is placed, and the nuts and rods which connect the screw with the follower, substantially as shown. 95

3. In a cotton-press, the combination of the operating-screw with its journal or bearing, said screw having a limited universal motion, substantially as set forth. 100

4. The combination of the right-and-left-hand screw, the bearing in which it is journaled and which has a vertical movement, the frame F, provided with friction-rollers, and the frame in which the frame F is supported, the frame F having a lateral movement, substantially as specified. 105

5. In a cotton-press, the combination of the box having pivoted sides which are movable only at their upper ends, the cams on each of the sides, and the rods provided with projections on each end to engage with the cams on opposite sides, whereby the sides of the box can be loosened from the bale, substantially as shown. 110 115

6. The combination of the box having pivoted sides which are movable only at their upper ends, clamping-rods for operating both of these sides at the same time, and the vertically-moving follower, substantially as described. 120

7. The combination of the follower, the box which has a vertical movement in relation to the follower, clamping devices which are applied to the top of the box, and a suitable mechanism for moving the box vertically, substantially as set forth. 125

In testimony whereof I affix my signature in presence of two witnesses.

WALTER S. BRYAN.

Witnesses:

G. D. JOHNSON,  
J. D. FLANNAGAN.