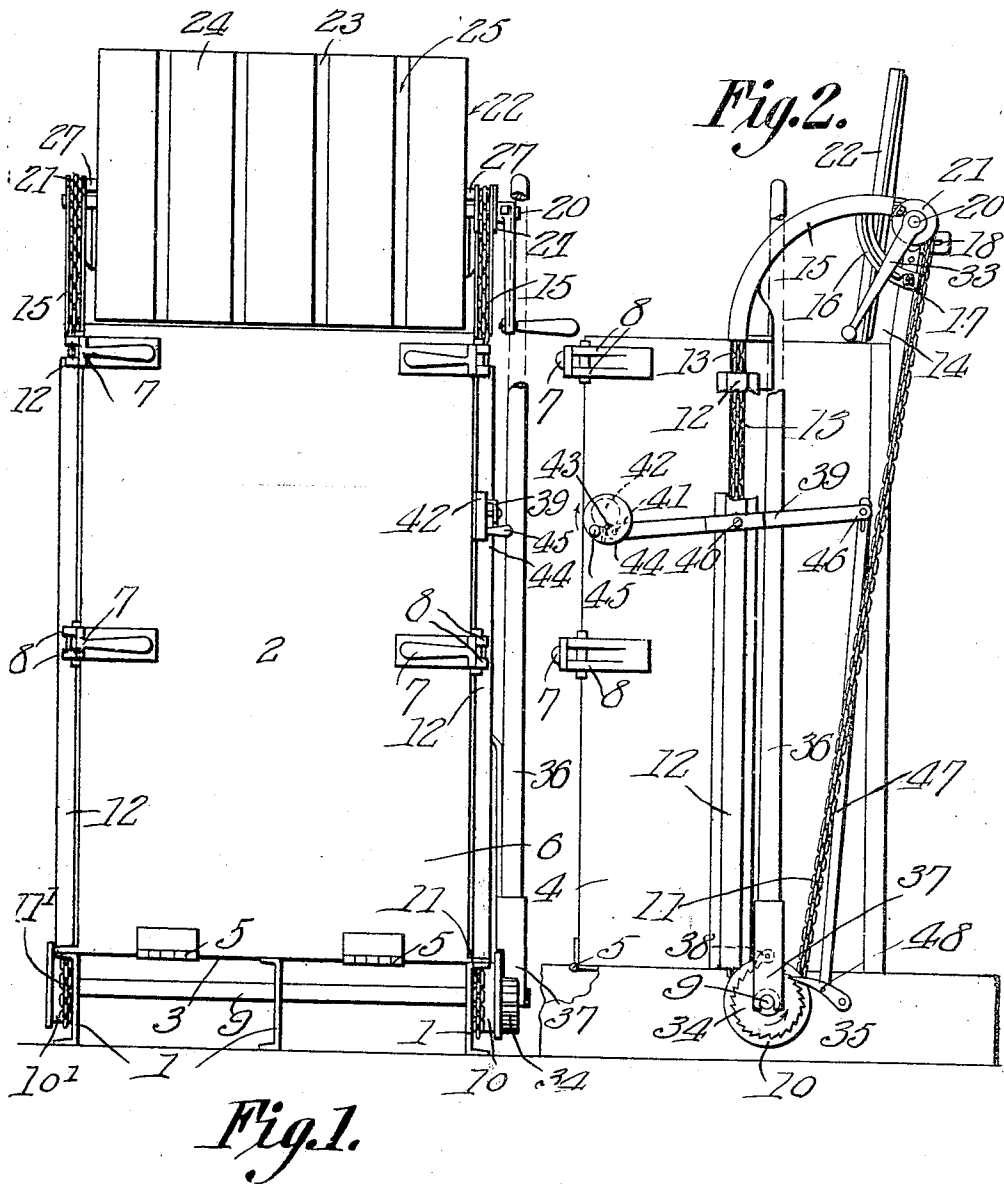


P. WAREHAM.
WASTE PAPER PRESS.
APPLICATION FILED JULY 2, 1912.

1,058,281.

Patented Apr. 8, 1913.

2 SHEETS—SHEET 1.



Witnesses

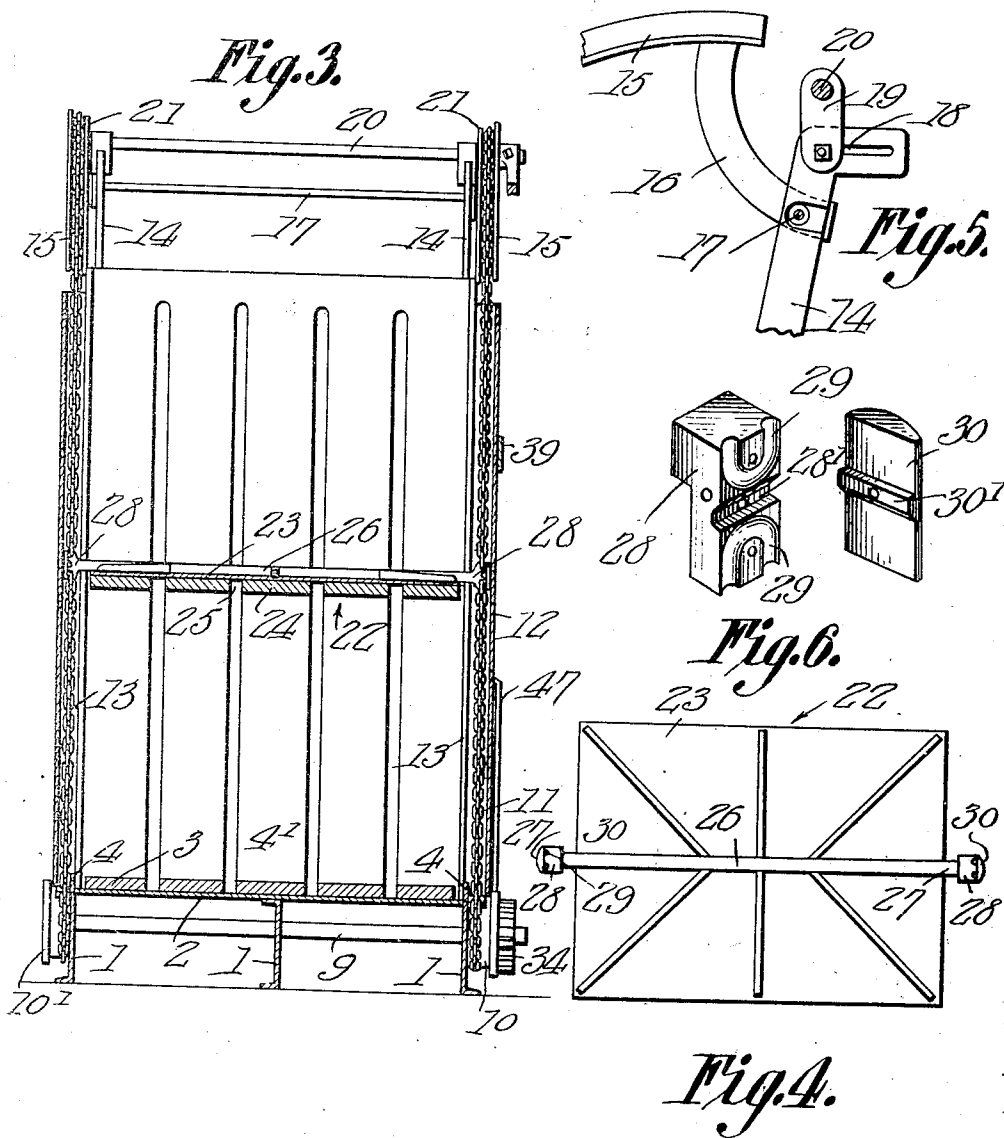
J. P. Tomlin
E. W. Shaw

Percy Wareham, Inventor.
by *C. A. Snow & Co.*
Attorneys

P. WAREHAM.
WASTE PAPER PRESS.
APPLICATION FILED JULY 2, 1912.

1,058,281.

Patented Apr. 8, 1913.
2 SHEETS—SHEET 2.



Witnesses

J. P. Conlin
L. H. Wilson

Percy Wareham, Inventor.
by *C. A. Snowles*,
Attorneys

UNITED STATES PATENT OFFICE.

PERCY WAREHAM, OF HUDSON, MICHIGAN.

WASTE-PAPER PRESS.

1,058,281.

Specification of Letters Patent.

Patented Apr. 8, 1913.

Application filed July 2, 1912. Serial No. 707,281.

To all whom it may concern:

Be it known that I, PERCY WAREHAM, a citizen of the United States, residing at Hudson, in the county of Lenawee and State of Michigan, have invented a new and useful Waste-Paper Press, of which the following is a specification.

The present invention relates to improvements in waste paper presses, the primary object of the invention being the provision of a novel form of press, in which the plunger or compressing member is disposed for vertical movement within the pressing compartment and is so mounted that the same may be bodily removed from the upper open end of the pressing receptacle and disposed at right angles to the mouth thereof, thus permitting free access to the waste paper within the open upper end of the receptacle.

A further object of the present invention is the provision of a novel form of chain mechanism for moving the plunger into and out of compressing position, there being an auxiliary lever operated means for actuating the plunger at the final compression of the waste paper within the receptacle.

A still further object of the invention is the provision of a novel means for releasing the holding pawl at the end of the compression stroke of the plunger.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a front elevation of a complete press with the plunger lid in open position. Fig. 2 is a side elevation thereof taken from the power side of the press. Fig. 3 is a transverse vertical sectional view through the complete press with the plunger disposed within the compression chamber. Fig. 4 is a top plan view of the plunger. Fig. 5 is a detail view of the plunger guide and support. Fig. 6 is a detail view of the connection of the plunger to the chain.

Referring to the drawings, the numeral 1 designates three parallel disposed channel irons which constitute the base for the compression chamber 2, the bottom of which is

provided with a plurality of strips 3 which provide passages for the positioning of the bale ties or wires. The chamber is composed primarily of the two sides 4 and the back 4', the hinges 5 being connected to the bottom of the receptacle and carrying the outwardly swinging wall or door 6, which when in closed position by means of the clamping devices 7—8 forms a baling chamber with the open upper end for the reception of the waste paper similar to a waste paper basket.

Journaled within the channel irons 1 and below the compression chamber of the press, is the main drive shaft 9 which has disposed upon the outer ends thereof exteriorly of the outer channel iron, the two chain sheaves or sprockets 10 and 10' respectively. The chains 11—11' respectively, are trained over the respective sheaves and exteriorly of the walls 4 of the compression chamber, one lead of the chain being passed through the vertically disposed guide 12 which is secured exteriorly of the wall 4. This wall 4 is provided with the vertical slot 13, the purpose of which will presently appear.

Connected to and extending from the upper edge of the pressing chamber are the two arms 14, while connected to the walls 4 and in line with said arms 14 are the arc shaped chain guides 15, the same being preferably a quadrant of a circle. The upper ends of the chain guides 15 are connected by means of the segmental plates 16 to the upper ends of the arms 14 and at such connection thereto a tie rod 17 is provided to form a connection between the plate 16 and the arms 14 and also to hold the superstructure above the press chamber in spaced relation. The upper rearwardly extending ends of the plates 14 are slotted as at 18 for the adjustable reception of the arms 19 which have journaled therein, the upper shaft 20. This shaft 20 has keyed thereupon the chain sheaves or sprockets 21 over which the chains 11—11' are trained. By means of slot 18, the slack of the chains may be properly taken care of as the arms 19 are adjustably connected to the upper ends of the arms 14 through the medium of the pin and slot as illustrated in Fig. 5.

A plunger 22 is provided, and the same is so constructed as to be moved into and out of the pressing chamber through the open upper end thereof, the same having a metal plate 23 to which is attached upon the under side thereof in spaced relation,

the strips 24 which provide the slots 25 for the reception of the bale ties. A spider 26 is formed integral with the plate 23 and is provided with the oppositely extending trunnions or arms 27. Each set of trunnions as clearly shown in Fig. 6 is provided with a link engaging block 28 which is provided with grooves 29 to receive portions of the link of the respective chains, so that when the plate 30 is properly clamped upon the block 28, through the medium of a bolt (not shown) which passes into the aperture of the block 28, the plunger will be properly secured to the chains, so that the movement of the chains in respective directions will move the plunger 22 into and out of the pressing chamber. The groove 28' and lug 30' prevent the plate 30 from turning.

The trunnions 27 are projected within the chamber through the respective slots 13 of the side walls 4, said slots acting as a guide to properly position it when within the chamber. When the plunger is out of the chamber, the trunnions 27 are guided over the guiding channels 15 so as to permit the said plunger 22 to assume the position, as shown in Figs. 1 and 2, in which the body of the same is approximately at right angles to the upper opening or inlet end of the pressing chamber. In this way free access is had to the chamber to permit of the easy placing of the waste paper within such chamber from above.

In order that the chains may be removed in unison to carry the plunger 22 into or out of the chamber, a crank 33 is connected to one end of the shaft 20, as shown in Figs. 1 and 2, and it will thus be seen that the rotation of said shaft 20 will impart movement to the chains 11—11', and consequently move the plunger 22 into or out of the casing to permit it to pass the various positions, as shown in Figs. 1, 2 and 3.

In order to provide a means to lock the plunger when in compressing position, a ratchet wheel 34 is keyed upon one end of the shaft 9, as clearly shown, and the wheel 34 has engaging its periphery the arresting pawl 35 which is pivoted to one channel iron 1 and is disposed to engage the ratchet wheel to prevent a retrograde movement.

In order to provide an auxiliary means to produce the final compressive action upon the bale within the chamber, a lever 36 is provided with the forked ends 37 which will fit astride of the ratchet 34, so that its pawl 38 will be disposed in operable relation to the ratchet 34 so that the movement of the lever to the left as viewed in Fig. 2, will rotate the shaft 9 and consequently draw the plunger 22 downwardly into final compression position.

In order to provide an easy means for releasing the pawl 35 after the baled paper

is compressed and tied, a double arm or lever 39 is pivoted at 40 and has its forward free end 41 disposed in operable relation to the cam or eccentric 42 which is pivoted at 43 to one of the walls 4 of the chamber. A cap 44 is connected to the cam or eccentric 42 and is provided with a handle 45. By this means the rotation of the cap 45 in the direction of the arrow Fig. 2, will depress the end 41 of the lever 39 and lift the other end 46 thereof so as to raise the rod 47, which is connected at 48 to the pawl 35, thus lifting the pawl 35 out of engagement with the ratchet 34 and permitting an easy elevation of the plunger from the position as shown in Fig. 3 to that shown in Figs. 1 and 2.

In operation, the press being in the position as shown in Figs. 1 and 2 with the door 6 closed, and the plunger 22 out of the casing, the waste paper to be compressed is thrown in through the open upper end so as to fall within the chamber. The plunger 22 is now moved downwardly into compressive position by manipulating the handle 33 and after leaving the guiding channels 15, will assume a position within the chamber in parallel with the bottom thereof. The handle 33 is operated until the compressing action has arrived at such a state as to prevent the further easy compression of the paper by means of the handle 33, at which time the lever 36 is manipulated to rotate the shaft 9 and also the respective chains 11 and 11' and thereby move the plunger 22 into final position. The door 6 is now released and swung outwardly so as to permit of access to the compressed paper, the tying wires being passed through the respective slots in the bottom of the chamber and through the slots within the rear wall 4' thereof and finally the channels 25 of the plunger 22, the same being tied at the front portion of the chamber. To release the plunger 22 to permit the baled paper to be removed from the press, the cam 42 is manipulated to disengage the pawl 35 from the ratchet 34. The handle 33 may now be manipulated in the opposite direction to rotate the chains and carry the plunger 22 from the position as shown in Fig. 3 to that shown in Figs. 1 and 2.

What is claimed is:

1. A press, having a vertically disposed baling chamber provided with an upper inlet end, a plunger slidable into and out of the chamber through said inlet end, two chains mounted exteriorly of two opposite walls of the chamber, means for connecting the plunger to said chains, whereby movement is imparted to the plunger through said chains, means for operating the chains in unison, and a pair of curved guides connected to the upper end of the chamber and over which the chains are trained, whereby

the plunger is moved to assume a plane at substantially right angles to the inlet end of the chamber.

2. A press, having a vertically disposed baling chamber provided with an upper inlet end, a plunger slidable into and out of the chamber through said inlet end, two chains mounted exteriorly of two opposite walls of the chamber, means for connecting the plunger to the chains, whereby movement is imparted to the plunger through said chains, means for operating the chains in unison, and a pair of curved guides connected to the upper end of the chamber and over which the chains are trained, whereby the plunger is tilted rearwardly to permit of the free ingress of the material through the inlet of the chamber.

3. A press, having a vertically disposed baling chamber, one wall of which is hinged for outward swinging movement, a plunger mounted for movement into and out of the chamber, a shaft journaled below the bottom of the chamber and transversely thereof, another shaft journaled at the upper end exteriorly of the chamber, two chains trained over, and operably connected to said shafts, means for connecting the plunger to said chains, means for actuating the chains to move the plunger into and out of the chamber, and a pair of curved guides disposed at the upper end of the chamber and over which the chains are trained, said guides imparting a rearward tilting movement to the plunger as the same leaves the inlet end of the chamber.

4. A press, having a vertically disposed baling chamber, one wall of which is hinged for outward swinging movement, a plunger mounted for movement into and out of the chamber, a shaft journaled below the bottom of the chamber and transversely thereof, another shaft journaled at the upper end exteriorly of the chamber, two chains trained over and operably connected to said shafts, means for connecting the plunger to said chains, means for actuating the chains to move the plunger into and out of the chamber, and a pair of curved guides disposed at the upper end of the chamber and over which the chains are trained, whereby the plunger after leaving the upper end of the chamber is tilted to assume a position approximately at right angles to the inlet end of the chamber.

5. A press, having a vertically disposed chamber, the upper end of which is the inlet end, and the front wall of which is hinged connected to the bottom for outward swinging movement, means for locking the hinged wall in sealing position, a super-structure connected to the upper end of the chamber, a shaft journaled below the bot-

tom and transversely of the baling chamber, another shaft journaled in the super-structure above the chamber, two chains operably connected to the respective ends of said shafts, a plunger connected to both of said chains for movement into and out of the chamber, the super-structure guiding the plunger from a position parallel to the bottom of the chamber to a position substantially at right angles thereto and exteriorly of the chamber, means for operating the chains, a ratchet upon one shaft, a pawl for engaging the ratchet and for locking the plunger in compressive position, and auxiliary manually operated means for actuating the ratchet to move the plunger into final compressive position.

6. A press, having a vertically disposed chamber, the upper end of which is the inlet end, and the front wall of which is hinged connected to the bottom for outward swinging movement, means for locking the hinged wall in sealing position, a super-structure connected to the upper end of the chamber, a shaft journaled below the bottom and transversely of the baling chamber, another shaft journaled in the super-structure above the chamber, two chains operably connected to the respective ends of said shafts, a plunger connected to both of said chains for movement into and out of the chamber, the super-structure guiding the plunger from a position parallel to the bottom of the chamber to a position substantially at right angles thereto and exteriorly of the chamber, means for operating the chains, a ratchet upon one shaft, a pawl for engaging the ratchet and for locking the plunger in compressing position, an auxiliary manually operated means for actuating the ratchet to move the plunger into final compressive position, and manually operated means for releasing the pawl to permit of the easy removal of the plunger in compression position.

7. A press, having an open upper ended baling chamber, a plunger movable into and out of said chamber, a pawl and ratchet for locking the plunger in compression stroke, and means for releasing the pawl, comprising a double lever pivoted exteriorly of the chamber, a rod connecting one end of said lever to the pawl, and an eccentric cam mounted upon the wall of the chamber and operably disposed with relation to the free end of the double lever.

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

PERCY WAREHAM.

Witnesses:

K. E. SUTHERLAND,
H. H. THURLBY.