(No Model.) 2 Sheets—Sheet 1.

A. D. THOMAS.

COTTON PRESS.

No. 309,995. Patented Dec. 30, 1884.

Fig. 1.

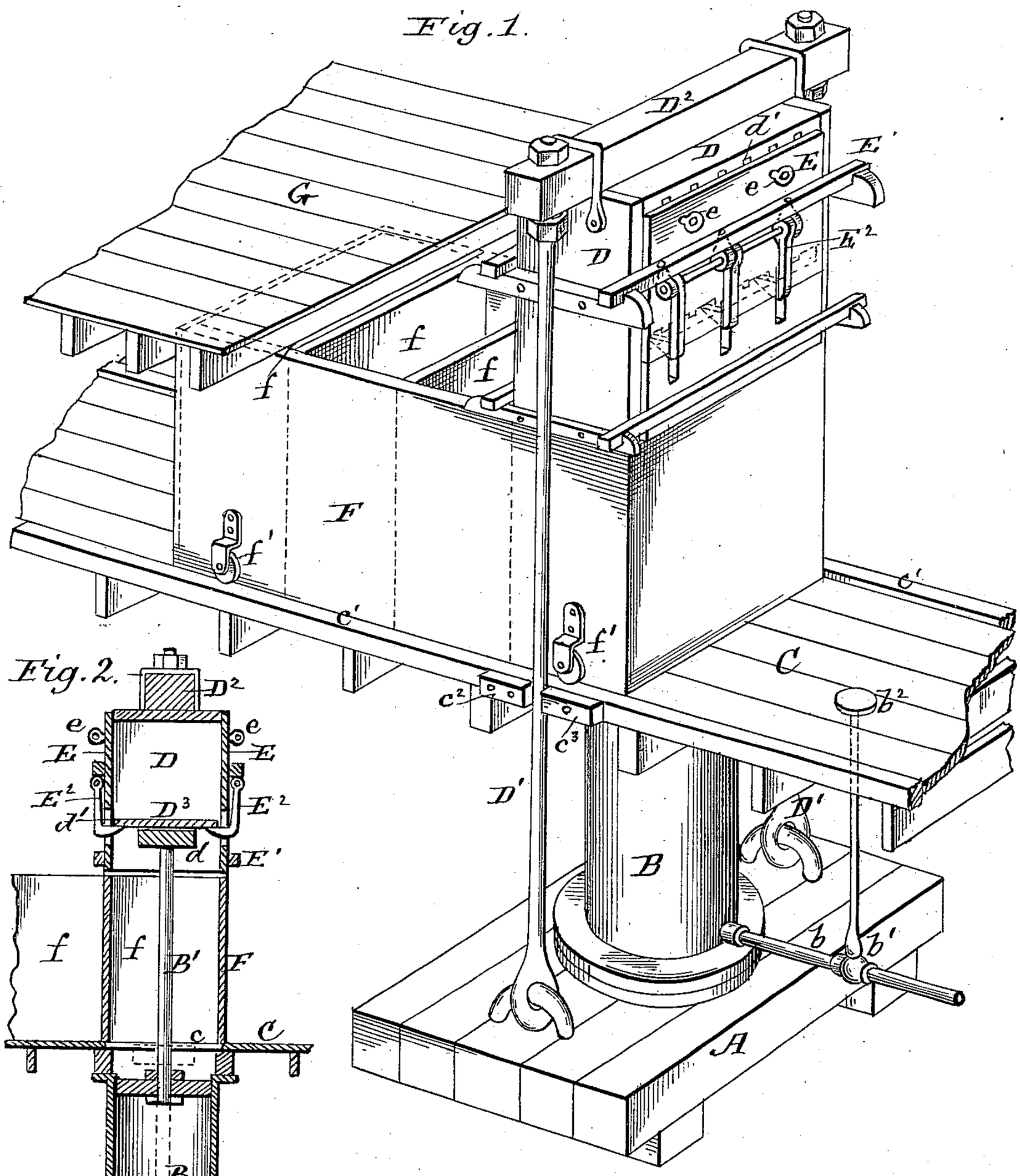

Fig. 2.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 3.

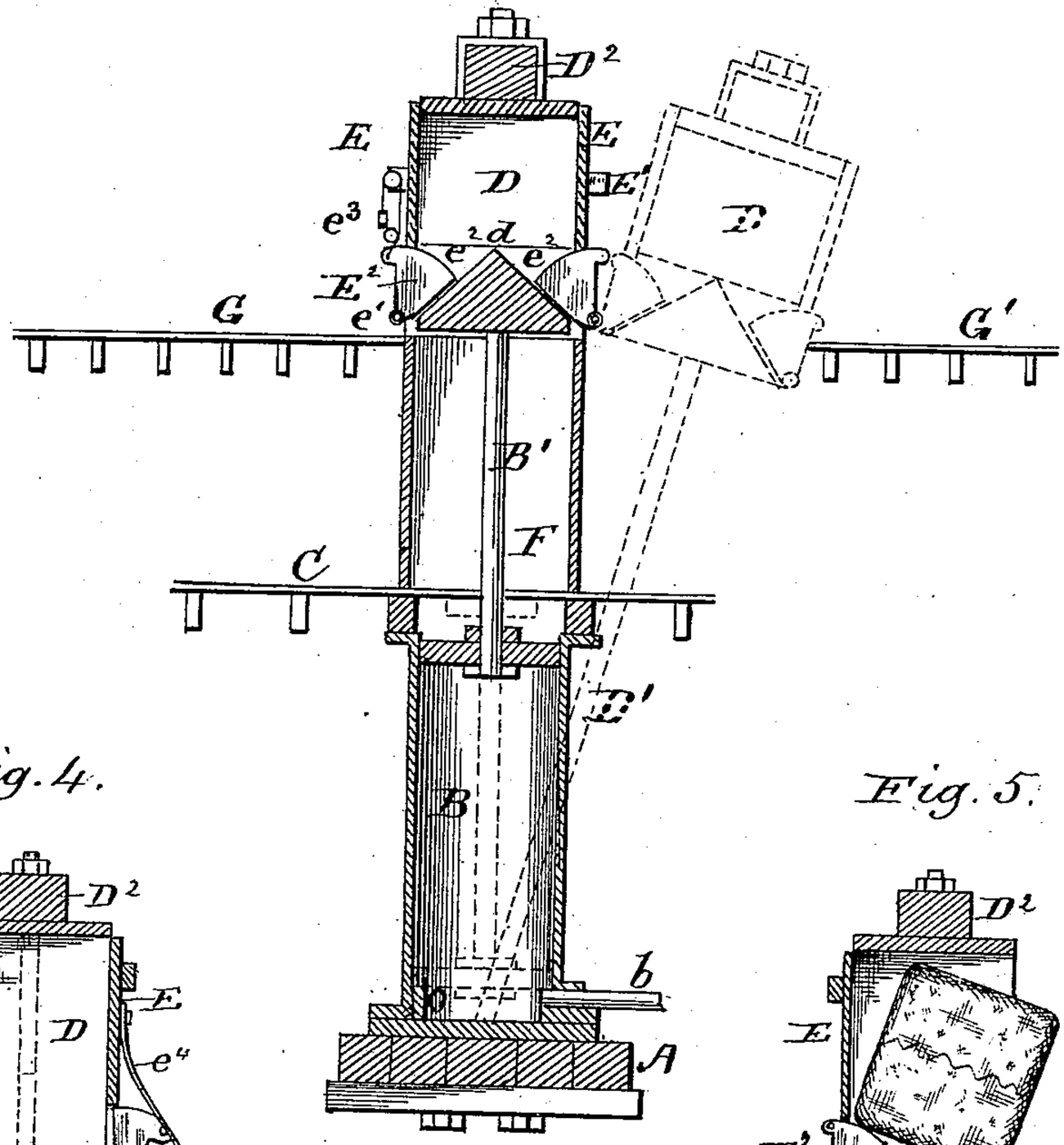


Fig. 4.

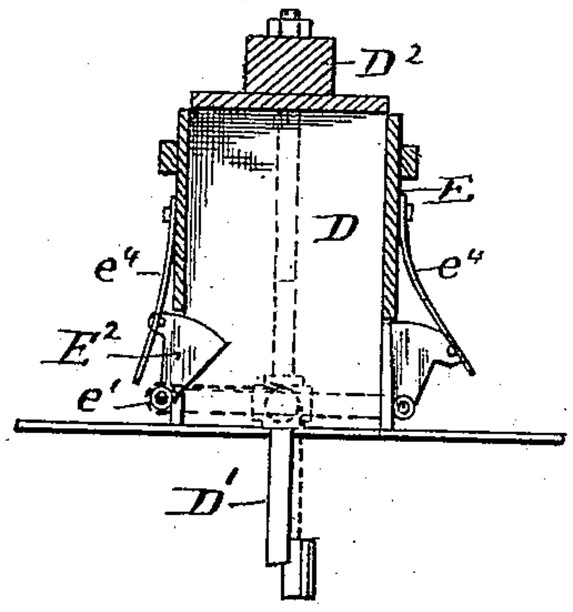


Fig. 5.

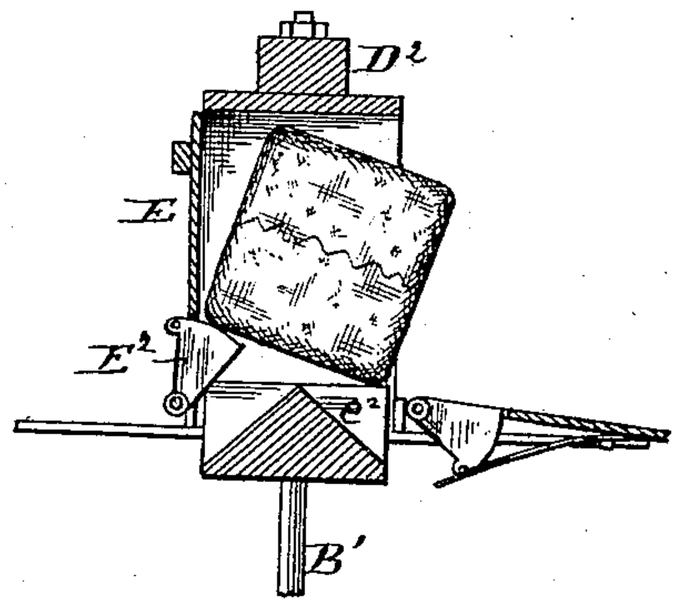
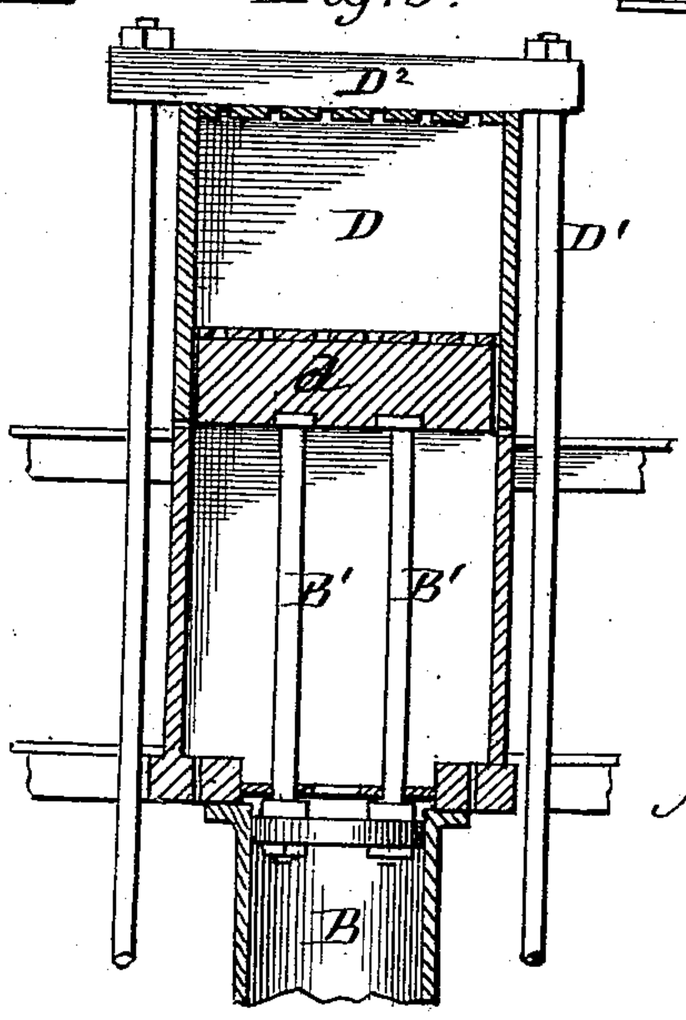


Fig. 6.



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UNITED STATES PATENT OFFICE.

ABNER D. THOMAS, OF LITTLE ROCK, ARKANSAS.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 309,995, dated December 30, 1884.

Application filed May 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, ABNER D. THOMAS, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in Cotton-Presses, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a perspective of a press constructed in accordance with my invention. Fig. 2 is a central vertical section, and Fig. 3 is a similar section, of a modification of my invention. Fig. 4 is a vertical section through the upper portion of the press, with the follower removed. Fig. 5 is a similar view with the follower lowered a short distance, showing a cotton-bale ready to be discharged. Fig. 6 is a vertical section showing the follower supported by two piston-rods.

Like letters refer to like parts.

My invention relates to cotton, hay, and other presses, and to that class of the same in which a steam-cylinder is employed, the piston of which is adapted to compress the material into the baling-chamber; and my invention consists in certain features hereinafter described, and specifically set forth in the claims.

On a suitable foundation, A, I secure a steam-cylinder, B, provided with a steam-supply pipe, *b*, having a regulating-valve, *b'*, the stem of which is extended upwardly to an accessible locality, as at b^2, in order that the operation of the piston may be controlled at will.

Any suitable exhaust-pipe may be supplied to the cylinder.

Above the upper end of the cylinder B there is a staging or floor, C, having an aperture or opening, *c*, for the passage therethrough of a follower, *d*, secured to the outer end of the piston-rod B' of the cylinder. The baling-chamber D is supported by rods D', pivotally connected to the foundation A, and has a cross-beam, D^2, rigidly connected or secured to the upper ends of the rods D'. The upper wall of the baling-chamber is provided with the usual bale-tie slots, *d'*, and similar slots are provided in the follower. Cleats on the outer surface of the end walls of the baling-chamber sustain the cross-bars E', which are secured to or placed against doors E, for the purpose of retaining them in position during the compressing operation.

E^2 represents pendent dogs suspended from the cross-bar E', and so hinged that by gravity they assume a vertical position, so as to present their points beneath the cotton or other material compressed in the chamber.

F represents a casing or box, having in this instance several compartments, *f*, each of the capacity to retain an ordinary charge of the material to be baled. Above the box F is a floor, G, which may be employed for the storage in bulk of the substance to be baled, so that it may be readily transferred from the floor into one of the compartments *f* and tramped down, while the contents of a previously filled compartment is being emptied by the passage of the follower and piston therethrough, so that the contents of the compartment is carried up to and compressed within the baling-chamber D. The box F is supported by casters or rollers *f'*, running on the track *c'*, arranged on the floor C.

c^2 represents a stop against which one of the rods D' abuts when the baling-chamber is directly over the follower, and c^3 represents a button the pivot of which is at such a distance from the rods D' that, when turned, the baling-chamber may, if desired, be inclined, so as to deliver the bale from said chamber unto the floor C; but this operation I prefer to avail myself of in the modification shown in Fig. 3, which will hereinafter be described; and said rods may be retained permanently in a vertical position, as shown in Fig. 4, and the bale of cotton be discharged, as shown in Fig. 5, by slightly lowering the follower, while one corner of the bale is still supported by the dogs E^2. After a bale has been compressed the doors are removed and the ties are introduced into the slots, the bale tied off and delivered from the chamber by any suitable means and in any suitable manner, but preferably as shown in Fig. 5, when the doors are again replaced and the box is ready to be filled, and after it is filled the valve-stem b^2 is operated to give a fresh supply of steam beneath the depressed piston or pistons, and the contents are thereby forced as a charge into the chamber. The hooks or

dogs retain the charge within the chamber. The exhaust-port is then opened, the piston descends by gravity, and the box F is moved along to present another compartment, and during this operation still others may be filled ready to be moved along over the follower.

By the construction thus far described it will be seen that several persons may be simultaneously employed in preparing material to be compressed, in compressing it, and tying it off and delivering the bales, and the whole work is accomplished with economy of space and a minimum quantity of labor involved in the operation.

In the construction shown in Fig. 3, wherein I employ a tilting chamber, the floor G is on a line with the floor G′. Said additional floor is provided with an opening to permit of the inclination of the baling-chamber D. In this case I employ counterbalanced dogs E^2, pivotally supported at e' to the frame of the chamber. They are adapted to enter grooves e^2 in the follower *d*, and they have counterbalancing-weights e^3, supported by cords or chains passing over pulleys supported in any suitable manner on the frame or sides of the chamber D; but they may have springs e^4, as shown in Fig. 4. In this modification I employ but one box, of a size adapted to permit the follower to pass therethrough to compress the material deposited therein from the floor G into the baling-chamber D, which is preferably tilted off from over the filling-chamber. Previous to the last filling wrapping material for the lower half of the bale is laid on the follower, and after the follower has been run up for the last time it is held in position by steam. The doors are then opened, and the bale is tied, after which the exhaust-passage is opened. The dogs on one side retain one side of the bale, while the other is sufficiently tilted for the bale to be thrown out of the press. The doors are then closed and the operation repeated.

The piston is provided with two piston-rods passing through a flat bar or guides secured to the top of the cylinder, to elevate both ends of the follower uniformly through the filling-chamber.

Having described my invention and its operation, I claim as new and desire to secure by Letters Patent—

1. The combination of a steam-cylinder and its piston with a baling-chamber secured above the cylinder, a track having straight rails *c′*, and a box having several compartments supported upon said rails, and adapted to be moved in line with the cylinder and baling-chamber successively, substantially as specified.

2. The combination, with a steam-cylinder and its piston, of a baling-chamber pivotally connected to the foundation thereof, and a box having one or more compartments mounted upon a straight track, and arranged with the cylinder and baling-chamber, substantially as specified.

3. The combination of a vertical steam-cylinder and box having one or more compartments, and a baling-chamber provided with pivoted dogs for retaining successive charges in said baling-chamber, and means, as shown and described, whereby the baling-chamber may be inclined, substantially as specified.

4. The combination of the cylinder B, the box F, adapted to move upon the track *c′*, the floor G, rods D′, and the baling-chamber D, substantially as shown and described.

5. The combination of the base A, cylinder B, supply-pipe *b*, valve-stem b^2, the tracks *c′*, the compartment-box F, the floor G, and the baling-chamber D, having the dogs E^2, substantially as shown and described.

6. The combination of the baling-chamber D, provided with oscillating dogs E^2, with a steam-chamber, B, the piston of which is connected to the follower D, having grooves e^2 for the reception of the dogs, substantially as specified.

7. The combination of the baling-chamber D, the filling-chamber placed under said baling-chamber, and a steam-cylinder located under the filling-chamber and having a piston provided with double piston-rods, substantially as and for the purpose described.

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

ABNER D. THOMAS.

Witnesses:
P. H. ROOTS,
WILLIAM B. WAIT.