

R. Y. MITCHELL.
BALING PRESS.
APPLICATION FILED JULY 25, 1910.

979,022.

Patented Dec. 20, 1910.

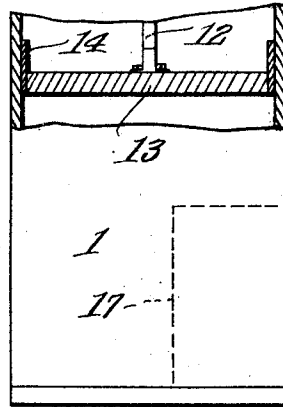
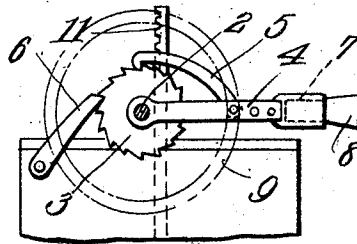
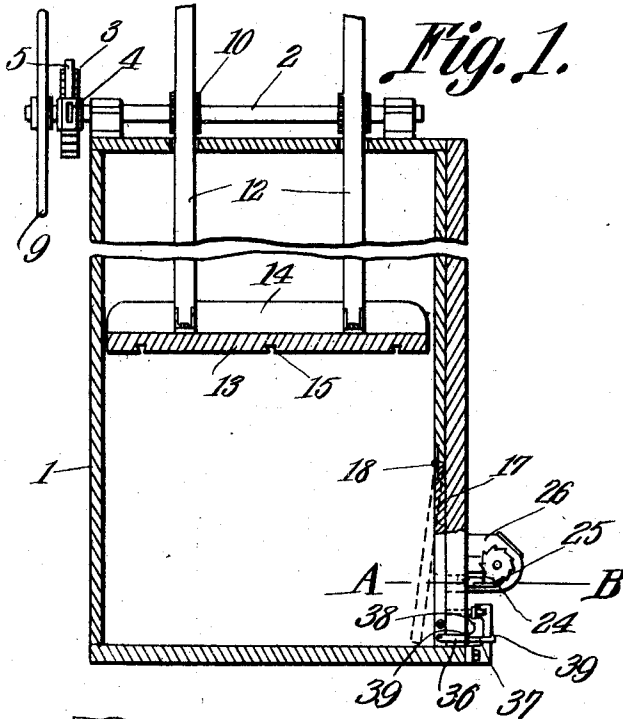


Fig. 2.

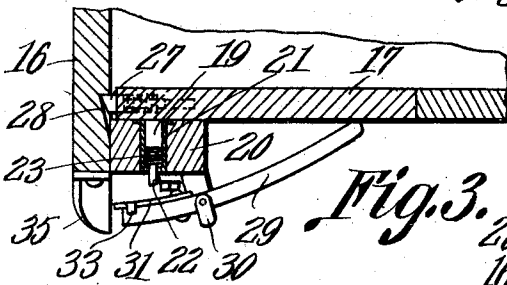


Fig. 3.

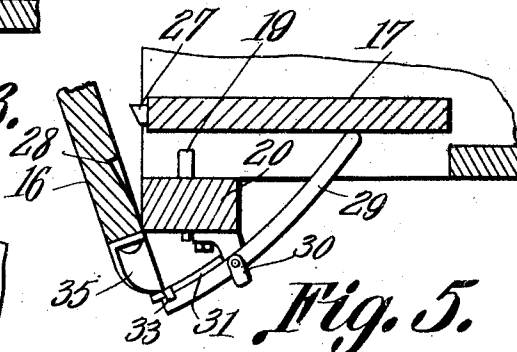


Fig. 5.

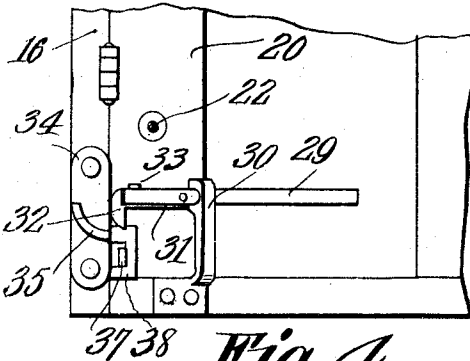


Fig. 4.

Witnesses

J. P. Dowling
Arthur W. Lawson

Ransom Y. Mitchell
Inventor,

by

C. A. Snow & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

RANSOM Y. MITCHELL, OF FINDLAY, OHIO.

BALING-PRESS.

979,022.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed July 25, 1910. Serial No. 573,713.

To all whom it may concern:

Be it known that I, RANSOM Y. MITCHELL, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented a new and useful Baling-Press, of which the following is a specification.

This invention relates to baling presses and more especially to presses for use in baling waste paper and the like although the machine is equally as well adapted for baling hay, cotton and other materials.

One object is to provide a baling press having means for automatically registering the number of bales produced, this registering means including mechanisms whereby it becomes impossible to register more than one bale during the formation of a single bale and whereby it also becomes impossible to prevent the actuation of the register while a bale is being formed.

With the foregoing and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,—Figure 1 is a vertical section through a portion of a press having the present improvements embodied therein. Fig. 2 is a view partly in elevation and partly in section of said press, a portion of the press being removed. Fig. 3 is an enlarged section on line A—B Fig. 1. Fig. 4 is an elevation of the parts shown in Fig. 3. Fig. 5 is a view similar to Fig. 3 and showing the relative positions of the parts when shifted out of normal positions.

Referring to the figures by characters of reference 1 designates the press box of the machine, there being an operating shaft 2 journaled upon the upper end thereof and provided, adjacent one end, with a ratchet wheel 3. A lever 4 is mounted to swing upon the shaft 2 and close to the ratchet wheel and has a dog 5 pivotally connected to and normally engaging the ratchet wheel so that, when said lever is swung in one direction, the ratchet wheel and its shaft will be rotated. A pawl 6 is pivotally mounted on the press box and normally engages the ratchet wheel to prevent it from rotating in one direction. The lever 4 has a socket 7 at its free end for the reception of a handle 8 and it will be apparent that, by oscillating

this handle, an intermittent rotation of the ratchet wheel and its shaft in one direction will be produced. A hand wheel 9 is secured to the shaft 2 close to the ratchet wheel 3 and may be employed, in lieu of the lever, for rotating the shaft.

Gears 10 are secured to the shaft 2 at opposite sides of the center thereof and each of these gears meshes with a rack 11 formed upon a stem 12. The two stems are parallel and are secured in any preferred manner to the plunger head 13. This plunger head has parallel flanges 14 extending upwardly from opposite edges and parallel with the plane occupied by the two stems 12. As the stems 12 move together at the same speed and are connected to the head 13 near the two ends thereof, it will be apparent that the elevation of one end of said head independently of the other end is positively prevented. The flanges 14 prevent either the front or rear edge of said head from being elevated relative to the opposed edge. All danger of breaking the stems 12 when the head 13 is subjected to uneven resistance, is thus positively eliminated, thus rendering the mechanism especially desirable for use in compressing waste paper and the like.

In order that the bales may be readily tied while in the press, the working face of the head 13 has dove-tailed grooves 15 formed therein. By providing grooves of this shape, when the material is compressed, it will not fill the grooves to the same extent as where ordinary rectangular grooves are utilized but, instead, there will always be a sufficient space within each groove to permit the ready insertion of the twisted or looped end of the tie wire.

The front of the press box is closed, at its lower end, by a door 16 which is hingedly mounted and adapted to be swung open so as to permit the completed bale to be removed from the press. A register controlling wing 17 is hingedly mounted, as at 18, within one side wall of the press box and is held normally pressed inwardly into the path of the plunger head, by means of a pin 19 which is slidably mounted in one of the frame members 20 of the press box. This pin is preferably located in a metal box 21 and has a stem 22 projecting beyond the box. A spring 23 is arranged in the box and around the stem and serves to hold the pin 19 constantly in contact with the wing 17 and said wing normally in the path of

the plunger head, as indicated by dotted lines in Fig. 1. The stem 22 may be provided with a pawl 24 engaging a ratchet wheel 25 constituting part of the mechanism of a register 26. This register may be of any desired construction and it is not deemed necessary to illustrate it in detail. It is merely necessary that the construction of the register be such as to positively indicate at all times the number of bales which have been produced, the said register being operated each time the pin 19 and stem 22 are pushed outwardly by the wing 17 during the movement of said wing out of the path of the plunger head. It is intended to have the stem 22 concealed within the housing of the register so as to prevent the mechanism from being tampered with.

The wing 17 is provided, near its free end, with a spring pressed catch 27 adapted, when the door 16 is closed and when the wing 17 is shifted out of the path of the plunger head 13, to spring into a notch 28 formed in the door 16 and thus lock the wing against return movement to its initial position until after the catch 27 has been released by opening the door 16.

In using the press the paper or other material to be baled is placed in the path of the plunger head and said head is forced downwardly by means of the mechanism which has been described. The compressed material will swing the wing 17 laterally and, as the door 16 is of course closed during this operation, the catch 27 will automatically engage the recess 28 and thus hold the wing 17 in its shifted position so that it will not return to its initial position should subsequent operations of the plunger head be necessary in order to properly compress the material in the press box. When the wing is shifted laterally in the manner described, the pin 19 and its stem 22 will cause the register to be shifted one point and as the wing is held against further movement until the bale has been completed, there is no danger of more than one point being registered by the machine during the formation of a single bale.

In order to prevent the wing 17 from being held out of normal position by any means, and thus preventing the register from indicating accurately the actual number of bales produced, means have been provided whereby the door 16, through which the completed bale is removed, cannot be completely opened and closed subsequent to such removal without returning the wing to its initial or inwardly directed position. The mechanism provided for this purpose includes a lever 29 fulcrumed upon a bracket 30 and mounted to swing in a plane parallel with the bottom of the press. One end of this lever normally contacts with the outer face of the wing 17 while the other end

thereof has a catch 31 pivotally mounted thereon and adapted to swing in a vertical plane. This catch has a head 32 extending downwardly from its free end and rounded or beveled as shown, and it also has a stop lug 33 which bears downwardly on the lever for the purpose of limiting the swinging movement of the catch. A plate 34 is secured to the door 16 at the hinge end thereof and has a curved cam plate 35 extending perpendicularly therefrom and provided with a curved upper edge which is convex from end to end, it being understood that the upper face of the plate 35 is concave. This cam plate is so disposed that, when the door 16 is opened so as to permit the removal of the finished bale and to release the catch 27, cam plate 35 will swing against the catch 31 and cause it to ride upwardly upon the concave upper surface of the plate until the head of said catch engages the upper edge of the plate. The door 16 can be entirely opened during this operation. When it is desired to close the door 16 so as to permit material to be properly compressed within the press, the curved edge of the cam plate 35 presses outwardly or laterally against the head 32 and thus causes lever 29 to swing upon its fulcrum and to press inwardly against the wing 17 so as to cause the wing to assume its initial or inwardly directed position. Obviously, if any obstruction holds this wing against such inward movement, it will be impossible to close the door 16 and the press cannot be used for baling purposes. The accurate registration of the number of bales formed within the press is thus insured.

In order that the wing 17 may be properly limited in its swinging movement, a stop strip 36 is pivotally connected to it and has a reduced portion 37 slidably mounted within a guide 38. Shoulders 39 are formed at the ends of this reduced portion and are adapted to move against the guide 38 and thus limit the movement of the wing 17.

Various changes can of course be made in the construction and arrangement of parts without departing from the spirit or sacrificing any of the advantages of the invention as defined in the appended claims.

What is claimed is:—

1. A baling press, a register, means operated by material under pressure, for actuating the register to indicate the number of bales produced, and means for preventing the actuation of the register except by material under pressure within the press.

2. A baling press, a register, means operated by material under pressure for actuating the register, a door upon the press through which the compressed material is removable, and means under the control of the door for locking said register operating means against movement.

3. A baling press, a door for the bale outlet in the press, compressing means, a register, means operated by material under pressure in the box for actuating the register, and coöperating means upon said operating means and the door for holding the operating means against more than an initial movement prior to the opening of the door.

4. A baling press, a door for the bale outlet in the press, compressing means, a register, a wing operated by material under pressure for actuating the register, and co-operating means upon the wing and door for holding the wing against movement subsequent to the actuation of the register and prior to the opening of the door.

5. A baling press, a door for the bale outlet in the press, compressing means, a register, a shiftable element adapted to be operated by material under pressure for operating the register, coöperating means upon the door and said element for locking the element subsequent to the initial actuation of the register and prior to the opening of the door.

6. A baling press including a door, compressing means, a register, an element operated by material under pressure for actuating the register, coöperating means upon said element and the door for holding the element against movement subsequent to the actuation of the register and until the door is opened, and means operated by the door for positively shifting said element to its initial position.

7. A baling press including a door, compressing means, a register, an element operated by material under pressure for actuating the register, coöperating means upon said element and the door for automatically locking the element against movement subsequent to the actuation of the register and until the door is opened.

8. A baling press including a door, compressing means, a register, an element operated by material under pressure for actu-

ating the register, coöperating means upon said element and the door for automatically locking the element against movement subsequent to the actuation of the register and until the door is opened, means for automatically returning said element to its initial position when the door is opened, and supplemental means operated by the door for positively returning said element to its initial position.

9. A baling press including a door, compressing means, a register, means operated by material under pressure for actuating the register, coöperating elements upon the door and means for holding said means against movement subsequent to the actuation of the register and until the opening of the door, a lever engaging said means, and coöperating means upon the door and lever for shifting the lever to return said register operating means to its initial position prior to the closing of the door.

10. A baling press including a door, a register, an element operated by material under pressure for actuating the register, and means under the control of the door for returning said element to its initial position prior to the closing of the door.

11. A baling press including a door, compressing means, a register, means operated by material under pressure for actuating the register, a lever normally contacting with said means, a member pivotally mounted thereon, and a cam connected to and movable with the door, said cam and member coöperating to positively shift the register operating means to its initial position prior to the closing of the door.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

RANSOM Y. MITCHELL.

Witnesses:

HERBERT D. LAWSON,
C. E. PREINKERT.