

No. 769,826.

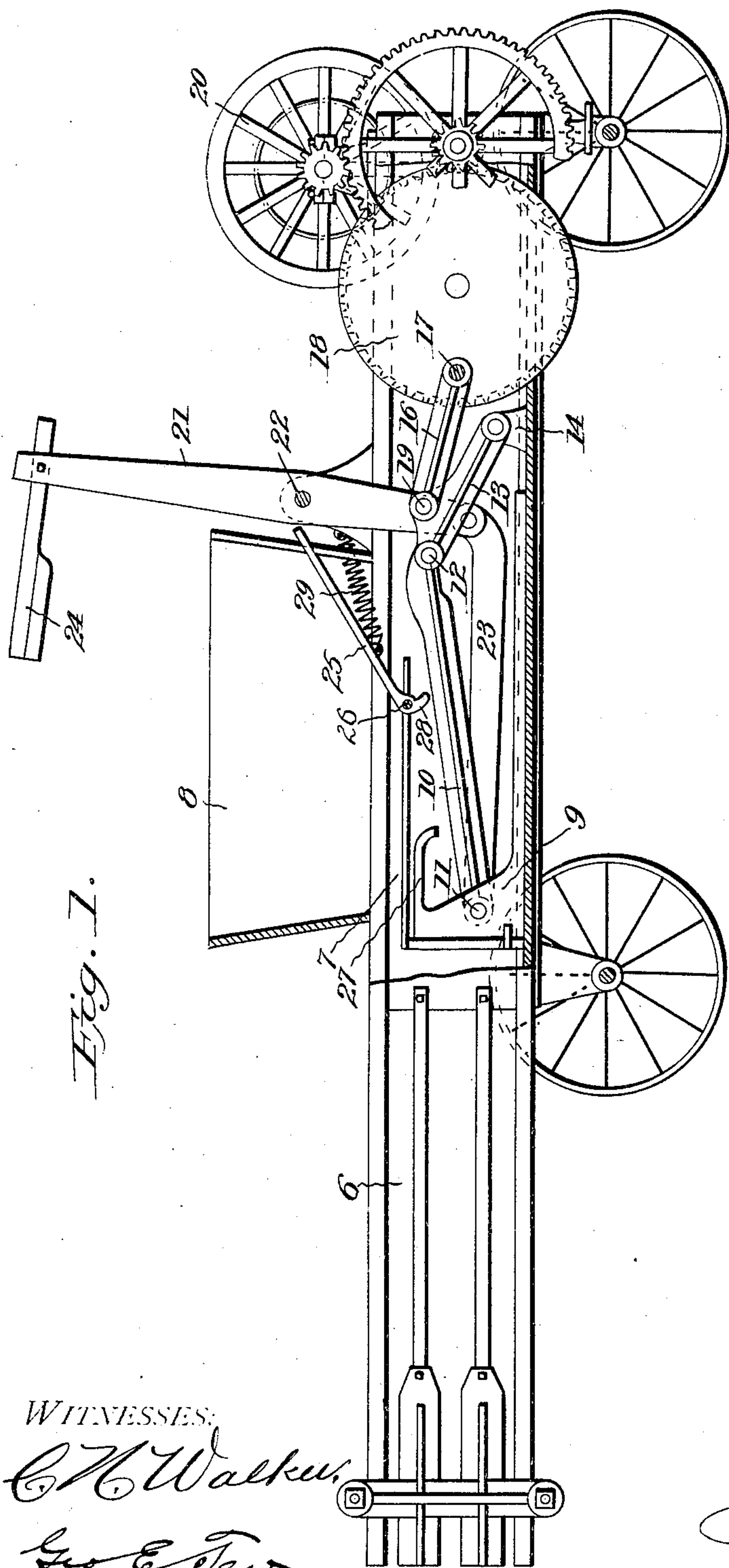
PATENTED SEPT. 13, 1904.

J. KEMP.  
BALING PRESS.

APPLICATION FILED JAN. 13, 1904.

NO MODEL.

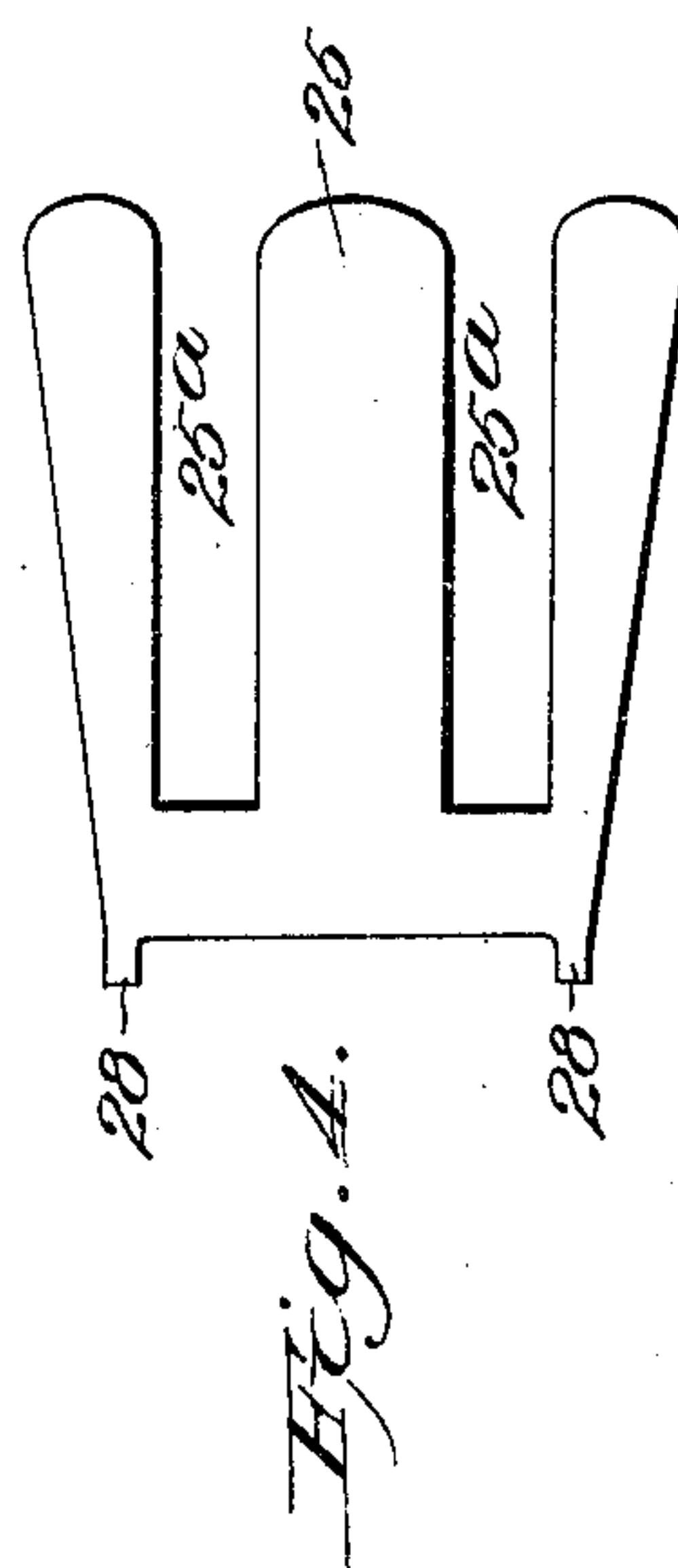
2 SHEETS--SHEET 1.



*WITNESSES:*

C. M. Walker,

Geo. E. Tew.



INVENTOR

James Kemp  
BY  
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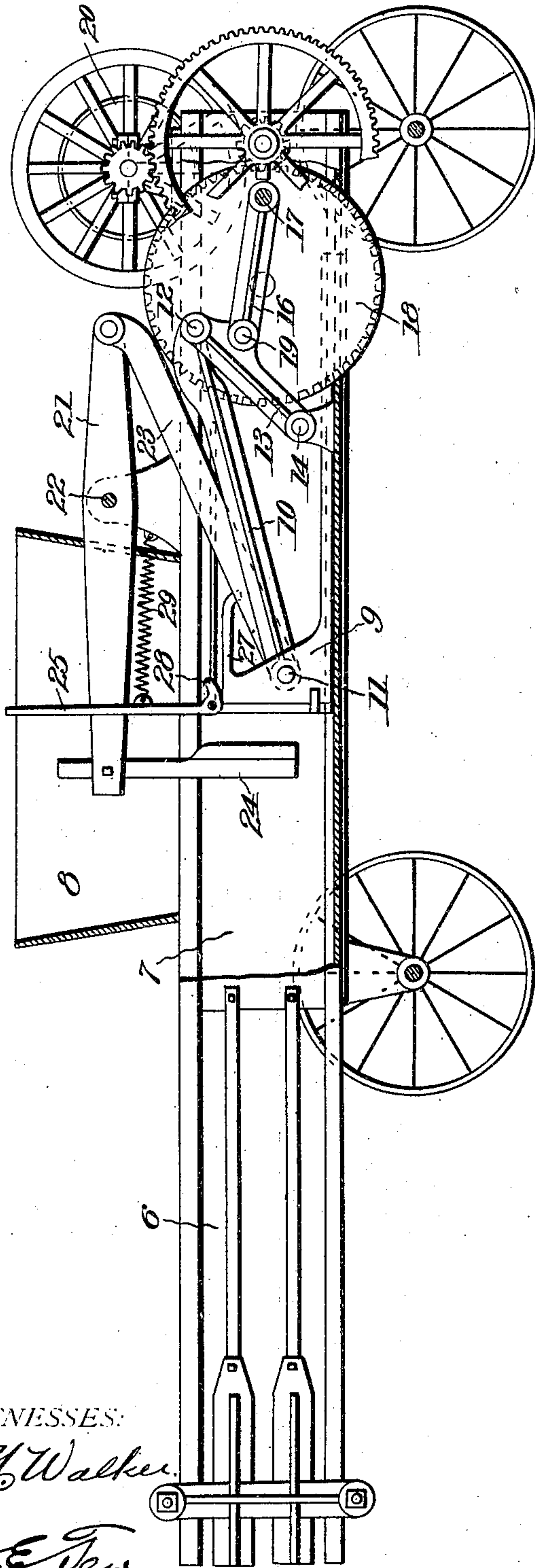
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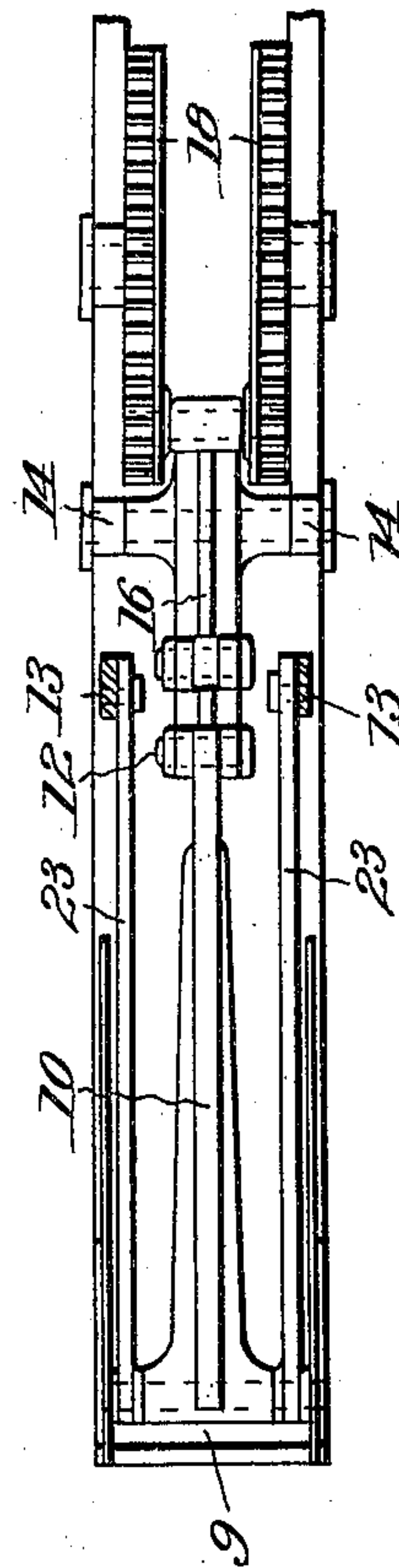
2 SHEETS—SHEET 2.

Fig. 2.



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Fig. 3.



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# UNITED STATES PATENT OFFICE.

JAMES KEMP, OF KANKAKEE, ILLINOIS.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 769,826, dated September 13, 1904.

Application filed January 13, 1904. Serial No. 188,858. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES KEMP, a citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have  
5 invented certain new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates particularly to presses  
15 used for baling hay and the like and to that class wherein a reciprocating plunger acts to compress the material in the baling chamber or box.

The object of the invention is to produce an  
20 improvement with respect to the means for actuating the plunger to insure quick action at the beginning of the stroke and a quick return.

A further object is to provide improved means for bunching the hay in the hopper  
25 and feeding it into the box.

Other objects with respect to details of construction will be apparent from the following description and the accompanying drawings.

In the drawings, Figure 1 is a longitudinal  
30 sectional view showing the plunger in advanced position. Fig. 2 is a similar view showing the plunger retracted. Fig. 3 is a top plan view, parts being broken away; and Fig. 4 is a plan view of the bunching-leaf.

Referring specifically to the drawings, 6 indicates the baling-chamber, 7 the plunger box or casing, and 8 the feeding-hopper thereon. The plunger is shown at 9, and it reciprocates in the box in a manner common to this class  
40 of presses. The thrust or plunger beam is indicated at 10. This is pivoted at 11 to the head of the plunger and at its rear end is pivoted at 12 to the upper end of a swinging link or arm 13, which is journaled at 14 in  
45 heavy bearings on the frame. A pitman is indicated at 16. This is connected at one end to a crank-pin 17 between the double gear-wheels 18 and at the other end to the link 13, said connection being between the pivots 12  
50 and 14, as shown at 19.

The beam 10 and link 13 are actuated by the pitman 16 and have a toggle action, and it is also the object and effect of the construction to accelerate the motion of the plunger at the beginning of both the forward and backward  
55 strokes. This results from the use of the link 13, whereby the ordinary throw of the crank is transformed into a more direct and consequently greater motion imparted to the plunger-beam. An increase in the length of the  
60 stroke also results from the connection of the pitman with the link or arm 13 between its ends, so that in its action as a lever the swing of its free end is amplified. As shown in the drawings, the connection 19 is offset from the  
65 direct line between the pivots 12 and 14, so that the pitman 16 and beam 10 will be substantially in alinement when the plunger reaches the end of its stroke, and consequently  
70 its maximum pressure. This is to avoid breaking strain on the link.

The crank-wheels 18 may be actuated in any suitable manner. I have shown a train of spur-and-pinion gearing transmitting the motion of the belt or power wheel 20.  
75

The feeding-levers are indicated at 21, comprising a pair, which are pivoted at 22 upon blocks on top of the frame and connected at the lower ends to rods 23, which are joined to the plunger-head. At the upper or outer  
80 ends the levers carry a block 24, which pushes the hay down through the hopper into the plunger-box when the plunger is retracted. As shown in Fig. 3, the connecting-rods 23 work along near the sides of the box, with the  
85 plunger-beam and its connections between the same, so that there is no interference.

At 25 is the bunching-leaf. This is pivoted at 26 to the sides of the frame and works with a swinging motion in the hopper and acts to  
90 bunch the hay directly under the feeding-block 24 and over the opening from the hopper to the plunger-box. Its motion is produced by arms 27, which project from the head of the plunger, at the top and sides there-  
95 of, and on the rebound or retraction of the plunger strike projections 28 at the lower edge of the bunching-leaf. These projections have the proper curve and direction to throw  
100 the bunching-leaf to a substantially vertical



position, as shown in Fig. 2. On the advance of the plunger the leaf is drawn back by the springs 29.

As shown in Fig. 1, the bunching-leaf is 5 forked or slotted, as at 25<sup>a</sup>, so that on the descent of the feeding-levers 21 they pass down between the forks.

What I claim as new, and desire to secure by Letters Patent, is—

10 1. In a baling-press, the combination with a box and a reciprocating plunger therein, and a hopper upon the box, of a lever carrying a feeding-block which works down through the hopper, and a pivoted leaf working in the 15 hopper to bunch material under the block, and having a projection extending into the box and arranged to be struck by the plunger during its back action.

20 2. In a baling-press, the combination with the pressure-box, of a hopper leading thereto, a lever carrying a feeding-block which works up and down through the hopper, a pivoted leaf in the hopper, acting to bunch material under the block and having a slot for the 25 passage of the lever, and means to actuate the lever and means to actuate the leaf.

30 3. In a baling-press, the combination with a box and a reciprocating plunger therein, of a hopper opening into the box, a feeding-lever pivoted beside the hopper and connected at one end to the plunger and having a block at

the other end which works into the hopper, and a pivoted bunching-leaf vibrating in the hopper and having an operating connection with the plunger.

35 4. In a baling-press, the combination with the box and plunger, of a thrust-beam connected to the plunger, a swinging arm connected to the beam and fulcrumed on the frame of the machine, a crank turning in a plane 40 parallel to the plane of vibration of the arm, and a pitman connecting the crank and the arm, the latter connection being between the beam connection and the fulcrum and arranged to accelerate the motion of the plun- 45 ger at the beginning of its strokes.

5. In a baling-press, the combination with the box and plunger, and a thrust-beam connected to the plunger, of a crank and its pit- 50 man, and a swinging lever connected to the beam and pitman, the pitman connection being nearer the fulcrum, to increase the length of stroke, and offset from the longitudinal axis of the lever to bring the pitman substan- 55 tially in line with the thrust-beam at the end of its forward stroke.

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

JAMES KEMP.

Witnesses:

BERT S. COOPER,  
B. M. VAN WERT.