

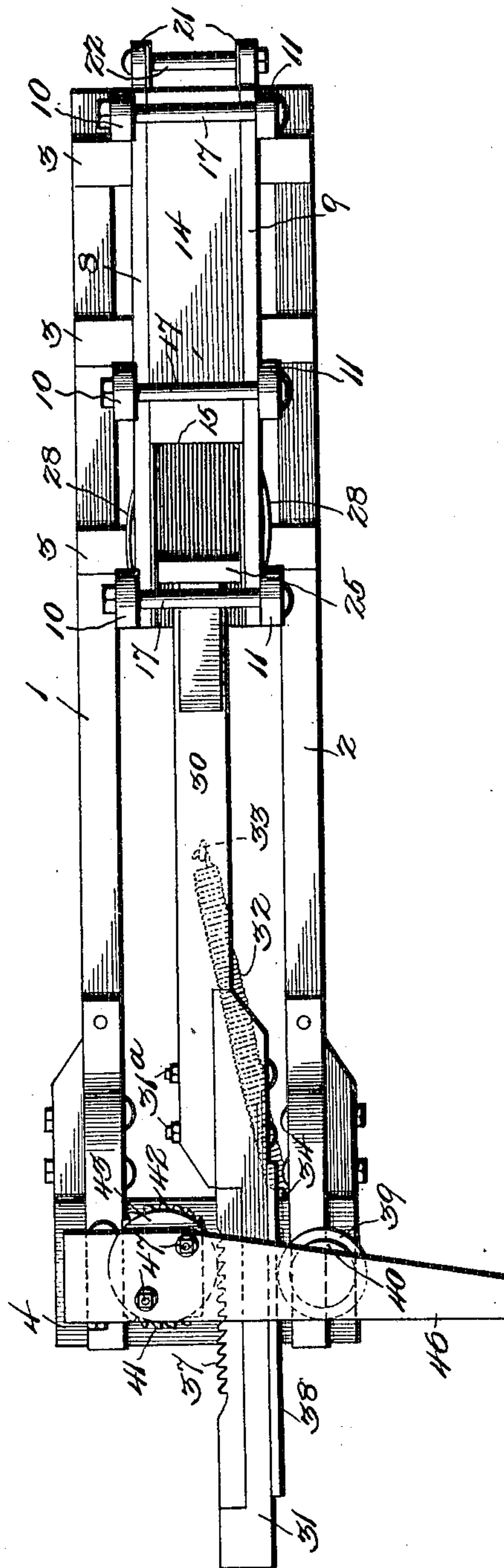
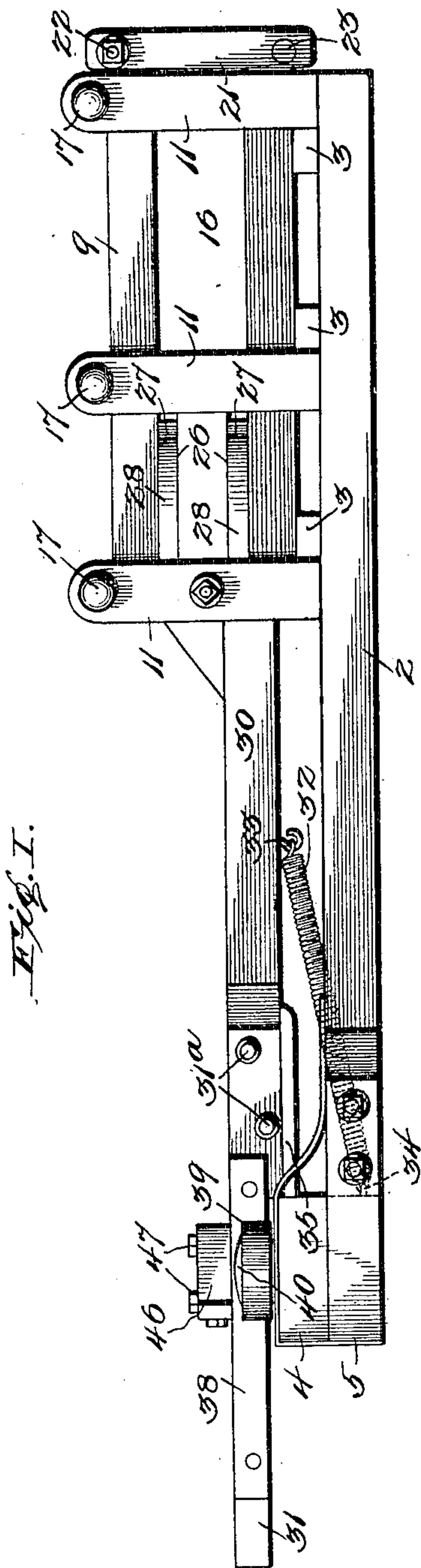
No. 812,332.

PATENTED FEB. 13, 1906.

D. S. EDENFIELD.  
HAY BALING PRESS.

APPLICATION FILED FEB. 9, 1903.

2 SHEETS—SHEET 1.



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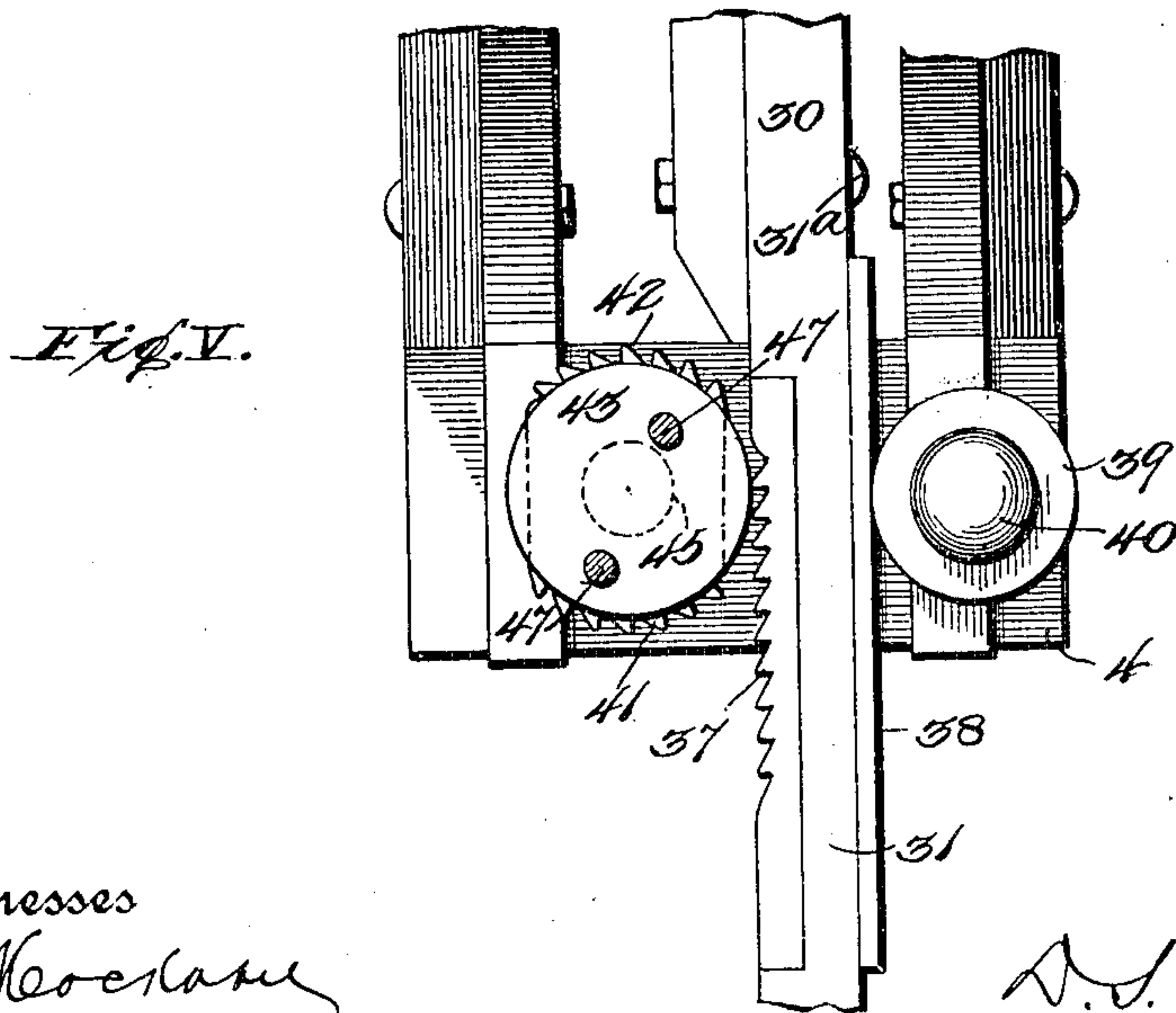
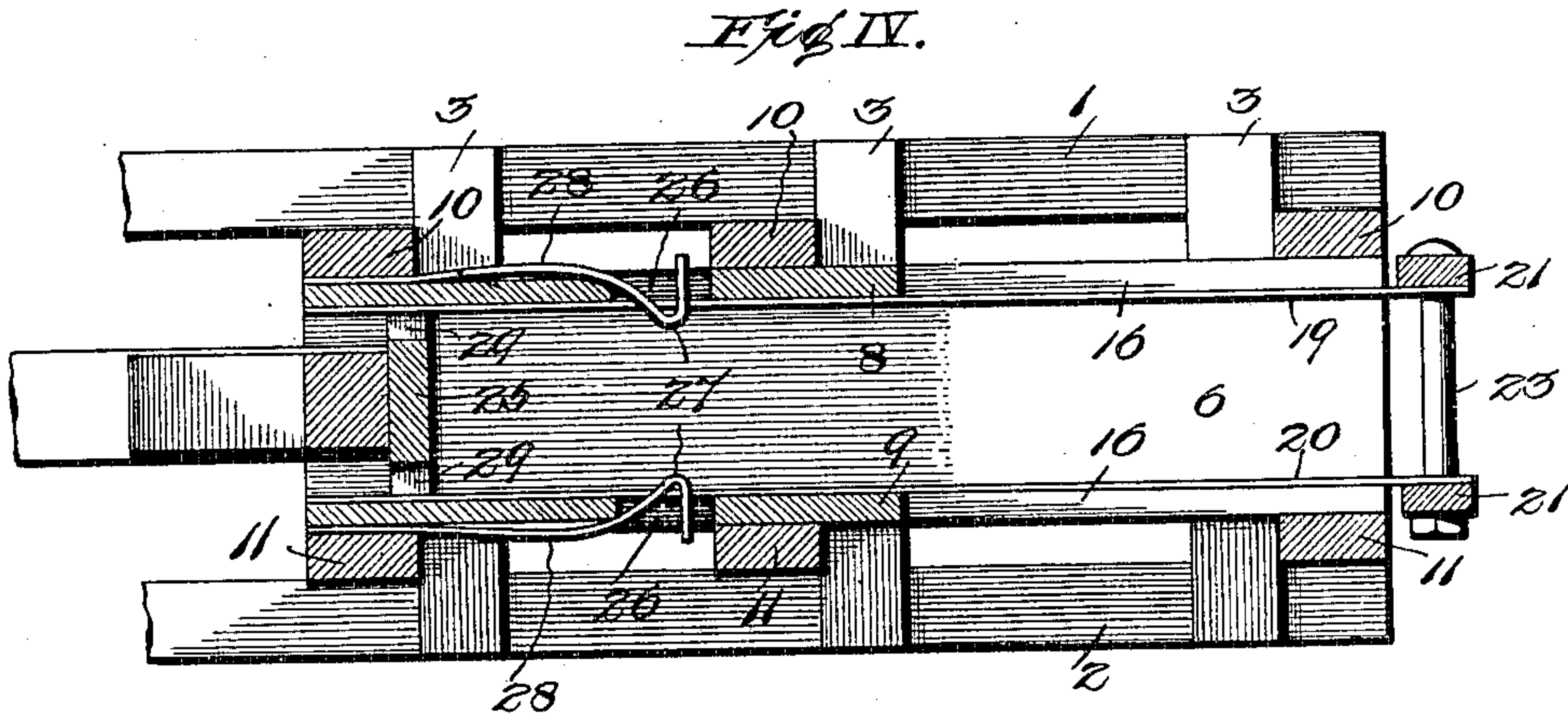
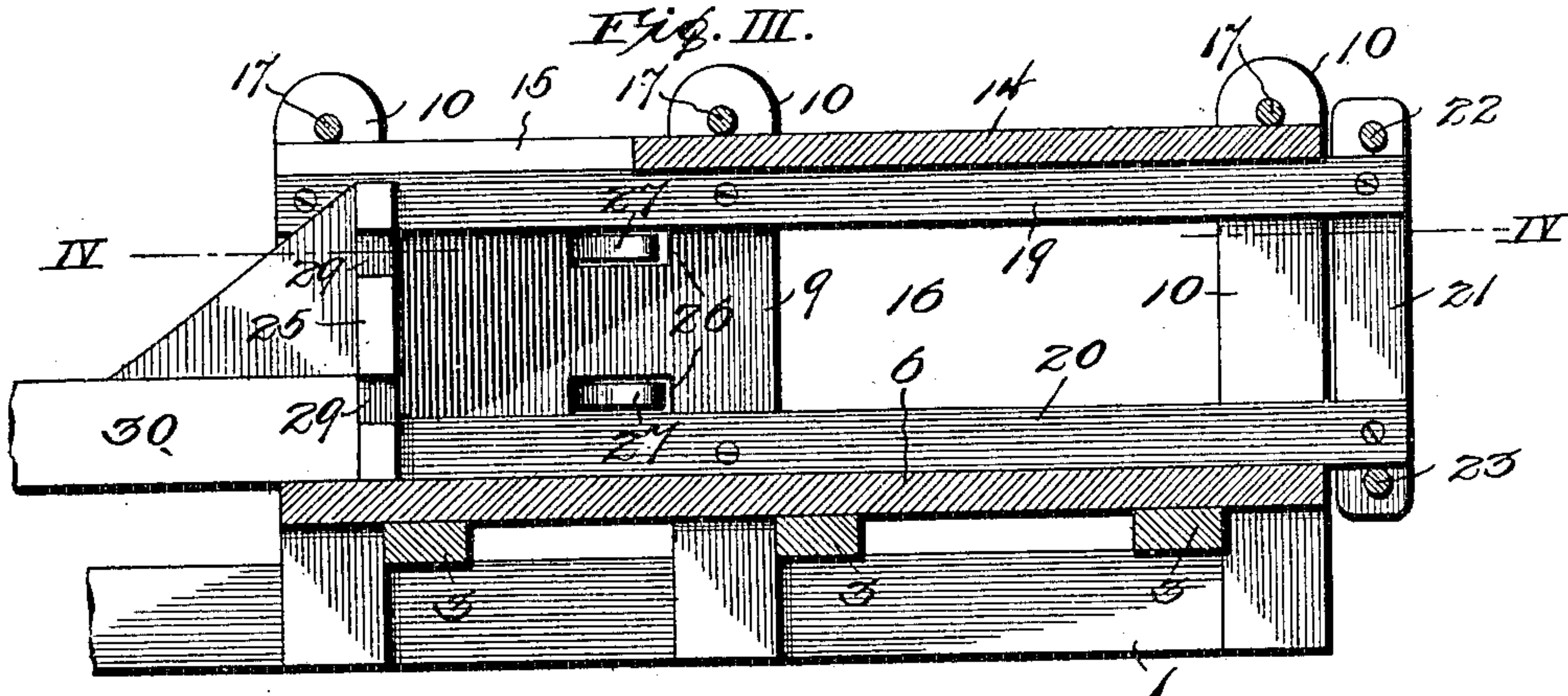
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

DEMPSEY S. EDENFIELD, OF SAVANNAH, GEORGIA, ASSIGNOR OF ONE-HALF TO J. LAWTON HIERS, OF SAVANNAH, GEORGIA.

## HAY-BALING PRESS.

No. 812,332.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed February 9, 1903. Serial No. 142,574.

*To all whom it may concern:*

Be it known that I, DEMPSEY S. EDENFIELD, of Savannah, in the county of Chatham, State of Georgia, have invented certain new and useful Improvements in Hay-Baling Presses, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce improvements in hay-baling presses whereby the durability and efficiency of the machine are materially increased without detracting from the simplicity of the structure and without enhancing the expense of construction.

The details of my invention will hereinafter be specified at large and succinctly set forth in the appended claims.

In the accompanying drawings, Figure I is a side elevation of my machine, showing the plunger-bar at the limit of its outward stroke. Fig. II is a top plan view of the subject-matter of Fig. I, the beam or sweep being partly broken away. Fig. III is a central vertical longitudinal section of the press-box of my machine, the plunger-head being shown in elevation. Fig. IV is a section on the line IV-IV of Fig. III. Fig. V is a top plan view of the plunger-actuating mechanism as shown in Fig. II with the beam or sweep cut away.

Referring to the numerals on the drawings, 1 (compare Figs. I and II) indicates one of the side frame-pieces, and 2 the other. They extend substantially from end to end of the machine and are united to constitute a strong and rigid oblong frame at one end by cross-pieces 3 and at the other by massive blocks 4 and 5, which are selected of weight and strength sufficient to afford suitable bearings for the actuating mechanism of my machine.

The cross-pieces 3 (see Fig. IV) support the floor 6 of the press-box, which is defined by side pieces 8 and 9, supported, respectively, by uprights 10 and 11, whose lower extremities are bolted or otherwise secured to the side pieces 1 and 2, respectively. The press-box is completed by an upper wall 14, which extends above a portion only of the floor 6, the remaining portion of the distance being left open to constitute a feed-opening 15. (Compare Figs. II and III.) The rearward ends of the sides 8 and 9 of the press-box are provided with oblong openings 16 (one of which is shown in Fig. I) in order to afford free access to the bale while in the box.

17 indicates bolts which secure the upper ends of each pair of uprights, respectively, together.

Each of the sides of the box (compare Figs. III and IV) is provided with a pair of metallic strips 19 and 20, which, extending from the forward uprights 10 and 11, respectively, project beyond the rearward uprights and support tail-frame side pieces 21, parallel to the rearward uprights, that are secured at their opposite ends, respectively, by transverse bolts 22 and 23. The strips 19 and 20, being of metal, possess such degree of flexibility and resiliency as to permit the side pieces 21 to be drawn toward each other or "squeezed," as it is termed in the art, under tension of the bolts 22 and 23 without deflection of the side pieces of the frame proper of the machine, which is preferably of rigid construction.

25 indicates a plunger-head which, working in the forward end of the press-box, is adapted to force material fed in through the opening 15 into the completely-inclosed end or compressing compartment of the press-box. Owing to the elastic character of the material intended to be baled in my press, I provide in each of the side pieces 8 and 9 oblong recesses 26, within which work the bent ends 27 of spring-dogs 28, which being confined (see Fig. IV) at their opposite ends between the forward uprights of the press-box and the side pieces 8 and 9 thereof respectively tend by their resiliency to keep their bent ends 27 inserted through the recesses 26. By this means material that is pushed beyond the ends 27 of the spring-dogs is kept partially confined by them within the press-box, so that the space underneath the opening 15 is kept unobstructed, ready for the reception of additional material to be fed into the bale.

The dogs 28 are made resilient in order to oppose minimum resistance to the passing by them of the material to be baled; but I prefer that the plunger-head 25 should pass and repass them without engaging them and for that reason provide in the opposite sides of the plunger-head and in alinement with the respective bent ends of the dogs open and unobstructive lateral recesses 29. (Compare Figs. III and IV.)

The plunger-head is provided with a plunger-bar 30, whose movement is limited to true longitudinal reciprocation and which ter-



minates in a deflected tailpiece 31, (see Fig. II,) the parts 30 and 31 preferably consisting of separate timbers united, as by bolts 31<sup>a</sup>. The purpose of the deflection of the tailpiece will be explained farther on.

The plunger-head 25 is by preference yieldingly held in a normal position, which may be designated its "retracted" position—that is to say, in the position shown in the drawings—in which it is retracted to the limit of its forward movement, in which the opening 15 is perfectly free and unobstructed. For maintaining the normal position of the plunger-head as described I prefer to employ a coiled spring 32, secured at one end, as indicated at 33, to the bottom of the plunger-bar and at the other, as indicated at 34, to the block 5.

35 indicates a stop-piece which impinges against the block 4 and which is preferably secured to the bottom of the plunger-bar.

The tailpiece 31 is provided upon one side with a rack 37 and upon the other side with a wearing-plate 38. The wearing-plate bears against an antifriction-roller 39, pivotally mounted upon a bolt 40, which passes through the blocks 4 and 5, while the rack 37 is designed to engage at intervals the geared segments 41 and 42 of a horizontal driving-wheel 43. I prefer that the wheel 43 should, with its geared segments, constitute a perfect gear except for the two opposite mutilations which separate the two geared segments 41 and 42. I mention this feature especially because by the employment of a regular mutilated gear I secure a distinct gain in power over machines of the class to which my invention belongs in which plunger-actuating members of irregular shape are employed.

The wheel 43 is preferably made integral with a journal 45 of comparatively large diameter, which is carried in a suitable bearing in the blocks 4 and 5 and for whose accommodation the massiveness of said blocks is provided. The journal 45 is carried within the frame of the machine between the side frame-pieces 1 and 2, and by reason of this location the efficiency of the machine is augmented. It is to accommodate the location of the journal 45 above referred to that the tailpiece 31 of the plunger-bar is deflected, as has already been specified. The relative locations of the tailpiece 31 and of the journal 45, through the engagement between the rack 37 of the tailpiece and the geared segments of the driving-wheel 43, dispose the driving force derived from the actuating member in a direct true line substantially coincident with the longitudinal axis of the plunger-bar 30, whose movement is, as has been specified, limited to a true horizontal reciprocation.

The beam or sweep 46 is secured, as by bolts 47, directly against the top face of the wheel 43, and by that means the shaft connection between the sweep and the plunger-

actuating member, which constitutes a source of weakness usually present in machines of this class, is eliminated.

A feature of my invention consists in disposing the sweep with reference to the plunger-actuating mechanism in such a way as to relieve the animal hitched to the sweep from the strain of pulling when the said animal is crossing the plunger-bar and frame of the machine. This I accomplish by locating the sweep transversely between the geared segments 41 and 42, and it should be observed in this connection and upon reference to Fig. II that the sweep in that figure is shown in the position which it occupies immediately preceding the engagement of the teeth of the wheel 43 and of the rack 37 for imparting driving motion to the plunger-bar against the tension of the spring 32. Before the sweep can be brought into alinement with the plunger-bar that member will have commenced its travel; but its movement in the first place meets with slight resistance. It is only when the material ahead of the plunger 25 is driven with force upon that accumulated by previous operations of the plunger within the press-box that the real work of the plunger begins. By that time the animal hitched to the sweep and pulling in advance of it will have cleared the frame of the machine, where it intercepts his circle of travel. It may be further observed that although the plunger-bar 30 makes two double reciprocations with each complete revolution of the sweep 46 it is only with respect to the means of effecting one driving movement of the plunger-bar that provision must be made for relieving the strain upon the animal, because while the other corresponding movement of the plunger-bar is being made the animal is traveling the free and unobstructed portion of his circuit.

It is believed that the operation of my machine will be obvious from the foregoing specification to one skilled in the art without further description and that in an instrument addressed to one so skilled no special reference to the well-known manner of separating, tying, and ejecting the bales from the press-box is necessary.

What I claim is—

1. In a baling-press, the combination with a plunger-head and its actuating mechanism, of a press-box frame provided with flexible resilient metallic strips upon its respective sides, tail-frame side pieces carried by the projecting ends of said strips in the rear of the box, and means for drawing the frame side pieces toward each other.

2. In a baling-press, the combination with a plunger-head and its actuating mechanism, of a press-box frame provided with a pair of resilient metallic strips upon its respective sides, tail-frame side pieces carried by the projecting ends of said strips in the rear of



the box, and means for drawing the pieces toward each other against the resistance of the resiliency of the strips.

3. In a baling-press, the combination with  
5 a plunger-head, its actuating mechanism, and  
a press-box frame provided with side pieces  
and a plurality of pairs of oppositely - dis-  
posed uprights, of flexible resilient metallic  
strips upon opposite sides of the press-box  
10 frame and secured respectively to the for-  
ward uprights and projecting beyond the

rearward uprights, tail-frame side pieces car-  
ried by the projecting ends of said strips re-  
spectively in the rear of the box, and means  
for drawing the tail-frame side pieces toward 15  
each other.

In testimony of all which I have hereunto  
subscribed my name.

DEMPSEY S. EDENFIELD.

Witnesses:

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