

No. 847,181.

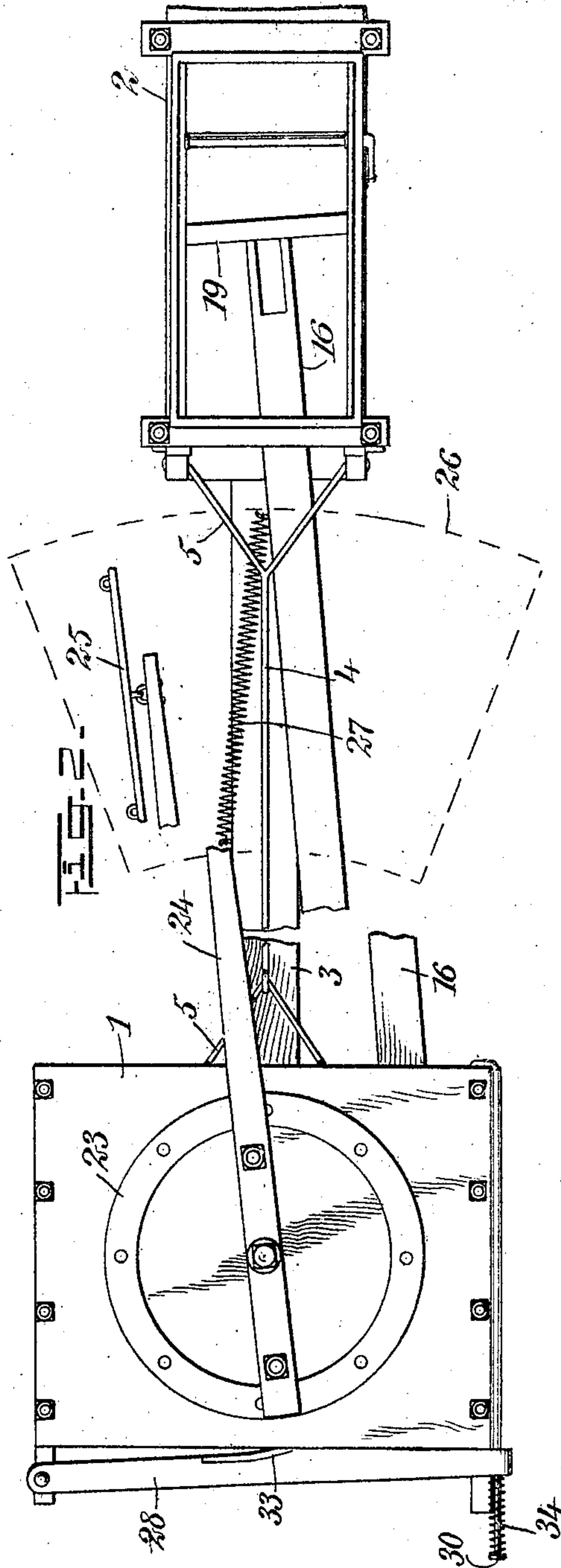
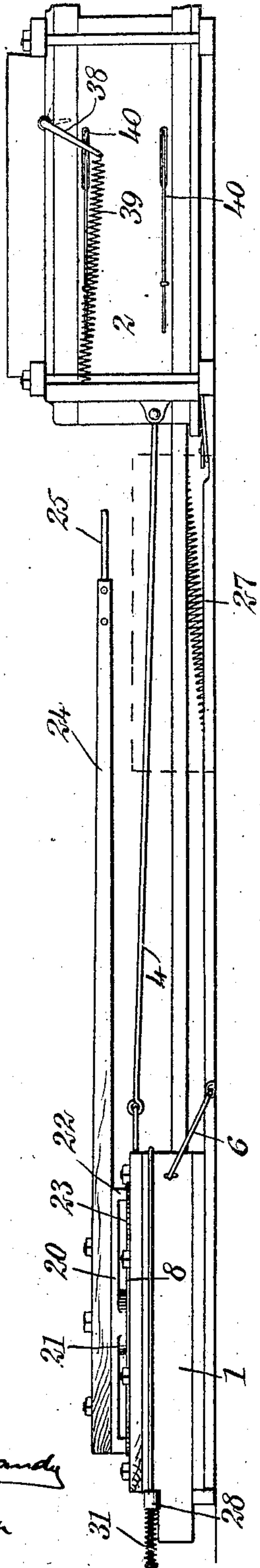
PATENTED MAR. 12, 1907.

W. D. IVY.
BALING PRESS.

APPLICATION FILED JUNE 4, 1906.

2 SHEETS—SHEET 1.

FIG. 1.



WITNESSES
L. G. Handy
J. D. Ammen

INVENTOR
William D. Ivy
BY *Mumma & Co*
ATTORNEYS

No. 847,181.

PATENTED MAR. 12, 1907.

W. D. IVY.
BALING PRESS.
APPLICATION FILED JUNE 4, 1906.

2 SHEETS—SHEET 2.

FIG. 3.

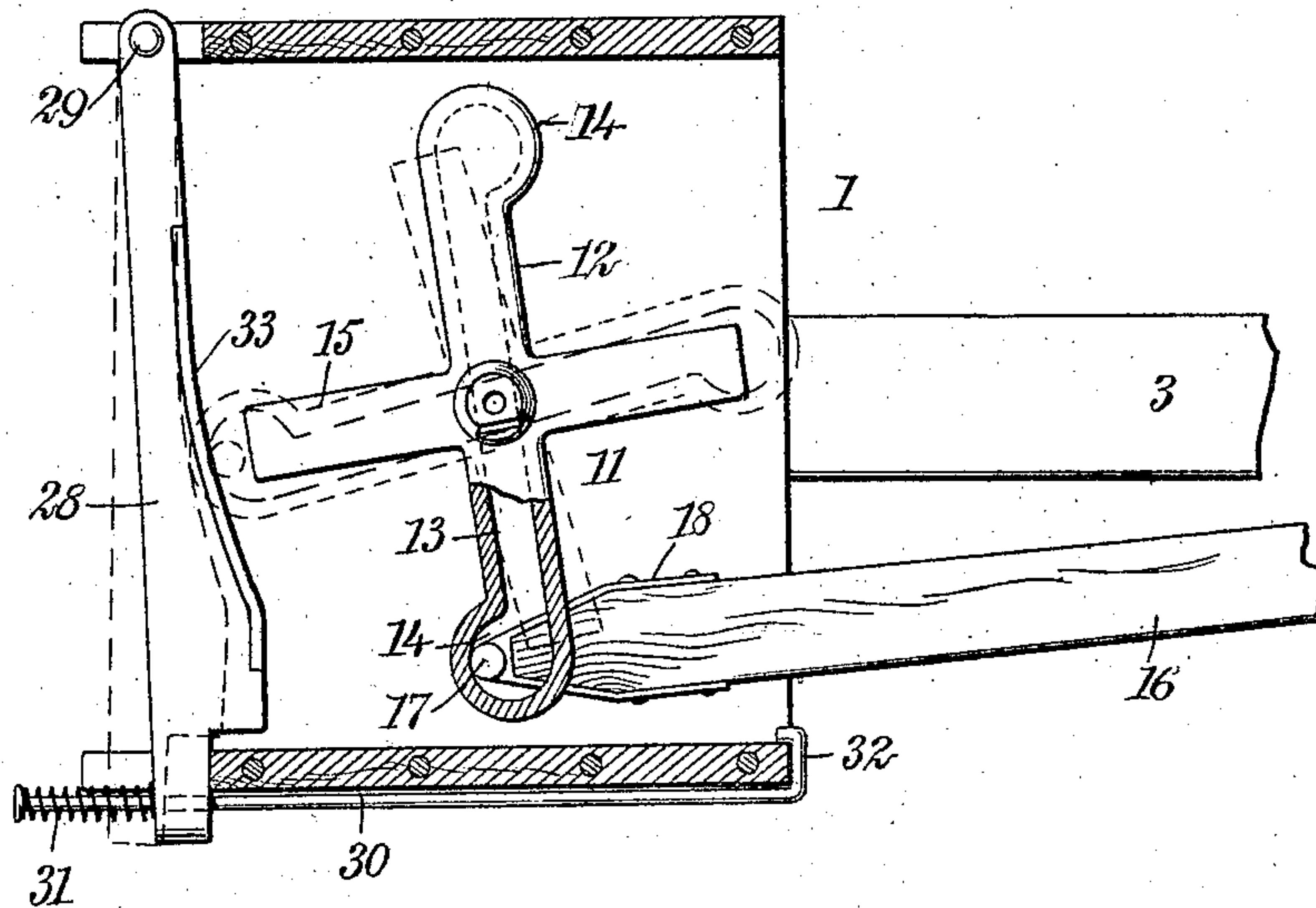


FIG. 4.

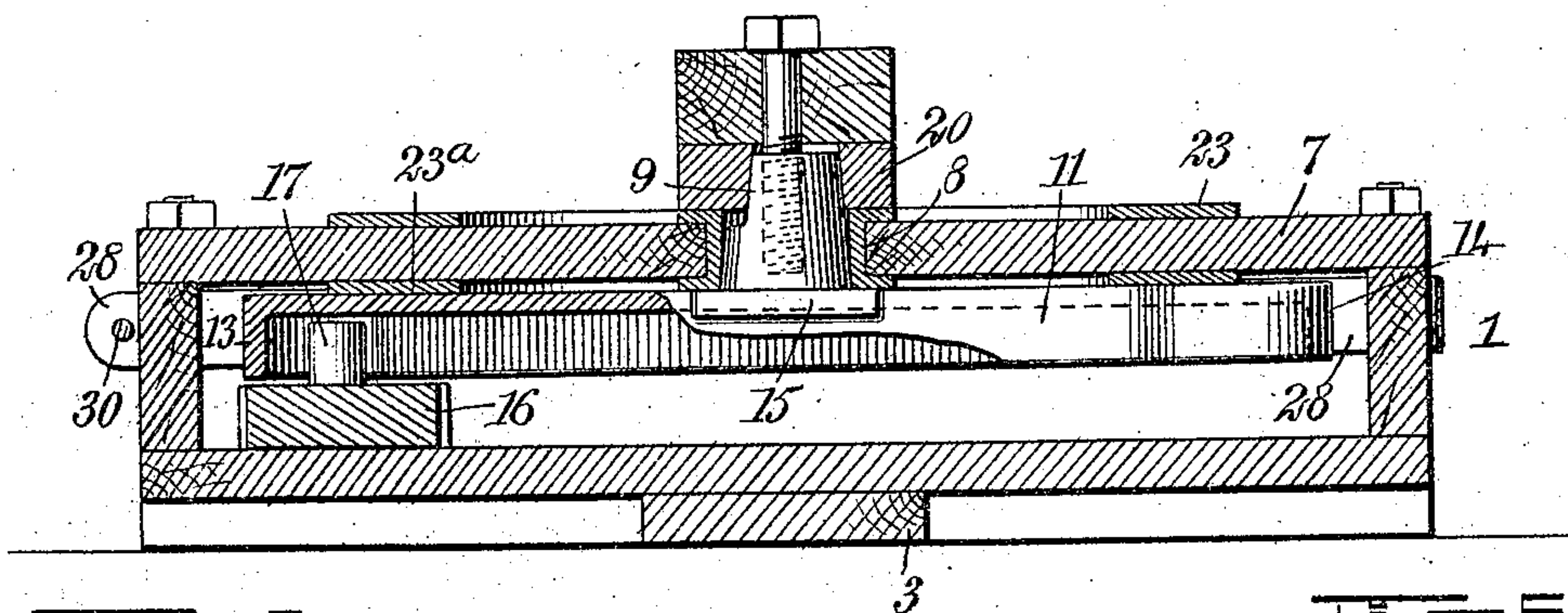
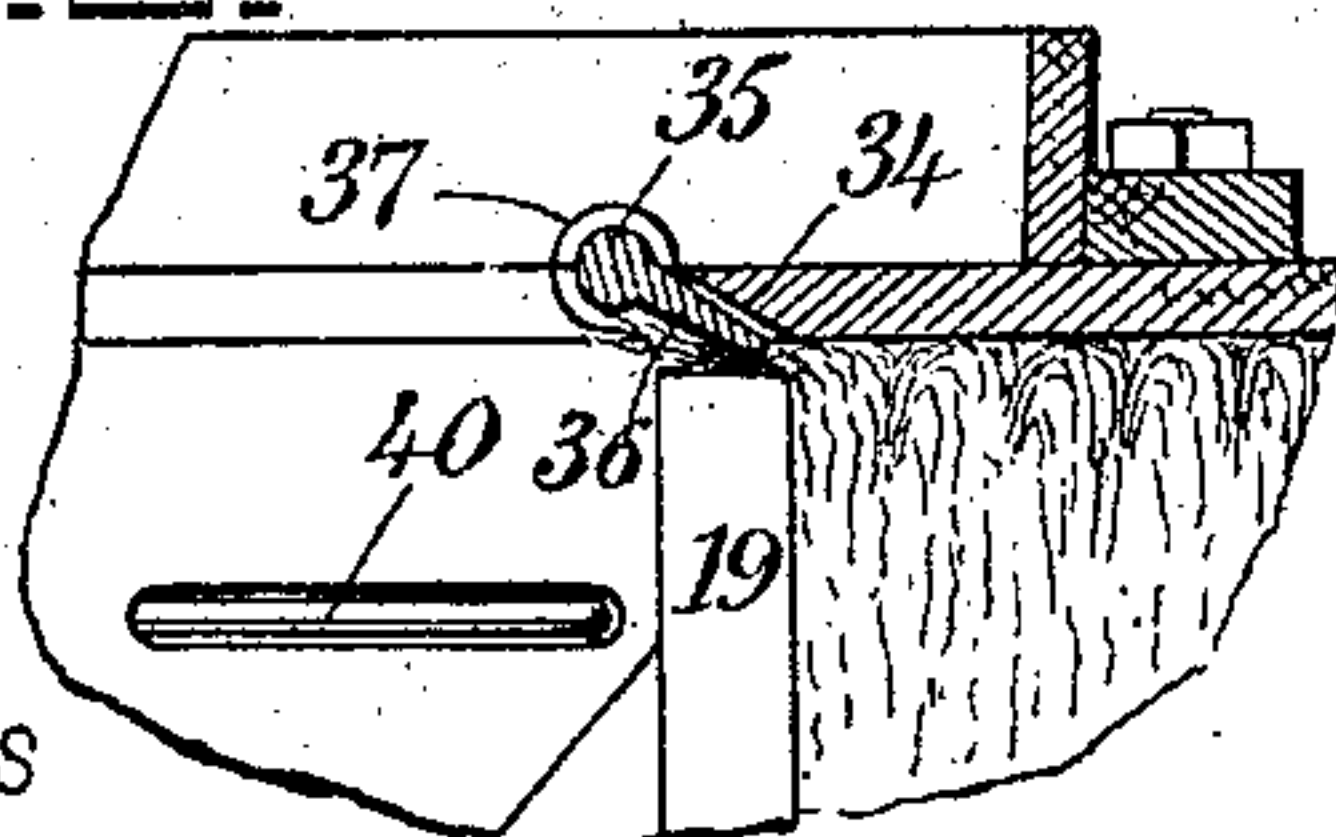
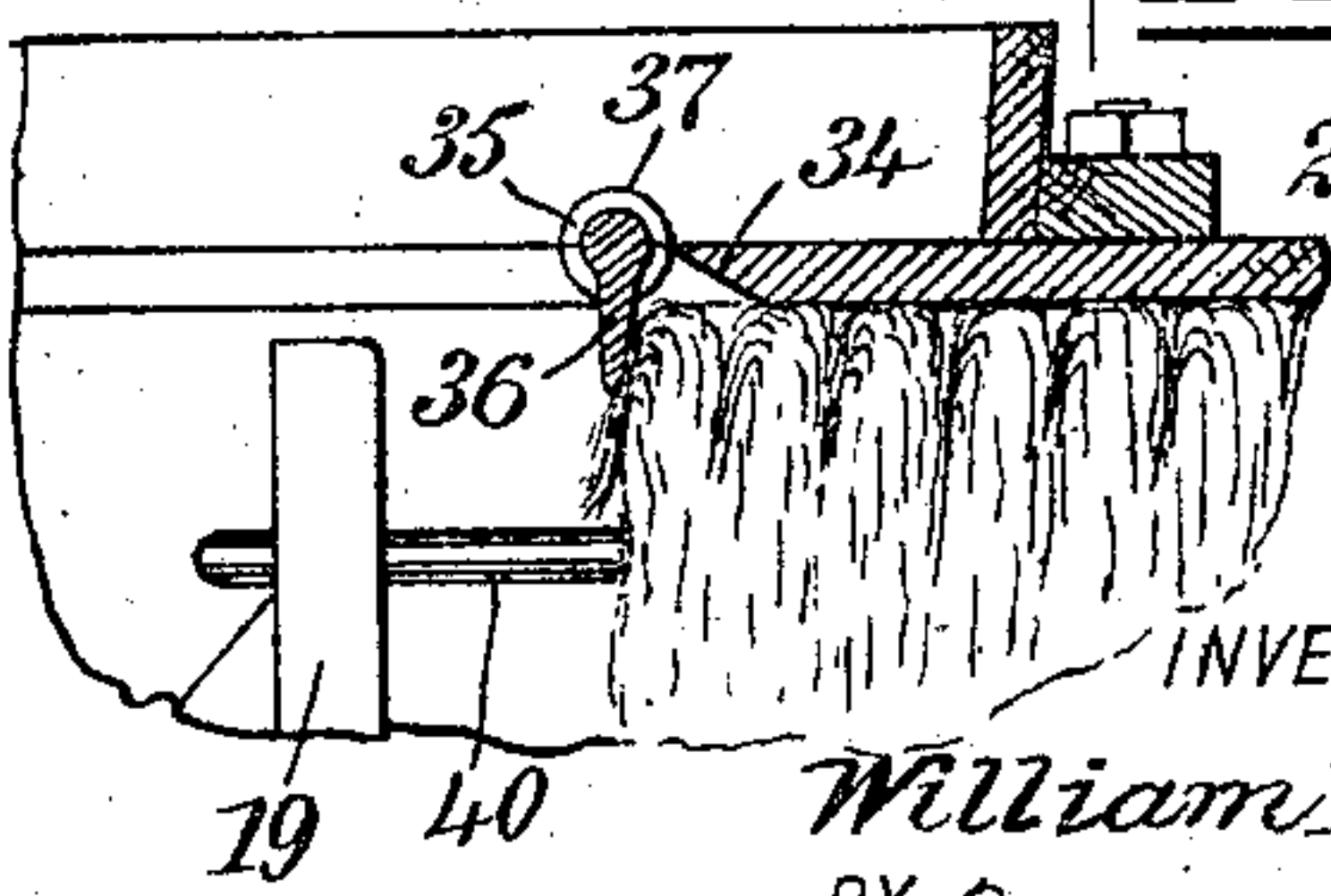


FIG. 5.



WITNESSES
L. Sanford Hand
J. D. [unclear]

FIG. 6.



INVENTOR
William D. Ivy
BY *[signature]*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM DAVID IVY, OF MEMPHIS, TENNESSEE.

BALING-PRESS.

No. 847,181.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed June 4, 1906. Serial No. 320,080.

To all whom it may concern:

Be it known that I, WILLIAM DAVID IVY, a citizen of the United States, and a resident of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

This invention relates to baling-presses such as used for baling hay.

10 The object of the invention is to produce a press of this class which may be operated by a rotating member, so that the plunger of the press will make two advancing movements for one revolution of the rotating member.

15 A further object of the invention is to provide improved means for facilitating the forming of the bale.

20 The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

25 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

30 Figure 1 is a side elevation of a baling-press constructed according to my invention, the end of the press being represented as broken away. Fig. 2 is a plan of the press shown in Fig. 1, certain parts being broken away and represented in dotted lines. Fig. 3 is a section taken through the upper part of the horse-power by means of which the plunger is operated. Fig. 4 is a vertical section through the horse-power. Fig. 5 is a vertical section taken at the mouth of the hay-box and illustrating a tucker which facilitates the formation of a neat bale; and Fig. 6 is a view similar to Fig. 5, but representing the parts in a different position.

45 Referring more particularly to the parts, and especially to Figs. 1 and 2, 1 represents the horse-power, which is connected with a hay-box 2 by a longitudinally-disposed timber or reach 3. The hay-box and the horse-power are connected also by a tie rod or brace 4, terminating in V-shaped forked ends 5, the extremities whereof are attached to the parts, as shown. In addition to this side braces 6 are provided, which are attached to the horse-power, as indicated in Fig. 1. The

horse-power 1 consists of a low flat case having substantially the form of a flat box, and it is open at its front and rear side, as indicated in Fig. 3. The cover 7 of this horse-power is provided with a central opening having a suitable bushing 8. Rotatably mounted in this opening I provide a pintle 9 of substantially conical form, which is rigid or integral with a cam or cross-head 11, having substantially the form of a Greek cross, as indicated. It comprises a main bar 12, which is disposed centrally under the pintle 9, is provided with a longitudinal slot 13, and has enlarged offset heads 14, forming laterally-disposed recesses, as shown most clearly in Fig. 3. At right angles to the main bar 12 there is a cross-bar 15.

70 A plunger 16 is provided, one end of which projects into the horse-power 1, and this end is provided with a pin 17, which projects into the slot 13 aforesaid. In order to attach the pin 17, I provide a bracket 18, which is rigidly attached to the extremity of the plunger, the said extremity being preferably slightly tapered, as shown. The bracket 18 carries the pin 17, as will be readily understood. The opposite end of the plunger 16 extends into the hay-box 2 and carries a head 19, which reciprocates in the hay-box in a manner which will be described more fully hereinafter.

85 The upper extremity of the pintle 9 projects above the cover 7 of the horse-power, and to it there is rigidly attached a cross-head 20. The form of this cross-head is very clearly shown in Fig. 1. It presents a boss or hub 21, which rests upon the aforesaid bushing 8 and presents oppositely-projecting arms, the ends whereof are formed with downwardly-projecting shoes 22. These shoes rest upon the upper face of a wear-ring 23, which is placed on the upper side of the cover, as shown. To the cross-head 20 a lever or sweep 24 is rigidly attached, and to the extremity of this sweep a whiffletree 25 is attached, which enables a draft-animal to be hitched to the sweep for the purpose of rotating the same. When the animal is hitched to the sweep, he will walk in a circular path in a well-understood manner, and in order to enable the animal to pass over the parts between the hay-box and the horse-power I provide a segmental box or platform 26. (In-

licated by the dotted lines in Fig. 2.) At this point the animal walks on the platform, and the parts beneath the same are fully protected.

5 At a suitable point a helical spring 27 is provided, which is attached to the side of the plunger 16 at one end and to the side of the reach 3 at the other end. This spring tends to pull the plunger 16 in the direction of the
10 horse-power, so that it constantly tends to withdraw the head 19 from the hay-box 2. When the device is in operation, the direction of rotation is left-handed as viewed in Fig. 3. Referring to this figure, it will be
15 seen that as the cam-bar 12 rotates the plunger 16 will be advanced until the slot 13 is disposed in substantial alinement with the plunger 16, at which time the spring 27 will act to pull the plunger toward the horse-
20 power. This return movement of the plunger will take place, of course, as soon as the pin 17 can release itself from the recess in which it is lodged. In order to relieve the jar incident to this sudden return of the plunger,
25 I provide a buffer 28 at the rear side of the horse-power. This buffer simply consists of a bar which is pivoted at the point 29 at one end thereof, the free extremity being guided upon a stem 30 and pressed toward the inter-
30 rior by a helical spring 31, disposed about the stem, as indicated. The opposite extremity of the stem 30 is formed with a hook 32, which engages the forward edge of the horse-power case, as shown. The inner face of the
35 buffer 28 is preferably slightly curved, as shown, so as to extend into the path of the ends of the cam-bar 12, and the inner face of the buffer is provided with a rubbing-strip 33. With this arrangement when the buffer
40 is suddenly withdrawn by the spring 27 the shock which would otherwise be given to the sweep or lever 24 is much reduced.

In using the press the hay is fed into the opening in the forward portion of the hay-
45 box in the usual manner. The mouth of the hay-box or baling-chamber is preferably formed with an undercut or beveled edge 34, as indicated most clearly in Figs. 5 and 6. This edge is on the upper side, and adjacent
50 to it I provide a tucker 35. This tucker consists of a transversely-disposed elongated plate 36, which is rotatably supported near its upper edge at each side of the box upon suitable bearings 37. On one side it is pro-
55 vided with a laterally-projecting arm 38, as indicated in Fig. 1, and to the extremity of this arm there is attached a spring 39, which normally tends to hold the tucker in a downwardly-projecting position, such as that in-
60 dicated in Fig. 6. As the plunger-head 19 advances it forces the hay past the tucker 35, and the blade of the tucker is folded against the beveled edge 34, as indicated in Fig. 5.

As the tucker moves rearwardly it presses the upper outer edge of the forming-bale in- 65 wardly, the effect being to produce a smooth face for the bale. As soon as the plunger-head is withdrawn the spring 39 operates to return the tucker to the normal position in which it is shown in Fig. 6. 70

On the side walls of the hay-box inwardly-projecting retaining-strips 40 are provided, which are of the usual form, tending to pre- 75 vent return of the hay, which is forced inwardly by the plunger.

On the under side of the cover 7 I provide a wearing-ring 23^a, which is similar to the wearing-ring 23, disposed on the upper side of the cover. The cam-bar 12 bears against the ring 23^a as it rotates. 80

In the operation of this baling-press it should be understood that the plunger 16 will be advanced twice for each revolution of the sweep 24. In this way the press has sub- 85 stantially twice the capacity of an ordinary press, in which the plunger is simply reciprocated by a crank rotating with the sweep.

Special attention is called to the fact that when the plunger is returned by the spring the pin 17 runs rearwardly in the bar 12 and 90 strikes against the rear end of the same while this point of the bar is being pressed by the buffer 28. In this way the shock which occurs is largely taken up by the buffer, so that the pivot of the bar or cross-head is consider- 95 ably relieved of strain. On this account it will be observed that the buffer not only operates as means for preventing the racing of the cross-head, but also affords means for actually absorbing the shock of the return of 100 the plunger.

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

1. In a baling-press, in combination, a 105 hay-box, a plunger reciprocating therein, a pivot-pin, a cross-head mounted on said pin and having a radially-disposed bar, a pin on said plunger and guided longitudinally upon said bar, a spring tending to withdraw said 110 plunger, means formed on said bar for engaging said pin to advance said plunger, and a buffer adapted to be struck by the ends of said bar and engaging the outer side of said head at the point struck by said plunger 115 when said plunger is returned, whereby said buffer operates to cushion the return of said plunger.

2. In a baling-press, in combination, a 120 hay-box, a plunger reciprocating therein, a pivot-pin, a cross-head mounted on said pin and having a radial bar with a longitudinal slot having recesses in the ends thereof, said plunger having a pin adapted to be caught in said recesses successively and running in said 125 groove, a spring tending to withdraw said

plunger, and a spring-pressed buffer adapted
to be struck by the ends of said bar and dis-
posed opposite to said hay-box and pressing
said head when said plunger is returned
5 whereby said buffer relieves the shock on
said pivot-pin when said plunger is returned
by said spring.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

WILLIAM DAVID IVY.

Witnesses:

W. COLLIN DURHAM,
JOE C. SUTTON.