

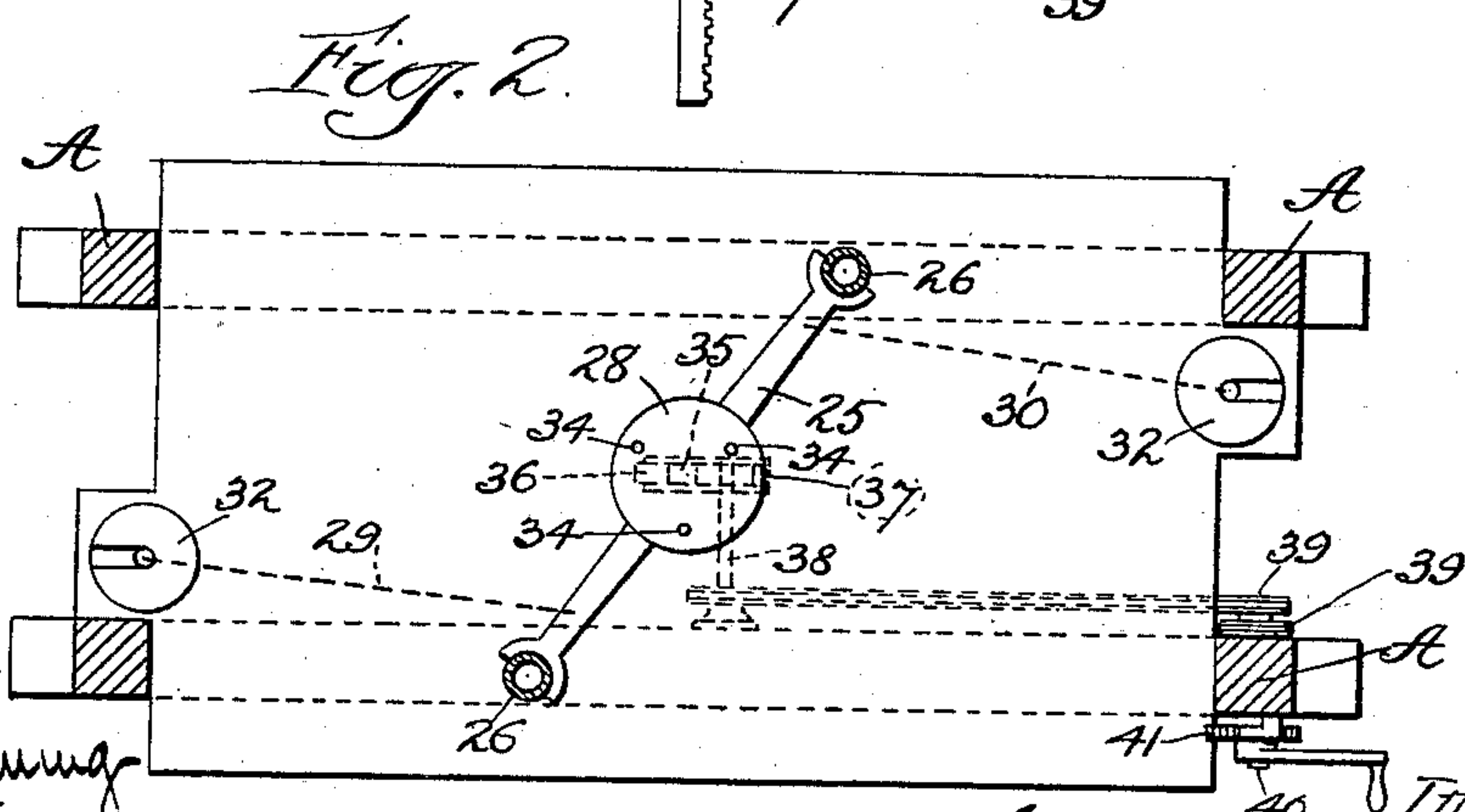
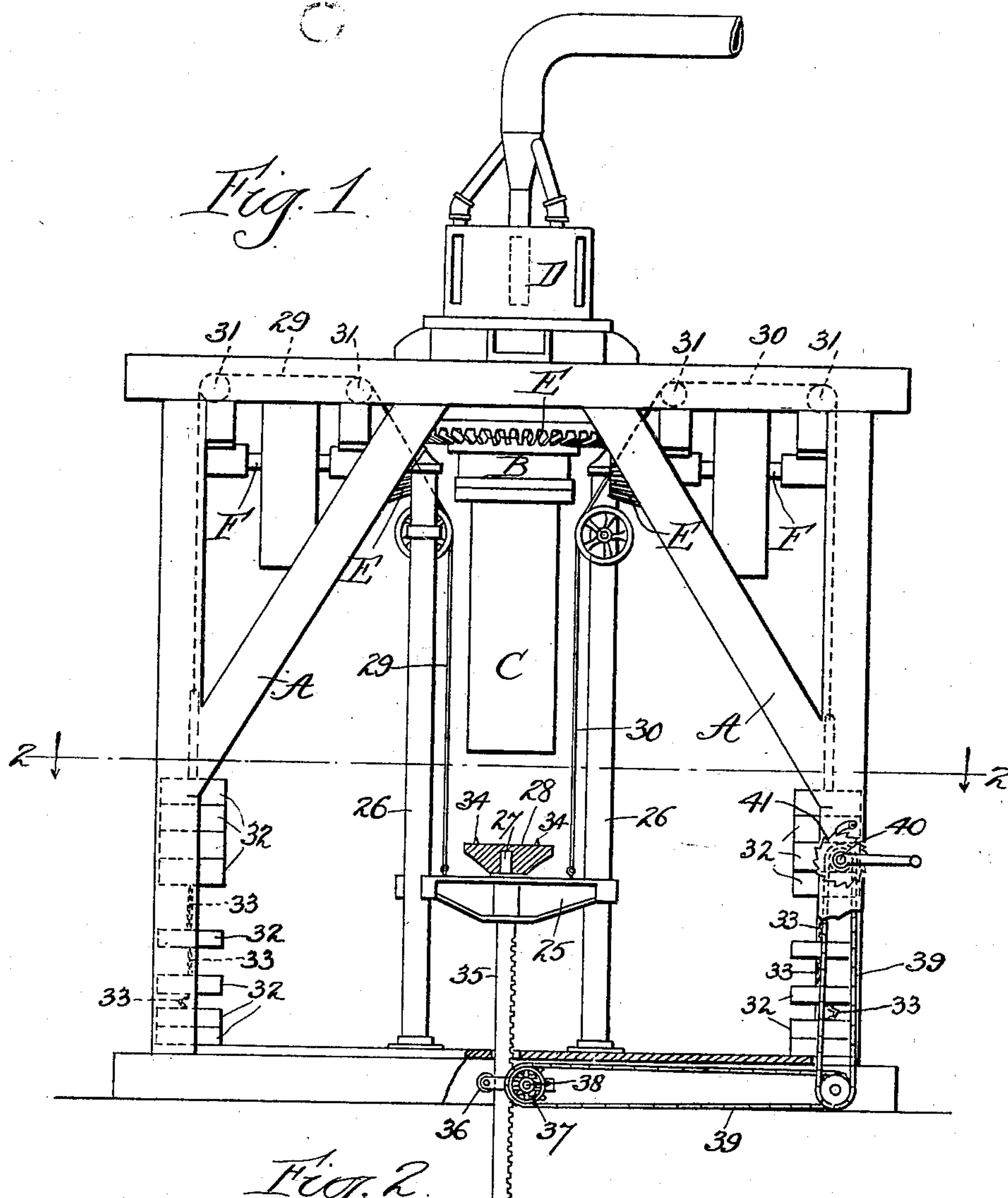
No. 630,372.

Patented Aug. 8, 1899.

G. A. LOWRY.  
BALE SUPPORTING DEVICE.

(Application filed June 19, 1897. Renewed Jan. 6, 1899.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE A. LOWRY, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE PLANTERS COMPRESS COMPANY, OF WEST VIRGINIA.

## BALE-SUPPORTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 630,372, dated August 8, 1899.

Original application filed April 19, 1897, Serial No. 632,773. Divided and this application filed June 19, 1897. Renewed January 6, 1899. Serial No. 701,413. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE A. LOWRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Bale-Supporting Device, of which the following is a specification.

This invention relates to bale-supporting devices and is a division of my application, Serial No. 632,773, filed April 19, 1897.

The object of the invention is to provide means for supporting the bale as it emerges from the press.

The invention consists, substantially, in the construction, combination, location, and relative arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally specifically pointed out in the appended claims.

Referring to the accompanying drawings and to the views and reference-signs thereon, Figure 1 is a view in elevation of a press, parts broken away and parts in vertical section, showing a bale-supporting device embodying my invention applied thereto. Fig. 2 is a transverse horizontal sectional view of the same on the line 2 2, Fig. 1, looking in the direction of the arrows.

In the drawings, A designates a framework of suitable, convenient, and desirable size, form, and arrangement adapting it to support the press.

B is the press-chamber, having the tubular extension C. The material to be pressed is introduced to the press-chamber through a suitable slotted cap D. Relative rotation is imparted to the cap-plate D and press-chamber B through the intermeshing gears E and drive-shaft F from any suitable or convenient source. The formed bale finally emerges in a compressed condition from the end of the tubular extension C, and in order that such bale may be provided with its permanent covering I telescope a covering or bag over the extension C, so that as the bale emerges from the extension it is inclosed in the covering.

In the particular form shown, to which I do not restrict or confine myself, the cap-plate

D is stationary and the press-chamber B revolves relative thereto.

The parts so far described may be substantially the same as set forth in my application, Serial No. 625,556, filed March 1, 1897, and in my Patent No. 581,600, dated April 27, 1897, and therefore do not require specific description of the construction, function, or mode of operation herein. It will be sufficient, therefore, for a full and complete understanding of the present invention to merely refer to the fact that the material to be pressed is introduced to the press-chamber through the cap-plate D, and the compression of such material is effected by imparting a relative rotation to the cap-plate and chamber, the material being drawn into the chamber by such rotation and bale built up endwise in continuous spiral layers, each succeeding layer compressed upon the preceding layers, and the friction between the material being compressed and the inner surface of the press-chamber D and the tubular extension C thereof opposing a sufficient resistance to secure the desired or required degree of compression. Thus the bale is gradually formed, and as it forms it is correspondingly advanced through and finally emerges from the open end of the tubular extension C completely formed and compressed and inclosed in its permanent covering or bag.

From the foregoing description it will be readily seen that the greatest compression of the bale is endwise thereof, and therefore as the bale emerges from the end of the tubular extension C the bale tends to expand more or less endwise. Moreover, as it is the design and purpose to compress the material—for instance, cotton—into bales of considerable weight—say of several hundred pounds—it is important to provide means for supporting the bale as it emerges from the press.

In the drawings I have shown a form of means for securing this result wherein I provide a suitable cross beam or head 25, mounted to slide upon and be guided by the two fixed rods 26. Upon a pin 27, carried by the cross head or beam 25, is journaled to rotate freely a head or platform 28, which forms the



support upon which the end of the emerging bale rests. To the cross head or beam 25, and preferably on either side thereof, is connected one end of a rope or cable or other suitable connection 29 30, said ropes or cables being arranged to pass over suitable guide-pulleys 31 and being connected at their other ends to suitable weights 32. From this description it will be seen that I provide a yielding support for the bale as it emerges from the press and that such support is constantly maintained against the forward end of the bale as it emerges by means of the weights 32. As the bale emerges farther and farther it becomes heavier and heavier, and it seems desirable to increase the resistance to the recession of the platform 28 in order to effectually counterbalance the increasing weight of the bale. To this end I provide a series of weights 32, connected together at different points in the length of a chain or other suitable connection 33. Therefore as the bale emerges farther and farther the platform 28 recedes farther and farther, and hence the weights 32 are successively raised, thereby increasing the resistance as the weight to be resisted increases.

Since, as will be seen from the foregoing description, the cross head or beam 25 does not rotate with the press-chamber B or its extension C, it is important that the platform or support 28 rotate freely, and hence said platform is journaled to rotate freely upon the pin 27. In order that the bag or covering of the bale may not be rubbed threadbare or injured by a rotation of the end of bale upon and against the top surface of the platform 28, it is important to insure a rotation of the platform 28 with the bale. To this end, therefore, I provide said platform with the projecting pins 34, which engage the end of the bale, and hence insure the rotation of said platform with the bale.

In order to enable the bale to be removed when finally a sufficient length has emerged from the open end of the extension C, I provide the following arrangement: To the cross-head 25 I attach a rack-bar 35, adapted to slide between suitable guide-rollers 36 and 37, one of which is a gear-wheel, with which the teeth of said rack intermesh, and is mounted on a shaft 38. This shaft is connected by suitable belt connection 39 to a crank-shaft 40, by which said shaft 38 may be rotated when desired by hand. The operation is as follows: As the head 25, carrying the platform 28, is moved away from the tubular extension by the emerging bale the rack-bar 35 is also projected endwise. A ratchet mechanism 41 on crank-shaft 40 permits said shaft to freely rotate through the belt connections 39 and the intermeshing of the rack 35 and the gear-wheel 37 during the endwise movement of the rack-bar, such ratchet normally preventing rotation of the crank-shaft 40 in the opposite direction. When the desired length of bale has emerged from the press,

the crank-shaft 40 is further rotated by hand, thereby lowering the platform 28 away from the end of the bale, and hence permitting the column of material forming the bale to be broken or cut off to the desired length and removed, and when so lowered the whole is supported by the material contained in the chamber and which has not yet emerged therefrom. When the bale is finally removed, the pawl of the ratchet mechanism 41 is disengaged from the ratchet-teeth with which it engages, and thereupon the pull of the weights 32, through connections 29 and 30, returns the cross-head and platform to the end of the extension C to receive another bale, and the operation proceeds as before.

It will be understood from the foregoing description that the formation and compression of the bale have been completed by the time it emerges from the delivery end of the extension C, and therefore the bale-support hereinbefore described is not for the purpose of opposing a compression resistance to the advancement of the bale, but is for the purpose of supporting the bale and counterbalancing the weight thereof as it emerges and preventing endwise expansion thereof.

Having now set forth the object and nature of my invention and a form and arrangement of apparatus embodying the same, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent of the United States, is—

1. In a cotton or other press, an open-ended chamber, a slotted cap-plate therefor and means for relatively rotating said chamber and cap-plate, in combination with a movable cross-head, a platform carried thereby and arranged adjacent to the open end of said chamber to receive the bale as it emerges therefrom and means for yieldingly opposing the recession of such cross-head as the bale advances, as and for the purpose set forth.

2. In a cotton or other press, an open-ended chamber, a slotted cap-plate therefor and means for relatively rotating said chamber and cap-plate in combination with a movable cross-head, means for counterweighting the same and a platform carried by said cross-head and arranged to receive the bale as it emerges from said chamber, as and for the purpose set forth.

3. In a cotton or other press, an open-ended chamber, a slotted cap-plate therefor and means for relatively rotating said chamber and cap-plate in combination with a movable cross-head, ropes or cords attached thereto, and connected to weights, and a platform carried by said cross-head and arranged to receive the bale as it emerges from the chamber, as and for the purpose set forth.

4. In a cotton or other press, an open-ended chamber, a slotted cap-plate therefor and means for relatively rotating said chamber and cap-plate in combination with a movable cross-head, a series of weights and connections between said cross-head and weights,



whereby said cross-head is yieldingly held in position to receive the bale as it emerges from the open end of the chamber, as and for the purpose set forth.

5 5. In a cotton or other press, an open-ended chamber, a slotted cap-plate therefor, means for rotating said chamber relatively to said cap-plate, a cross-head, means for yieldingly holding said cross-head adjacent to the open  
10 end of said chamber, and a platform rotarily mounted on said cross-head and adapted to receive the bale when it emerges from the chamber, as and for the purpose set forth.

15 6. In a cotton or other press an open-ended chamber, a slotted cap-plate therefor, and means for relatively rotating said chamber and cap-plate, in combination with a movable cross-head arranged to receive the bale as it emerges from the chamber, means for yield-  
20 ingly maintaining said cross-head against the

end of said bale, and means for independently moving said platform relative to the bale, as and for the purpose set forth.

7. In a cotton or other press, an open-ended chamber, a slotted cap-plate therefor, and 25 means for relatively rotating said chamber and cap-plate in combination with a cross-head arranged to receive the bale as it emerges from the chamber, means for yieldingly supporting said cross-head, a rack-bar connected 30 to said cross-head, a gear arranged to engage said rack-bar and means for actuating said gear at will, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 12th day of June, 1897, in the pres- 35  
ence of the subscribing witnesses.

GEORGE A. LOWRY.

Witnesses:

H. H. HUMPHREY,  
S. E. DARBY.