

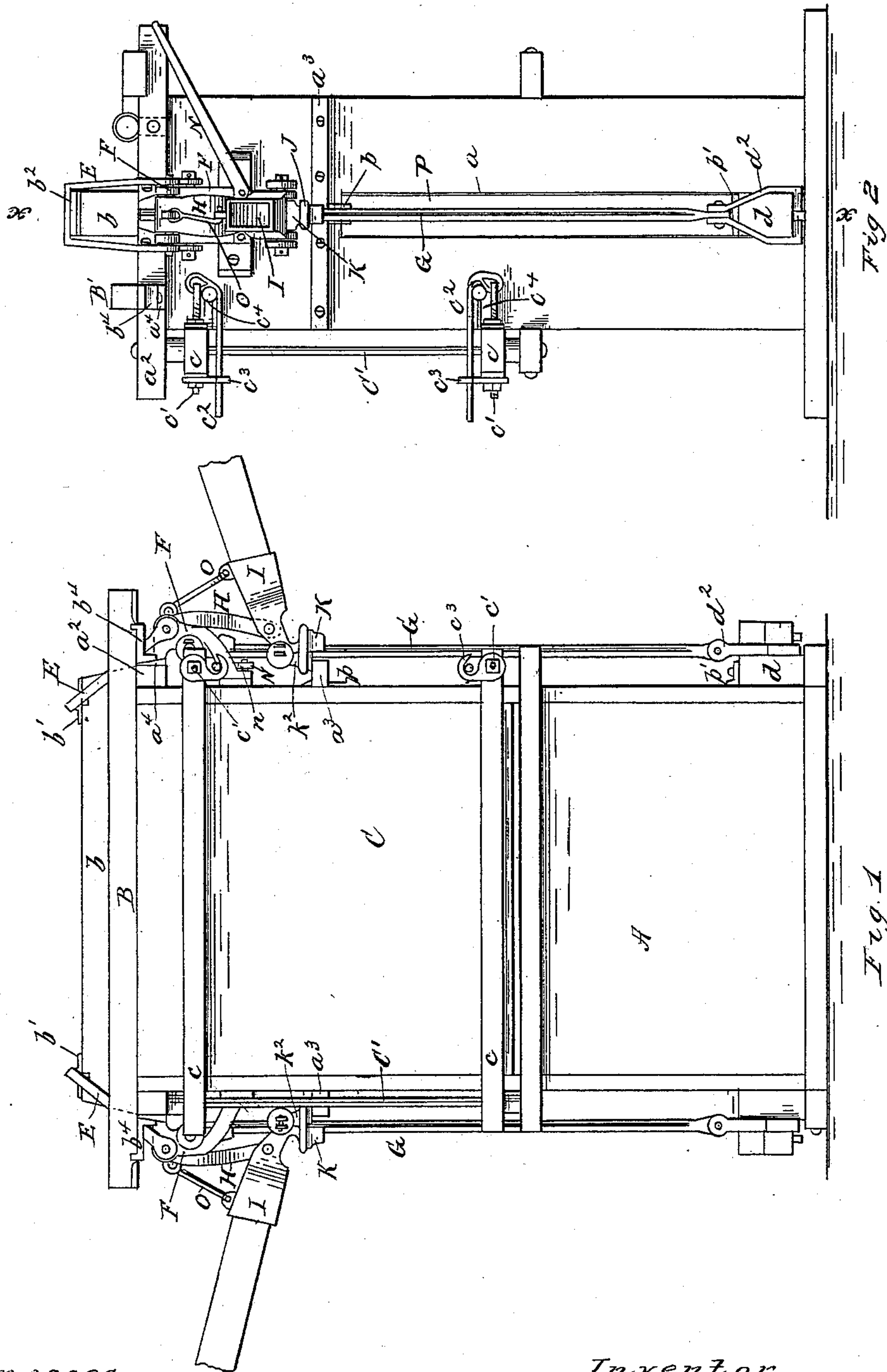
(No Model.)

2 Sheets—Sheet 1.

A. ANDERSON.
BROOM CORN PRESS.

No. 268,069.

Patented Nov. 28, 1882.



Witnesses
W. C. Collins,
Jno. C. MacGregor,

Inventor
Abraham Anderson.
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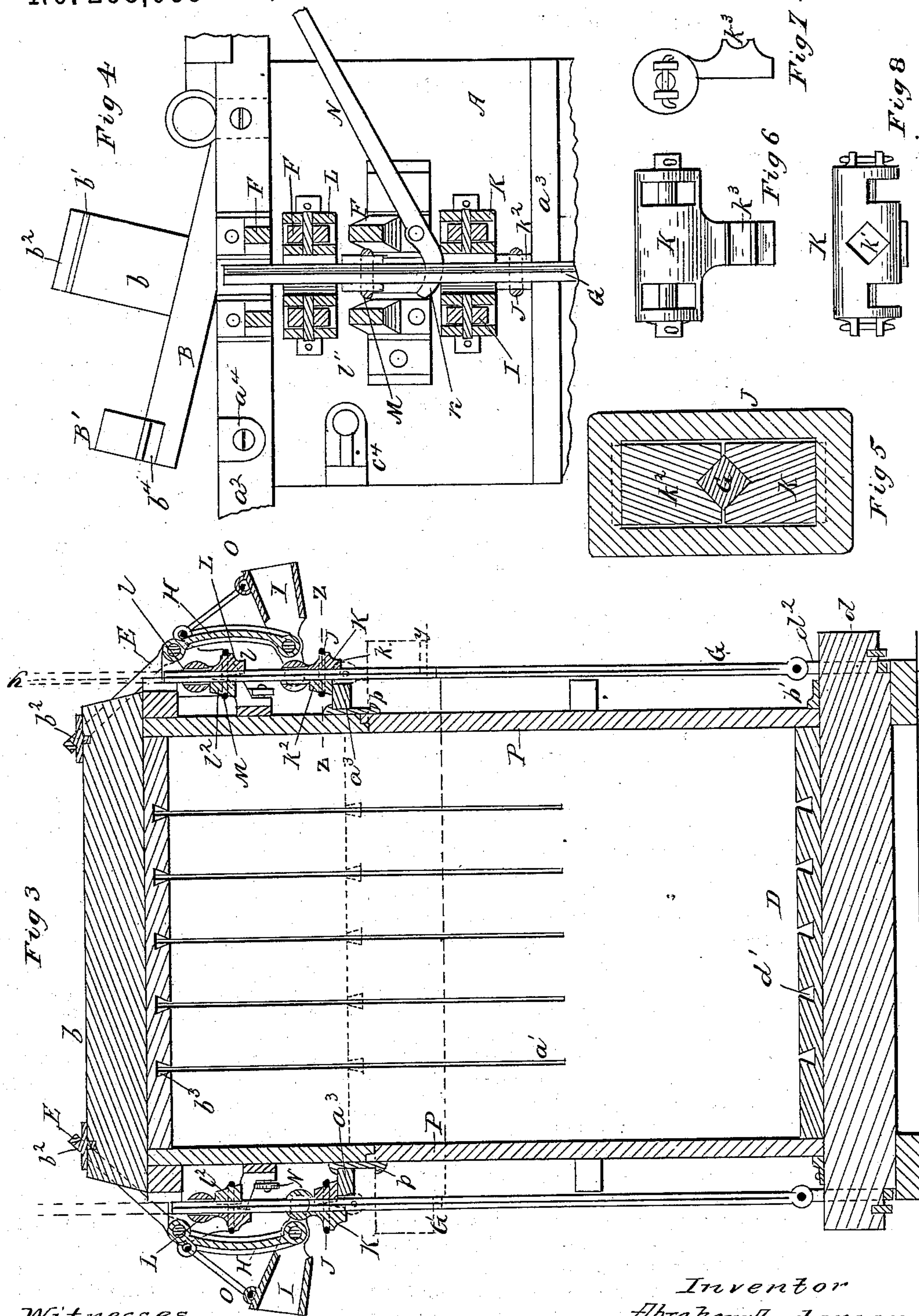
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UNITED STATES PATENT OFFICE.

ABRAHAM ANDERSON, OF GALESBURG, ILLINOIS.

BROOM-CORN PRESS.

SPECIFICATION forming part of Letters Patent No. 268,069, dated November 28, 1882.

Application filed July 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM ANDERSON, a citizen of the United States, residing at Galesburg, in the county of Knox, in the State of Illinois, have invented certain new and useful Improvements in Broom-Corn Presses, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a front side elevation of a press embodying my improvements; Fig. 2, an end elevation of the same; Fig. 3, a vertical section of the same, taken on the line xx , Fig. 2; Fig. 4, a detail section on an enlarged scale, taken on the line yy , Fig. 3; Fig. 5, a detail plan section, taken on the line zz , Fig. 3, on a still more enlarged scale; Fig. 6, a front elevation of the main jaw of the lifting-clamp on the same scale as Fig. 4; Fig. 7, an end elevation of the same, and Fig. 8 a plan view of the same.

My invention relates to a press for putting up broom-corn in bales; and the invention consists in various mechanisms for operating the press and devices whereby the fastening of the bale is readily accomplished.

I will proceed to describe in detail the construction and operation of a press in which I have practically carried out my invention in one way, and will then point out definitely in the claims the special improvements which I believe to be new and wish to protect by Letters Patent.

In the drawings, A represents the press-box, which is shown of rectangular shape in cross-section, and is made of any height desired. This box is open at the top, and is provided with a lid, B. It is also provided with a door, C, at the front side, reaching about half-way down the box, so that the front side of the press-box may be thrown open to this extent whenever desired. In the ends of the box slots a are cut, running from the bottom upward as far as the follower is intended to move. The follower D is fitted to the interior of the box, its cross-head d projecting out at each end through the slots a . In the back side of the box are a number of narrow slots, a' , extending from the top downward about as far as the door on the front side. At the top of the box a cross-bar, a^2 , is attached to each end, extending out at

each side a little beyond the box, and a little distance below these cross-bars, just above the upper ends of the slots a , are cleats a^3 , extending across the end of the box. The door C is hinged at one edge to the box by a rod, C' , passing through cleats c on the outside of the door, a cross-piece on the front side of the box, and one of the cross-bars a^2 . A bolt, c' , is passed through the other end of the cleat c , the inner end of which projects beyond the cleat and terminates in an eye, in which is linked an angular lever, c^2 , by means of an eye on the shorter arm of the lever. A hook, c^3 , is arranged on the outer ends of the bolts c' , being held in place by nuts, and left free to turn. The bolts c' are arranged, the upper one above and the lower one below a short metallic bracket, c^4 , on the ends of the box, the inner end of which is rounded. When it is desired to secure the door the levers c^2 are brought around these brackets, one above and one below, and then at their outer ends sprung into hooks c^3 , the latter being arranged, one above its pivot and the other below, and both turned outward, as shown in Fig. 1 of the drawings. This makes a perfectly secure fastening for the door, and as the bolts are threaded so as to be adjustable the fastening may be kept perfectly tight.

The lid B is hinged in any suitable manner to the top of the box, and upon its upper side has a strong cross-piece, b , on the ends of which are small metal stop-pins b' , having a wedge-shaped rib, b^2 , running across their upper faces, or at least the inside of this rib should be inclined like a wedge. A loop, E, at each end of the box is pivoted to a bracket, F, fastened to the upper portion thereof, these loops being arranged so as to swing over the ends of the cross-piece b , just springing over the ribs of the stops, in which position they firmly hold down the lid when the press is in operation. The under side of the lid is provided with a series of dovetail grooves, b^3 , arranged transversely of the lid, as shown in Fig. 3 of the drawings. These grooves may be provided by making the under layer of the lid of separate pieces running crosswise, and having their edges beveled slightly, so that when brought together a dovetail opening or groove will appear between them. A long cross-bar, B' , extends along the front edge of the lid, projecting beyond the

ends of the box, and near its outer ends provided with short metal flanged guide-pieces b^4 , which are arranged to pass down just outside of the end cross-bars, a^2 , which, if desired, may be provided with rub-irons a^4 , against which these guides fit as the lid is closed. These two parts may be made slightly wedging, if desired, so that the ends of the box will be drawn closely together and held firmly in place.

The follower D is of ordinary construction in its main features, but on its upper side is provided with dovetail grooves d' , which correspond to the similar grooves in the under side of the lid, and may be made in the same way, both sets of these grooves being arranged to coincide or register with the slots in the back of the box. At each end of the cross-head of the follower is a bail, d^2 , firmly attached thereto. At each end of the box is a long lifting-rod, G, hinged at its lower end to the bail on the follower cross-head, and extending upward therefrom nearly the height of the box. These rods are either diamond-shaped or rectangular in cross-section, being arranged with one edge next to the box.

A strap, H, is hinged at one end to the outer portion of the bracket F, from which it depends, and to its lower end is pivoted a lever-arm, I, which may be either the entire lever or may be a socket-piece adapted to receive as a socket the longer portion of the lever. The inner end of this lever is attached to and carries a clamp, K, which is composed of two members, the main one, k , being formed, as shown in Figs. 6, 7, and 8 of the drawings, with a T-head, to which the lever is hinged. Through the central portion of this head is an opening, k' , through which the lifting-rod passes, being somewhat larger than the rod. The portion of the jaw depending from the T-head is notched on its inner face to correspond with the outer portion of the lifting-rod along which it is arranged. Opposite to this clamping-piece, and on the other side of the rod, is the opposite member of the clamp, k^2 , which is simply a loose block notched on its face next to the rod the same as the opposite member, so as to conform to the inside of the block. Each member of the clamp is provided with a groove, k^3 , running across its outer face, and the two parts are held together by a link, J, the ends of which fit in these grooves, respectively. The parts of the clamp must be put together before the lifting-rods are inserted, and the length of the links is such as to permit the two members of the clamp to separate slightly when in place on the rod, if the links are arranged directly at right angles to the rods; or, in other words, there may be a slight movement of one member of the clamp along the rod. A similar clamp, L, is arranged above the one just described, the main piece l being hinged to the inside of the bracket, so as to be stationary, instead of to a lever. The lifting-rod extends up through the opening l' in

this piece, and the opposite member, l^2 , of the clamp is connected to the former, in precisely the same way as above described, by means of a link, M. A lever, N, is pivoted to the end of the box, the inner end of which is turned up to form a kind of hook, n , which is arranged directly underneath the loose clamp-piece l^2 , so that it may be lifted by the lever. The lower clamp and the parts to which it is attached are so arranged that when dropped the loose piece k^2 will strike against the end cleats, a^3 , thereby stopping the downward movement of this member of the clamp. The other member, k , however, continues to descend till the link J comes into its horizontal position, thereby allowing the two members to separate so that they no longer grasp the rod G, which can then descend between them without obstruction.

A hook, O, is attached either to the bracket F or to the strap pivoted thereto, the hook end of which is arranged to engage with a loop on the clamp-levers and of such length that when the inner member of the clamp is stopped by the end cleat and the outer member carried down slightly until the connecting-link is perpendicular to the lifting-rod the hook will engage with the lever and fasten it in this position. The faces of the clamping-jaws are preferably corrugated.

Slats P are provided to close the upright slots in the ends of the box while the latter is being filled, their lower ends resting on the cross-head of the follower, and their upper ends being stepped into the end pieces of the box and held in position by sliding stops p moving up and down in the end cleats. The lower ends of these pieces are held in position on the cross-head by transverse stop-pieces p' on the outside thereof, or in any other suitable manner.

The operation of this press is as follows: The follower is dropped to the bottom of the box, and the slots in the ends thereof closed, as described. The door at the front may be closed and secured at first or after the box is filled up part way, as may be preferred. The lid is left open and the box is filled by laying in the broom-corn in the usual way. The lid is then closed and secured, as described, the parts at the top of the box being now firmly drawn together and securely fastened. The slats above the cross-head of the follower are then removed and the clamp-levers unhooked. Obviously the follower may now be raised, the cross-head moving up in the slots at the ends of the box. This is effected by working the clamp-levers. From the description given above it is obvious that as the clamp-lever is pulled down the member of the clamp pivoted thereto will be drawn up, raising one end of the clamp-link with it, and thereby causing the two members of the clamp to grip the lifting-rod, which is then pulled up by the remaining movement of the lever. This upward movement of the rod is not resisted by the upper clamp, as the friction of the rod against the movable member is sufficient to

raise it enough to release the clamp; but as soon as the downward stroke of the lever is completed and the return-stroke is commenced it is obvious that the clamp attached to the lever will be released, but the lifting-rod will be prevented from dropping back, for its downward pull will draw down the movable member of the upper clamp, thereby gripping the two parts of this clamp together and holding the rod from downward movement. It will thus be seen that the continued operation of the levers will draw the follower upward in the box, gradually compressing the broom-corn within until the cross-head has reached the limit of its upward movement, or less if less compression is required. The door at the front of the box is then opened, when the bale may be secured by passing wires or any suitable bale-tie around the bale, this operation being readily accomplished by means of the dovetail grooves in the lid and follower and the slots at the back of the box, the ties being slipped through these openings around the bale and fastened at the front while the bale is still under compression between the follower and the lid. The lid may then be opened and the bale discharged. The levers are then hooked up, as described, and the upper clamps released by means of the hooked levers underneath them, when the follower will drop down to the bottom of the box, the lifting-rods sliding down through the clamps, which are now loose, and the press is ready for another bale. In operating the lifting-clamps the release of their hold from the lifting-rods is always insured by the inner member striking against the cleats on the ends of the box, and the downward movement of the clamp on the rods is limited by this same action.

Obviously the construction of some of the parts described above may be considerably varied without changing their operation, and the lifting devices may be applied to press-boxes of different construction or not having all the other parts described above. Hence I do not limit my invention to the particular press-box herein shown and described, nor to the minute details of construction which are set forth above.

It is also obvious that this press may be used for baling other material besides broom-corn, and of course I do not wish to be understood as limiting myself in its application to any particular product.

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

1. The lid B, provided with flanged guides b^4 , in combination with the press-box, substantially as and for the purposes set forth.

2. The press-box A, in combination with the door C, the bolts c' , the levers c^2 , hooks c^3 , and lever-brackets c^4 , constructed, arranged, and operating substantially as and for the purposes set forth.

3. The lifting-rods attached to the follower, in combination with the levers I and clamps K, one jaw of which is attached to the lever and the other is loosely connected to the first-named jaw, substantially as and for the purposes set forth.

4. The lifting-lever I, in combination with the clamp-jaw k , pivoted thereto, the loose clamp-jaw k^2 , the link J, and the lifting-rod G, substantially as described.

5. The levers I, in combination with the clamp-jaw k , pivoted thereto, loose clamp-jaw k^2 , link J, lifting-rod G, and cleat a^3 on the press-box, substantially as and for the purposes set forth.

6. The holding clamp-jaw l , pivoted to a stationary support, the loose jaw l^2 , the link M, and the lifting-rod G, substantially as and for the purposes set forth.

7. The clamp-jaw l , pivoted to a stationary support, the loose jaw l^2 , the link M, the lifting-rod G, and the releasing-lever N, substantially as and for the purposes set forth.

8. The bracket F, attached to the end of the press-box, in combination with the strap H, hinged thereto, the lever I, lifting-clamp K, the holding-clamp L, and the lifting-rod G, substantially as described.

ABRAHAM ANDERSON.

Witnesses:

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