

No. 754,093.

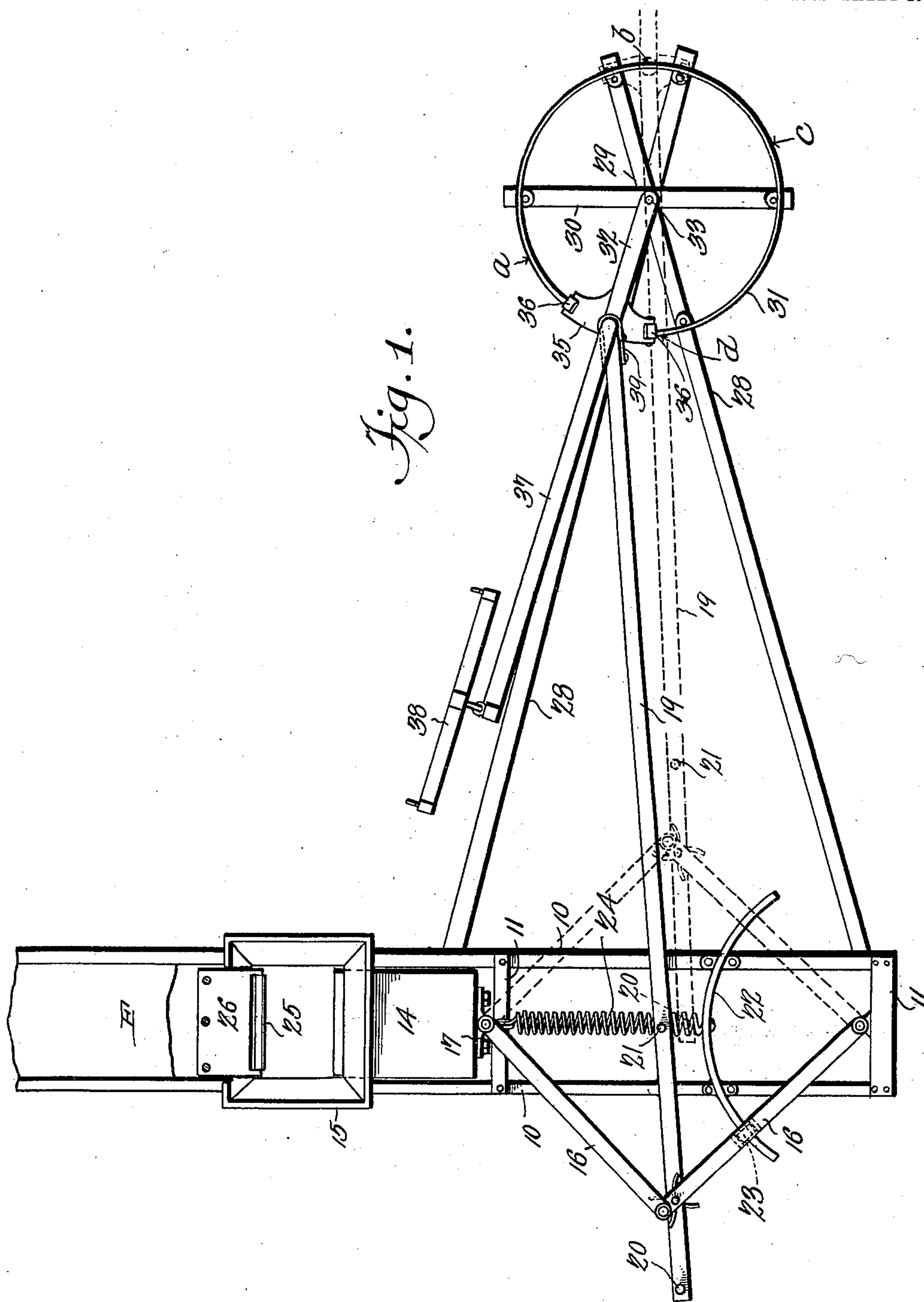
PATENTED MAR. 8, 1904.

G. W. ROBBURTS.  
BALING PRESS.

APPLICATION FILED MAY 4, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses  
*E. J. Stewart*  
*Dexter Morton*

*G. W. Robburts*, Inventor,  
by *C. A. Snow & Co.*  
Attorneys

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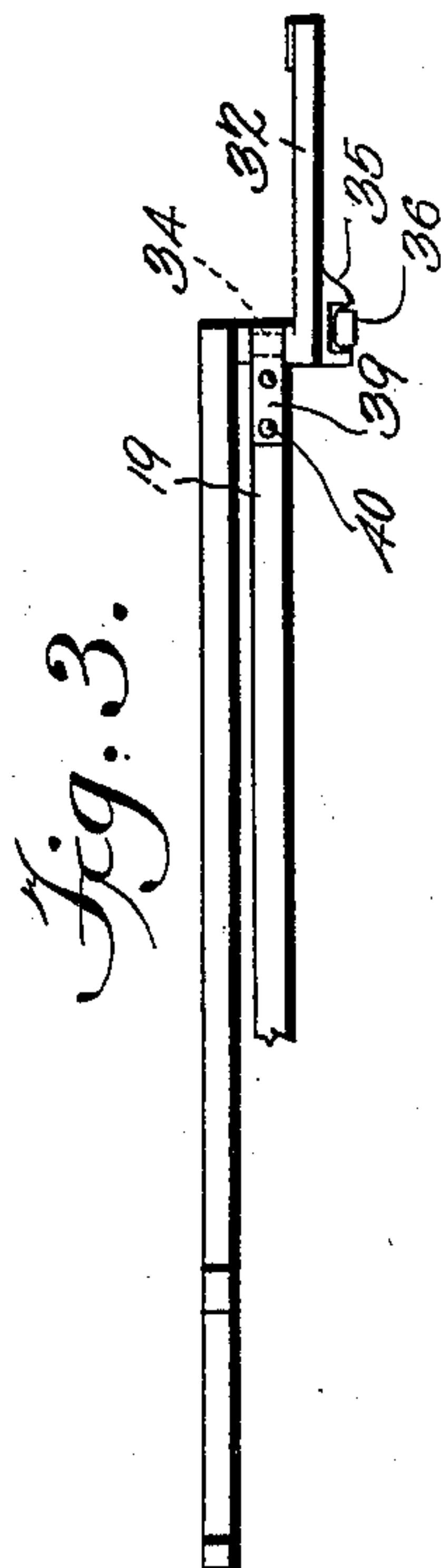
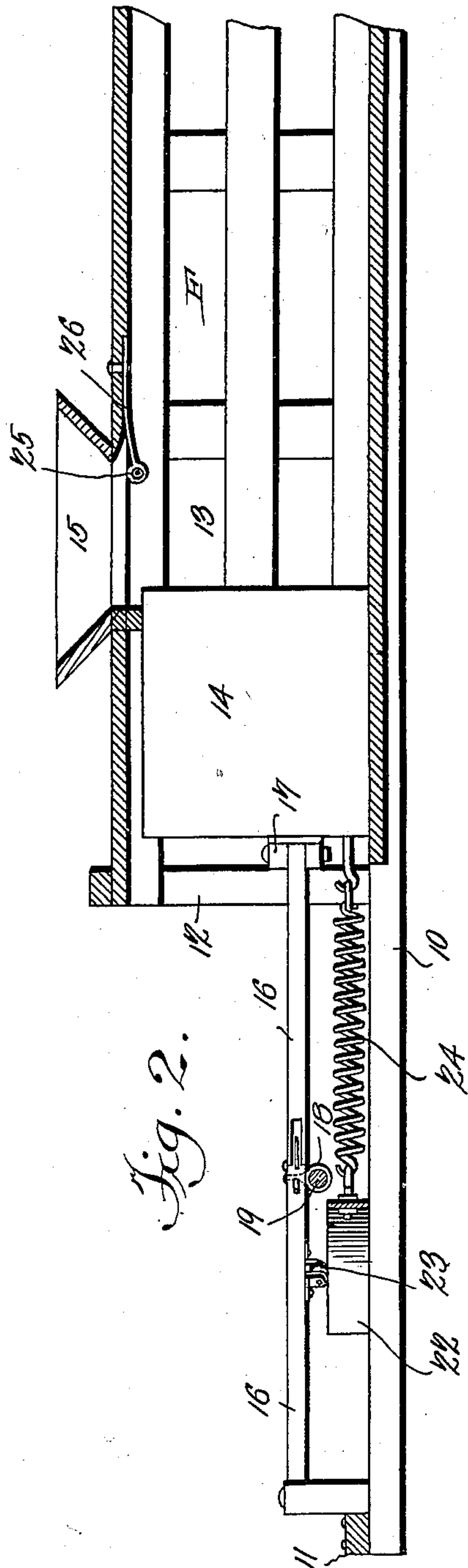
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# UNITED STATES PATENT OFFICE.

GEORGE W. ROBBURTS, OF GRANBURY, TEXAS, ASSIGNOR OF ONE-HALF TO MIKE C. LEMASTER AND HENRY H. LEMASTER, OF GRANBURY, TEXAS.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 754,093, dated March 8, 1904.

Application filed May 4, 1903. Serial No. 155,621. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. ROBBURTS, a citizen of the United States, residing at Granbury, in the county of Hood and State of Texas, have invented a new and useful Baling-Press, of which the following is a specification.

This invention relates to baling-presses, more especially to presses for baling hay.

The object of the invention is to produce a baling-press of exceedingly simple construction and smoothness of operation adapted to be operated primarily by horse-power and also susceptible of operation by means of any other suitable motor.

A further object of the invention is to provide a baling-press of such construction that without interrupting the operation of the horse-power or other motor by means of which the press is operated the plunger may be allowed to remain stationary in inoperative position for a time after each stroke to facilitate the feeding of hay into the press.

With the objects above stated and others in view, which will appear as the invention is better understood, the same consists in the novel construction and combination of parts hereinafter described and claimed, and shown in the drawings forming a part of this specification, in which corresponding parts are designated by the same characters of reference throughout.

In the drawings, Figure 1 is a plan view of the press with a portion of the frame broken off at the rear. Fig. 2 is a vertical section longitudinally through the press-frame. Fig. 3 is a detail view of the crank, sweep, and wrist-pin, showing the connection of the latter to the pitman 19.

Referring to the drawings by reference characters, F designates generally the frame of the press, in the construction of which are employed side bars 10, transverse bars 11, and uprights 12.

13 designates a compression-chamber open at the ends for the entrance of a plunger 14 and the escape of the bales of hay and having at the top above the end in which the plunger moves a hopper 15 for the introduc-

tion of hay into the compression-chamber. The plunger 14 is slidable in the frame 10 of the press and motion is imparted thereto by means of toggle-links 16, one of which is pivotally connected with transverse bar 11 at one end of the press-frame, and the other of which is pivotally connected with the plunger 14 by means of bearing-blocks 17, bolted to the inoperative face of the plunger. The toggle-links are pivotally connected in the usual manner and one of them has pivoted on its under surface near the point of its connection with its fellow a cuff 18, in which works a pitman 19, the play of the pitman in the cuff being limited by stops 20 and 21, provided on the pitman. To support the toggle-links in their movement, I provide on the side bars 10 of the press-frame an arc-shaped track 22, and on the lower surface of one of the toggle-links 16 is mounted a roll 23 in position to travel over the track 22.

In order to cause the plunger 14 to start on its return movement immediately after the completion of its forward movement into the compression-chamber, I provide a heavy spring 24, connected at one end with the inoperative face of the plunger by means of a hook or other suitable device and connected at the other end with the track 22, which is of sufficient strength to resist the strain placed thereon by the spring.

To facilitate the movement of the hay into that portion of the compression-chamber which lies beyond the hopper 15, a tucker-roll 25 is mounted at the top of the compression-chamber on the far side of the hopper 15 and is supported by means of springs 26, which keep the tucker-roll 25 normally depressed, but permit it to rise when necessary.

As illustrated in the drawings accompanying this application, the press is operated by means of a horse-power connected with the pitman 19. The horse-power consists of a frame comprising, preferably, two long frame-bars 28, extending to one side of the press-frame F and crossing at 29, and a short frame-bar 30 laid across the two long bars 28 at the point of crossing 29. The frame-bars 28 and



30 are secured in proper relation in any suitable manner and support a track 31, consisting, preferably, of a circular rail suitably fastened upon the frame-bars. A crank 32 is  
 5 pivotally mounted on a pivot-pin 33, which extends downward through the frame-bars at the point of crossing 29. The crank 32 is provided at its outer end with a wrist-pin 34 and rests upon a frame 35, having rolls 36, which  
 10 rest upon the track 31. A sweep 37 is rigidly associated with the wrist-pin 34 and projects outward therefrom at a suitable height above the ground to have a doubletree 38 attached thereto near the outer end. The pitman 19  
 15 is connected with the wrist-pin 34 by a strap 39, which encircles the wrist-pin and has the ends thereof secured to the pitman by transverse bolts 40.

In operating the press horses or other suitable draft-animals are harnessed to the doubletree 38 and travel continuously around the horse-power, imparting to the sweep 37 a tolerably uniform rate of rotation. The movement of the sweep and the crank associated  
 20 therewith is communicated to the pitman 19, which operates the toggle-links 16. The pitman in operating toggle-links 16 plays back and forth in the cuff 18, mounted on the under side of one of the links, as explained in a  
 25 preceding paragraph, and in order to impart movement to the links the stop 20 at the end of the pitman must come in contact with one of the toggle-links. This occurs when the wrist-pin is in about the position indicated by  
 30 *a* on the track 31. The movement of the wrist-pin from the point marked *a* to that marked *b* on the track 31 causes the straightening of the toggle-links 16, and consequently the movement of the plunger 14 into the compression-chamber to compress the hay therein.  
 35 When the wrist-pin reaches the point *b* on the track 31, the toggle-links pass the position of alinement and the plunger moves rapidly rearward under the tension of spring 24 until  
 40 stopped by one of the transverse bars 11, this movement being permitted by the position on the pitman of the stop 21, which then lies beyond the range of movement of links 16 and comes in contact with one of the toggle-links  
 45 when the point *c* is reached by the wrist-pin. After *c* is reached by the wrist-pin the plunger 14 will start upon another forward stroke, and the continued movement of the pitman after the wrist-pin reaches the point *c* will be  
 50 accompanied by a straightening of the toggle-links 16, which will be complete when the wrist-pin reaches *d*. As soon as the wrist-pin reaches *d* the toggle-links pass the position of alinement and the plunger is retracted  
 55 by the action of spring 24, which also throws the toggle-links into the position shown in Fig. 1. The return of the toggle-links to the position shown in Fig. 1 completes a cycle of operations in the press.

From the foregoing account of the operation of the press it will be seen that twice in a single complete revolution of the crank of the horse-power the plunger of the press remains stationary in inoperative position for a short time, thus affording opportunity for the  
 65 feeder of the press to introduce a bale upon the next forward movement of the plunger. It will also be noted that by means of the sliding connection between the pitman and the toggle-links the shock of the return of the rebounding plunger 14 is taken off the horse-power and is received by one of the cross-bars  
 70 of the press-frame, thus relieving the draft-animals of the impact of the rebounding plunger, which forms a serious objection to presses operated by horse-power and having plungers actuated by toggle-links, but having the pitman pivotally connected with the links and  
 75 slidably connected with the wrist-pin of the horse-power.

It is obvious that changes may be made in the form, proportions, and exact mode of assemblage of the elements above described and shown in the accompanying drawings without departing from the spirit of invention or  
 80 sacrificing any of its advantages, and I wish it distinctly understood that I reserve the right to make such changes in the mechanism.

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

1. The combination in a baling-press of a press-frame, a compression-chamber, a plunger reciprocable in said chamber, means on the frame to limit the rearward movement of the plunger, toggle-links for imparting movement to said plunger, a pitman having sliding connection with said links, and means for imparting movement to said pitman sufficient to force the links past the position of alinement at each movement of the pitman.

2. The combination in a baling-press of a press-frame, a compression-chamber, a plunger reciprocable in said chamber, means on the frame to limit the rearward movement of the plunger, toggle-links for imparting movement to said plunger, a cuff mounted on one of said links, a pitman slidable in said cuff, stops upon said pitman to limit its movement in the cuff, and means for imparting movement to said pitman sufficient to force the links past the position of alinement at each movement of the pitman.

3. The combination in a baling-press of a frame, a compression-chamber, a plunger reciprocable in said chamber, means on the frame to limit the rearward movement of the plunger, toggle-links for imparting movement to said plunger, a cuff pivotally supported on one of said links, a pitman slidable in said cuff, stops on said pitman to limit its movement in the cuff, and means for imparting movement to said pitman sufficient to force the links past



the position of alinement at each movement of the pitman.

4. The combination in a baling-press of a frame, a compression-chamber, a plunger reciprocable in said compression-chamber, means on the frame to limit the rearward movement of the plunger, toggle-links for imparting movement to said plunger, a pitman slidably connected with one of said links, a retracting-spring attached at one end to said plunger and at the other end to the frame of the press, and means for imparting movement to said pitman sufficient to force the links past the position of alinement at each movement of the pitman.

5. The combination in a baling-press of a frame, a compression-chamber, a plunger reciprocable in said chamber, means on the frame to limit the rearward movement of the plunger, toggle-links for imparting movement to said plunger, a cuff pivotally mounted on one of said links, a pitman slidable in said cuff, stops on said pitman to limit its movement in the cuff, a track of suitable form provided on said frame, a roll on the under surface of one of said toggle-links and adapted to travel on said track, a retracting-spring attached at one end to said plunger and at the other end to said track, and means for imparting movement to said pitman.

6. The combination in a baling-press of a frame, a compression-chamber, a plunger reciprocable in said chamber, means on the frame to limit the rearward movement of the plun-

ger, toggle-links for imparting movement to said plunger, a pitman slidably connected with said links, converging bars projecting laterally from the base of said press-frame, a crank pivotally mounted on said converging bars at their point of intersection, a wrist-pin projecting upward from said crank, connections between said wrist-pin and said pitman, and a sweep rigidly secured to said wrist-pin at its upper end. 35 40

7. The combination in a baling-press of a frame, a compression-chamber, a plunger reciprocable in said chamber, toggle-links for imparting movement to said plunger, a pitman slidably connected with said links, a frame for a horse-power projecting laterally from said press-frame, a circular track provided on the frame for said horse-power, a crank pivotally mounted on said horse-power frame, rolls for supporting said crank associated therewith near the outer end and adapted to travel on said track, a wrist-pin projecting upward from said crank, connections between said wrist-pin and said pitman, and a sweep rigidly secured to said wrist-pin at the upper end. 45 50 55 60

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. ROBBURTS.

Witnesses:

W. L. DEAN,

T. J. WILLIAMS.