

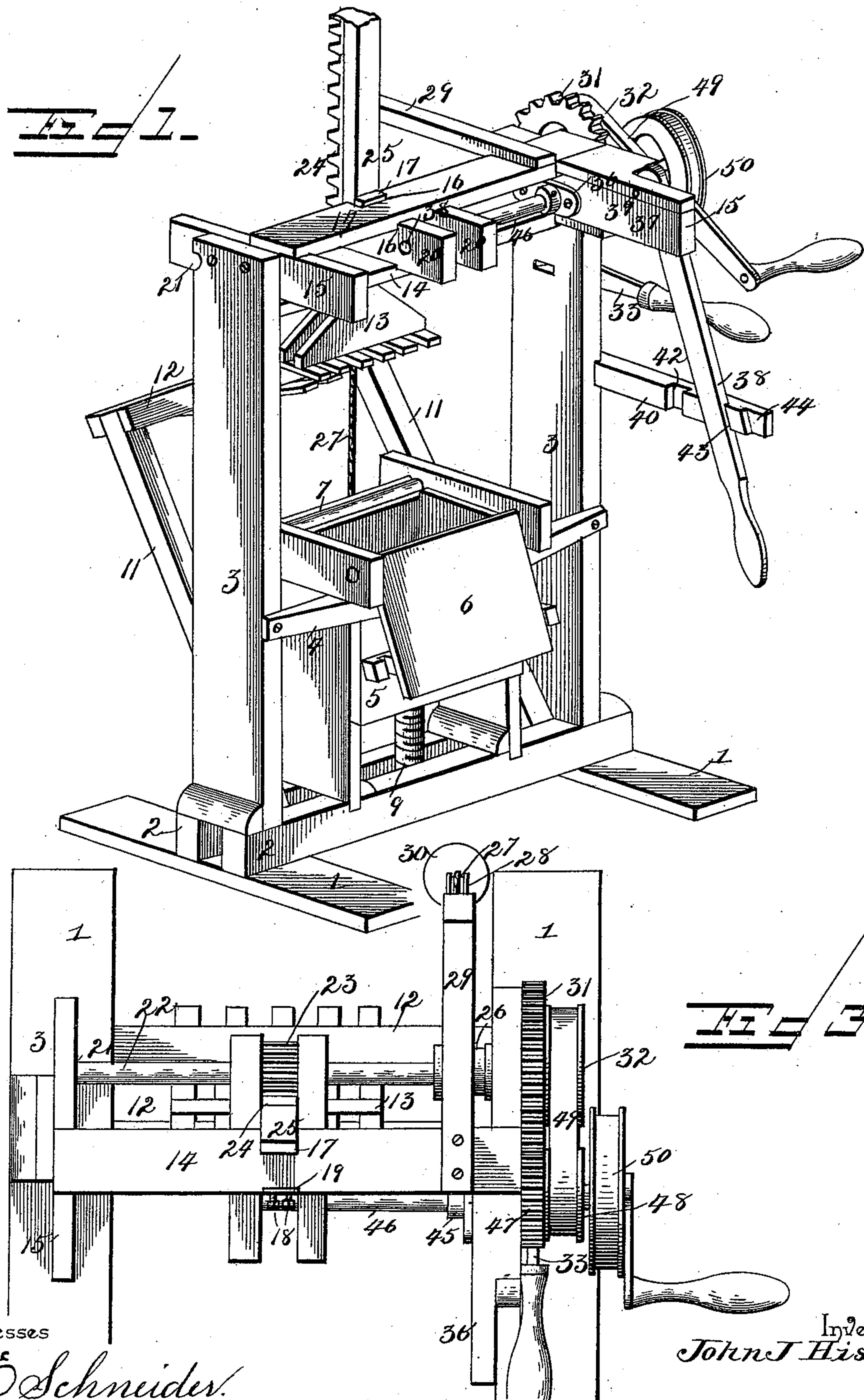
(No Model.)

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J. J. HISER.
ATTACHMENT FOR BALING PRESSES.

No. 522,208.

Patented July 3, 1894.



Witnesses

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By His Attorneys,

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Inventor
John J. Hiser

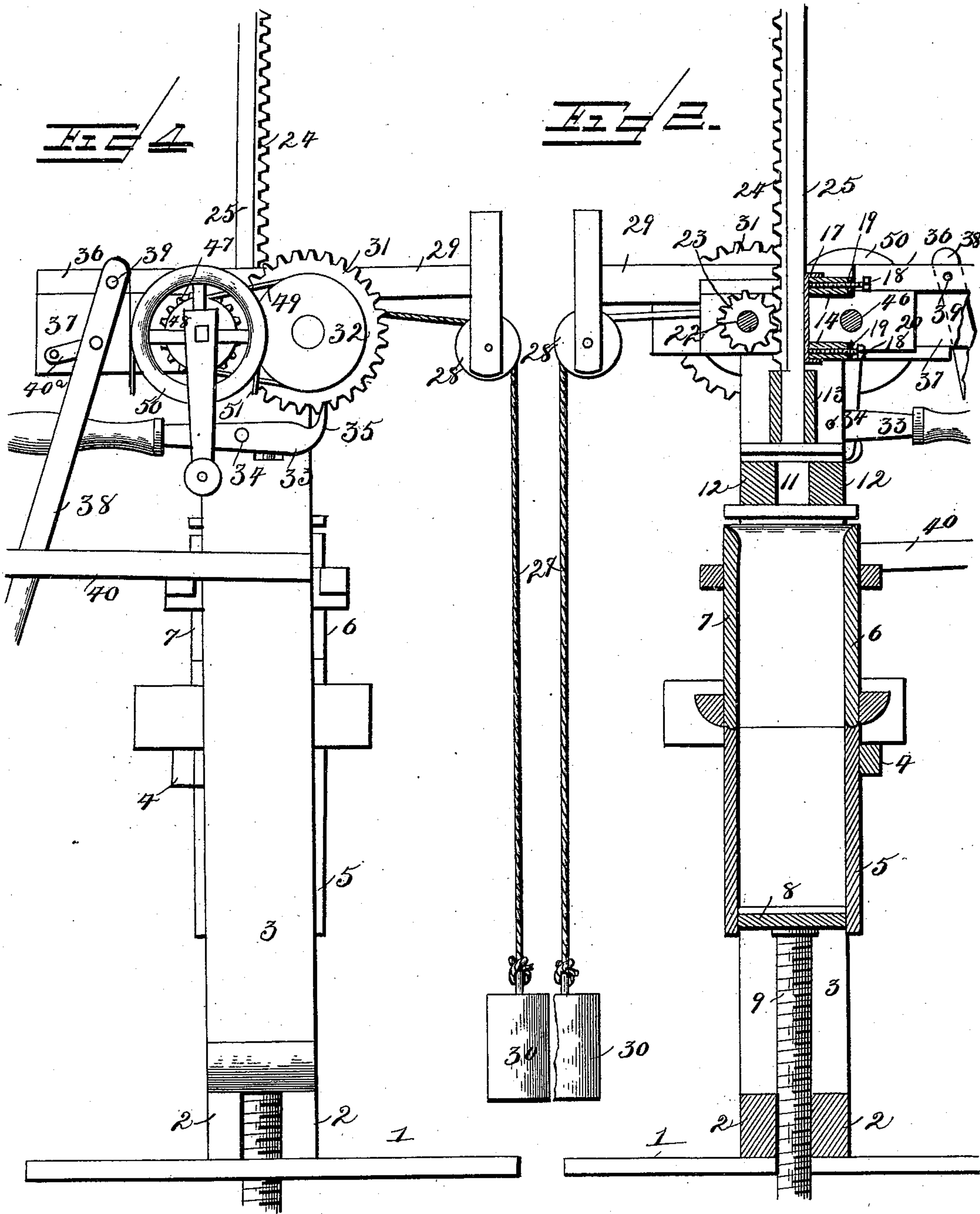
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UNITED STATES PATENT OFFICE.

JOHN J. HISER, OF ARCADIA, LOUISIANA, ASSIGNOR OF ONE-HALF TO
JASPER M. COLVIN, OF SAME PLACE.

ATTACHMENT FOR BALING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 522,208, dated July 3, 1894.

Application filed March 9, 1893. Serial No. 465,334. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HISER, a citizen of the United States, residing at Arcadia, in the parish of Bienville and State of Louisiana, have invented a new and useful Attachment for Baling-Presses, of which the following is a specification.

My attachment relates to improvements in baling-presses, and more especially to that class thereof which employs a tramping-attachment as illustrated in United States Patent No. 443,995, granted me January 6, 1891.

The objects of my present improvements are to provide a mechanism for operating the tramping-attachment, which mechanism is so constructed as to be adapted to be operated by a mechanical-power; to construct the mechanism in such manner as to raise and lower the tramping-plunger, and to accomplish this reversal of movement under the guidance of the operator and in a convenient manner; and furthermore to provide for a retention or locking of the plunger in a depressed position without a stoppage of the motive-power or mechanism for operating said plunger.

With these and other though minor objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of a press provided with my improvements. Fig. 2 is a vertical transverse sectional view of the same looking toward the gearing. Fig. 3 is a top plan view. Fig. 4 is a side elevation.

Like numerals of reference indicate like parts in all the figures of the drawings.

Upon a pair of transverse base-sills 1, or it may be any other suitable support, there is located a pair of parallel longitudinal sills 2, which are bolted to the base-sills and serve to connect the same. In the present instance there arises from the sills 2 and is bolted near the ends thereof a pair of vertical uprights or posts 3, which uprights are connected near their middles by a cross-beam 4. Supported upon the longitudinal sills 2 and the cross-piece 4 is the baling-chamber 5, the same, as usual, being provided with the opposite removable sides and ends 6 and 7 respectively.

Located in the chamber 5 is the follower 8, which is operated through the medium of a threaded feed-shaft 9 designed to be rotated through any suitable power, as will be obvious.

Loosely hinged between the longitudinal sills 2 and between the ends of the baling-chamber and uprights 3 is a pair of vertical standards 11, which are connected and embraced at their upper ends by the cross-pieces 12, whose under sides are connected by slats, whereby the whole forms a swinging platen against which the follower in the act of pressing the bale operates and which is capable of being swung to the front of the press out of line with the baling-chamber so as not to interfere with the tramping-plunger 13 that is located above the platen.

Thus far I have described the ordinary construction of this class of presses, and I will now proceed to describe my improvements, which, as before stated, are directed only to a suitable mechanism for operating the tramping-plunger. I would herestate that if desired this mechanism may be supported independent of the press, that is by the wood-work above the same, instead of, as in the present instance, by means of the uprights 3. In the former case of course it will be understood that the uprights 3 would be dispensed with as they would serve no useful function in connection with my mechanism, but perhaps might be employed in connection with the baling-chamber itself, that is merely acting as a support therefor. However, it would be safe to say that the uprights would be dispensed with entirely in that other means could be better devised for such purpose.

The uprights 3 are connected by a pair of parallel transverse cap-beams 14, and between the ends of these beams are interposed and bolted horizontal cross-arms 15. The rear edges of the cap-beams 14 are provided at their centers, in this instance, with single recesses 16 which are vertically opposite each other. In these recesses there is seated a metal wear-plate 17, the upper and lower ends of said plate overlapping the upper and under sides of the upper and lower cap-beams, respectively. Set bolts 18 are threaded in countersunk plates 19 located in the front

edges of the cap-beams, and at their rear ends bear upon said wear-plate and serve to adjust the same in a manner obvious. Intermediate cross-beams 20 pass between the cap-beams at opposite sides of the wear-plate, and said intermediate cross-beams are provided at their rear ends with transversely-disposed bearings 21, which bearings are also produced and indicated at 21 in the rear ends of the horizontal cross-arms 15. In these bearings 21 there is journaled for loose rotation a horizontal shaft 22, one of whose ends projects beyond the end cross-arm 15 through which it passes. Mounted upon the shaft 22 between the intermediate cross-arms 20 is a spur-gear or pinion 23, and engaging with the same is the series of teeth 24 formed on the rear face of the stem 25 of the tramping-plunger, so that, as will be obvious, as the shaft 22 and its pinion 23 are revolved the movement is imparted to the tramping plunger-stem, and hence the tramping-plunger raised or lowered in accordance with the direction of rotation of the shaft. A small drum 26 is located upon the shaft 22 at one side of the pinion, and secured to the drum is one end of a rope 27, the remaining end passing over a loose pulley 28, which is journaled in a horizontally-disposed arm 29 that projects from the upper cap-beam 14 in rear of the press. To the lower end of this rope a counterbalancing weight 30 is secured, the same being designed to counterbalance the weight of the plunger and its stem. The extended end of the shaft 22 has mounted thereon a spur-gear wheel 31 and outside of or beyond the same a belt-pulley 32, the pulley and gear both being fast upon the shaft. A hand-lever 33 is pivoted or fulcrumed as at 34 below the spur-gear 31 and upon the upright adjacent thereto, and at its rear end is provided with a transverse tooth 35, which when the front end of said lever is depressed is consequently elevated into engagement with an adjacent tooth of the spur-gear 31 and hence locks the spur-gear, the shaft 22, and the plunger and its stem rigid against movement in either direction.

To the upper and lower edges of that cross-arm 14 upon which the gearing described is located and at the front end thereof there is located a pair of parallel horizontal ways 36 in which there is mounted for reciprocation a sliding-bar 37. A hand-lever 38 is pivoted at its upper end, as at 39, to one of the stationary ways, and below said point of pivot is, by means of a link 40^a, loosely connected with said sliding-bar, the ends of the link being pivoted respectively to the lever and to the bar. A locking-bar 40 is arranged below the gearing and at one side of the hand-lever, and said locking-bar has its inner face provided with a series of three notches 42, 43, and 44.

A metal-bushing 45 is located in the sliding-bar 37 near the inner or rear end thereof, and said bushing aligns with bearing-openings 38 formed in the front ends of the intermediate cross-arms 20, the bearing-opening in

that cross-arm most adjacent to the sliding-bar being elongated so that the short shaft 46 which is mounted in the bushing and said bearing-openings and passes through and beyond the former is free to move laterally at its outer end. The shaft 46 is provided with a small pinion 47 at one side of the same and with a small pulley 48 which is connected to the pulley 32 by a belt 49, and is further provided with a drive-pulley 50 over which passes a belt 51 leading from any suitable motor and serving to drive said pulley continually, when the press is in operation, in the direction indicated by the arrow.

This completes the construction of the attachment, and its operation is as follows: The swinging platen is thrown to the front so as to be out of the way of the tramping-plunger, and as the cotton is deposited in the baling-chamber the plunger reciprocates, packing each portion preparatory to the final compression. The manner of securing a reversal of the movable plunger by a continuous rotary motion of the drive-pulley 50 is as follows: By throwing the hand-lever 38 to the rear and into engagement with the notch 44 of the locking-bar it will be seen that the spur-gears of the two shafts will intermesh so that the motion from the smaller gear or that upon the drive-shaft will cause an opposite motion of the plunger-operating shaft and hence said plunger will be lowered into the baling chamber. It will be further seen that this rearward movement of the drive-shaft so as to intermesh the two gears will cause the belt 49 to become slack and hence inoperative. When the plunger has descended and a sufficient pressure been brought to bear and it is desired to elevate the plunger the hand-lever is again grasped by the operator, swung to the front and engaged with the outer notch 44. It will be seen that such movement upon the part of the lever will cause the power-shaft to be swung to the front and hence a disengagement of the gears takes place. The disengagement of the gears of course prevents motion being imparted from the power-shaft to the drive-shaft through the gears, but at the same time it will be noticed that the belt connecting the two pulleys of the shafts will become tightened and operative, and, as is well known, a similar movement will be communicated from the pulley of the power-shaft to that of the drive-shaft in contradistinction to the reversal movement caused by the engaging and revolving gears. In this manner the plunger is elevated ready for tramping a subsequent deposit of material in the press. If at any time it is desired to retain the plunger either raised or lowered it is simply necessary to swing the hand-lever to the central notch 43 which will sufficiently slacken the belt to prevent communicating motion and yet will not engage or intermesh the teeth of the gears so that no motion whatever will be imparted, but the power-shaft will run idle. When the plunger is depressed and it is desired to hold

or lock the same in such position for any purpose this operation is followed, that is the lever is brought to the central notch and immediately thereafter the locking-lever is depressed at its front end and consequently its rear end elevated into engagement with the teeth of the gear upon the drive-shaft.

From the foregoing description in connection with the accompanying drawings it will be seen that I have provided a tramping-plunger operating mechanism of cheap and simple construction that may be located upon or supported above the press and independent thereof if so desired, which mechanism is adapted to be mechanically operated for the purpose of raising and lowering the tramping-plunger and is capable of being reversed or its movement arrested for a change of direction of the power gear or motor, and is capable of being locked against movement while at the same time said motor is operated.

I do not limit my invention to the details of construction herein shown and described, but hold that I may vary the same to any degree or extent within the scope of persons conversant with this class of machinery or the skilled mechanic.

Having described my invention, what I claim is—

1. The combination with the uprights, the base upon which they are mounted, the baling-chamber arranged between the uprights, the swinging platen, the cross-arms secured to the uprights, the cap-beams recessed to form guides, the plunger and its stem arranged in the guides, said stem having teeth, of a pair of intermediate arms embracing the plunger-stem, bearings formed in the end and intermediate arms, a transverse drive-shaft, a pinion arranged thereon between the intermediate arms and engaging the teeth of the rack-bars, a gear-wheel and a pulley mounted on one end of the drive-shaft, ways located upon the upper and lower edges at the front portion of one of the end cross-arms, a sliding-bar mounted between the bearings, a metal bushing located in said sliding-bar, bearings formed in the intermediate cross-

arms, the inner one being elongated, a power-shaft journaled in the bearings and in the bushing, a pulley and pinion carried thereby, a loose belt connecting the pulleys of the two shafts, a drive-pulley arranged on the outer end of the power-shaft, a belt for operating the same, a bar having a series of three notches secured to the upright below the gearing, a lever pivoted at its upper end to the upper guide, and a link loosely connecting the sliding bar with the lever, substantially as specified.

2. The combination with a press, its baling-chamber, a tramping-plunger, its stem, a guide therefor, and rack-teeth on the stem, of a drive-shaft, bearings for the same, a pinion carried by the shaft and engaging the teeth of the plunger, a gear and pulley carried by the shaft, a power-shaft, means for oscillating the same, a pinion and pulley mounted thereon, means for rotating said power-shaft, a loose belt connecting the pulleys of the two shafts, and a lever fulcrumed below the shafts and terminating at one end in a handle and at the opposite end in a tooth for engaging the teeth of the gear of the drive-shaft, substantially as specified.

3. The combination with the opposite uprights, the base, the intermediate chamber, and the cap-beams connecting the uprights and having their corresponding edges recessed, of a metal-plate bent at its ends to embrace the cap-beams and seated in the recesses, screws passing through the cap-beams and bearing on the plate, a drive-shaft arranged in rear of the cap-beams, a pinion thereon, means for operating the drive-shaft, a plunger, a stem for the same located in the recesses and borne upon by the plate, and rack-teeth on the plunger engaged by those of the pinion, substantially as specified.

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

JOHN J. HISER.

Witnesses:

J. E. COLVIN,
E. T. STEWART.