(No Model.) 2 Sheets—Sheet 1.

W. W. SEELEY.

BALING PRESS.

No. 332,291. Patented Dec. 15, 1885.

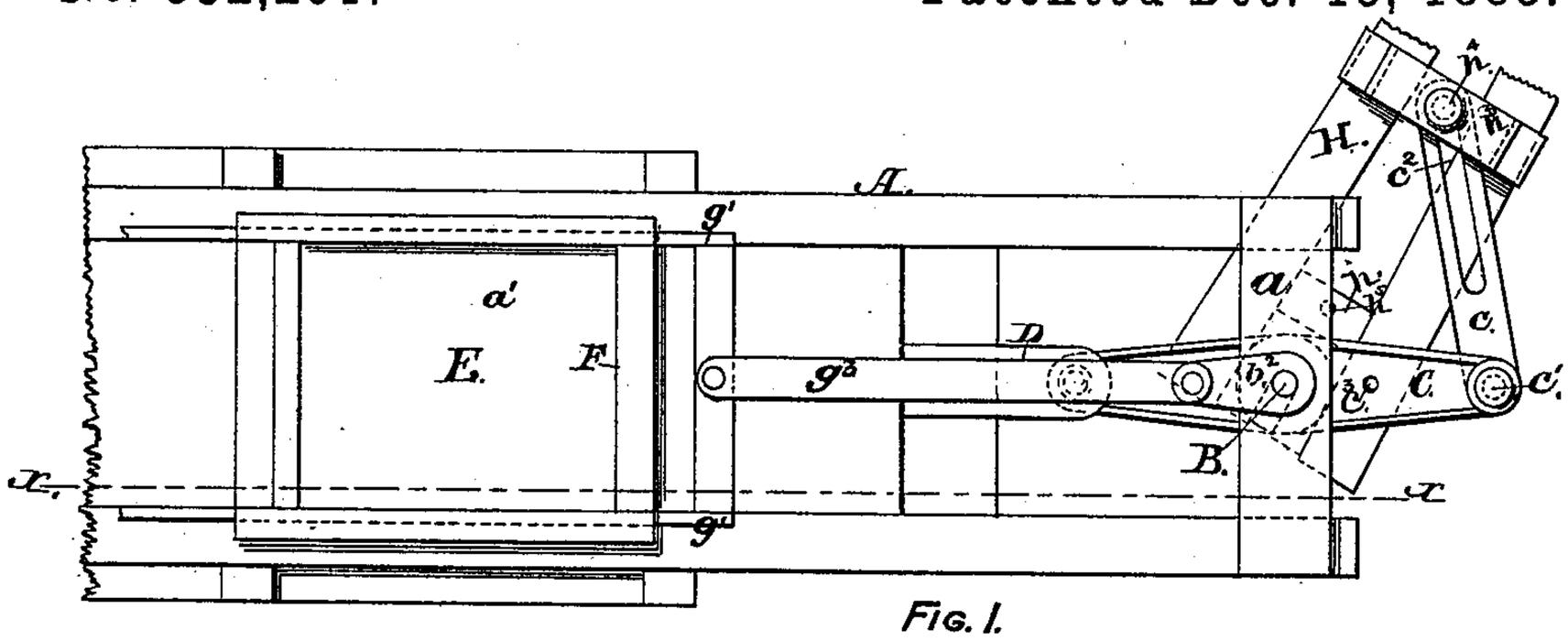

FIG. 1.

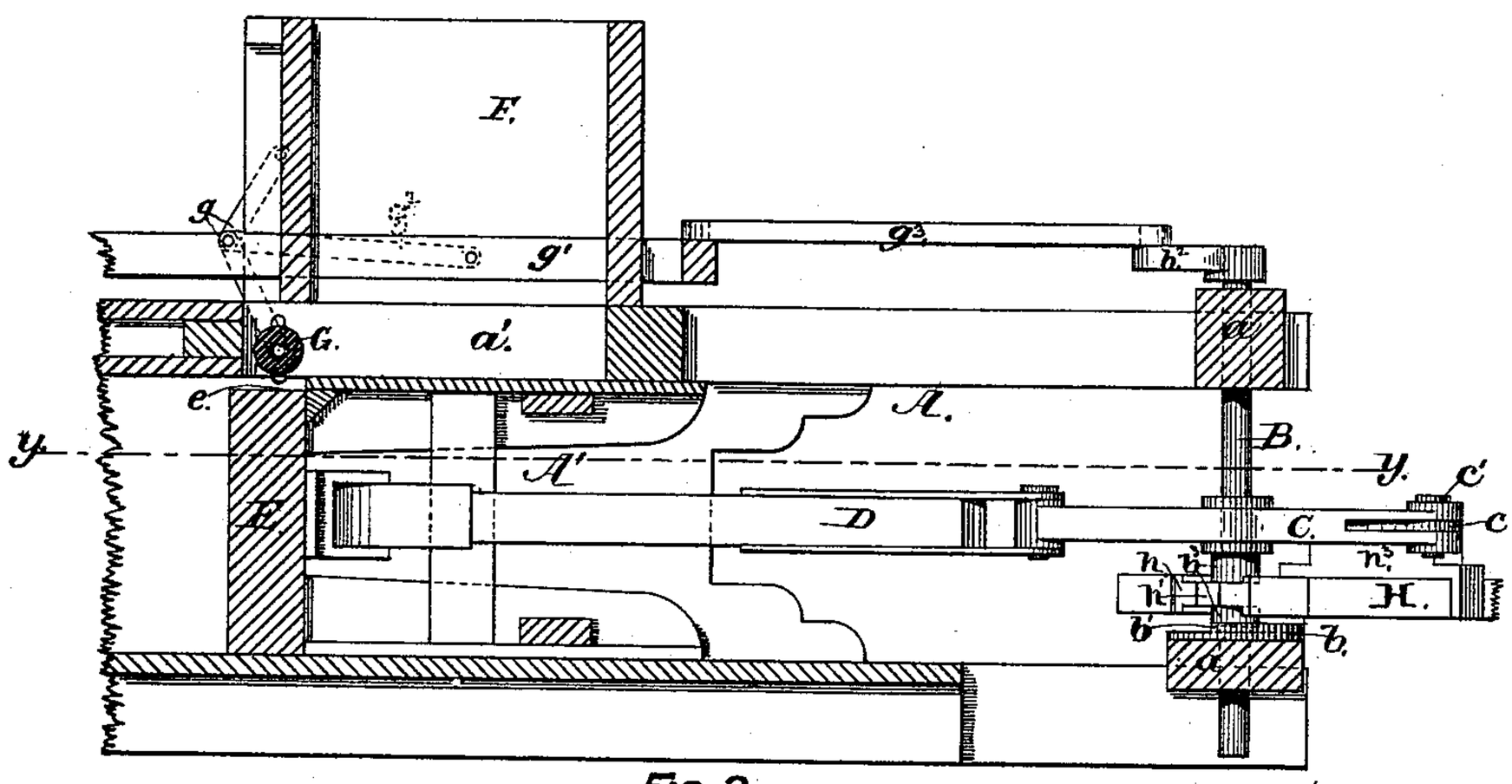

FIG. 2.

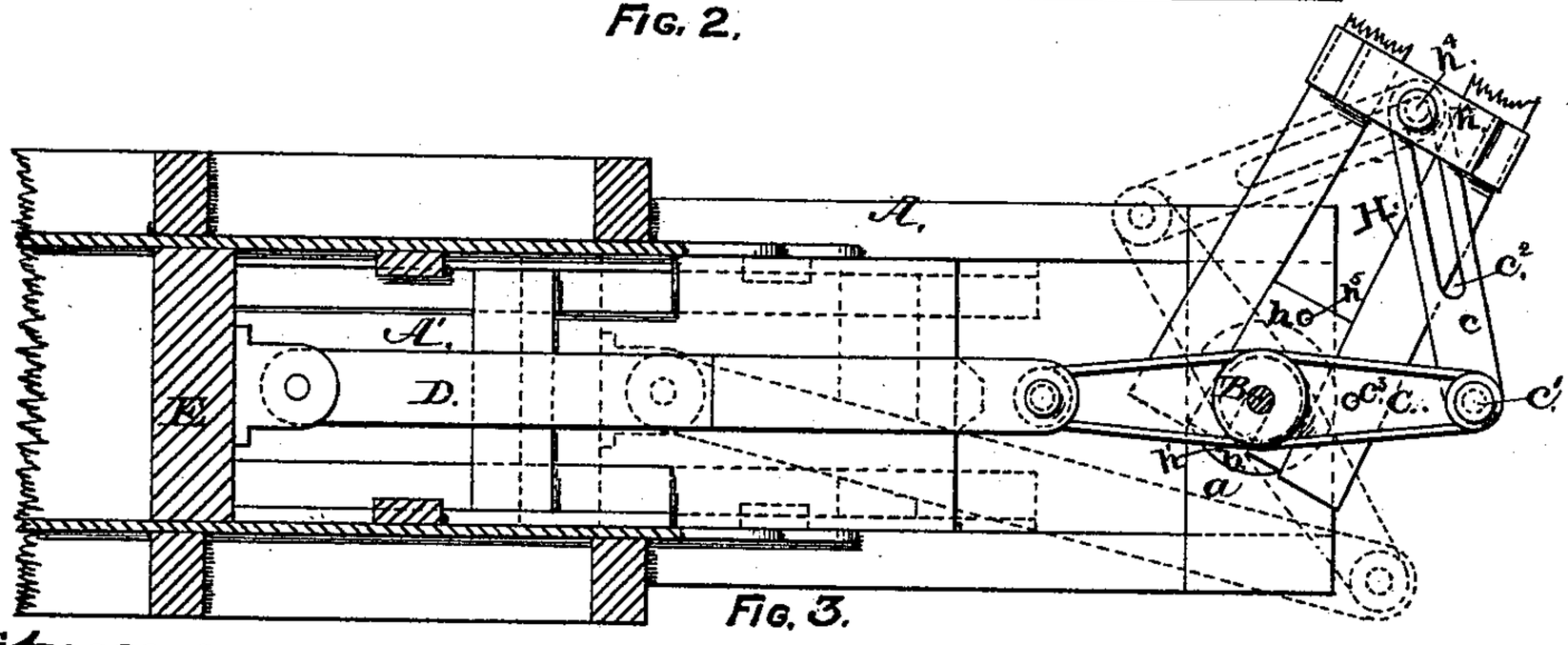

FIG. 3.

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(No Model.)

2 Sheets—Sheet 2.

W. W. SEELEY.

BALING PRESS.

No. 332,291. Patented Dec. 15, 1885.

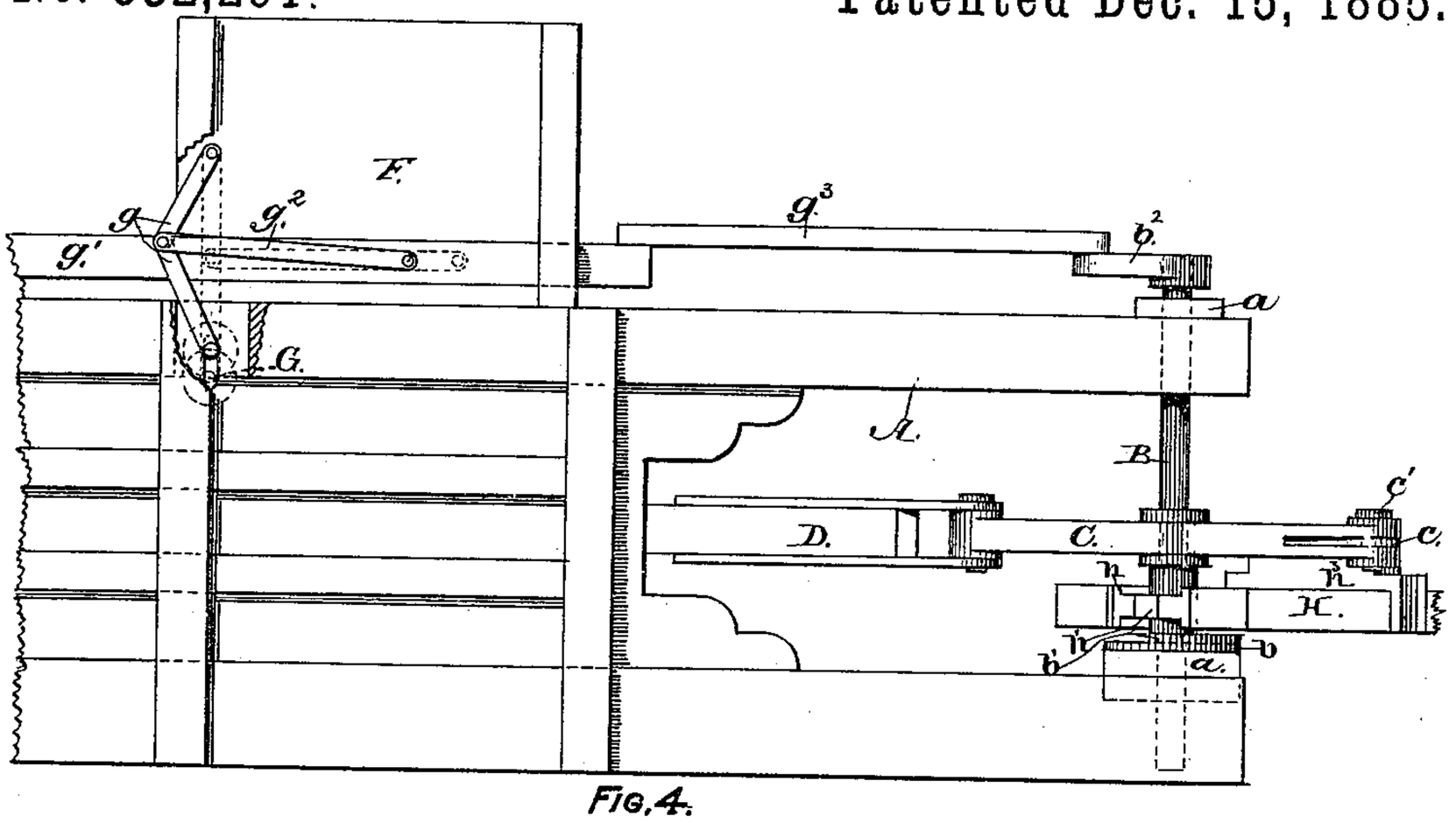

FIG. 4.

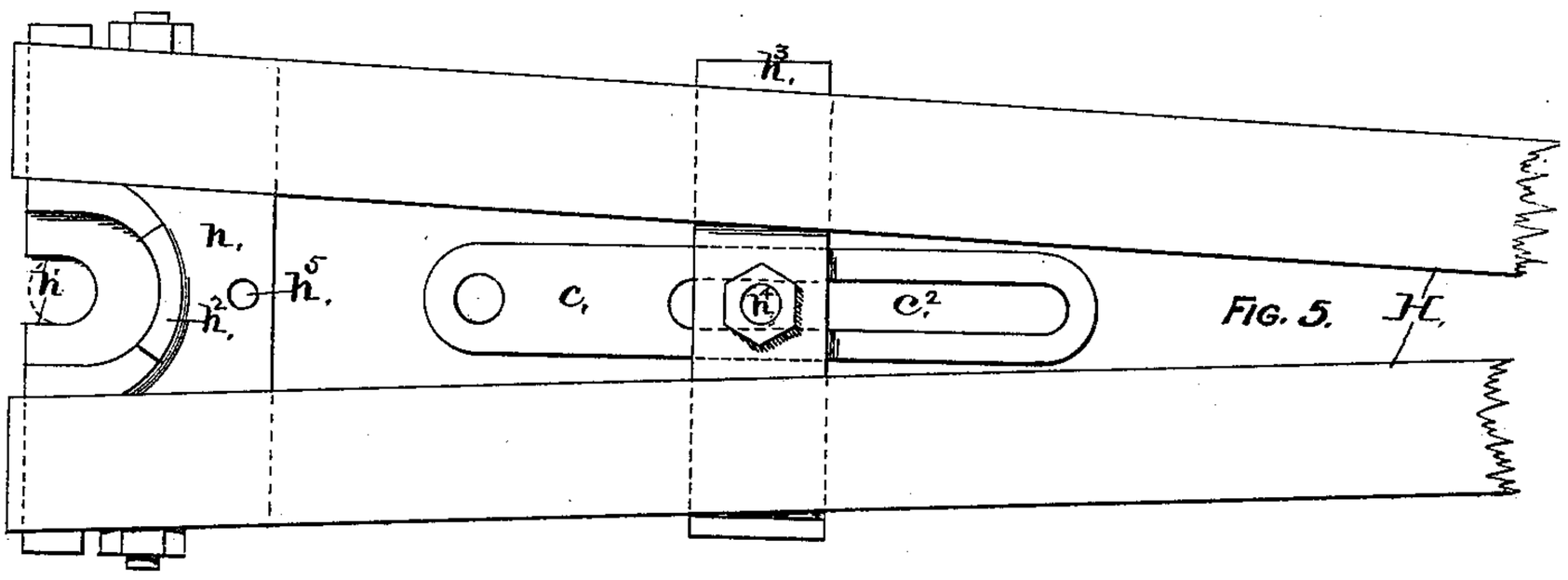

FIG. 5.

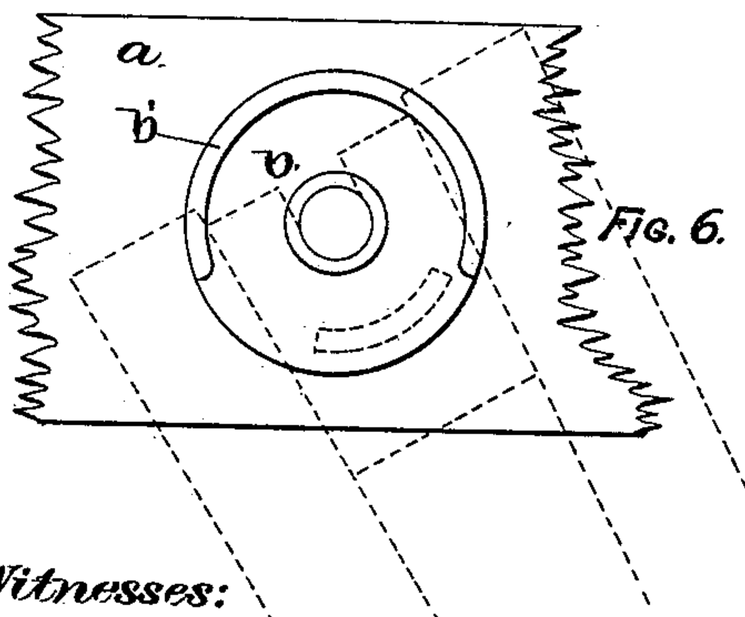

FIG. 6.

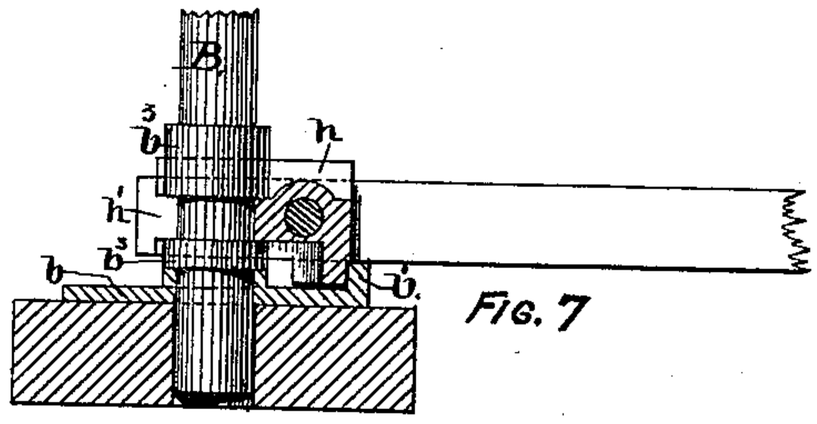

FIG. 7

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UNITED STATES PATENT OFFICE.

WILLIAM W. SEELEY, OF ALBANY, NEW YORK.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 332,291, dated December 15, 1885.

Application filed January 5, 1885. Serial No. 152,013. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. SEELEY, of the city and county of Albany, in the State of New York, have invented new and useful Improvements in Baling-Presses, of which the following is a full and exact description, reference being had to the accompanying drawings, which form part of this specification, and in which—

Figure 1 is a plan view of that part of a press that is affected by my invention; Fig. 2, a vertical section of the same at the line *x x;* Fig. 3, a horizontal section at the line *y y* of Fig. 2; Fig. 4, a side elevation; Fig. 5, an enlarged inverted plan view of one end of the sweep; Fig. 6, an enlarged plan view of lower bearing for the shaft; and Fig. 7, an enlarged vertical section of same, showing the manner of locking the sweep in position.

One of the greatest defects in horizontal baling-presses in which a reciprocating plunger is employed consists in the tendency of the plunger to violently rebound at the moment the point of greatest applied pressure is passed. This defect is most serious when the press is used for compressing hay or other elastic material, when the rebounding movement of the plunger is transmitted through the operating mechanism to inflict serious injury to the animals attached to the sweep for the purpose of imparting the required motion to the plunger.

The object of this invention is to remedy this defect, and by utilizing the force of the rebound to effect the return of the plunger to the outer end of its movement to convert a serious evil into a positive and harmless advantage.

As represented in the drawings, A is the frame-work of the press, and of the latter only the pressing-chamber, the feeding-hopper, the plunger, and the operating mechanism are shown. In the cross-ties *a* at the outer end of the frame-work the vertical shaft B is journaled to vibrate.

On the upper face of the lower cross-tie, *a*, a plate, *b*, is secured, to form part of the lower bearing of the shaft B. Said plate is provided with a standing segmental flange, *b'*, for the purpose of forming a locking device for securing the sweep in place. A double arm or working-beam, C, is secured to the shaft B, and has one of its ends connected, by means of the connecting-rod D, to a plunger, E, that is fitted to reciprocate in the pressing-chamber A' of the press. To the opposite end of the arm C a connecting-link, *c*, is pivoted to swing freely on the pin *c'*. Said link is provided with a slotted opening, c^2, through which a pin, h^4, is inserted, to connect said link with the bridge-piece h^3, secured to the sweep H, by which power is applied to operate the press. The feeding-hopper F is in the form of an open-top box that is located over the feed-opening *a'* in the upper side of the pressing-chamber A'. At one end of the opening *a'* a movable roller, G, is fixed to reciprocate vertically above the inner end of the plunger E when the latter is at the extremity of its inward stroke. Said roller is journaled in the lower ends of jointed levers *g*, which are adapted to move from the angular line shown by the full lines in Fig. 4 up to and into a direct line, as indicated by dotted lines in the same figure. The levers *g* are arranged to operate as a toggle-joint, and derive their motion from the slides *g'*, which are connected to said levers by the rods g^2. The slides *g'* are connected by the pitman g^3 to an arm, b^2, secured to the upper end of the shaft B, the said arm being proportioned and arranged so as to move the jointed levers *g* from a direct line into the angular position above referred to. The purpose of the roller G is to press down and retain in place each compressed charge of material as quickly as the plunger begins its recession from its innermost movement, and to permit said roller to perform its work properly the plunger E has a rabbet, *e*, cut across its upper side at its inner end.

The sweep H, I preferably make of two limbs, as shown in Fig. 5, which are connected together at their outer ends and spread apart at their inner ends to receive the tie-plate *h*. Said tie-plate is provided with a notch, *h'*, which is fitted to the shaft B between the collars b^3, and forms a bearing for said sweep H on said shaft. Said tie-plate has on its under face a short segmental flange, h^2, that is adapted to slide freely inside of the segmental flange *b'*, the said two flanges forming an interlocking device, to prevent the sweep H from becoming displaced from the shaft B until said sweep is thrown around in the angular position indicated by the dotted lines in Fig. 6, into

which position said sweep cannot be moved until the link *c* is disconnected from the arm C. The bridge-piece h^3 is secured to the sweep H and is provided with a pin, h^4, which engages in the slotted opening c^2 of the link *c*.

As shown in the drawings, the arm C is in its central position and the plunger E is at the innermost extreme of its movement, the sweep H then being near its extreme movement past either side of the center line of the press. When the parts are in the positions described, the operation is as follows: The sweep H is moved a little farther toward the side to which it is inclined, until the arm C is carried out of a direct line with the connecting-rod D. When this point is attained, the resilient action of the hay or other elastic material under compression in the press will cause the plunger E to rebound, and thereby the several parts will be thrown into the positions indicated by dotted lines in Fig. 3. In accomplishing this end the slotted opening c^2 permits the link *c* to slip freely by the pin h^4 until the outer end of said slotted opening engages with the opposite side of the pin h^4. At the same moment the plunger E will reach the extreme point of its outer movement, so as to permit a charge of material in the feeding-hopper F to fall into the pressing-chamber A'. The sweep H is then moved in a reverse direction to again force the plunger inwardly and reproduce the rebounding action of the plunger above described, and these operations may be continued at pleasure.

When the press is to be used for compressing any non-elastic material, or when, for any reason, it is required to draw back the plunger E by any positive means, a pin may be inserted for that purpose into the hole c^3 in the arm C, so as to engage in the hole h^5 in the tie-plate *h*, and so that the arm C will thereby be secured in a direct line with the center line of the sweep H. Under the last-named conditions the arm C and sweep H will always move as one piece.

I claim as my invention—

1. In a baling-press, the combination, with a reciprocating plunger, E, of the vertical rocking shaft B, having the working-beam C secured thereto, the said rocking shaft also forming a pivotal center for the operating-sweep H, which has a free motion thereon, one end of the working-beam C being connected by the rod D to the plunger E, and the opposite end being constantly connected by the slotted link *c* to the sweep H, all being constructed and arranged to operate as and for the purpose herein specified.

2. The combination, with the shaft B, provided with the arm b^2, of the roller G, journaled in the jointed levers *g*, as herein described, the slides *g'*, and rods g^2 and g^3, constructed and arranged to operate as herein specified.

3. In a baling-press, the roller G, arranged in the rearmost end of the feeding-opening *a'*, and adapted to be reciprocated vertically by means of a positive motion, as and for the purpose specified.

4. The detachable sweep H, provided with a tie-plate, *h*, having a notch, *h'*, fitted to engage with the driving-shaft of the press, and having a segmental flange, h^2, which engages with a fixed segmental flange, *b'*, for the purpose of securing said sweep to the press, as herein specified.

5. In a baling-press, the combination, with a horizontal pressing-chamber and a horizontally-reciprocating plunger, of a vertical rocking shaft having a working-beam secured thereto, as herein described, one end of said working-beam being connected by a pitman to the said reciprocating plunger, and the opposite end of said working-beam being constantly connected, by means of a slotted link, to the sweep for operating the press, the said sweep being freely fulcrumed on the rocking shaft, which carries the aforesaid working-beam, all being constructed and arranged to operate as herein specified.

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Witnesses:
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S. B. BREWER.