

No. 685,190.

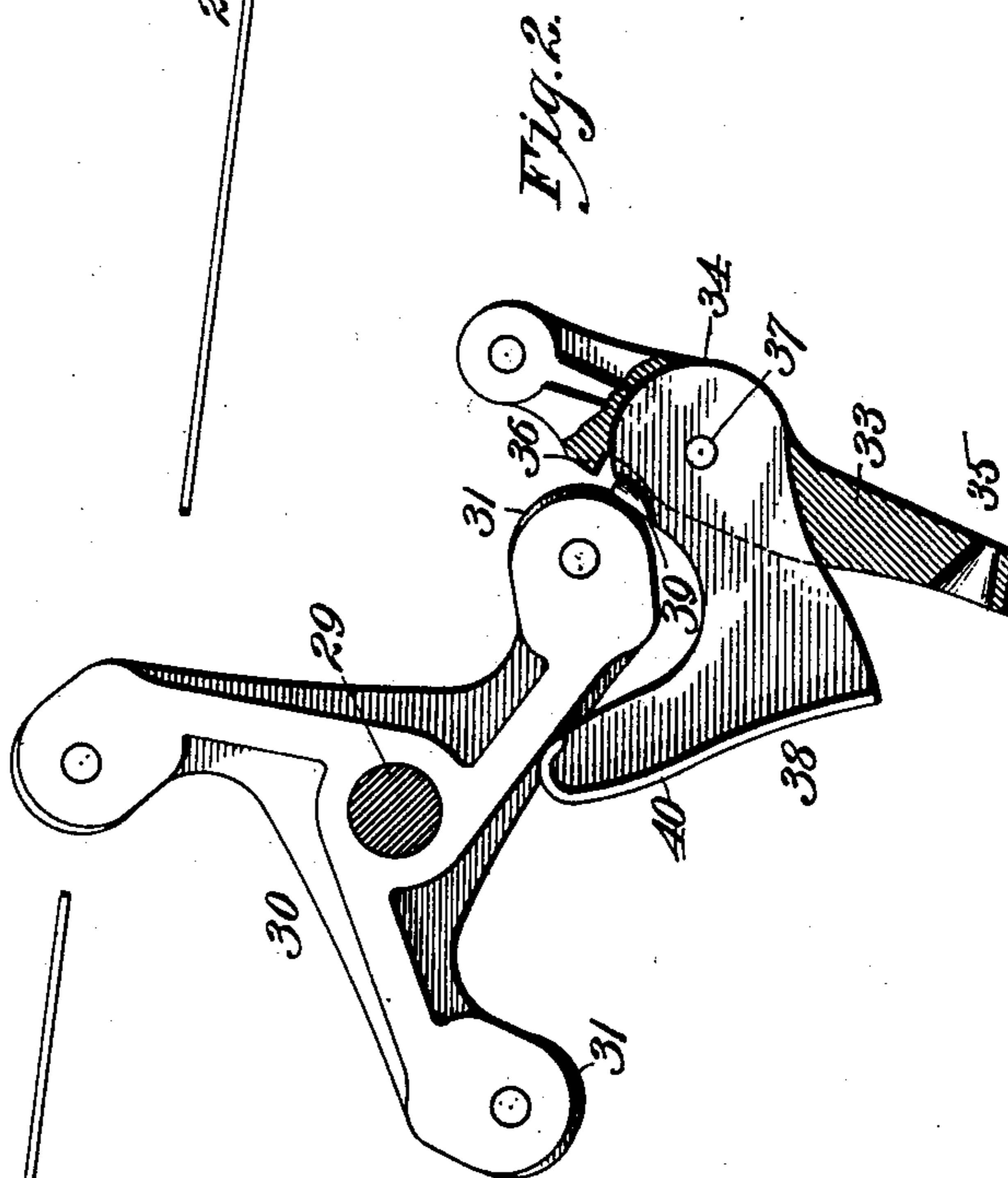
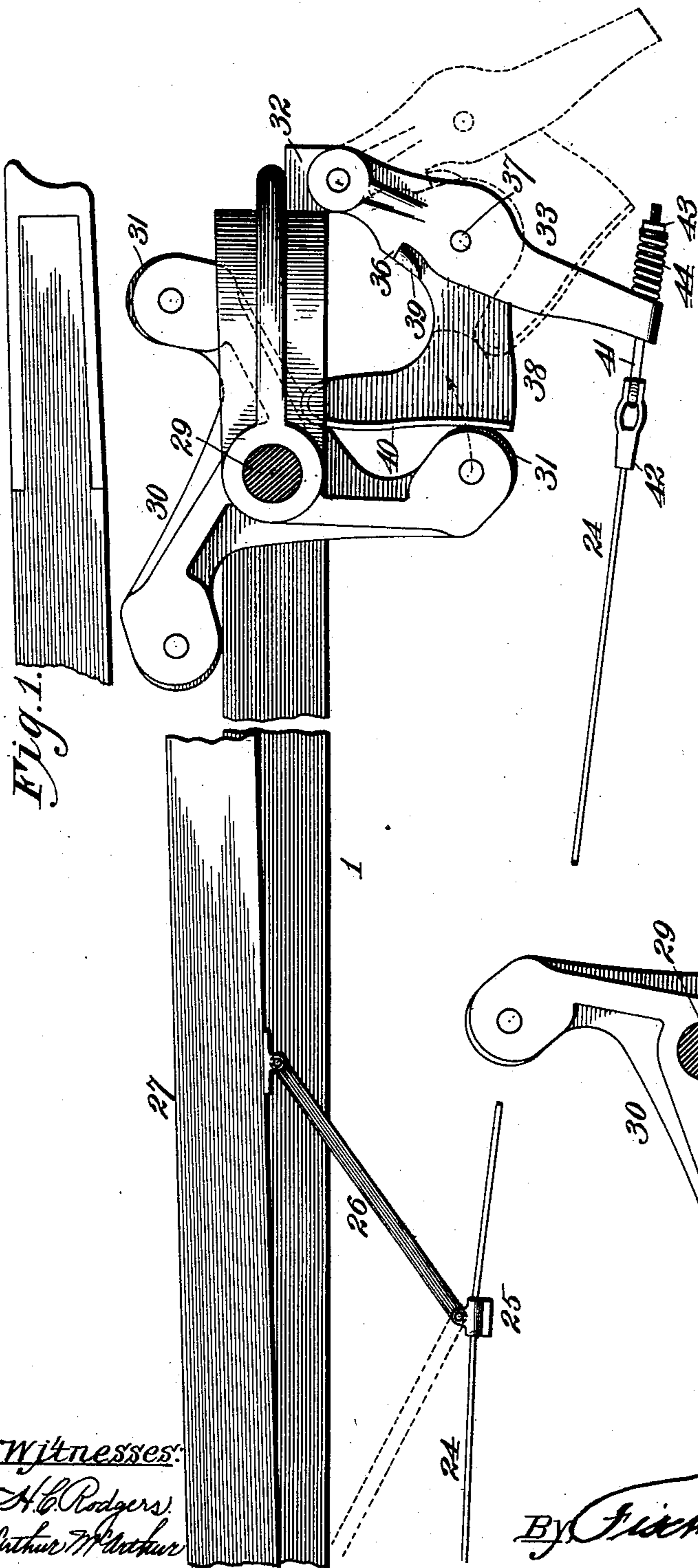
Patented Oct. 22, 1901.

J. S. TUTTLE.
SELF FEEDER FOR BALING PRESSES.

(Application filed Mar. 14, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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Fig. 4.

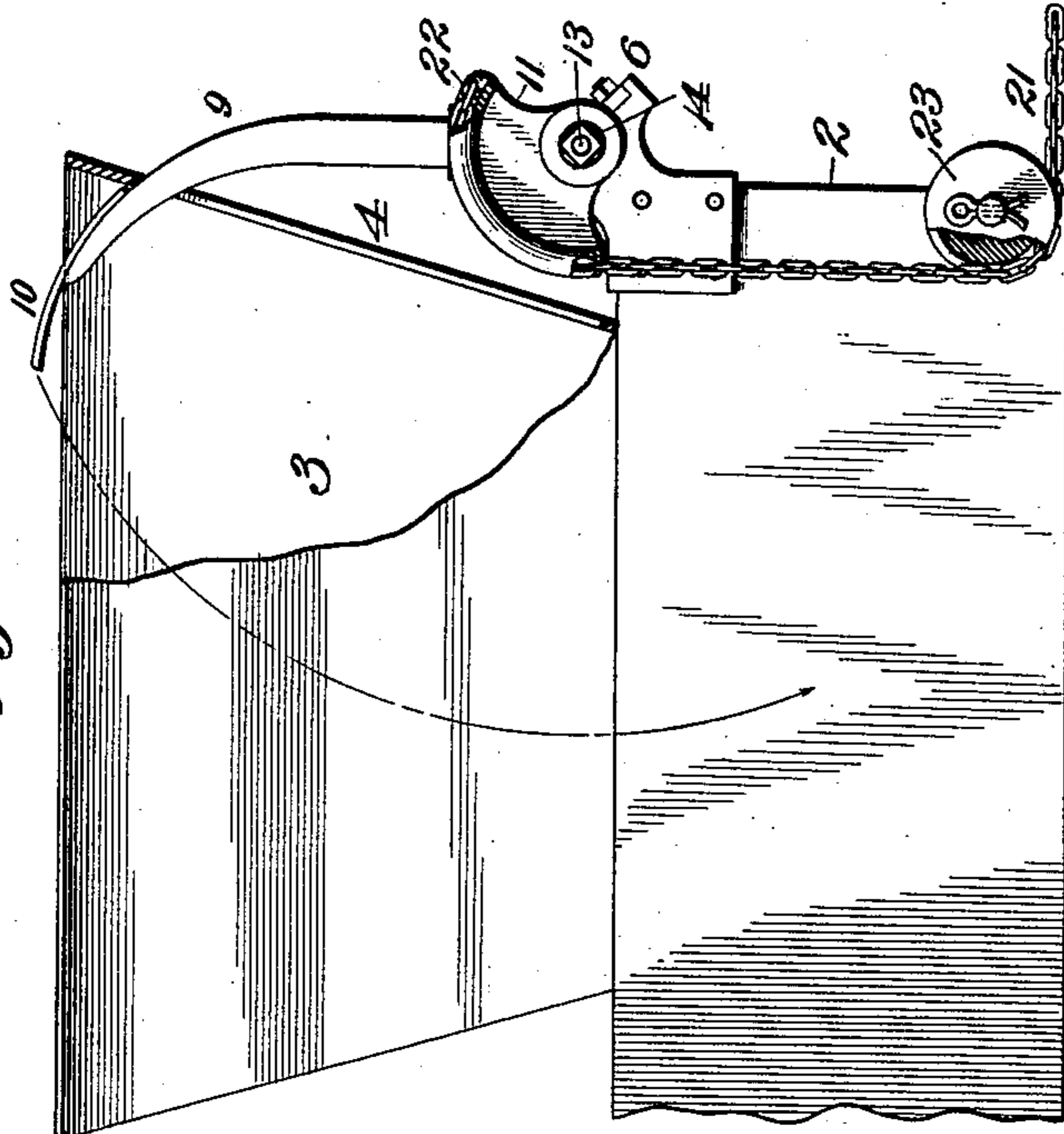


Fig. 3.

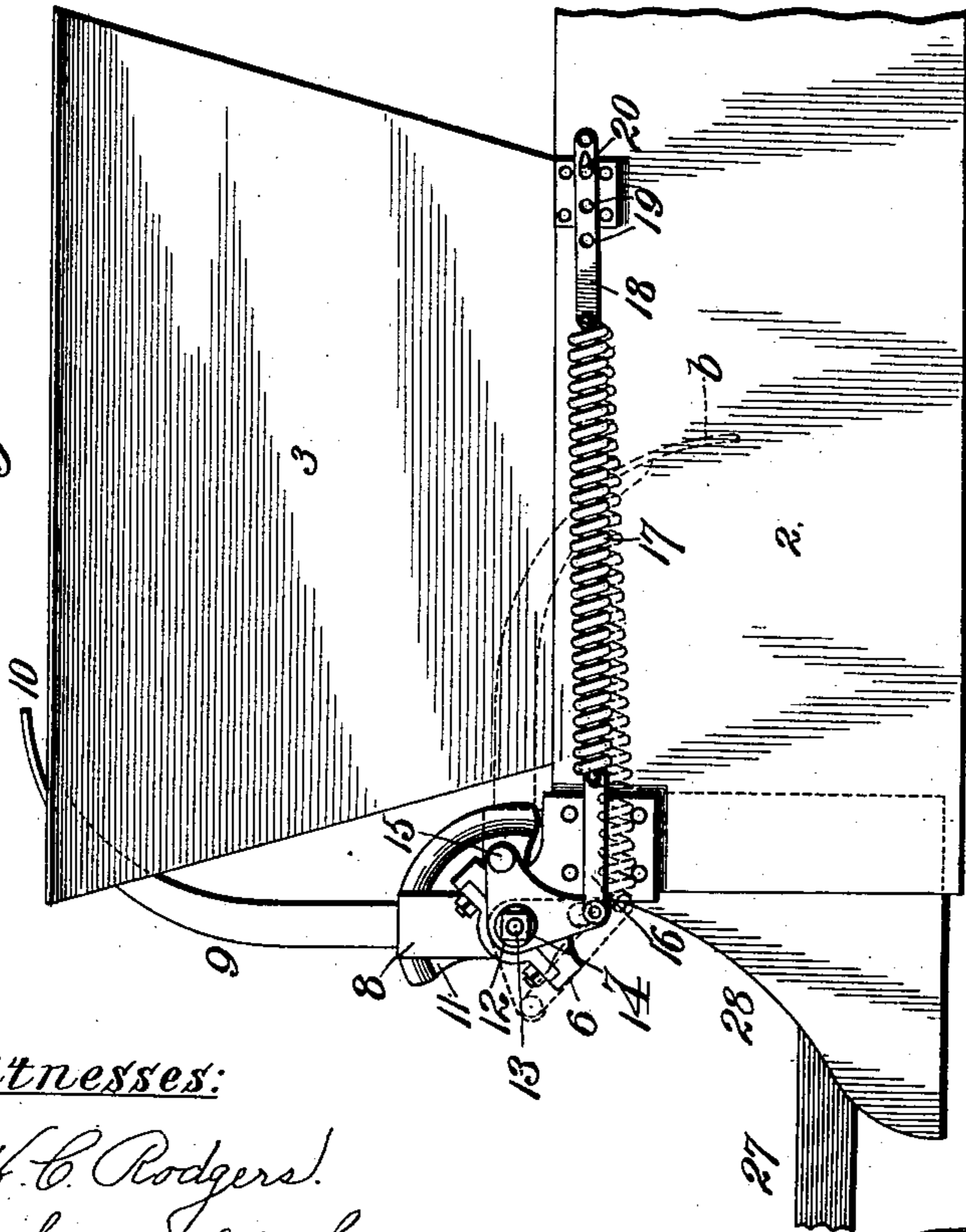


Fig. 6

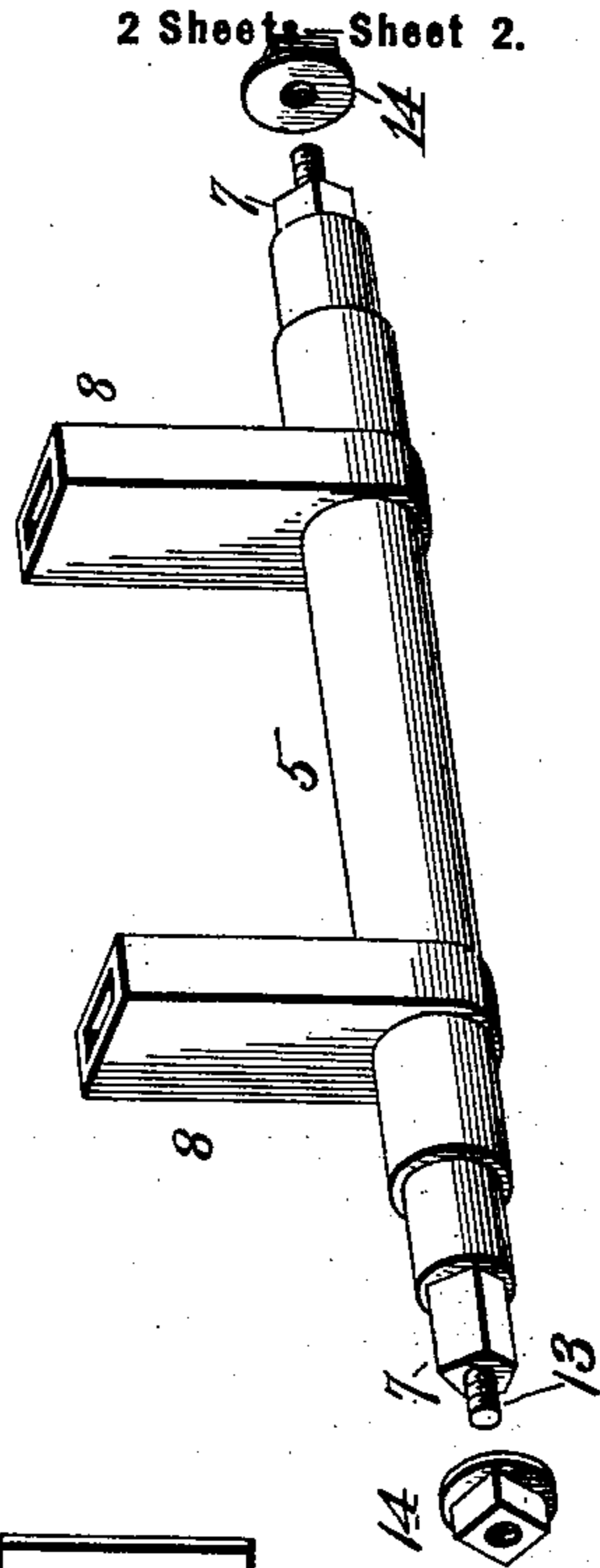
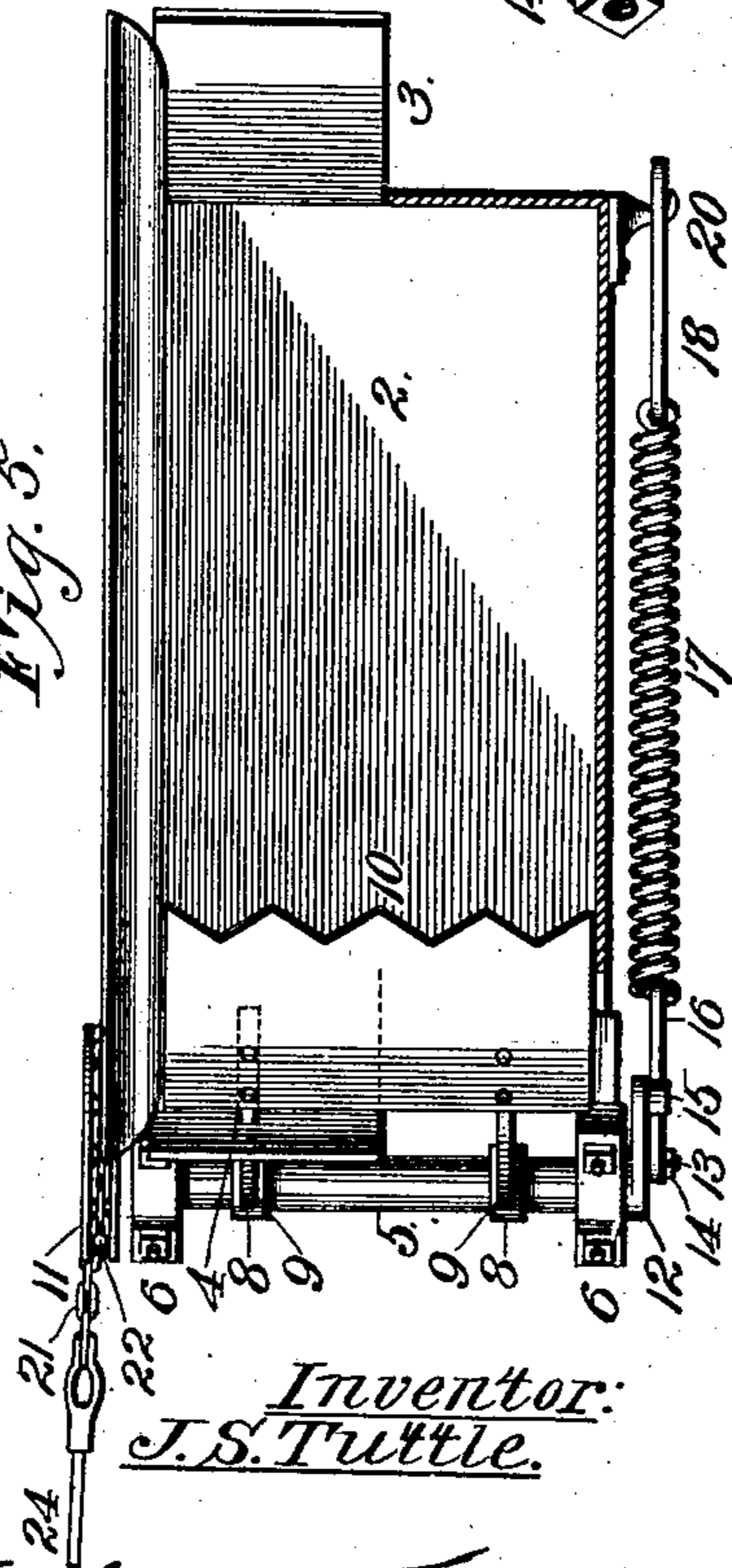


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSIAH S. TUTTLE, OF KANSAS CITY, KANSAS, ASSIGNOR TO TIMOTHY C. BRADLEY, OF KANSAS CITY, MISSOURI.

SELF-FEEDER FOR BALING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 685,190, dated October 22, 1901.

Application filed March 14, 1901. Serial No. 51,081. (No model)

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 Wyandotte, Kansas, have invented a new and useful Self-Feeder for Baling-Presses, of which the following is a specification.

My invention relates to self-feeders for hay-presses; and my object is to produce an apparatus of this character which shall operate positively and efficiently without requiring extraneous aid in forcing the charge of hay from the hopper into the baling-chamber.

A further object is to produce a self-feeder which is applicable to any of the approved types of hay-presses and which is of simple, strong, durable, and comparatively inexpensive construction.

With these objects in view 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 represents a horizontal section of the power end of a hay-press provided with a self-feeder embodying my invention. Fig. 2 represents a similar view with the parts occupying different positions from those shown in Fig. 1. Fig. 3 is a side view of the baling end of the press. Fig. 4 is a view of the opposite side of the same. Fig. 5 is a view of the same, partly in top plan and partly in horizontal section. Fig. 6 is an enlarged perspective view of the rock-shaft forming a part of the feeder.

In the said drawings, where like reference-numerals designate corresponding parts, 1 designates the bed of a hay-press of the usual or any preferred construction, 2 the baling-case at one end of the same, and 3 the hopper, superimposed with respect to and communicating with the baling-chamber of said case in the usual manner, and said hopper is provided with the parallel slots 4 in its rear wall for a purpose which hereinafter appears.

5 designates a transverse rock-shaft journaled in bearings 6, secured to the rear end of the baling-case near the hopper and having its ends of angular formation, preferably

as at 7, and provided with the hollow crank-arms 8, within which are rigidly secured arms 9, which project into the hopper through slots 4 and carry a feed-plate 10 at their free ends, said plate under the action of the shaft being adapted to rise and fall through the hopper for the purpose of forcing each charge of hay deposited therein down into the baling-chamber in advance of the plunger, hereinafter referred to. Mounted non-rotatably upon the angular end of the shaft at the side opposite to that to which the pitman recoils is a peripherally-grooved segment-lever 11, and similarly secured upon the opposite angular end of the shaft is a bell-crank lever 12, a tie-rod 13, extending through the shaft, carrying clamping-nuts 14 at its opposite ends to insure the retention of said levers in the position described. The bell-crank lever is provided with an outwardly-projecting lug 15 and is pivotally connected with a link 16, the front end of which is pivotally connected by a retractile spring 17 with the front end of a bar 18, provided with a plurality of holes 19, one or another of which is engaged by a hook 20, projecting outwardly and forwardly from the baling-case contiguous to the front end of the hopper, a plurality of holes 19 being provided in order to admit of the spring being tensioned when necessary.

21 designates a chain or equivalent device occupying the grooved periphery of segment-lever 11 and secured reliably thereto by means of the pin 22 engaging one of the links, said chain extending downward from said segment-lever and engaging the grooved pulley 23, secured to the lower rear corner of the baling-case vertically below said lever. From said pulley the chain extends rearward and is connected in any suitable manner to the cable 24, forming practically a continuation of the chain, and secured to the cable at a suitable point is a clamp 25, pivotally connected by a link 26 with the pitman 27, the plunger or traverser 28 at the front end of the pitman being arranged to reciprocate in the baling-case in the usual manner.

29 designates the power-shaft, and 30 a trip-lever, the latter, as shown in the drawings, being of the triple-arm type and carrying antifriction-rollers 31.

At the rear end of the frame is a lug 32, occupying the same horizontal plane as the trip-lever and pivotally carrying a trigger mechanism constructed as follows: 33 is a lever
5 arranged to operate in a horizontal plane and provided with a central slot 34 and a rearwardly-flaring opening 35 near its free end. Said lever is also formed at its front side inward of the slot 34 with an outwardly-disposed
10 shoulder 36 and carries centrally of said slot a vertical pivot-pin 37, upon which is pivoted the leg portion or rear end of the foot-shaped lever 38, the front or inner side of said leg being provided with a lug or shoulder 39 and the foot portion with a tread-flange
15 40, the flange being provided in order to provide a wide bearing upon which the antifriction-rollers 21 may travel.

41 designates a bolt extending loosely
20 through opening 35 of lever 33 and connected by the sleeve 42 with the end of cable 24, the rear or threaded end of the bolt carrying a nut 43 and an expansive spiral spring 44, the latter being interposed between said nut and
25 the lever and of such resistance that it shall remain practically rigid under the ordinary operation of the flange, yielding only to an overcharge of hay in order to eliminate any possible chance of injury to any of the parts
30 of the feeder or its operating mechanism.

Assuming now that the parts are arranged as shown in full lines, Fig. 1, it will be understood that the recoil of the plunger has just occurred and that during such recoil and
35 for a very limited time thereafter the trip-lever moved the foot-lever of the trigger mechanism from the position shown in full lines, Fig. 2, to the position shown in full lines, Fig. 1. The trip-lever having moved the foot-lever until its shoulder 39 engaged shoulder
40 36 of lever 33 next throws said trigger mechanism to the position shown in dotted lines, Fig. 1, effecting this result while traveling the short distance represented by the length
45 of the arrow in said figure, it being obvious by reason of the fact that the distance between the fulcrum-point of lever 33 on the frame is nearer the toe than the heel of the foot-lever that the latter rolls outward upon
50 roller 31 of the actuating trip-lever arm with great rapidity, the speed of action being determined, of course, by that of the trip-lever. As the trigger mechanism is thus forced by the trip-lever to assume its dotted position
55 the cable is drawn rearward and the feeder swung downward from the position shown in full lines, Fig. 3, to that shown in dotted lines, forcing the charge of hay in the hopper down into the baling-chamber in advance of
60 the plunger, at this time withdrawn, as hereinbefore explained. The descent of the feeder is effected in opposition to spring 17, the bell-crank lever stretching the same rearwardly, as indicated by dotted lines, Fig. 3, and the
65 lug 15 of said lever by depressing link 16 at its point of connection with the spring serving to effect the full distention of the latter

with the use of but a comparatively small bell-crank, as shown clearly in Fig. 1. As the actuating trip-lever arm passes the toe of
70 foot-lever 40 spring 17 instantly retracts and causes the reelevation of the feeder and the trigger mechanism to swing forward until its parts assume the position shown in Fig. 2, with its foot-lever at the opposite side of said
75 actuating trip-arm, during which period and until the next trip-arm comes in contact with the tread-surface of said foot-lever the advance movement or power-stroke of the plunger is being effected in the usual manner,
80 such movement being instantly followed by the recoil in order that the feeder as it immediately afterward descends shall not contact with the plunger or traverser, and in this connection it will be understood by reference
85 to Fig. 1 that link 26 when the plunger is advanced occupies the position shown in dotted lines in order that should the recoil fail to take place at the proper moment the pressure of an arm of the trip-lever against the foot-
90 lever 38 shall in swinging the trigger mechanism to the position shown in dotted lines pull rearward on the cable 24, and thereby effect the withdrawal of the plunger. Should this pressure of the trip-lever prove insuffi-
95 cient to withdraw the plunger, the trip-lever movement would be arrested and the descent of the feeder prevented.

All future operations being repetitions of the ones described, further recapitulation is
100 unnecessary.

From the above description it will be apparent that I have produced a self-feeder for hay-presses which derives its motion from the trip-lever and which, therefore, is absolutely
105 reliable in operation, which operates before the power-stroke of the plunger begins and therefore rather equalizes than places an additional burden on the horses, which are usually employed to operate the machine, and
110 which prevents any possibility of conflict between the feeder and plunger by preventing the descent of the former until the recoil of the latter has taken place. It will also be apparent that while I have illustrated and
115 described the preferred embodiment of the invention it is susceptible of modification in minor particulars as regards its form, proportion, detail construction, and arrangement of the parts without departing from the
120 essential spirit and scope or sacrificing any of the advantages of the invention.

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

1. A self-feeder for baling-presses, comprising a feeder to swing down and force the charge of hay from the hopper into the baling-chamber, a driven trip-lever, a trigger mechanism, comprising a lever fulcrumed on the
130 frame and provided with a shoulder, and a foot-lever pivoted to the first-named lever, and provided with a tread-surface to engage with the trip-lever, and a shoulder to engage

the shoulder of the first-named lever and swing the latter rearwardly, a flexible connection suitably guided between said trigger mechanism and the feeder, and means for restoring the latter and the trigger mechanism to their original positions, substantially as described.

2. A self-feeder for baling-presses, comprising a feeder to swing down and force the charge of hay from the hopper into the baling-chamber, a driven trip-lever, a trigger mechanism, comprising a lever fulcrumed on the frame, and provided with a shoulder, and a foot-lever pivoted to the first-named lever, and provided with a tread-surface for engagement with the trip-lever, and a shoulder to engage the shoulder of the first-named lever and swing the latter rearwardly, a flexible connection suitably guided between the trigger mechanism and the feeder, and a spring for restoring the latter and the trigger mechanism to their original positions, substantially as described.

3. A self-feeder for baling-presses, comprising a feeder to swing down and force the charge of hay from the hopper into the baling-chamber, a driven trip-lever, a trigger mechanism, comprising a lever fulcrumed on the frame, and provided with a shoulder, and a foot-lever pivoted to the first-named lever, and provided with a tread-surface for engagement with the trip-lever, and a shoulder to engage the shoulder of the first-named lever and swing the latter rearwardly, a flexible connection suitably guided between said trigger mechanism and the feeder, and a spring adjustably anchored to the baling-press at its front end, and connected to the feeder at its rear end for the purpose of reëlevating the latter when unopposed by the trip-lever, substantially as described.

4. A self-feeder for baling-presses, comprising a feeder to force the charge of hay into the baling-chamber, a trigger mechanism, comprising a lever fulcrumed on the press, and provided with a shoulder, and a foot-lever pivoted to the first-named lever and provided with a shoulder to engage the shoulder of the first-named lever and swing the latter rearwardly, a flexible connection suitably guided, between the feeder and the trigger mechanism, and means to engage the foot-lever and thereby swing the trigger mechanism rearward and cause the feeder to force the charge of hay into the baling-chamber, substantially as described.

5. A self-feeder for baling-presses, comprising a feeder to force the charge of hay into the baling-chamber, a trigger mechanism, comprising a lever fulcrumed on the press and provided with a shoulder, and a foot-lever pivoted to the first-named lever, and provided with a shoulder to engage the shoulder of the first-named lever and swing

the latter rearwardly, a flexible connection suitably guided, between the feeder and the trigger mechanism, means for engaging the foot-lever and thereby swinging the trigger mechanism rearward and causing the feeder to force the charge of hay into the baling-chamber, and means to restore the trigger mechanism and feeder to their original positions, substantially as described.

6. In a self-feeder for baling-presses, a feeder proper mounted on the baling-case, and adapted to work vertically, a lever fulcrumed on the frame to work horizontally, and provided with a shoulder, a lever pivoted to the first-named lever and provided with a tread-surface to be engaged by the trip-lever of the press, and with a shoulder to engage the shoulder of and force the first-named lever rearward, a flexible connection between the feeder proper and said first-named lever whereby the rearward movement of the latter effects the descent of the former, and a link pivotally connecting said flexible connection with the pitman of the press, substantially as and for the purpose described.

7. In a self-feeder for baling-presses, a rock-shaft journaled on the baling-case, feeder-arms carried thereby and arranged to operate vertically and force the hay deposited in the hopper down into the baling-chamber, a bell-crank lever mounted on one end of said shaft and provided at one end with a lug, a link pivoted to the opposite arm of the bell-crank, a retractile spring suitably connected to the baling-case and to said link, and means for operating said shaft and thereby depressing the feeder-arms, and causing the bell-crank to tension and the lug to intensify the tension on the spring by depressing said link at its point of connection with the spring, substantially as described.

8. A self-feeder for baling-presses, comprising a feeder to force the charge of hay into the baling-chamber, a trigger mechanism, comprising a lever fulcrumed on the press and provided with a shoulder, and a foot-lever pivoted to the first-named lever and provided with a shoulder to engage the shoulder of the first-named lever and swing the latter rearwardly, a flexible connection, suitably guided, between the feeder and the trigger mechanism, a link pivotally connecting said flexible connection with the pitman of the press, and means for engaging the foot-lever and thereby swinging the trigger mechanism rearward and causing the feeder to force the charge of hay into the baling-chamber, substantially as described.

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

JOSIAH S. TUTTLE.

Witnesses:

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G. Y. THORPE.