J. D. HENDRIX.

BALING PRESS.

APPLICATION FILED MAR. 12, 1910.

978,158.

Patented Dec. 13, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

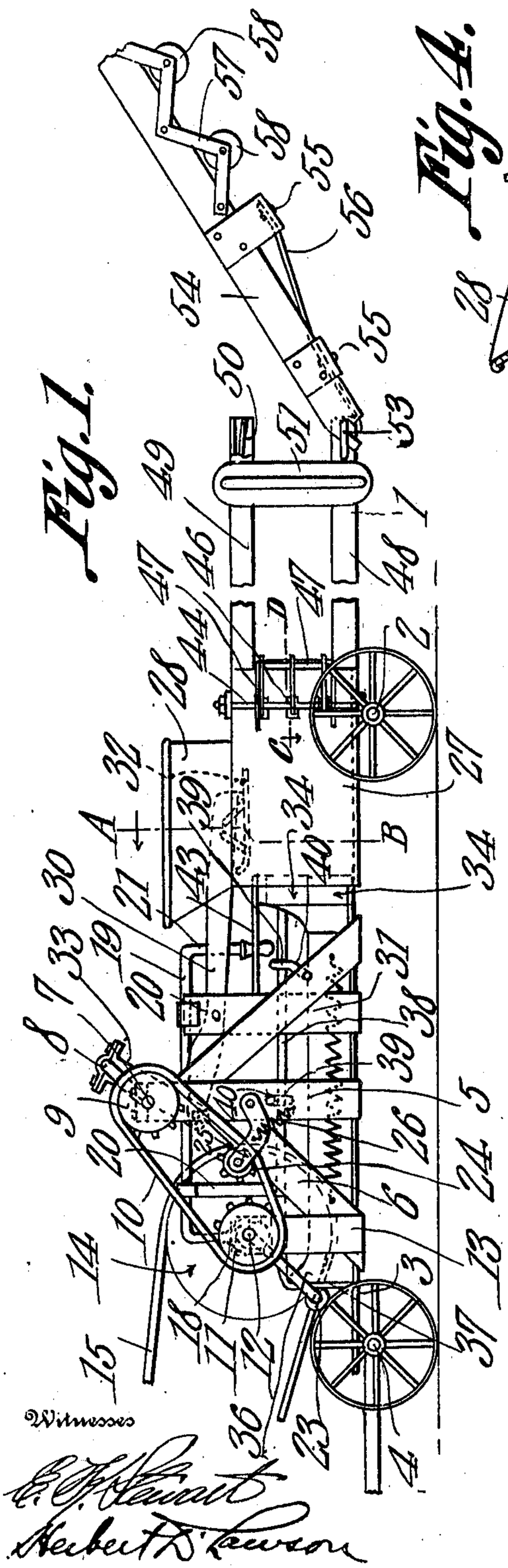


Fig. 4.

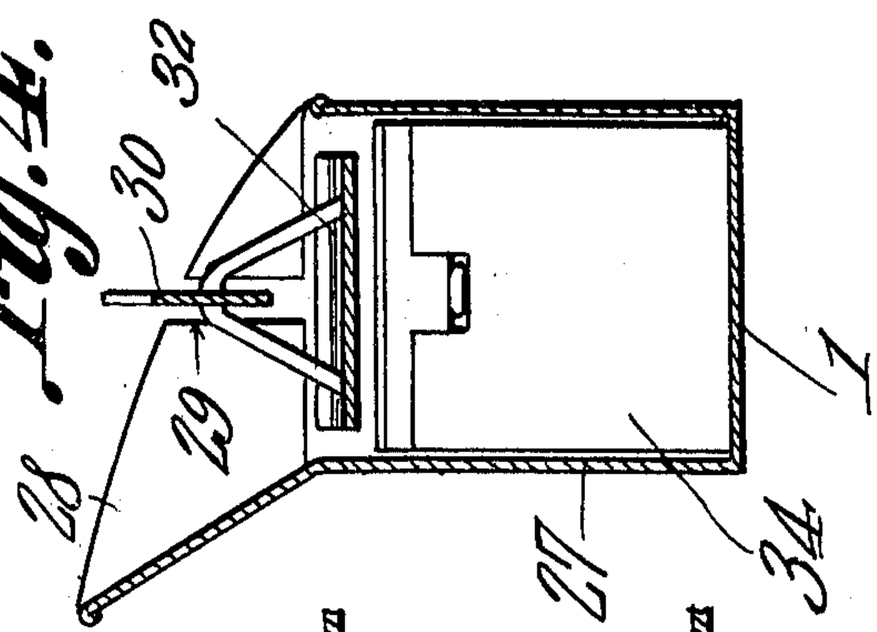
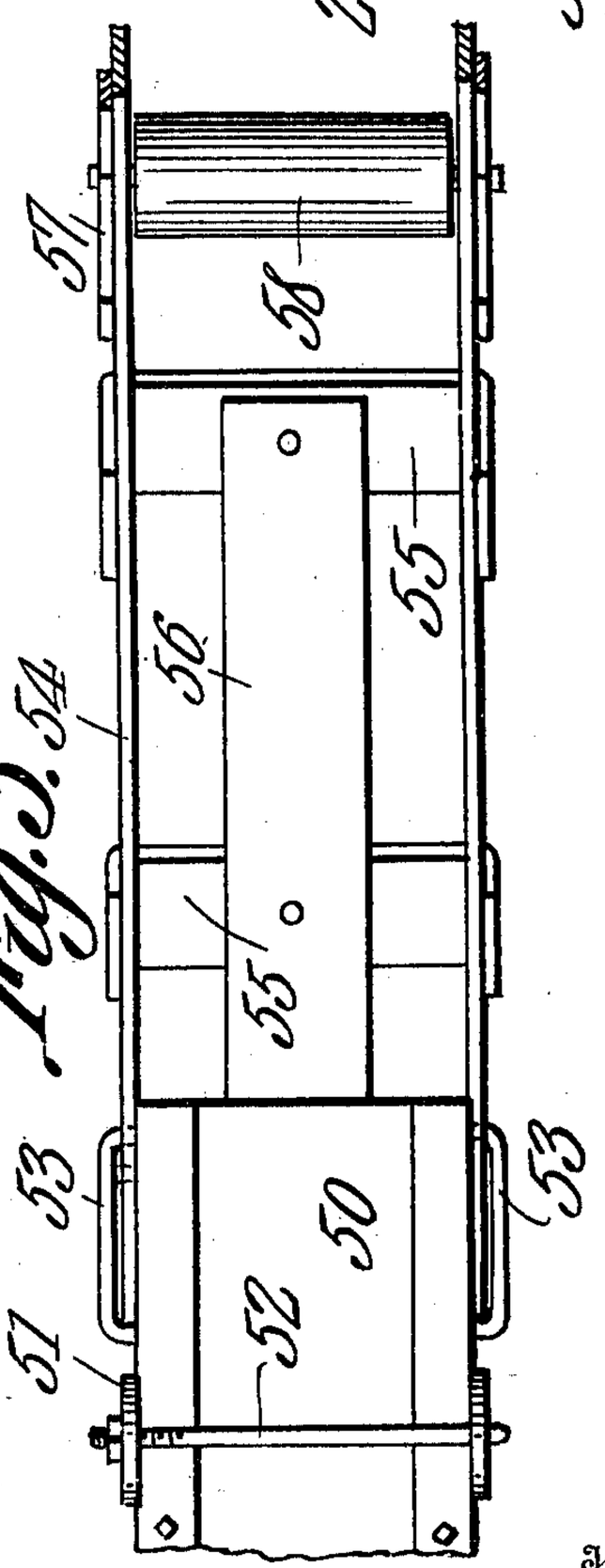


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 2.

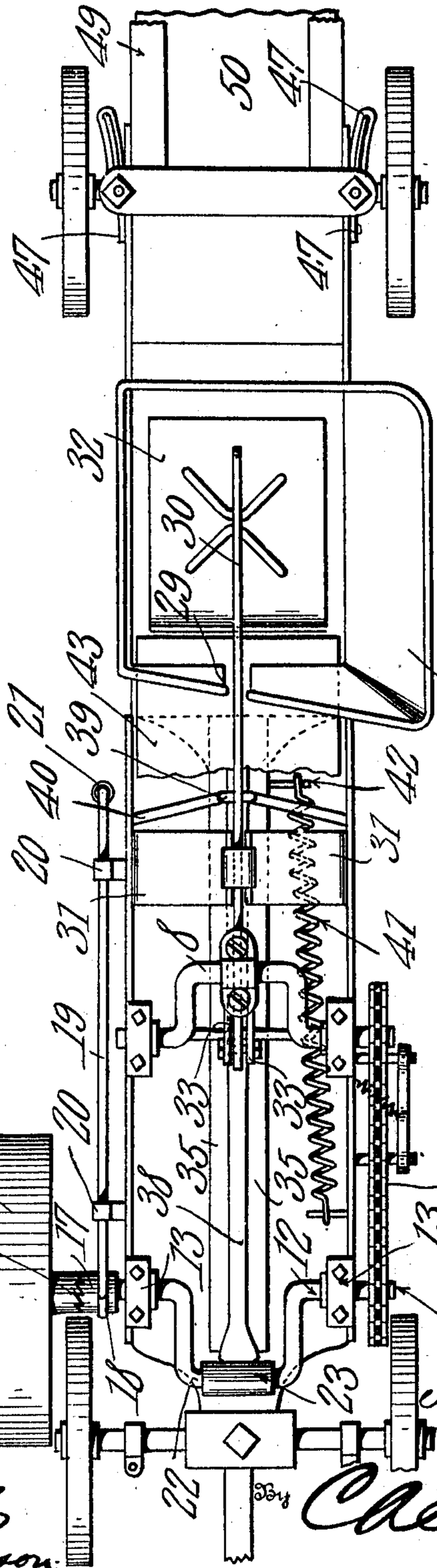


Fig. 5.

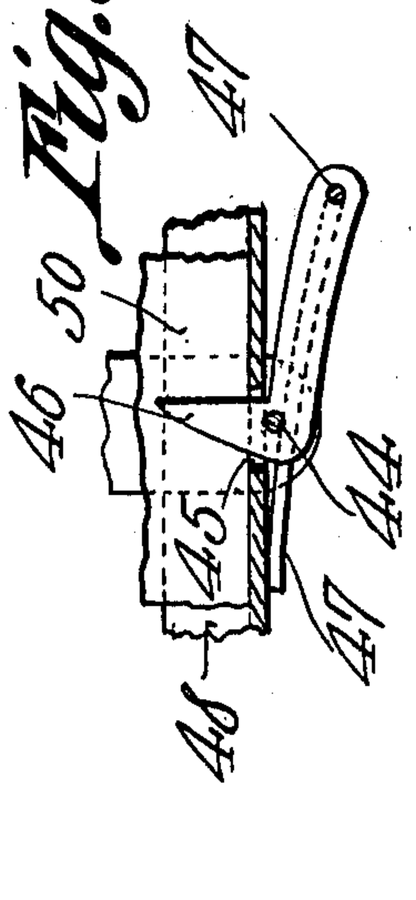
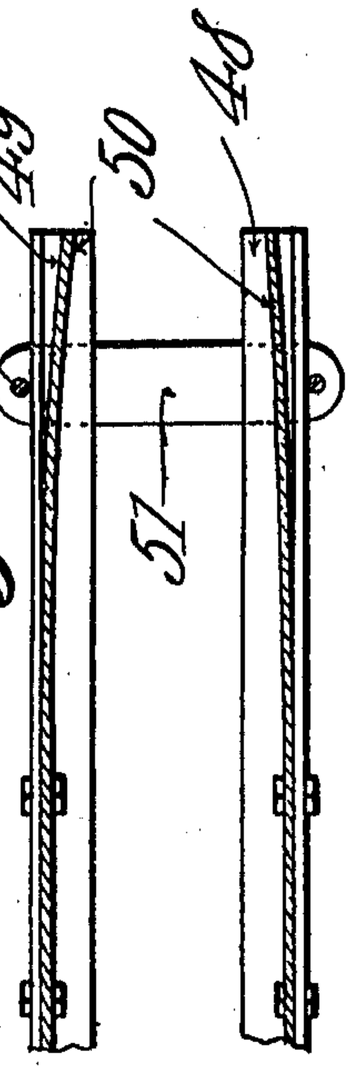


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES D. HENDRIX, OF WALL, TEXAS.

BALING-PRESS.

978,158. Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed March 12, 1910. Serial No. 548,838.

To all whom it may concern:

Be it known that I, JAMES D. HENDRIX, a citizen of the United States, residing at Wall, in the county of Tom Green and State of Texas, have invented a new and useful Baling-Press, of which the following is a specification.

This invention relates to baling presses and one of its objects is to provide a machine of this character having revoluble means for intermittently directing the plunger into the press box, means being provided for automatically returning the plunger to its initial position immediately subsequent to each forward stroke thereof.

A further object is to provide a packer having novel means for actuating the same.

A further object is to provide improved means for guiding the plunger during the reciprocation thereof.

Another object is to provide improved means whereby the bales may be elevated automatically immediately subsequent to their discharge from the press, whereby said bales can be dropped into a wagon or other receptacle provided for them.

With these 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 side elevation of a baling press constructed in accordance with the present invention, a portion of the elevator being removed. Fig. 2 is a plan view of the actuating mechanism, the packer, and the adjoining portions of the press structure. Fig. 3 is a plan view of the discharge end of the press and of the adjoining portion of the elevator. Fig. 4 is a section on the line A—B Fig. 1. Fig. 5 is an enlarged section on line C—D Fig. 1. Fig. 6 is a vertical longitudinal section through the discharge end of the baling press and showing the flexible free end of the base and stop strip.

Referring to the figures by characters of reference 1 designates the base of the press, the same being mounted at an intermediate point upon a wheel supported axle 2 while a tongue 3 extends forward from the base and is mounted upon the front wheel supported axle 4 which is pivotally connected to the tongue and may be provided with the usual draft gear.

A standard 5 extends upwardly from each side of the base and adjacent the front end thereof, each standard being provided with upwardly converging braces 6 and there being a shaft 7 journaled in the upper ends of the standards 5 and provided with a crank 8 while a sprocket 9 is secured to one end of the shaft and is adapted to receive motion through a chain 10 from another sprocket 11 secured to a shaft 12. This last mentioned shaft is journaled in standards 13 extending upwardly from the sides of the base 1 at the front end of the base and a pulley 14 is mounted on the said shaft and is adapted to be actuated by a belt 15 driven by any suitable power. This pulley is preferably loosely mounted on the shaft and has a clutch member 16 integral with the hub thereof and designed to be engaged by a clutch member 17 feathered on the shaft 12 and actuated by the forked end of an arm 18. This arm extends downwardly from a shaft 19 journaled within suitable supports 20 and having a handle 21 at one end whereby it can be readily manipulated for throwing the clutch member 17 into or out of engagement with the clutch member 16. Shaft 12 has an intermediate crank 22 on which is arranged a roller 23 adapted to travel in a circle between the standards 13.

The chain 10 heretofore referred to may be held normally taut in any preferred manner, as by means of an idler sprocket 24 carried by a lever 25. This lever is journaled on one of the standards 5 and has a spring 26 attached to it and whereby the sprocket 24 is held normally pressed downwardly against the chain. It is of course to be understood that other forms of belt tighteners may be used in lieu of that shown and described.

Side walls 27 extend upward from the base 1 adjacent the rear axle 2 and form the press box of the machine, this press box being provided with a feed hopper 28 arranged upon the top thereof and one wall of which is slotted as shown at 29. This slot is designed to receive a lever 30 fulcrumed at an intermediate point between the upper ends of standards 31 and having a packing head or block 32 fixedly connected to one end and adapted to move downwardly into the hopper. The other end of the lever is connected, by means of a link 33, to the crank

8 so that, as the shaft 7 rotates, the packing block 32 will be oscillated with relation to the hopper.

A plunger 34 is mounted to reciprocate upon the base 1 and between the standards and the side walls, this plunger being provided with a shank 35 having a head or enlargement 36 at its outer or free end. A wear plate 37 is secured upon said end and merges into a guide rod 38 which extends longitudinally above the shank and is secured to the plunger 34. This guide rod is slidably mounted within guide eyes or loops 39 formed upon cross rods 40 which are connected to the standards 5 and opposed braces 6 respectively. It will be apparent therefore that these guide eyes coöperate with the guide rod 38 to hold the plunger properly centered at all times during its reciprocation. A spring 41 is secured at one end to a laterally extending projection 42 on the shank 35 and at its other end to one of the braces 6, this spring serving to hold the head or enlargement 36 normally in the path of the roller 23. A cut-off plate 43 is secured to the top of the plunger and is adapted, when said plunger is moved into the press box, to close the bottom of the hopper 28.

Pivot rods 44 are arranged vertically upon the outer faces of the walls 27 and adjacent apertures 45 which are formed within said walls. Each of these apertures 45 has one arm 46 of a bell crank lever projecting therethrough, the other arm of said lever being located outside of the wall 27. These outer arms of the several bell crank levers have a spring rod 47 extended through them, the ends of the rod being extended at right angles, or parallel with the bell crank levers and being secured to the wall 27. This spring rod thus serves to hold the entire series of bell crank levers at one side of the machine normally projected inwardly. As these inwardly projecting arms of the levers are beveled, they constitute stop dogs which will swing outwardly when the hay or other material being pressed, is forced thereagainst. The springs bars 47, however, will promptly return the inwardly projecting ends of the levers to their normal positions when they are relieved from the pressure exerted by the plunger 34.

From the foregoing description it will be noted that the set of retaining dogs or levers located at each side of the press box move simultaneously.

Angle irons 48 are extended along the side edges of the base 1 between the walls 27 and the discharge end of the machine and additional angle irons 49 are extended parallel with the irons 48 and from the upper portions of the walls 27. These angle irons 49 are connected by a stop plate 50, the rear end of this plate and of the base 1 being free so as to be capable of flexing upwardly and downwardly. The upper and lower side irons 49 and 48 are connected by side strips 51 and the ends of these said strips are connected by transversely extending tension bolts 52.

Brackets 53 extend laterally from the rear ends of the angle irons 48 and are detachably engaged by the lower ends of side strips 54 which are supported thereby in inclined positions. Cross strips 55 connect the lower portions of the side strips and support a guide plate 56 extending longitudinally between the strips 54. Brackets 57 extend downwardly from the side strips 54 at points above the plate 56 and support transversely extending rollers 58.

It is of course to be understood that the pulley 14 may operate continuously without actuating the mechanism of the press unless the clutch member 17 is shifted into engagement with the clutch member 16. When these two clutch members are thrown together, the shaft 12 will be rotated with the pulley and the roller 23 will be swung downwardly against the head or enlargement 36, forcing the shank 35 forward and directing the plunger under and across the bottom of the feed hopper 28. Any hay or other material in the path of the plunger will thus be compressed within the press box and will be retained by the dogs or levers 46. While the plunger is thus located under the hopper hay or other material can be placed within said hopper and will be supported by the cut-off plate 43. At this time the packing block 32 is held elevated by the lever 30 and the crank 8 but, as the shaft 12 continues to rotate, motion is transmitted therefrom through the chain 10 to the shaft 7 and the crank 8 therefore swings the block 32 downwardly into the hopper. Immediately subsequent to the completion of the forward movement of the plunger 34 and as the roller 23 moves upwardly from behind the head 36, the spring 41, which is placed under stress during the forward movement of the plunger, returns said plunger to its initial position, it being apparent therefore that as the block 32 moves downwardly it will force into the press box all hay or other material located within the hopper. This alternate movement of the plunger and packing block will continue as long as desired and the pressed bales after being tied will be forced out of the contracted end of the machine and onto the inclined guide plate 66. The said bales will therefore be directed upwardly between the side strips 54 and onto the rollers 58 and will be dropped off of the upper end of the elevator and onto a wagon or the like located thereunder.

It will be seen that the press which has been described is comparatively simple in construction, cheap to manufacture, and will be easy to operate, not only to press mate-

rial into bales, but to elevate the bales and to discharge them into a waiting receptacle or into piles.

Various changes can of course be made in the construction and arrangement of the 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 machine of the class described including a press box, a plunger, a shank extending therefrom, a guide rod above said shank and movable therewith guides for the rod, and a revoluble crank movable against the shank to shift the plunger into the press box.

2. A machine of the class described including a press box, a plunger, a shank extending from the plunger, said shank having a head at its free end, a wear device upon the head, a guide rod integral with said device and secured to the plunger, guides for the rod, and a revoluble crank movable against the wear device to shift the shank and plunger in one direction.

3. A baling press including a press box, parallel angle irons extending beyond the corner portions of the press box, a base extending between and secured to the lower angle irons, a top strip extending between and secured to the upper angle irons, said base and top strip having free flexible outer ends converging, a plunger, means for actuating the same to direct material under pressure between the base and top strips, and tension means for adjusting the free ends of the angle irons relative to each other.

4. A baling press including a press box, a base extending forwardly and rearwardly therefrom, standards upstanding from the base, guide members extending over the base and supported by the standards, a plunger, a shank thereon, said shank having a head, a guide rod extending longitudinally above the shank and secured to the plunger, said rod being slidably mounted within the guide members, a revoluble crank movable against the head to shift the plunger in one direction, and means for automatically returning the plunger subsequent to said movement, one end of the rod constituting a wear plate upon the head for engagement with the crank.

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

JAMES D. HENDRIX.

Witnesses:

W. S. Robinson,

J. O. Day.