

W. W. McCALLUM.
BALING PRESS.
APPLICATION FILED APR. 23, 1908.

949,748.

Patented Feb. 15, 1910.

2 SHEETS—SHEET 1.

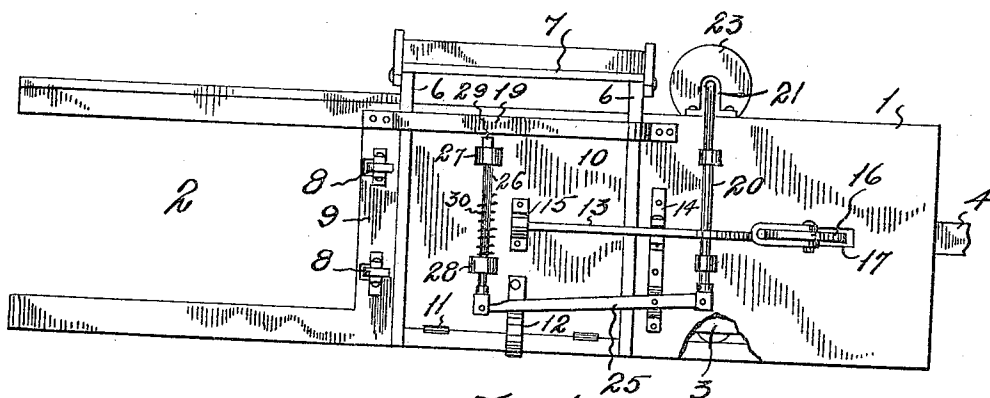


Fig. 1.

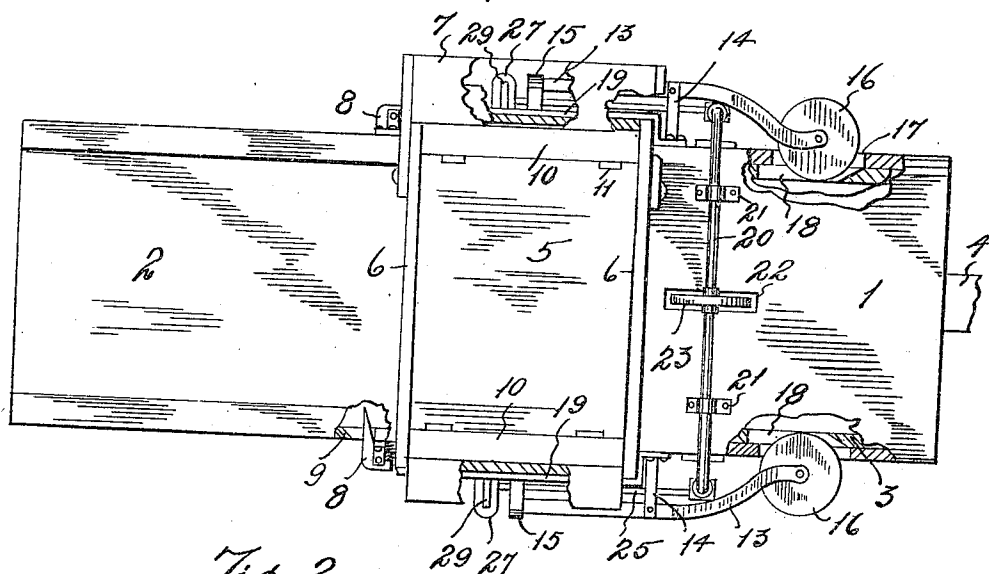


Fig. 2.

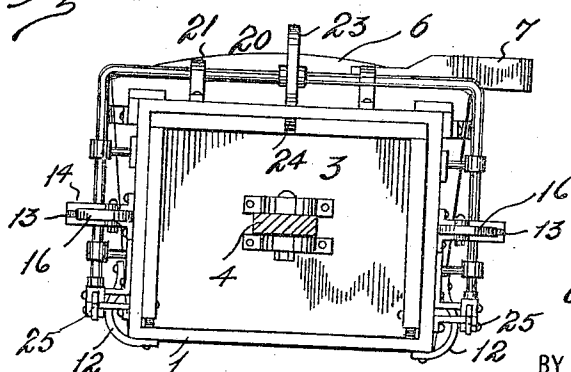


Fig. 3.

WITNESSES:

J. M. Daire
J. C. McKelvey

INVENTOR

W. W. McCallum

BY

John M. Sullivan
ATTORNEY

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2 SHEETS—SHEET 2.

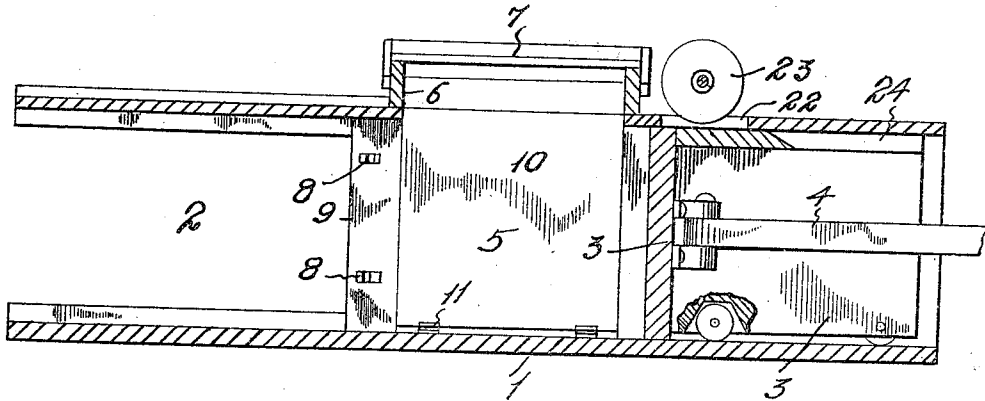


Fig. 4.

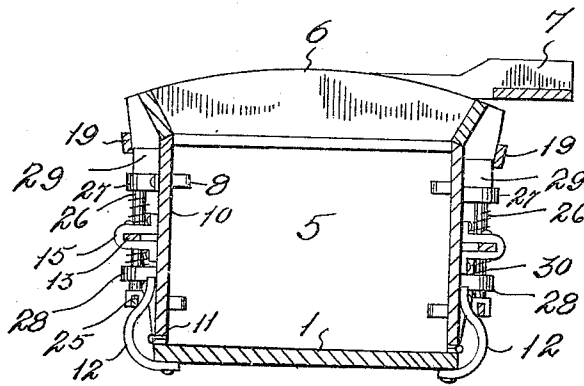


Fig. 5.

WITNESSES:

J. M. Davis
J. A. Schlar

INVENTOR

W. W. McCallum

BY

John McCallum
ATTORNEY

UNITED STATES PATENT OFFICE.

WILKS W. McCALLUM, OF ROWLETT, TEXAS, ASSIGNOR OF ONE-HALF TO JOHN D. HARBIN, OF GARLAND, TEXAS.

BALING-PRESS.

949,748.

Specification of Letters Patent.

Patented Feb. 15, 1910.

Application filed April 23, 1908. Serial No. 423,718.

To all whom it may concern:

Be it known that I, WILKS W. McCALLUM, citizen of the United States, residing at Rowlett, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

My invention relates to new and useful improvements in baling presses.

The object of the invention is to provide a baling press in which the sides of the hopper are arranged to swing outward to permit material to be more readily deposited therein and to increase the capacity of the press in the number of bales produced in a given time.

Another object is to carry out this construction and operation by automatic means operated by the press head.

Finally the object of the invention is to provide a device of the character described that will be strong, durable and efficient, and one in which the several parts will not be liable to get out of working order.

With the above and other objects in view, the invention has relation to certain novel features of construction and operation, an example of which is described in the following specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of the press, Fig. 2 is a plan view with parts broken away to show underlying construction, Fig. 3 is an end elevation, Fig. 4 is a longitudinal vertical sectional view, and Fig. 5 is a transverse vertical sectional view through the hopper and showing the same closed.

In the drawings, the numeral 1 designates a suitable press frame having the usual open baling chamber 2 and press head 3, the latter being provided with a suitably connected plunger rod 4 which may be connected to any desired form of operating means.

Intermediate the ends of the frame 1, a hopper 5 is provided having transverse hopper boards 6 projecting above and beyond the press and a pivoted loading platform 7 connected to the boards and projecting over one side of the press. At the entrance to the baling chamber and just beyond the hopper, spring dogs 8 are mounted in supports 9 at each side of the press and project into the chamber so as to engage the bale and prevent any portion thereof being drawn back by the press head, the said dogs being

spring mounted, will permit the passage of the press head and readily swing into position after the same is retracted.

The hopper is provided with sides or wings, 10 having outwardly flared upper ends and hinged to the bottom of the frame as indicated at 11. The sides are normally swung outward by curved flat springs 12 secured to the bottom of the press and the sides as shown in Figs. 1 and 5, the hopper being thus opened.

Curved levers 13 are pivoted horizontally in brackets 14 at each side of the press, having one end loosely bearing in loops 15 carried by the sides 10 and forked at the opposite end to receive roller disks 16 projecting through slots 17 in the sides of the press frame as clearly illustrated in Fig. 2. These rollers normally project into openings 18 in the press head 3 shaped so as to be forced out of the same when the press head is moved forward. With the parts in this position, the sides are still swung outward and the hopper opened, however as the press head is moved forward, the rollers 16 ride out of the openings 18 on to the sides of the press head which swings the levers 13 outward so that their forward ends are swung inward thus swinging the sides 10 inward and closing the hopper. The outward swing of the sides 10 is limited by a steel band 19 extending along the sides of the hopper at the upper portion of the press frame as best shown in Figs. 1 and 5. The hopper when open, having been suitably filled and packed, it is obvious that when the press head is moved forward and the sides 10 swung inward, considerable strain and pressure will be exerted on the parts and in order to overcome this and hold the sides in their closed position, I provide locking means. In carrying out this feature of the invention I provide a yoke 20 extending across and down on each side of the press frame inside of the levers 13. This yoke is suitably mounted and operates in vertical guide brackets 21 supported on top of the press frame as shown in Figs. 1 and 2. The press frame in its top is provided with a slot 22 through which a disk 23 loosely mounted on the yoke projects so as to normally bear on the press head.

The press head in its upper side is provided with a longitudinal channel 24 into which the disk drops and rolls when the plunger head is moved forward. However

with the parts in their normal position, the locking means is out of operation. This means further consists of levers 25 fulcrumed to the lower portion of the brackets 14 and having pivotal connection with the lower ends of the yoke 20, which causes a greater portion of the said levers to project forward, thus increasing the leverage as will be apparent. Locking bars 26 are mounted to slide vertically in brackets 27 and 28 mounted on the sides 10 and each provided with a coil spring 30 attached thereto and bearing against the bracket 28 and tending to force the bar upward.

Each bar is provided with an enlarged head 29 which is adapted to engage between the band 19 and the side 10 to hold the same inward. The forward ends of the levers 25 have pivotal connection with the lower ends of the bars 26 and when the disk 23 is in its normal position and the yoke 20 raised, the forward ends of the levers 25 will be swung downward, thus drawing the bars 26 downward against the tension of the coil springs and with the levers 13 in their normal position, permitting the curved springs 12 to hold the sides 10 outward and the hopper open. As the press head is moved forward and the levers 13 swung, the disk 23 rides down into the channel 24 which drops the yoke 20 and permits the coiled springs 30 with the assistance of the levers 25 to move the locking bars upward and project their heads 29 between the bands 19 and the sides 10, thus locking the latter in their closed position, the press head completing its forward movement and removing the material from the hopper into the baling chamber 2, and compressing the bale. When the press head 3 is returned to its normal position, the disk 23 will first ride out of the channel 24 raising the yoke 20 and drawing the bars 26 downward, so as to permit the roller disks 16 to ride into the openings 18 and the sides 10 to be swung outward by the springs 12 and the hopper thus opened.

It is to be understood that the hopper may be filled in any suitable manner and that when open, the material may be more easily placed therein and with greater despatch, so that the baling operation may be carried out more rapidly and a considerably larger amount of material baled in a given time. The parts being automatic and simple in their operation are not likely to get out of order or to become inoperative by falling material collecting thereon.

What I claim, is:

1. A baling press provided with a chamber and plunger cooperating therewith, in combination with a receiving hopper having a bottom, sides pivoted to the bottom in approximately the plane of the latter, and rigid devices arranged to be forced into engagement with the plunger, and pivoted sides for

closing the sides by the movement of the plunger.

2. In a baling press, a chamber and plunger cooperating therewith, in combination with a receiving hopper having movable sides, and means for closing said sides by the movement of the plunger comprising pivoted levers engaging the sides at one end thereof, and projections on the opposite end of the levers extending into the path of movement of the plunger.

3. In a baling press, a chamber and plunger cooperating therewith, in combination with a receiving hopper having movable sides, and means for closing said sides by movement of the plunger comprising pivoted levers engaging the sides at one end thereof, and projections on the opposite end of the levers extending into the path of movement of the plunger, the plunger engaging ends of the levers carrying rollers and the plunger having recessed portions into which said rollers project when the sides are open.

4. A baling press comprising a chamber and a plunger cooperating therewith in combination with a receiving portion having a bottom and a side pivoted to the bottom in approximately the plane of the latter, and means for closing said side by the movement of the plunger, comprising a pivoted lever engaging the side at one end and having its opposite end projecting into the path of movement of the plunger.

5. A baling press comprising a chamber and a plunger cooperating therewith in combination with a receiving portion having a bottom and a side pivoted to the bottom in approximately the plane of the latter, and means for closing said side by the movement of the plunger, comprising a pivoted lever engaging the side at one end and having its opposite end projecting into the path of movement of the plunger, the plunger engaging end of the lever carrying a roller and the plunger having a recess into which the roller projects when the side is open.

6. In a baling press, a chamber and a plunger cooperating therewith in combination with a receiving portion having a movable side, means for closing said side by the movement of the plunger and independent means controlled by the plunger for locking the side in closed position, the operating means for the side and lock each including lever connections and a projecting part extending into the path of movement of the plunger.

7. In a baling press, a chamber and a plunger cooperating therewith in combination with a receiving portion having a movable side, means for closing said side by the movement of the plunger and independent means controlled by the plunger for locking the side in closed position, the operating

means for the side and lock each including lever connections and a projecting part extending into the path of movement of the plunger, said projecting parts each carrying a roller and the plunger having recesses into which the rollers project when the side is open.

8. In a baling press, a chamber and a plunger coöperating therewith in combination with a receiving portion having a movable side, means for closing said side by the movement of the plunger and independent means controlled by the plunger for locking the side in closed position, the operating means for the side and lock each including lever connections and a projecting part extending into the path of movement of the plunger, the positioning of the engaging portions of the plunger and the controlling devices being one in advance of the other whereby the lock and shifting of the side are successively effected.

9. In a baling press, a chamber and a plunger coöperating therewith in combina-

tion with a receiving portion having a movable side, means for closing said side by the movement of the plunger and independent means controlled by the plunger for locking the side in closed position, the operating means for the side and lock each including lever connections and a projecting part extending into the path of movement of the plunger, said projecting parts each carrying a roller and the plunger having recesses into which the rollers project when the side is open, the positioning of the engaging portions of the plunger and controlling devices being one in advance of the other whereby the lock and shifting of the side are successively effected.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILKS W. McCALLUM.

Witnesses:

E. V. HARDWAY,
GLYNN DAVIS.