

UNITED STATES PATENT OFFICE.

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DOOR-CLOSER FOR HAY-PRESSES.

SPECIFICATION forming part of Letters Patent No. 744,508, dated November 17, 1903.

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To all whom it may concern:

Be it known that I, JAMES M. DOLAN, a citizen of the United States, residing at Livermore, in the county of Alameda and State of California, have invented certain new and useful Improvements in Door-Closers for Hay-Presses, of which the following is a specification.

My invention relates to self-feeding door-closers for hay-presses, the object of my invention being to provide an apparatus of this character which shall be cheap and economical in construction and which can be made of parts requiring little forged work, thereby permitting it to be made at a low cost.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved apparatus, certain parts between the press and the power mechanism being broken away. Fig. 2 is an enlarged rear perspective view of the door-operating mechanism detached. Fig. 3 is an enlarged perspective view of the power-segment detached. Fig. 4 is a similar view of the roller-carrying plate. Fig. 5 is a similar view of a casting which is attached to the power-frame.

Referring to the drawings, 1 represents the hay-press, which is of the usual construction in all respects except as to the feed-door, and in connection with my invention I have shown a hay-press known as the "Monarch" hay-press, constructed on similar principles to that illustrated in patent granted to Jacob Price July 22, 1884, No. 302,355. In said press the power for compressing the hay is applied by means of a sweep or lever 2, secured to a vertical shaft 3, operating in bearings 4, secured upon the transverse beam 5 of the frame 6. Upon the lower end of said vertical shaft is an eccentric 7, to which is secured the chain 8, which is connected to the follower in the press for the purpose of pressing the hay.

I will now describe my improved door-closer used in connection with the above mechanism. The door is shown at 9, pivoted upon a

bar 10, extending between the sides of the press, said door swinging upwardly between the wings 11, (the near wing being broken away in Fig. 1 to show the construction.) Upon the rear side of the door are secured strengthening-bars 12, to which are pivoted links 13, the lower ends of which are attached to the arms 14, extending from a rock-shaft 15, mounted in bearings in the sides of a U-frame 16, the ends of which frame are bolted, as shown at 17, on the outside of the press. Upon the end of said rock-shaft is fixedly secured a segment 18, having in its curved surface a groove 19 to receive a chain 20, the end of which is secured, as shown at 21, to the upper corner of said segment, the main portion of said chain extending by the side beam 22 of the power-frame 6 and connected at its front end with the corner 23 of a similar segment 24. Said segment 24 is pivoted at 25 in a recess or fork 27, formed in a casting 28. Said casting has a downwardly-extending member 29, which lies close to the side of the side beam 22 of the frame 6 between the transverse beam 5 and the end beam 30, and also has a horizontally and inwardly extending member 31, which lies upon the top of said side beam 22, the front end thereof abutting against the edge of the transverse beam 5, which rises above the upper surface of the side beam. Said casting also has a vertical member or standard 32.

The segment 24 has a rearwardly-extending arm 33, which is connected by a link 34 with an arm 35, pivoted, as shown at 36, on the upper end of said vertical member or standard 32. Upon the under side of the sweep 2 is secured a plate 37, having a laterally-extending arm 38, upon which is mounted a roller 39, and said plate is so mounted on said sweep that before the sweep commences to compress the hay by means of the follower in the usual manner said roller engaging the pivoted arm 35 swings the same downward and toward the press, thereby also, by means of the link 34, moving the short arm 33 of the segment 24 forward and upward and imparting a corresponding downward and rearward movement to the segment 24, which movement is transmitted to the segment 18 upon the rock-shaft 15, thereby closing the

door. While compression takes place the door is held closed by the mechanism common in this class of presses.

As the sweep rotates it passes over the casting 28, and the roller 39 on account of the circular path of the sweep draws away from the lever 35, and so escapes therefrom.

40 represents a catch carried on an arm of the eccentric 7 and engaging the sweep 2 in part of the movement of the latter to cause the eccentric to rotate with the sweep, but released from said sweep by the raising of a pivoted latch 41 to permit the eccentric to return, the sweep continuing its onward movement. The latch 41 is raised by engagement with the end beam 31, thereby letting the catch 40 drop below the sweep and return to its original position.

I claim—

1. In an apparatus of the character described, the combination with the press, the power-frame, and the sweep for operating the press, of a door for the press, a rock-shaft, an operative connection between said shaft and door, a lever on the power-frame, an operative connection between said shaft and lever, a second lever on the power-frame, a link connecting said levers, and a roller carried by said sweep and engaging said second lever during a portion of the revolution of the sweep, said roller then escaping from said lever during the remainder of said revolution, substantially as described.

2. In an apparatus of the character described, the combination with the press, the

power-frame, and the sweep for operating the press, of a door for the press, a rock-shaft, an operative connection between said shaft and door, a vertical lever on the power-frame, an operative connection between said shaft and lever, a second vertical lever on the power-frame, a link connecting said levers, and a roller carried by said sweep and engaging said second lever during a portion of the revolution of the sweep, said roller then escaping from said lever during the remainder of said revolution, substantially as described.

3. In an apparatus of the character described, the combination with the press, the power-frame, and the sweep for operating the press of a door for the press, a rock-shaft, an operative connection between said shaft and door, a casting secured to said power-frame having a fork and a vertical standard, a segment pivoted in said fork having a rearwardly-extending arm, an operative connection between said segment and shaft, an arm pivoted on said standard, a link connecting said arms, and a roller secured on said sweep and engaging with said arm during a part only of the revolution of the sweep, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

J. M. DOLAN.

Witnesses:

FRANCIS M. WRIGHT,
BESSIE GORFINKEL.