

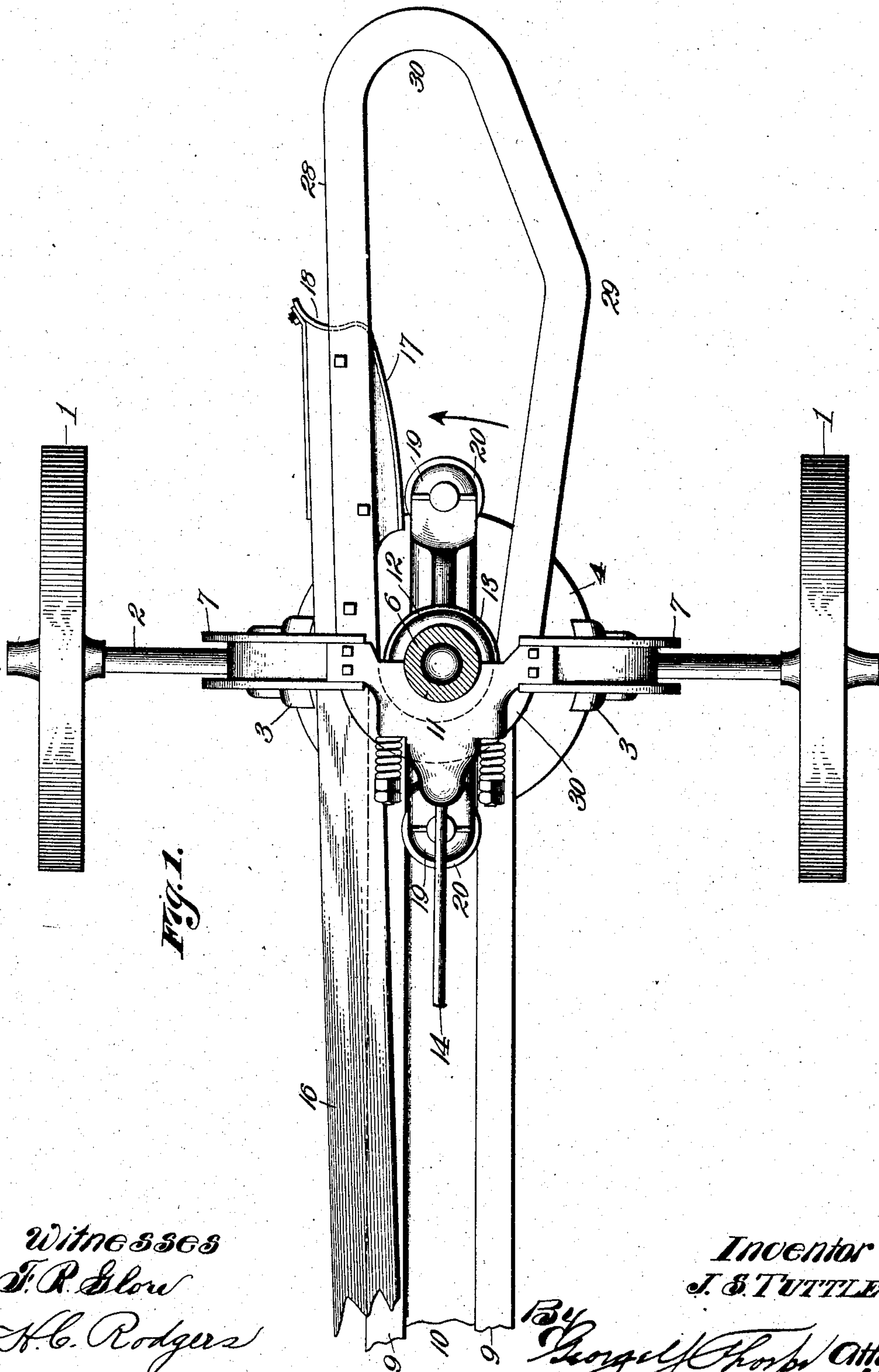
No. 780,626.

PATENTED JAN. 24, 1905.

J. S. TUTTLE.  
BALING PRESS.

APPLICATION FILED APR. 27, 1904.

2 SHEETS—SHEET 1.



Witnesses  
F. R. Snow  
H. C. Rodgers

Inventor  
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By George L. Thompson Atty.

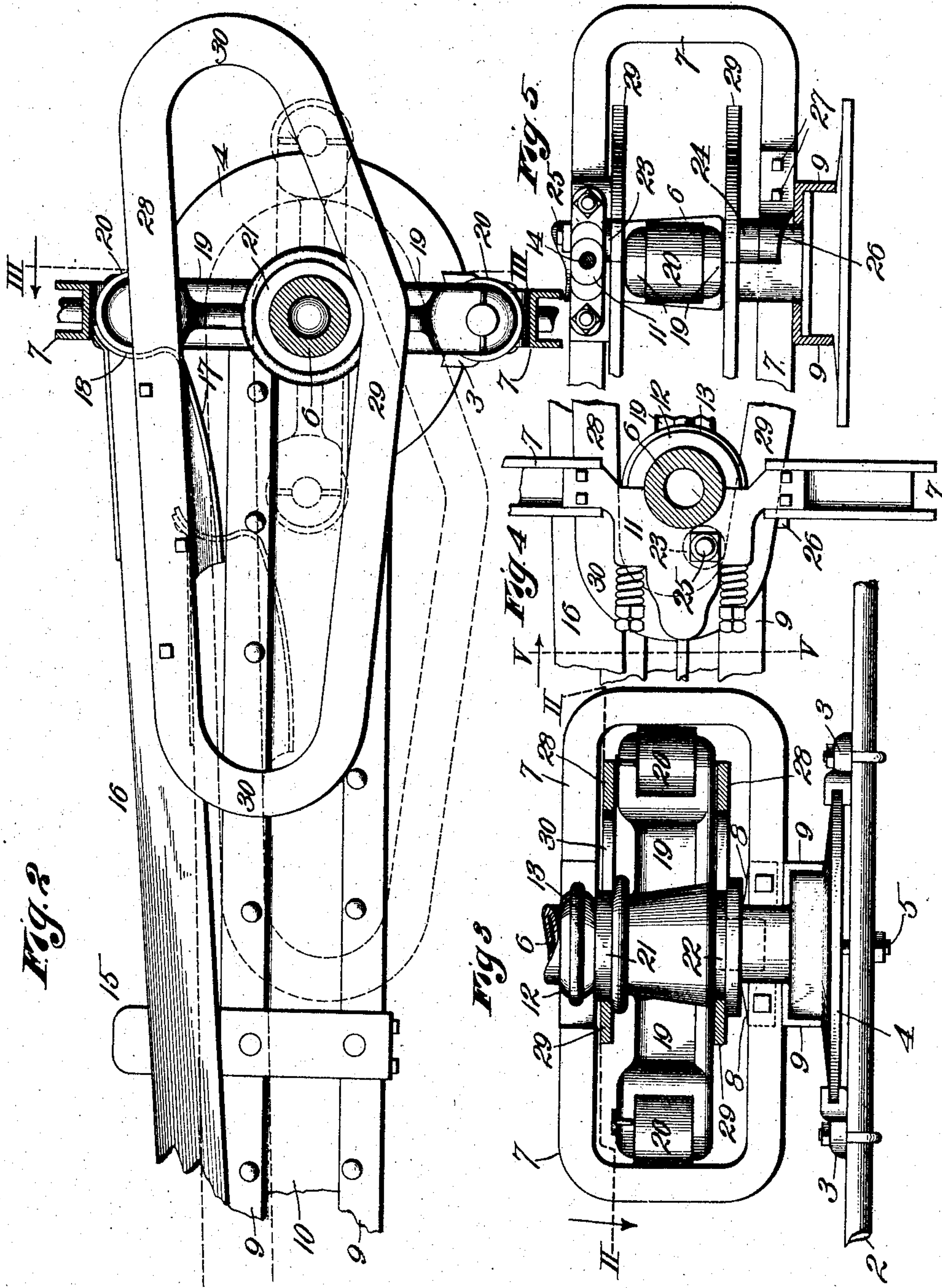
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# UNITED STATES PATENT OFFICE.

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. 780,626, dated January 24, 1905.

Application filed April 27, 1904. Serial No. 205,264.

*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.

My invention relates to baling-presses of that character operated by horse-power and comprising a power-shaft having a double-arm trip-lever and a plunger-beam to be acted upon by the trip-lever to effect the compression of the hay; and my object is to produce a simple, efficient, and reliable press of this character which possesses the requisite features of strength and durability and which can be manufactured at a minimum cost.

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 taken just below the sweep. Fig. 2 is a horizontal section taken on the line II II of Fig. 3. Fig. 3 is a vertical transverse section taken on the dotted line III III of Fig. 2. Fig. 4 is a horizontal section taken on the same line as Fig. 1, but showing a slightly-different form of construction. Fig. 5 is a section taken on the line V V of Fig. 4.

In the said drawings, 1 designates the front wheels; 2, the axle thereof; 3, guide-blocks secured to the shaft or axle and engaging at diametrically opposite points the circular base 4, which is also secured to the shaft, as at 5, and forms a journal for the lower end of the power-shaft 6, to the upper end of which the sweep (not shown) is adapted to be secured in the usual or any preferred manner.

7 is a transverse frame consisting of two similar channel-irons bolted at their lower ends to lugs 8, projecting from opposite sides of the base and resting upon the front ends of the longitudinal angle-arms 9, which with the connecting-plate 10 forms the reach which unites the power end of the press to the baling-case. (Not shown.) The upper ends of

channel-irons 7 embrace and are bolted to the rear bearing 11 for the upper portion of the power-shaft, the other bearing, 12, being secured by the U-bolt 13 to bearing 11, as shown, and said bearing 11 is connected by the usual tie-bar 14 to the baling-case in the customary manner, the latter not being shown, as hereinbefore stated.

15 designates a plate secured to the reach as a support for the free or front end of the plunger-beam 16, said plunger-beam having the usual head beveled at its inner side, as at 17, by preference and terminating at its front end in a pocket 18. 19 represents the trip-lever arms of the power-shaft, the same occupying the same horizontal plane as the plunger-beam and being equipped with the usual anti-friction-rollers 20.

In Figs. 1 to 3, inclusive, there is journaled upon the power-shaft above the trip-lever a roller 21 and below the trip-lever a roller 22, both of which rollers are flanged at their lower margins by preference, as shown most clearly in Figs. 2 and 3, though the flanges are not indispensable.

In Figs. 4 and 5 I employ in lieu of rollers 21 and 22 on the power-shaft the upper and lower rollers 23 and 24, the first named being journaled upon a short shaft 25, depending from bearing 11, and the last named upon a bracket 26, secured, as at 27 or otherwise, to one of the channel-irons 7.

To guide the plunger-beam in its reciprocatory movement, I provide a loop consisting of a straight side 28 and an obtuse-angle side 29, connected by semicircular end portions 30. Said loop is preferably duplicated to increase the strength and rigidity of the machine—that is to say, two similar loops are provided, one occupying the horizontal plane of roller 21 or roller 23, as the case may be, and the other the horizontal plane of roller 22 or roller 24. This double loop is secured to the upper and lower sides of the plunger-beam with its side 28 in longitudinal alinement with the beam and projecting forward beyond the free end of the latter a distance about equal, by preference, to the short arm of the obtuse-angle side, so that the widest portion of said



loop shall be approximately opposite the pocket of the beam. The width of the widest portion of the loop is such that when one of the trip-lever rollers engages the pocket of the beam said trip-lever shall be extending approximately transversely of the machine and the power-shaft, or rather the rollers carried thereby, shall be engaged by the inner angle of the obtuse-angle side of the loop, as shown by full lines in Fig. 2. By the equipment of the beam with this loop it will be seen that rearward of the pocket the beam and loop converge rearwardly and that forward of the pocket they converge forwardly.

When the machine is at rest, the parts are arranged as shown in Fig. 1. When so arranged, the rotation of the power-shaft in the direction indicated by the arrow, Fig. 1, causes the foremost roller to press against the beveled edge of the head of the plunger-beam, which action tends to swing the beam outward from the power-shaft. This movement, however, can be but slight, as the long arm of the obtuse-angle side of the loop by engagement with rollers 21 22 or 23 24 will permit such movement only to an extent determined by the comparatively slight pitch or angle of said arm, and said movement, furthermore, cannot fully occur until the plunger-beam has moved from the position shown in full lines, Fig. 1, to about the position shown in full lines, Fig. 2. This longitudinal movement takes place because the rearwardly-converging edge 17 of the plunger-beam and long arm of the loop forms an unyielding wedge, against which said antifriction-rollers apply pressure in opposite directions, the result being the longitudinal movement of the beam and loop connected thereto, which movement consumes about approximately two-thirds of the power-stroke of the beam and is very rapid, because the only resistance offered in addition to the friction of the parts, including that of the plunger in the baling-case, is that of the loose hay in the latter. After the parts have assumed the position shown in full lines, Fig. 2, and the hay has been bunched to offer material resistance the trip-lever applies its power directly on the end of the plunger-beam and the forwardly-converging end of the loop by pressure against rollers 21 22 or 23 24, or the power-shaft, if desired, acts to guard against accidental disengagement of the beam and the engaging roller until the compression-stroke of the plunger is ended, at which time the forward portion of side 28 of the loop strikes against rollers 21 22 or the power-shaft, if rollers are not employed, and holds the plunger-beam against further lateral movement. As a result the trip-lever roller passes from engagement with the pocket, as shown in dotted lines, Fig. 2, and the beam rebounds or is withdrawn to its original position in the usual or any preferred manner. In this rebound-

ing movement it is guided to its original position by reason of the engagement of the long arm of the obtuse-angle side of the loop with rollers 21 22 or 23 24, as will be readily understood by reference to Figs. 1 and 4. If desired, these rollers may be utilized as a means for arresting the recoil of the plunger-beam; but I preferably will use a brake for this purpose, said brake not being shown because it may be of any well-known or preferred type. Furthermore, if desired, I may also use a common and well-known abutment (not shown) for effecting the disengagement between the plunger-beam when it attains its full compression-stroke and the trip-lever.

The guide is described as being in the form of a loop with rounded ends, and such is the preferred construction; but it will be obvious that any other means than said rounded ends may be employed for securing the straight and obtuse-angle sides of the loop rigidly together.

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 which may obviously be modified in various particulars without departing 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. In a baling-press, the combination of a power-shaft having oppositely-projecting trip-lever arms, a plunger-beam having a head beveled forwardly on its inner side and provided with a pocket at its front end, and a loop rigid with the plunger-beam and out of the horizontal plane of the trip-lever arms, and consisting of a substantially straight side in the vertical plane of the beam, and an obtuse-angle side at the opposite side of the shaft from the beam.

2. In a baling-press, the combination of a power-shaft having oppositely-projecting trip-lever arms, a plunger-beam having a head beveled forwardly on its inner side and provided with a pocket at its front end, a loop rigid with the plunger-beam and out of the horizontal plane of the trip-lever arms, and consisting of a substantially straight side in the vertical plane of the beam, and an obtuse-angle side at the opposite side of the shaft from the beam, and a roller suitably supported in the horizontal plane of said loop and engaging the inner edge of the obtuse-angle side of the same during the power-stroke of the beam.

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

JOSIAH S. TUTTLE

Witnesses:

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G. Y. THORPE.