

(No Model.)

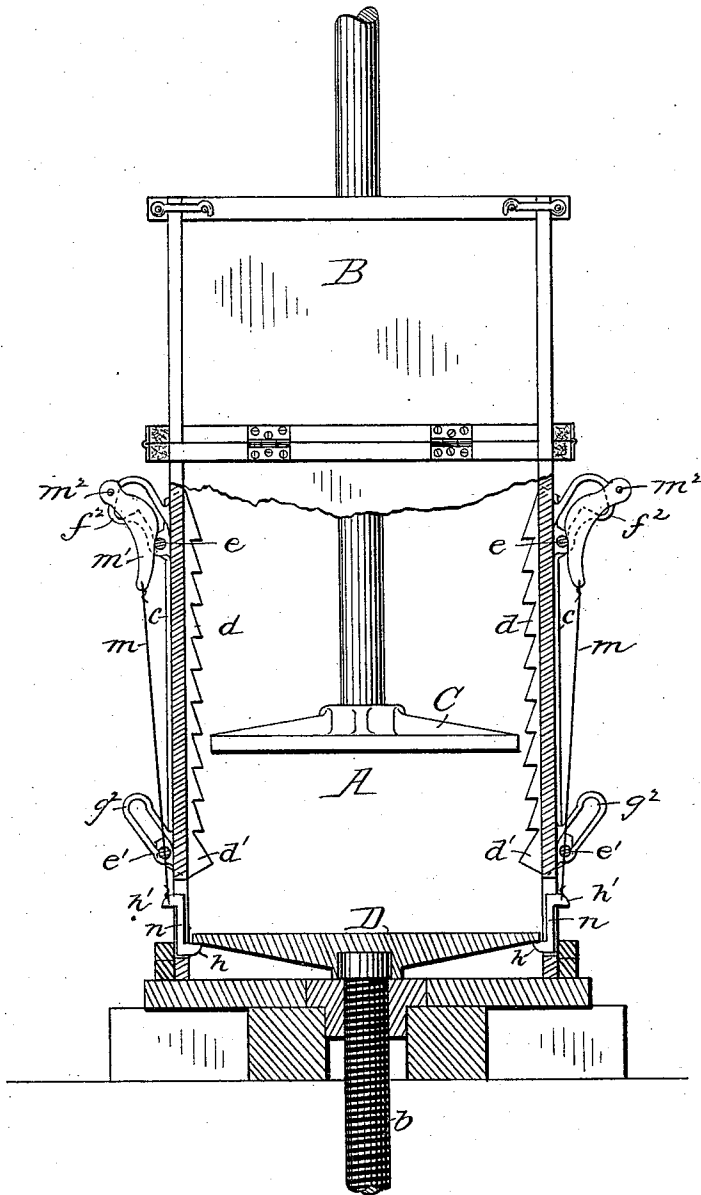
2 Sheets—Sheet 1.

C. BANISTER & J. HOLLINGSWORTH.
COTTON PRESS.

No. 532,750.

Patented Jan. 22, 1895.

Fig 1.



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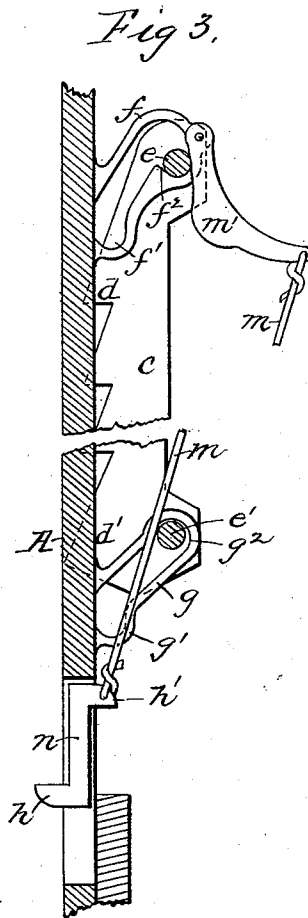
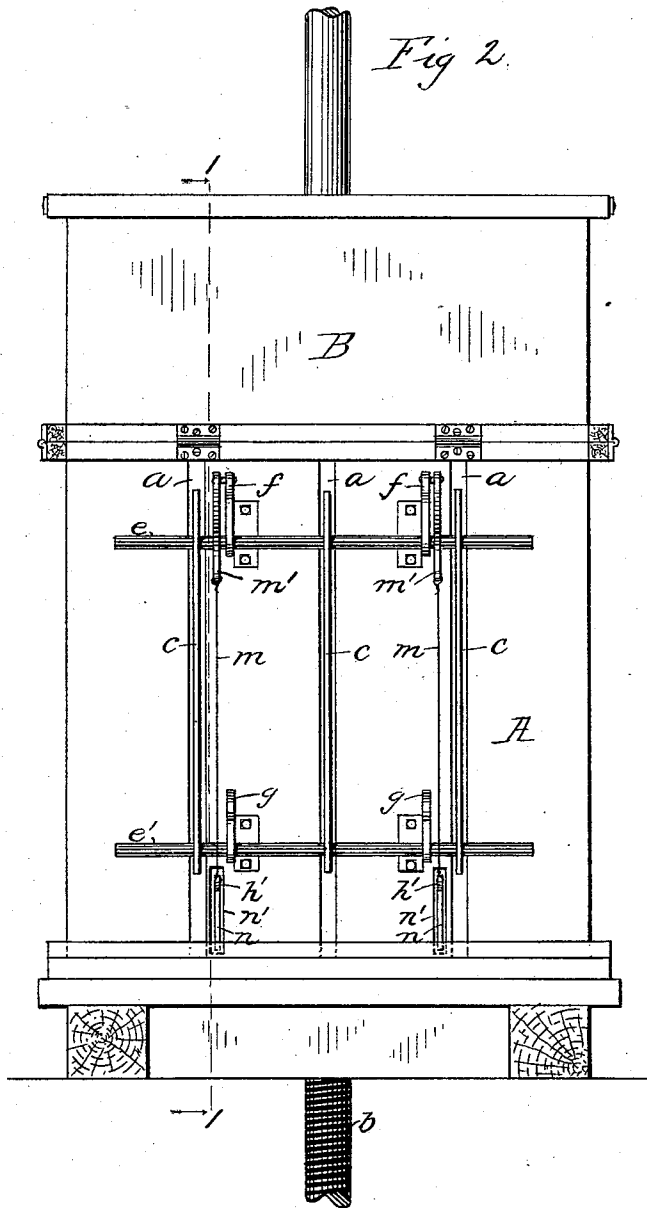
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2 Sheets—Sheet 2.

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COTTON PRESS.

No. 532,750.

Patented Jan. 22, 1895.



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UNITED STATES PATENT OFFICE.

CHARLES BANISTER AND JOSEPH HOLLINGSWORTH, OF WACO, TEXAS.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 532,750, dated January 22, 1895.

Application filed August 3, 1894. Serial No. 519,408. (No model.)

To all whom it may concern:

Be it known that we, CHARLES BANISTER and JOSEPH HOLLINGSWORTH, citizens of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Cotton-Presses; and we 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 appertains to make and use the same.

Our invention relates to certain new and useful improvements in cotton presses of that type wherein a vertically reciprocating packing plunger, actuated by suitable power, is employed to compress the cotton within a bale-forming box, the bale thus made being subsequently lifted out of the box by means of the movable box bottom or platen upon which it rests and being thereupon secured by cotton bale ties prior to shipment. In presses of this character difficulty is experienced by reason of the fact that the cotton within the box, being more or less elastic, rebounds somewhat after each compressing blow of the plunger.

The object of our invention is to avoid this defect as far as practicable, and such object is attained by providing the box with teeth or projections extending slightly within its interior, and of such a character that after each compressing blow of the plunger the cotton is prevented from rebounding. When the press box is filled to the desired height, the box bottom or platen upon which the compressed cotton rests, in rising, automatically disengages the teeth or projections from the cotton, thereby permitting the compressed cotton to be lifted freely to the top of the box.

In the accompanying drawings, Figure 1 represents a side elevation and partial section of a cotton press embodying our improvements. Fig. 2 represents a front elevation of the same; and Fig. 3 represents, partly broken away, an enlarged sectional elevation of one of the sides of the press illustrating the teeth or projections as withdrawn from engagement with the cotton.

Similar letters of reference indicate similar parts throughout the several views.

Referring to the drawings, A indicates the main body portion of the press; B, the upper

hinged portion thereof; C, the compressing plunger, and D the vertically movable bottom or platen having a feed screw *b* or the like, all of these parts being of the usual and familiar construction, well known to those familiar with this class of cotton presses.

The novel feature of the press consists, as we have heretofore said, in the devices for preventing the rebound of the cotton after the compressive strokes of the plunger C which may be reciprocated in the usual manner from any convenient source of power.

In the preferred embodiment of our improvements, the body portion A of the press box is provided with longitudinal slots *a*, each of which is adapted to permit the insertion and withdrawal of a vertical blade *c* of metal or other suitable material provided at its inner edge with a series of teeth or projections *d*, of such a character as to permit the cotton to be forced past them on the downward stroke of the plunger, but which automatically engage with the cotton to prevent its rebounding. The blades *c* are mounted upon two cross rods *e e'* suspended from brackets secured to the sides of the press box as shown. The upper bracket *f* is provided with a recess *f'* within which the cross bar *e* rests when the teeth *d* are in the engaging or operative position of adjustment within the press box. The bracket *g* is provided with a similar recess *g'* for the reception of the lower cross bar *e'* when the teeth *d* are in the said engaging adjustment. On the withdrawal of the teeth through the slot *a* the cross bars *e* and *e'* occupy the recesses *f'* and *g'*, respectively, as indicated in Fig. 3 of the drawings.

It will be noted that when the movable bottom or platen D is at the bottom of the press box, it rests upon the projecting ledges or shoulders *h* of the metallic slides *n* which pass through slots *n'* in the press box and whose opposite lugs *h'* are connected by means of a cord, rod, or chain *m* with the pivoted levers *m'* fulcrumed at *m²* to the upper bracket. By this expedient the levers *m'* bear against the cross bars *e* and positively hold the teeth *d* in their position of engagement, as indicated in Fig. 1, it being impossible for the blades *c* to be withdrawn from the slots *a* until the levers *m'* are released.

It will be noted that at the bottom of the

blades *c* and below the teeth *d* is arranged an additional projection *d'* extending inward to a slightly greater distance than the teeth *d* and provided with a downwardly sloping lower edge, so that, on the upward movement of the movable bottom or platen *D* in expelling the bale from the press box, the downwardly sloping edges of the projection *d'* will come in contact with the said movable bottom, whereby the blade *c* will be withdrawn from the slot *a* thereby leaving no obstruction to the upward movement of the bale.

The operation of the invention will be apparent. When the movable bottom or platen *D* is at its lowermost position, as shown in Fig. 1, it will rest upon the shoulders *h* and will thereby hold the levers *m'* against the cross bars *e*, which are at the time located within the recesses *f'*. The teeth *d* are therefore locked or securely held in the adjustment shown in Fig. 1 and remain in such adjustment until the bale has been formed. The compressing blows of the plunger, acting upon the cotton, fed into the press box in the usual manner, compress the cotton therein and its rebounding is prevented by the engagement of the teeth *d* with the cotton as it is forced past them. When the bale is thus formed the plunger is retracted to such position that the bale may be expelled and the movable bottom or platen is thereupon raised by means of the screw *b* or other equivalent device. As the movable bottom *D* rises it leaves the shoulders *h* thereby releasing the levers *m'*, and as it continues to rise it strikes the projections *d'* thereby raising the blades *c*, and forcing them upward and backward in the slots *a* until the cross bars *e* drop into the recesses *f'* as indicated in Fig. 3 of the drawings. The teeth *d* being thus withdrawn from the interior of the press box, the bale meets with no further obstruction on its upward movement through the press box and can be readily lifted by the movable bottom *D* to the hinged top of the box whereupon it is bound by bale-ties in the usual manner. On the subsequent descent of the movable bottom, it again comes in contact with the shoulders *h* thereupon actuating the levers *m'* which lift the cross bars *e* from the recesses *f'* and lock them again in position within the slots for the next bale-forming operation.

It is evident that our invention is not dependent upon any particular number of the toothed blades or of the locking levers, although, for most purposes, it will be found that the best results will be obtained by the employment upon each of two opposite sides of the press box, of three toothed blades and two locking levers, as illustrated in the drawings.

So far as we are aware, it is broadly new with us to provide, in a cotton press, a press box having teeth adapted to project or be projected through the sides of the box so as to allow the material to be fed into the box and

forced past the teeth in one direction, but to prevent said material from rebounding or moving in the opposite direction, and mechanism for automatically withdrawing said teeth to permit the contents of the box to be discharged or moved back in the opposite direction to that in which it was packed in. This is the characteristic feature of our invention, however embodied in practice, and we therefore do not desire to limit ourselves to the particular embodiment thereof illustrated in the drawings, as will, of course, be well understood.

Having thus described our invention, what we claim is—

1. In a cotton press, the combination with the press box, of teeth adapted to project into the interior of the box, and to permit the movement of cotton into the box in one direction only, and mechanism for automatically withdrawing said teeth so as to allow a movement of the cotton in or through the box in the opposite direction; substantially as described.

2. In a cotton press, the combination with the press box, the packing plunger, and the ejecting platen, of teeth adapted to be projected into the interior of the box to prevent the rebound of the cotton on the return stroke of the packing plunger, and to be withdrawn to permit the discharge of the bale, and means whereby the withdrawal of said teeth is effected by the movable platen; substantially as described.

3. In a cotton press, the combination with the press box, the packing plunger, and the ejecting platen, of teeth adapted to be projected into the interior of the box to prevent the rebound of the cotton on the return stroke of the plunger, and to be withdrawn to permit the discharge of the bale, and means whereby the projection of the teeth into the box is effected by the movable platen; substantially as described.

4. In a cotton press, the combination with the press box, the packing plunger, and the ejecting platen, of teeth adapted to be projected into the interior of the box to prevent the rebound of the cotton on the return stroke of the packing plunger, and to be withdrawn to permit the discharge of the bale, and automatic mechanism for positively operating said teeth in both directions; substantially as described.

5. In a cotton press, the combination with the press box, of teeth projecting through the sides thereof into the interior of the box, means for withdrawing the teeth from said interior, and means for retaining them in the withdrawn position, and means for subsequently returning them to their original position; substantially as described.

6. In a cotton press, the combination with the press box, of teeth projecting through the sides thereof into the interior of the box, means for locking the teeth against with-

drawal and means for subsequently unlocking and withdrawing them automatically from said interior; substantially as described.

7. In a cotton press, the combination with
5 the press box, having blade-receiving slots, and the packing plunger of the blades having a series of teeth downwardly inclined on their upper surfaces and having lower engaging surfaces, and having an additional projection upwardly inclined on its lower surface, and a movable bottom or platen in whose
10 path of movement said additional projection is located; substantially as described.

8. In a cotton press, the combination with
15 the press box, having blade-receiving slots, of the toothed blades, the upper cross bar carrying said blades, the brackets for the cross bar, the locking levers, the movable bottom or platen, and operative connections between
20 the locking levers and said movable bottom; substantially as described.

9. In a cotton press, the combination with the press box, having blade-receiving slots, of the toothed blades, the upper cross bar carrying said blades, the brackets for the cross
25 bar, the locking levers, the movable bottom or platen, and operative connections between the locking levers and said movable bottom, said connections consisting of shouldered
30 slides upon which the movable bottom may rest, and cords joining the slides to the levers; substantially as described.

10. In a cotton press, the combination with the press box having blade receiving slots, of
35 the toothed blades, the upper cross bar, and

the brackets for said cross bar, said brackets being provided with recesses for the cross bar, one of said recesses preventing the teeth from projecting into the interior of the box, and the other permitting them so to project; 40 substantially as described.

11. In a cotton press, the combination with the press box having blade-receiving slots, of the toothed blades, the upper cross bar, and the brackets, said brackets having a lower
45 and forward recess and an upper and rear recess for the cross bar; substantially as described.

12. In a cotton press, the combination with the press box having blade receiving slots, of the toothed blades, the upper cross bar, and the brackets, said brackets having a lower
50 and forward recess and an upper and rear recess for the cross bar, and a locking lever pivoted above said recesses; substantially as described. 55

13. In a cotton press, the combination with the press box, having blade receiving slots, of the toothed blades the upper and lower cross bars, and the upper and lower brackets, each
60 bracket having a lower and forward recess and an upper and rear recess; substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES BANISTER.

JOSEPH HOLLINGSWORTH.

Witnesses:

R. S. VAUGHAN,

M. A. CASSEDAY.