

No. 780,625.

PATENTED JAN. 24, 1905.

J. S. TUTTLE.
BALING PRESS.

APPLICATION FILED APR. 27, 1904.

2 SHEETS—SHEET 1.

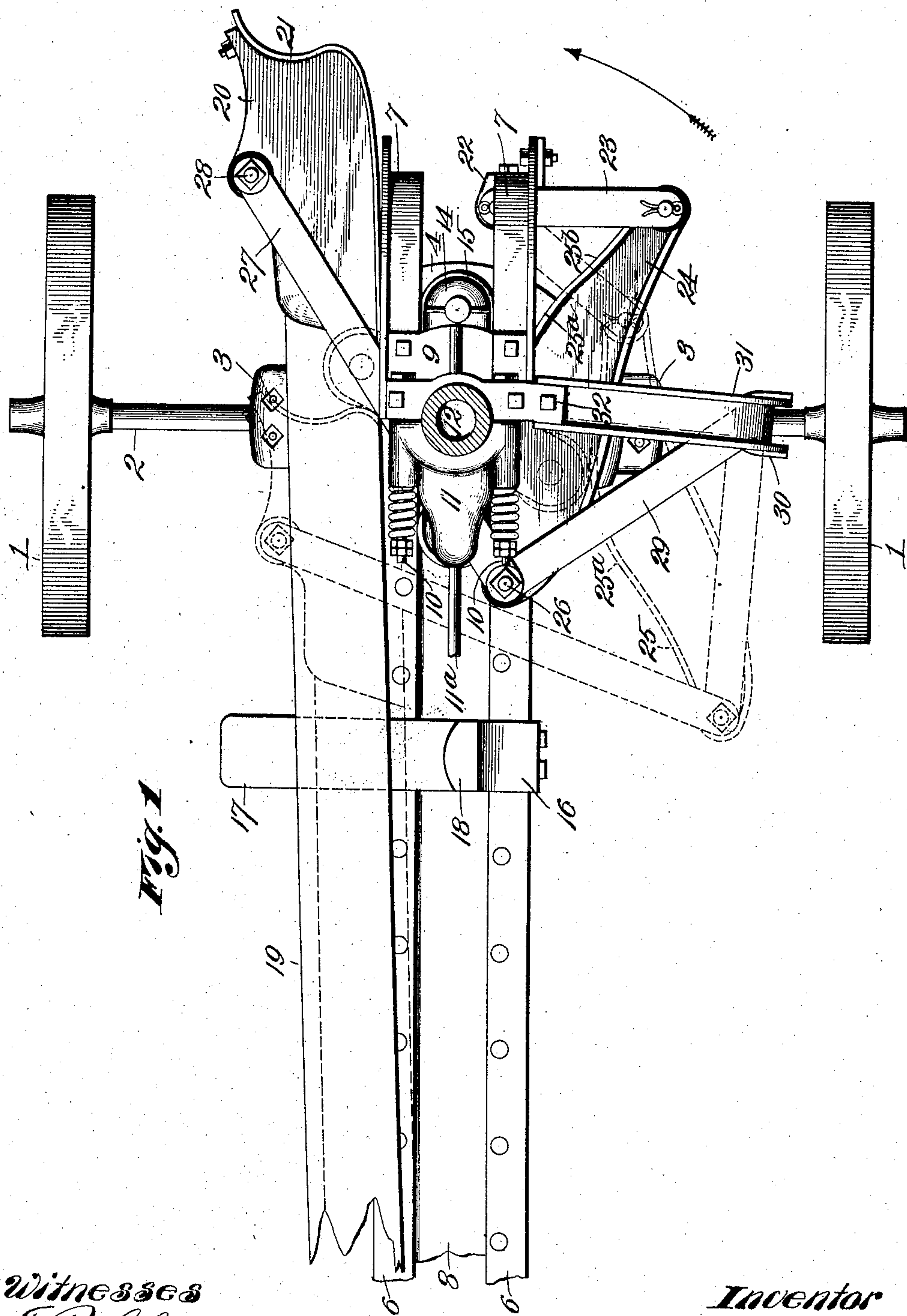


Fig. 1

Witnesses
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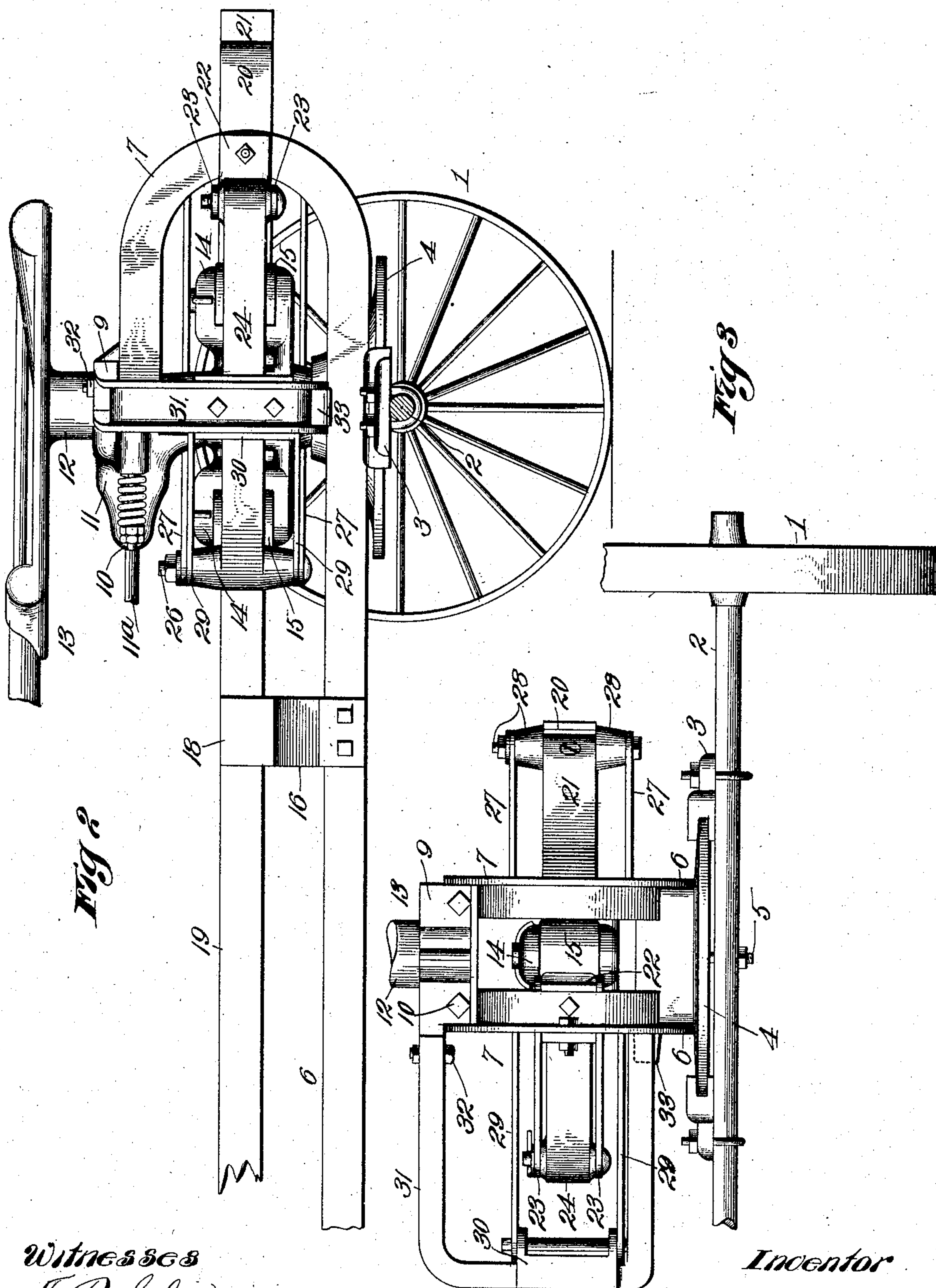
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UNITED STATES PATENT OFFICE.

JOSIAH S. TUTTLE, OF KANSAS CITY, MISSOURI, ASSIGNOR TO PANAMA HAY PRESS COMPANY, OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 780,625, dated January 24, 1905.

Application filed April 27, 1904. Serial No. 205,263.

To all whom it may concern:

Be it known that I, JOSIAH S. TUTTLE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

This invention relates to baling-presses of that type operated by horse-power and adapted to make two compression-strokes for each cycle of the horses; and my object is to produce a machine of this character by which the regulation plunger-stroke is obtained with a trip lever or crank of materially shorter length than has heretofore been used, so as to give the draft-animals increased leverage.

To this end the invention consists in certain novel and peculiar features of construction and combinations of parts, as hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a horizontal section of the power end of a baling-press, taken just below the sweep. Fig. 2 is a side elevation of the same. Fig. 3 is a front end view of the same.

In the said drawings, 1 designates the front wheels; 2, the axle; 3, blocks secured to the axle, and 4 the circular base-plate secured to the blocks and, as at 5, to the axle.

6 represents parallel angle-irons adapted to be connected at one end to the baling-case (not shown) and at the other terminating in the return-bend or gooseneck 7, said angle-irons between the baling-case and base-plate 4 being connected by bridge-plate 8.

9 is a boxing secured to the upper end of the gooseneck, and 10 bolts extending through said boxing and the boxing 11 to unite them together in the customary manner, boxing 11 having a brace-rod 11^a for connection with the baling-case in the usual or any preferred manner.

The power-shaft 12 is journaled in boxings 9 and 11 and in the base-plate in any suitable manner and, as usual, is equipped at its upper end with the sweep 13. It is also provided with diametrically opposite arms or

cranks 14, provided with the usual antifric-tion-rollers 15, constituting the trip-lever. 50

16 is a casting secured to the reach and provided with a laterally-projecting arm 17 and an upwardly-projecting boss 18, the arm 17 serving as a support for the plunger-beam 19 and the boss as an abutment for said plunger-beam to effect the release of the latter from the trip-lever, as hereinafter explained, and at its front end the plunger-beam is provided with the usual metallic head 20, having the end pocket 21. 60

22 designates a casting secured to the gooseneck, as shown or otherwise, and pivotally connected thereto for operation in a horizontal plane is a pair of links 23. Said links are pivotally connected to the front end of a floating lever 24, disposed in the horizontal plane of the trip-lever and having its edge opposing the latter of compound-curve form, as viewed from above, said compound-curved edge being composed of the concave surface 25, the convex surface 25^a, and the concave surface 25^b. At its rear end the floating lever carries a bolt 26, pivotally connected by a pair of links 27 to the bolt 28, carried by the head of the plunger-beam. The bolt 26 is likewise pivotally connected by links 29 to the bracket 30, secured in any suitable manner to the channel-iron frame 31, said frame being secured, as at 32, to boxing 9 at its upper end and at its lower end to a lug 33, projecting from the base-plate 4. 80

When the machine is at rest, the parts are arranged as shown in full lines, Fig. 1, so that as the power-shaft is rotated in the direction of the arrow, said figure, the rear-most trip-lever roller engages concave surface 25 of the floating lever and starts the plunger-beam on its power-stroke through the agency of connecting-links 27. At about the same time or shortly after the floating lever was engaged the forward trip-lever roller engages the inner edge of the plunger-beam, so as to coöperate with the floating lever in the advance of the plunger. This opposite pressure of the trip-lever on the floating lever and plunger-beam serves to force said 95

lever and beam apart, and as a result the lever swings rearwardly and outwardly, guided by its supporting-links 23 and 29, and the beam travels rearwardly, the approach of links 27 toward parallelism with the axle compensating for the increasing distance between the beam and the rear end of the floating lever. The first two-thirds or thereabout of the beam movement is extremely rapid, because the travel of said first-named trip-lever roller over the convex surface of the floating lever quickly swings the latter and its connected parts to the position shown in dotted lines, Fig. 1, the opposite roller entering the pocket 21 at about the same moment that its companion roller passes from engagement with the convex surface of the floating lever. For the remaining or compression portion of the beam movement one roller remains in the pocket of the beam and the other travels along the concave surface 25^b of the floating lever, this relation of the trip-lever and floating lever guarding against any possibility of accidental disengagement between the plunger-beam and the engaging trip-lever roller. During this part of the movement the floating lever moves but little, as will be readily seen by reference to Fig. 1. Eventually the plunger-beam is arrested by its impingement against the stop-lug 18, the latter holding it until the engaged roller rides out of the pocket, this being immediately followed by the rebound of the plunger and the restoration of the connected parts to their original positions. The rebound of the plunger is adapted to be cushioned by any suitable brake mechanism, (not shown,) as such brakes are in common use.

It will be seen by reference to Fig. 1 that this construction provides for a longitudinal pull upon the plunger-beam for the greater portion of its stroke—namely, until the trip-lever roller enters the pocket of the beam—and that by the use of the floating lever and connections such preliminary movement of the beam can be made longer than is usual in order to compensate for the slightly-shorter compression portion of the stroke, this portion being somewhat shorter than usual, because of the use of shorter cranks or trip-arms, this shorter stroke, however, being compensated for by reason of the greater leverage which it gives to the draft-animals.

From the above description it will be apparent that I have produced a baling-press embodying the features of advantage enumerated as desirable in the statement of invention and the additional advantage of strength, durability, and comparatively cheapness of construction, and while the preferred construction has been illustrated and described it is apparent that various changes may be made in the form, proportion, detail construction, and arrangement of the parts

without involving a departure from the principle of construction involved.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a suitable framework, a plunger-beam, a floating lever, rearwardly-converging links connecting the rear portion of said lever with the plunger-beam and framework, means for synchronously pressing in opposite directions against the proximate faces of the plunger-beam and lever, and means for compelling the front portion of the lever to travel inwardly and rearwardly as said lever and beam are pressed apart.

2. In a baling-press, the combination of a plunger-beam and a floating lever, a link pivotally connecting the rear portion of the lever with the front portion of the beam, converging rearwardly with respect to the lever, means for pressing said lever and beam apart, and means for guiding said lever in a rearward and outward direction as pressed apart from the beam.

3. In a baling-press, the combination of a plunger-beam, a floating lever, swinging links suitably supported from fixed portions of the press-framework, one of the links being pivoted at its inner end to the rear portion of the lever and the other at its outer end to the front portion of the lever, a link pivotally connecting the rear portion of the floating lever with the front portion of the beam, and means interposed between the beam and lever to press the same in opposite directions.

4. In a baling-press, the combination of a plunger-beam and a floating lever linked together, a trip-lever interposed between and adapted to press in opposite directions against said beam and floating lever, and means for compelling said floating lever to move rearwardly and outwardly as moved under the impelling power of the trip-lever.

5. In a baling-press, the combination of a plunger-beam and a floating lever linked together, a trip-lever interposed between and adapted to press in opposite directions against said beam and floating lever, means for compelling said floating lever to move rearwardly and outwardly as moved under the impelling power of the trip-lever, and means to trip the beam from engagement with the trip-lever after the compression-stroke of the former is ended.

6. In a baling-press, the combination of a plunger-beam a floating lever, swinging links suitably supported from fixed portions of the press-framework, one of the links being pivoted at its inner end to the rear portion of the lever and the other at its outer end to the front portion of the lever, a link pivotally connecting the rear portion of the floating lever with the front portion of the beam, means inter-

posed between the beam and lever to press the same in opposite directions, and means to trip the beam from engagement with the trip-lever after the compression-stroke of the former is ended.

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7. In a baling-press, the combination of a trip-lever having rollers, a plunger-beam and a floating lever at opposite sides of the trip-lever, the inner edge of the floating lever being of compound-curve form, a swinging link suitably supported having its outer end pivotally connected to the front portion of the floating lever, a swinging link having its outer end suitably supported and its inner end pivotally connected to the rear portion of the floating lever, and a link pivotally connecting the rear portion of the floating lever with the front portion of the plunger-beam.

8. In a baling-press, the combination of a

power-shaft, having trip-lever arms, a plunger-beam and a floating lever at opposite sides of the power-shaft, a link connecting the beam and floating lever and always disposed for a portion at least of its length rearward of the shaft, means for guiding the floating lever outward and rearward as the trip-lever presses outwardly against it and the beam to effect rearward longitudinal movement of the latter, and means to trip the beam from engagement with the trip-lever when the compression-stroke of the beam is ended.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSIAH S. TUTTLE.

Witnesses:

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G. Y. THORPE.