M. A. WESTBROOK.

HAY PRESS.

APPLICATION FILED SEPT. 8, 1908.

935,179.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

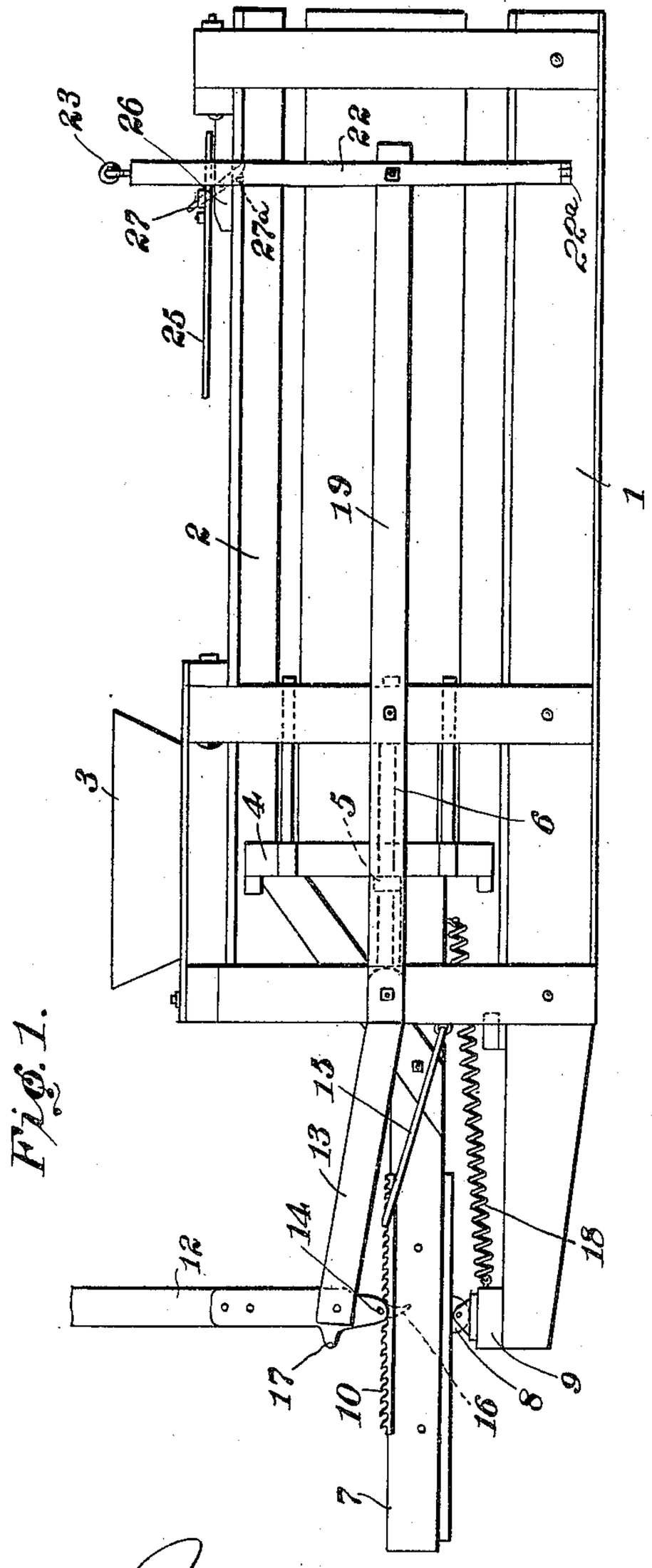

Fig. 1.

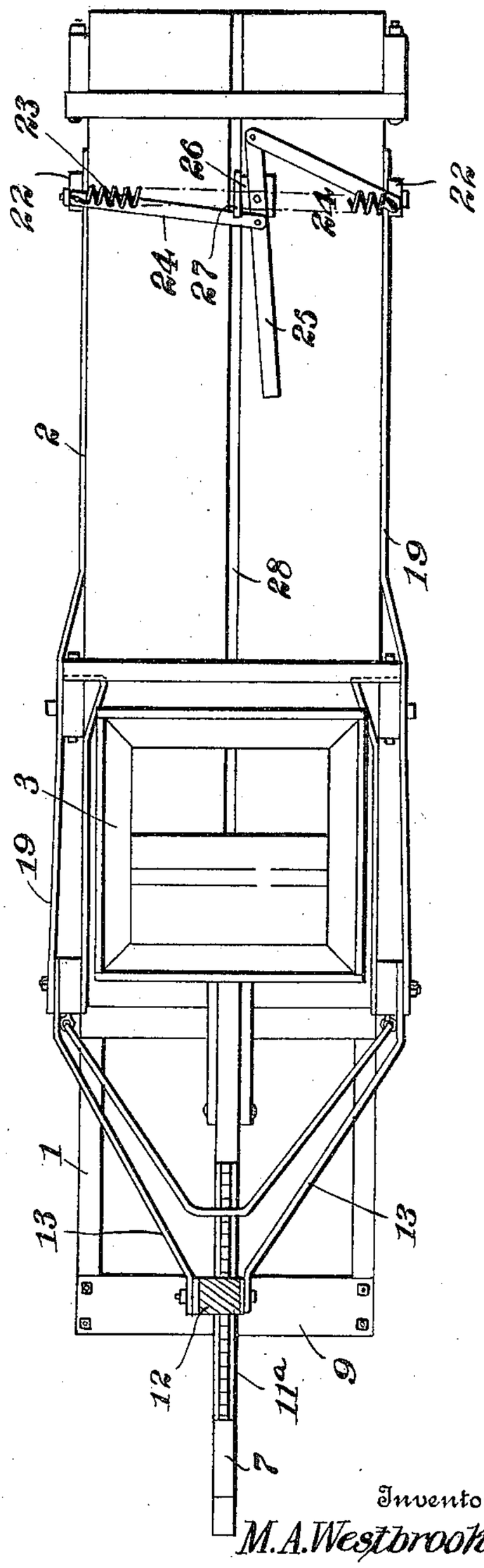

Fig. 2.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

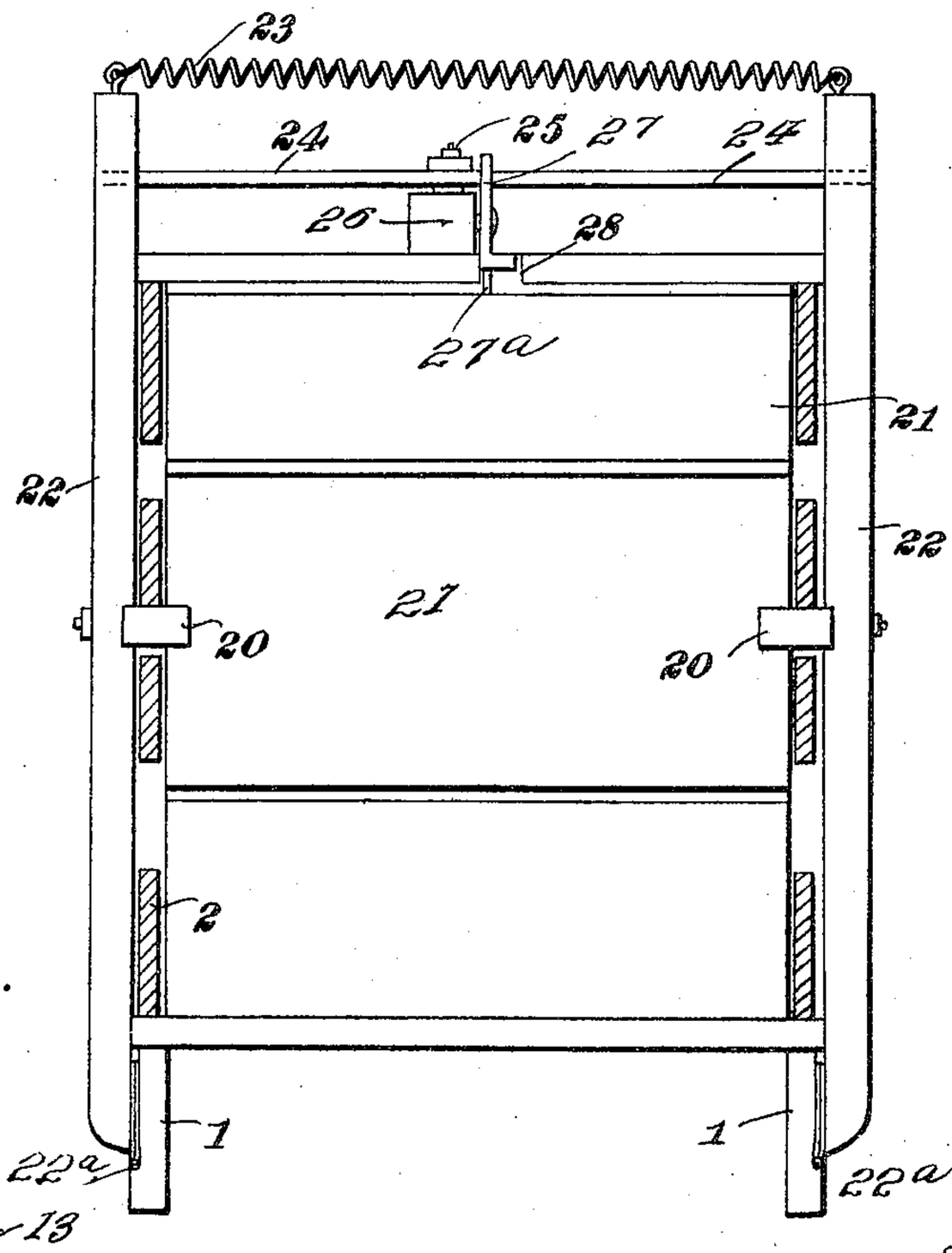


Fig. 4.

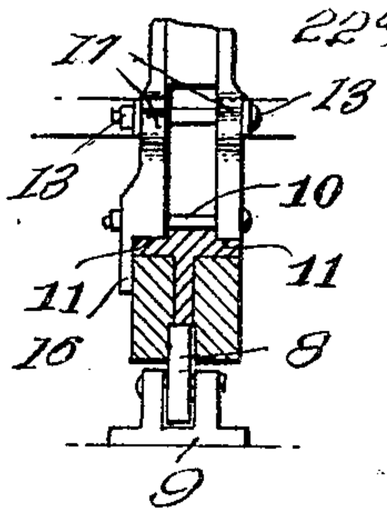
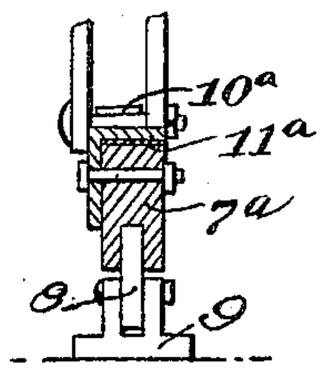


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

MOSES A. WESTBROOK, OF WINNSBORO, TEXAS, ASSIGNOR OF ONE-THIRD TO CHARLIE G. WESTBROOK, OF WINNSBORO, TEXAS.

HAY-PRESS.

935,179. Specification of Letters Patent. **Patented Sept. 28, 1909.**

Application filed September 8, 1908. Serial No. 451,957.

To all whom it may concern:

Be it known that I, MOSES A. WESTBROOK, citizen of the United States, residing at Winnsboro, in the county of Wood and State of Texas, have invented certain new and useful Improvements in Hay-Presses, of which the following is a specification.

The present invention relates to improvements in hand operated baling presses, and the object of the invention is the provision of a press of this character embodying novel means for actuating the plunger and controlling the follower.

The invention further contemplates a durable and inexpensive press which will operate in an effective manner to compress hay or the like into bales and from which the bales may be easily discharged.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a baling press constructed in accordance with the invention, Fig. 2 is a plan view of the same, portions being removed. Fig. 3 is a transverse sectional view through the press. Fig. 4 is an enlarged transverse sectional view through the plunger, and Fig. 5 is a similar view showing a modification.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the present embodiment of the invention the numerals 1 designate a pair of sills or skids upon which the press box 2 is mounted, a hopper 3 being provided at one end of the press box for feeding hay or like material into the same. Slidably mounted within that end of the press box provided with the hopper is a plunger 4 and secured to the back of this plunger is a cross bar 5 the extremities of which operate in ways 6 in the sides of the press box. Projecting from the plunger is a plunger rod 7, the lower face of which rests upon a roller 8 carried by a cross bar 9 connecting the sills 1, and is provided with a groove for receiving the roller. This roller coöperates with the cross bar 5 to support the plunger and plunger rod in such a manner that they can be readily moved back and forth. The upper face of the plunger rod is provided with a rack 10 the teeth of which are inclined away from the plunger and have a width somewhat less than that of the plunger rod so that a guide-way 11 is provided upon each side of the rack.

The operating lever 12 is pivotally mounted between a pair of bars 13 which diverge toward the end of the press box and are pivoted thereto. The lower end of the operating lever is provided with a pin 14 which is designed to engage the teeth of the rack 10 and move the plunger inwardly when the lever is swung in one direction, and to slip over the teeth of the rack when the lever is moved in the opposite direction. A detent is also provided for coöperation with the rack to hold the plunger against a backward movement, and this detent is in the nature of a bale 15 which is pivotally connected to the press box, the bale slipping over the inclined teeth when the plunger is moved inwardly but engaging the teeth to prevent any backward movement of the plunger. The lower end of the lever is also provided with a finger 16 which projects beyond the pin 14 and with a pair of cams 17 which are adapted to engage the guide-ways 11 upon opposite sides of the rack when the lever has been moved forwardly beyond the end of its normal stroke. Should it then be desired to release the plunger and permit the same to be drawn backwardly to its original position by a spring 18 connecting the same to the cross bar 9, the lever is continued in its movement beyond the usual stroke and the finger 16 caused to engage the bale 15 and swing it upwardly away from the rack, the pin 14 being at the same time lifted from the rack. The two cam members 17 then ride upon the guide-ways 11 and the plunger and plunger rod are drawn rearwardly by the spring.

The bars 13 between which the operating lever is mounted have their extremities connected to straps 19 which extend longitudinally along opposite sides of the press box and terminate in laterally projecting arms 20 adapted to project through openings in the sides of the box into the interior thereof to form stops for engaging the follower 21 and limiting the movement thereof. The free end of each of these straps 19 is connected to an intermediate portion of an upright bar 22, the lower end of the up-

right bar being hinged to the press box while the upper end projects above the box, the two upper extremities of the bars being connected by a spring 23 which normally tends to draw the bars inwardly and hold the arms 20 in operative position for engagement with the follower. These two upright bars 22 are also connected by links 24 to a lever 25 which is pivotally mounted upon a fulcrum block 26 on the top of the press box and is adapted to swing in a horizontal plane. The two links are connected to this lever upon opposite sides of the pivot point thereof so that when the lever is swung in one direction the swinging ends of the two upright bars 22 are forced apart against the action of the spring 23 and the arms 20 retracted into an inoperative position, while when the lever is swung in the opposite direction the upright bars are drawn inwardly and the stop arms 20 caused to project within the interior of the press box in an operative position. A trip lever 27 is also pivotally mounted upon the fulcrum block 26 and one end of this trip lever normally projects downwardly into a longitudinal slot 28 in the top thereof.

When the bales are discharged from the press box, the lever 25 is swung into alinement with the links 24 so as to force the upright bars 22 apart and retract the stop arms 20, the various pivot points between the lever and the links being thereby forced into alinement with each other so that a dead center is produced with the spring 23, and the spring remains in an inactive condition although it is under tension. It will also be observed that with this position of the parts, the upper end of the trip lever 27 bears against the pivotal connection between the lever and one of the links, while the lower end projects into the slot 28 in advance of the normal position of the stop arms 20. The hay or like material to be compressed into bales is then fed into the press box through the hopper 3 behind the follower, and the plunger moved forwardly by reciprocating the lever 12 as heretofore described. The follower 21 is thus moved rearwardly and when the projection 27ª at the upper end thereof which travels in the slot 28, makes contact with the trip lever 27, the upper end of the latter moves the lever 25 a sufficient amount to throw the various pivotal connections out of alinement with the spring which then becomes active and draws the upright bars 22 together so as to throw the stop arms 20 into an operative position. The follower is thereby checked in its movements and the hay compressed between the same and the plunger, the straps 19 serving to relieve the press box of a large portion of the strain. When the hay has been compressed to the required degree, the operating lever 12 is swung beyond the limit of its ordinary movement to throw the cam 17 into engagement with the guide-ways 11 and release the plunger rod as herein set forth. The stop arms 20 can then be moved into an inoperative position by suitably manipulating the lever 25 and the bale or bales discharged from the press, separate followers being interposed between the various bales where more than one bale is formed.

A slight modification of the invention is shown in Fig. 5, in which the rack 10ª is located at one side of the plunger rod 7ª, a single guide-way 11ª being disposed on the opposite side of the plunger rod. With this construction the operating lever is formed with but a single cam 17 which is designed to ride upon the guide-way when the plunger is moved back to its original position after a forward stroke.

Having thus described the invention, what is claimed as new is:

1. The combination of a press box, a plunger mounted within the press box, a follower within the press box, straps extending along the sides of the box and having an operative connection with the follower, bars connected to the straps, and a lever pivoted upon the bars and having an operative connection with the plunger.

2. The combination of a press box, a plunger mounted within the box, straps extending along the sides of the box, bars connected to the straps, a lever pivoted upon the bars and having an operative connection with the plunger, a follower, and stops upon the straps for limiting the movement of the follower.

3. The combination of a press box, a plunger mounted within the box, a follower, movable stops for the follower, a spring tending to normally hold the stops in an operative position, means for holding the stops in an inoperative position, and means actuated by the follower for releasing the stops and causing them to be moved into an operative position by the spring.

4. The combination of a press box, a plunger mounted within the box, a follower, movable stops for the follower, a spring tending to normally hold the stops in an operative position, means for holding the stops in an inoperative position, and a trip lever actuated by the follower for releasing the stops and causing them to be moved into an operative position by the spring.

5. The combination of a press box, a plunger mounted within the press box, a follower, movable stops for the follower, bars connected to the stops, a spring connecting the bars and normally holding the stops in an operative position, a lever, links connecting the lever and the bars, whereby the stops may be held in an inoperative position against the action of the spring when the lever is turned to throw the links in aline-

ment with each other, and means actuated by the follower for moving the lever so that the spring will draw the bars inwardly and throw the stops into an operative position.

6. The combination of a press box, a plunger mounted within the press box, a follower, movable stops for the follower, bars connected to the stops and hinged to the press box, a spring connecting the bars and cooperating therewith to hold the stops normally in an operative position, a lever, and links connecting the lever to the bars whereby the stops may be moved into an inoperative position by swinging the lever.

7. The combination of a press box, a plunger mounted within the press box, a follower, movable stops for the follower, bars hinged to the press box and also connected to the stops, a spring coöperating with the bars to normally hold the stops in an operative position, a lever, links connecting the lever to the bars whereby when the lever is swung into a predetermined position the stops are moved into an inoperative position, and a trip lever adapted to be actuated by the follower for releasing the lever and causing the spring to move the stops into an operative position.

8. The combination of a press box having a slot in the upper portion thereof, a plunger mounted within the press box, a follower, movable stops for the follower, bars connected to the movable stops, a spring coöperating with the bars to hold the stops normally in an operative position, a lever, connecting links between the lever and the bars to admit of the bars being swung apart and held against the action of the spring with the stops in an inoperative position, a trip lever projecting within the slot in the top of the press box and adapted to engage the before-mentioned lever, and a projection upon the follower adapted to engage the trip lever to release the main lever and permit the spring to throw the stops into an operative position.

9. The combination of a press box, a plunger mounted within the press box, a plunger rod projecting from the plunger and provided with a rack and also with a way on one side of the rack, a detent for engagement with the rack to prevent backward movement of the plunger, a lever for coöperation with the rack to move the plunger forward, and a cam upon the lever adapted to engage the before-mentioned way to admit of the lever being moved out of engagement with the rack and to slide upon the way as the plunger is moved rearwardly.

10. The combination of a press box, a plunger mounted within the press box, a plunger rod projecting from the plunger and provided with a rack and also with a way upon one side of the rack, a detent for engagement with the rack to prevent backward movement of the plunger, a lever for coöperation with the rack to move the plunger forward, a finger projecting from the lever upon one side of the plunger rod, and a cam upon the lever adapted to engage the before-mentioned way to admit of the lever being swung out of engagement with the rack, the finger projecting from the lever acting at the same time to lift the detent out of engagement with the rack, and the cam sliding upon the way as the plunger is moved rearwardly.

11. The combination of a support, a press box upon the support, a plunger mounted within the press box, a plunger rod projecting from the plunger and provided with a rack and also with a way upon one side of the rack, a roller upon which the plunger rod rests, the said roller being carried by the support, a detent for engagement with the rack to prevent backward movement of the plunger, a lever for coöperation with the rack to move the plunger forward, a finger projecting from the lever, and a cam upon the lever adapted to engage the before mentioned way and admit of the lever being swung out of engagement with the rack, the before-mentioned finger acting at the same time to lift the detent away from the rack, and the cam sliding upon the way as the plunger is moved rearwardly.

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

MOSES A. WESTBROOK. [L. S.]

Witnesses:

W. W. REID,

R. E. SAGE.