

No. 670,206.

Patented Mar. 19, 1901.

R. MILLER.
HAY CARRIER.

(Application filed July 18, 1900.)

2 Sheets—Sheet 1.

(No Model.)

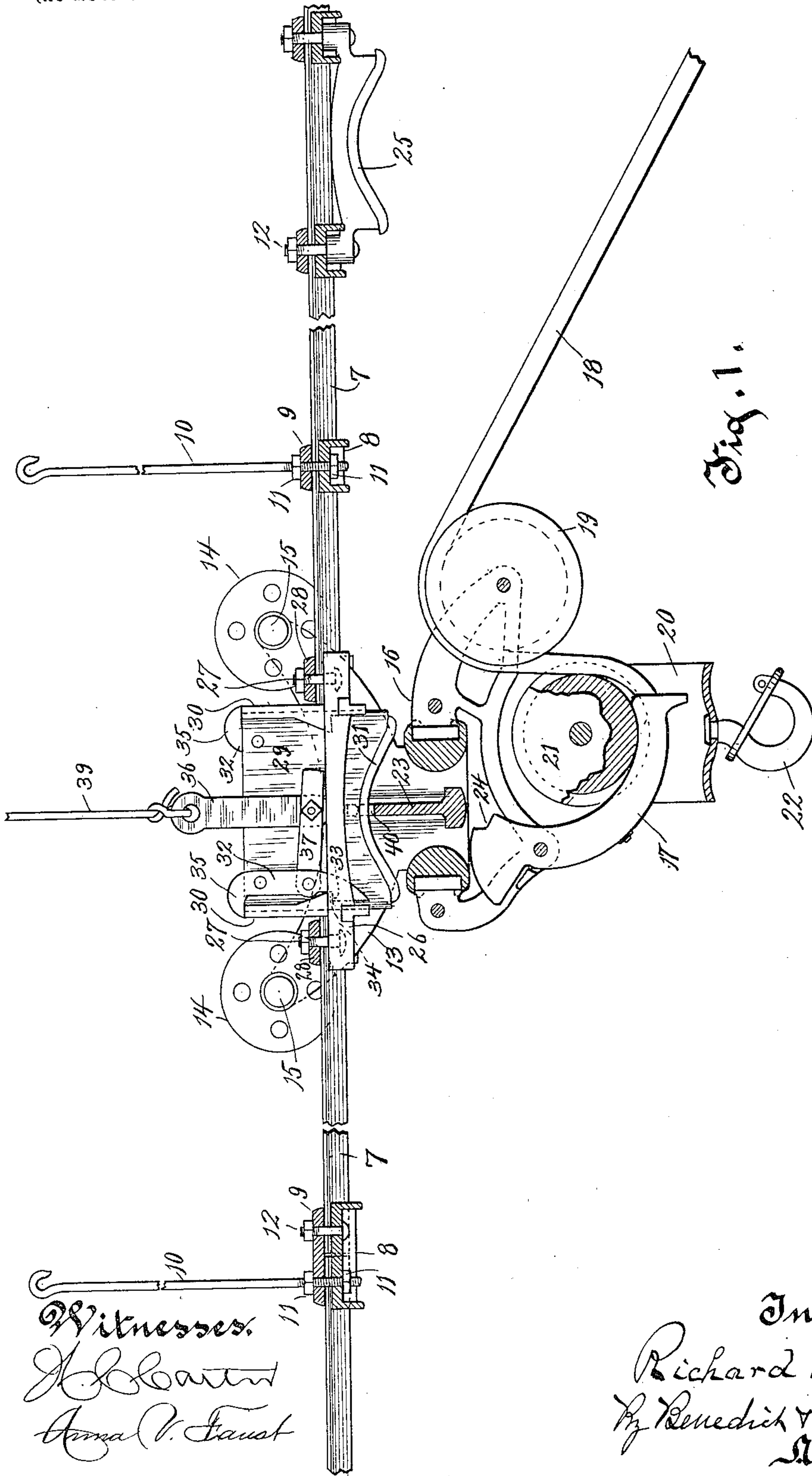


Fig. 1.

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2 Sheets—Sheet 2.

Fig. 2.

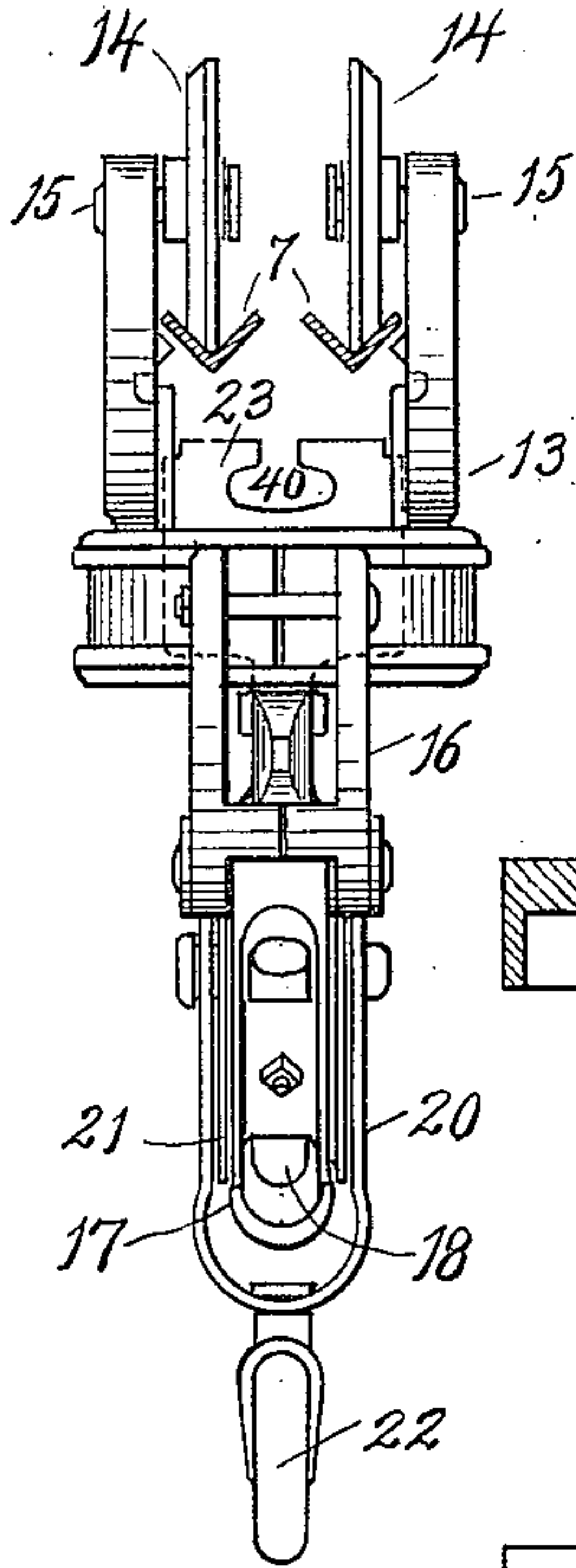


Fig. 3.

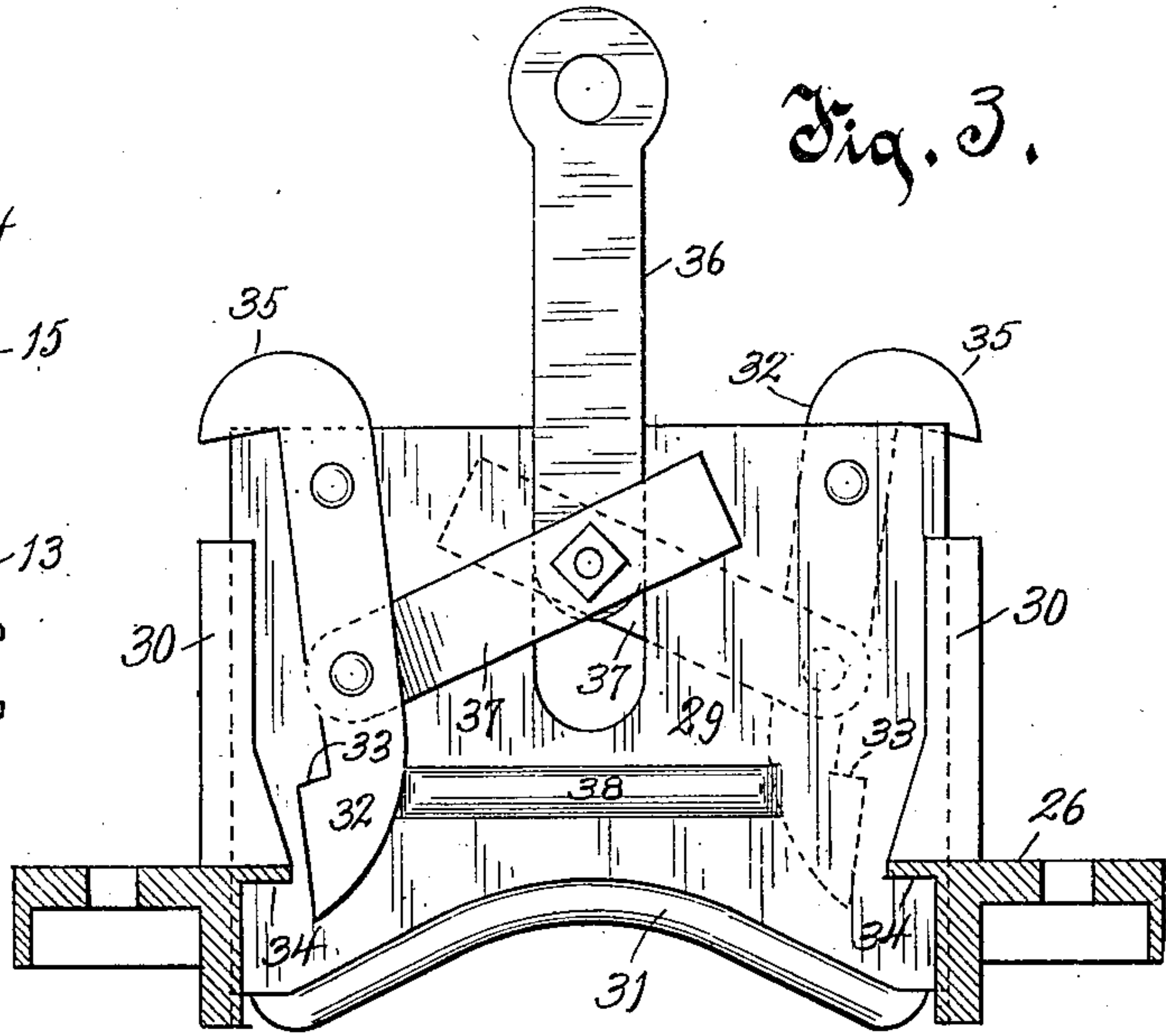


Fig. 4.

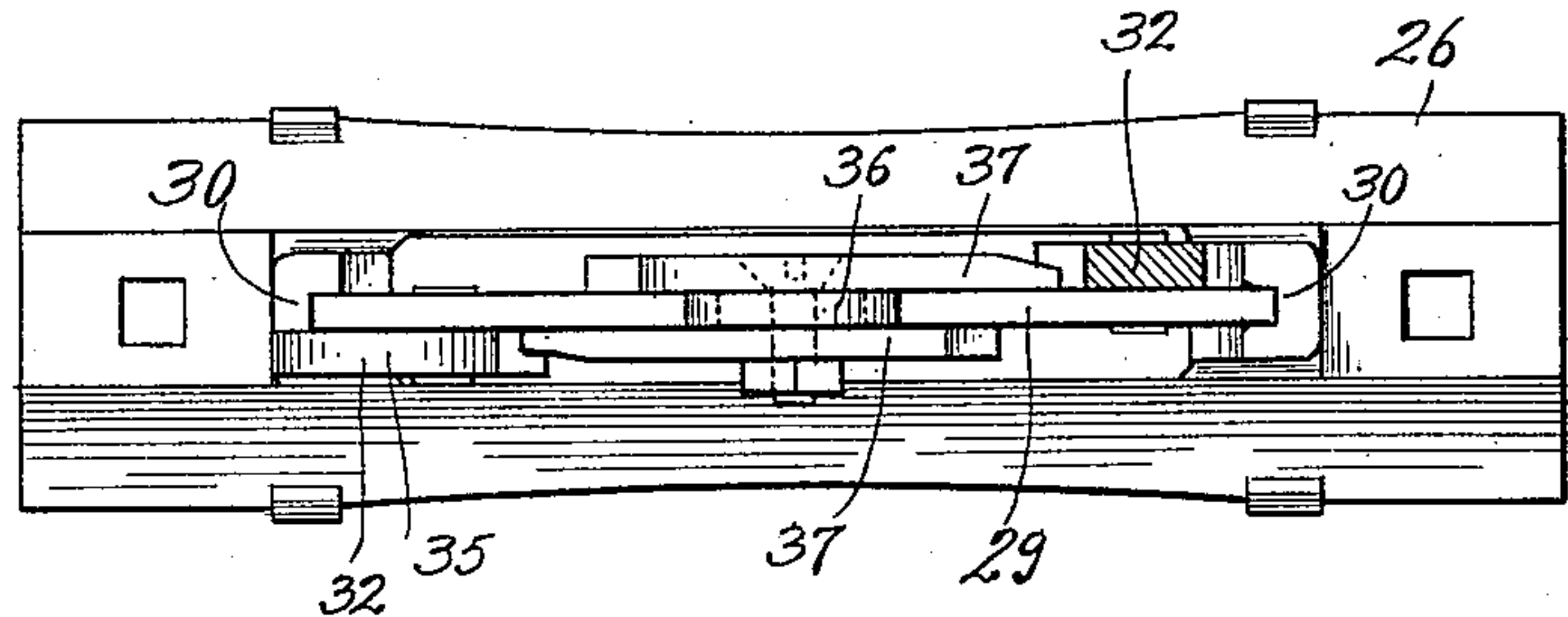
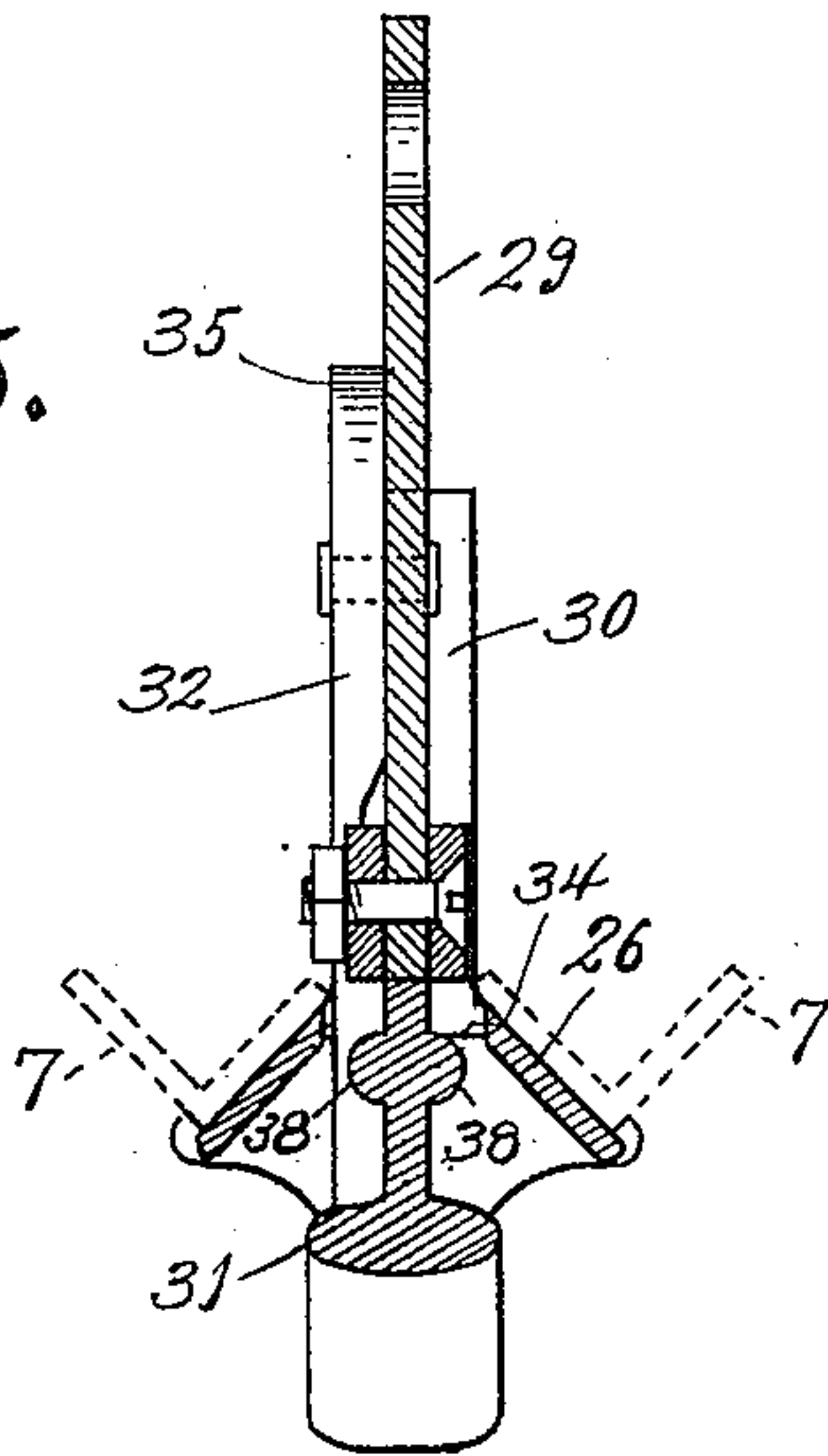


Fig. 5.



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UNITED STATES PATENT OFFICE.

RICHARD MILLER, OF APPLETON, WISCONSIN.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 670,206, dated March 19, 1901.

Application filed July 18, 1900. Serial No. 24,010. (No model.)

To all whom it may concern:

Be it known that I, RICHARD MILLER, of Appleton, in the county of Outagamie and State of Wisconsin, have invented a new and
5 useful Improvement in Hay-Carriers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in
10 hay-carriers of a class that are adapted for elevating hay and carrying it on a track to a distance and there dropping it. The construction embodying my invention includes a track, a carriage traveling thereon, means for
15 elevating the hay, and means for locking the load to the carriage and for locking the carriage in place on the track.

The invention consists of the devices and combinations of devices as herein described
20 and claimed or the equivalents thereof.

In the drawings, Figure 1 is an elevation of a hay-carrier embodying my improvements, parts being shown in section for convenience of illustration. Fig. 2 is an end view of the
25 carrier embodying my invention, the track being shown in cross-section. Fig. 3 is an elevation of an improved stop-block embodying features of my invention, parts being in section. Fig. 4 is a top plan view of the stop-
30 block shown in elevation in Fig. 4, parts being in section. Fig. 5 is a central transverse section vertically of the stop-block, shown in Figs. 3 and 4.

My improved carrier travels on a track
35 adapted to be supported in any convenient manner; but as the carrier is especially adapted for use in large barns I have shown a construction including a track with means for suspending it from the rafters of a barn.

In the drawings, 7 7 are the two parallel
40 rails of the track on which the carriage of my hay-carrier travels. These rails are supported by means of blocks 8 under the rails, caps 9 over the rails opposite the blocks, rods 10
45 through the blocks and the caps, the rods being provided with nuts 11, turning thereon against the caps, and advisably with hooks for attaching the rods to a supporting structure. At the rail-joints the blocks and caps
50 8 are advisably elongated and are secured together over the ends of the rails by rods 10 and nuts 11 or by bolts 12, or both.

The carriage-frame 13 is of such suitable size and form as adapts it for supporting operative parts of the carrier and is preferably
55 made of two complementary metal plates, one at each side, bolted together, these plates being so formed that they severally extend at opposite sides of the track above it and are there provided with wheels 14, which wheels
60 are in pairs opposite each other, two wheels being mounted on the plate at one side of the track and two wheels on the plate at the other side of the track. These wheels are conveniently mounted loosely on pins or ar-
65 bors 15, fixed in the frame and in such manner as to have a little play on the arbors endwise, the arbors being provided with heads to prevent the escape of the wheels therefrom. The wheels travel on the rails of the
70 track.

The carriage is provided with an ancillary frame 16, swiveling near the lower extremity of the frame 13 about a neck of the frame 13, and thereby supported thereon. A curved
75 lever 17, pivoted medially in the ancillary frame 16, serves as a dog for locking purposes, as hereinafter set forth. A hoisting-rope 18 is secured to the lower extremity of the dog 17 and runs over a pulley 19, mounted
80 in the ancillary frame 16. A pulley-block 20 is provided with a pulley 21 and with a hook 22, the hook being adapted to hold a fork or grapples for taking into or seizing a quantity of hay. The rope 18 passes through the pul-
85 ley-block 20 under the pulley 21 and is adapted for raising or lowering the pulley-block and its load and when the pulley-block and its load are elevated to the carriage for hauling the carriage along on the track. A key
90 23 is slidable vertically in the upper portion of the carriage-frame 13. This key is so constructed and disposed as to be capable of dropping in front of the upper end of the dog 17 and resting in a recess 24, formed therefor in
95 the upper end of the dog at one side thereof, and is also adapted to rest on the end of the dog 17 when the upper end of the dog is swung under the key by slacking the rope 18 and permitting the lower end of the dog to swing
100 laterally away from beneath the pulley 21. When the tackle-block 20 and the dog 17 are in the positions shown in Fig. 1, the key 23 may drop into the recess 24, and will do so,

except when otherwise supported, locking the dog in position, in which position the dog supports the tackle-block and its load at the carriage.

5 In connection with carriers of this general character stop-blocks on the tracks have been employed of a construction substantially like the stop-block shown at 25 in Fig. 1; but as it is desirable in some cases, and especially in
10 large barns, to lock the carriage at different localities on the track for elevating hay at those different places I provide an improved stop-block in connection with my improved track of such form and construction that two
15 or more of them may be attached to the track at different localities and that any one or more of them may be raised out of position, so as to not to interfere with the travel of the carriage thereon, thus in effect removing any
20 one or more of the stop-blocks from work when their work is not desired. My improved stop-block has a stop-block frame 26, constructed and adapted to fit between and against the under adjacent sides of the rails
25 77 and to be conveniently secured thereto by means of bolts 27 27 through the stop-block frame and through cap-pieces 28 28, resting on the adjacent edges of the rails.

A plate-like stop-block 29 is fitted and is
30 slidable vertically in ways 30 30 therefor in the stop-block frame 26, and this plate at its lower edge is provided with laterally-projecting flanges forming a keyway 31 thereon, which keyway is raised centrally by curving
35 or inclining it upwardly from each end. On this plate 29 there are two lever-latches 32 32, one on each side and near each edge, which latches are pivoted on the plate and are each provided with a shoulder 33, adapted
40 to engage a catch 34 on the stop-block frame when the plate is at its lowest position. The latches 32 are also provided with projecting members 35 35, adapted when the plate is at its lowest position to rest on the top of the
45 ways 30, and thus support the plate or stop-block in its normal position. For releasing the latches 32 from the catches 34 when in engagement therewith a lifting-bar 36 slides vertically in a slot therefor medially between
50 the latches 32 and is connected therewith severally by straps 37 37, pivoted to the lifting-bar and to the lever-latches below their pivotal points. In use a cord 39 is attached to the upper end of the lifting-bar 36, which
55 cord runs up over a pulley and thence down to some place convenient for the attendant to take hold of and by pulling thereon to lift the bar and release the latches from the catches 34, and by continued pull to raise the
60 stop-block (which includes the plate 29 and the keyway 31) out of the path of the key 23 in and with the carriage. The construction and arrangement of the parts is such that when the plate 29 is allowed to fall by gravity to its lowest position the keyway 31 is in
65 the path of the key 23, and when the plate or stop-block is released and lifted out of the

path of the key 23 the carriage can run on the track past the location of the stop-block without the key 23 being engaged thereby. 70
For the purpose of causing the key 23 to take onto and travel on the keyway 31 the key 23 is provided with a laterally-elongated recess opening medially from its top edge, as shown at 40 in Fig. 2. The disposition of the parts 75
is such also that when the stop-block is at its lowest position and the latches 32 are in engagement with the catches 34 the lifting-bar 36 and the straps 37 assume a position in which the pivotal point of the straps 37, with
80 the lifting-bar 36, is a little below a right line between the pivotal points of the straps on the levers 32, thus effectually locking the latches in engagement with the catches 34 against displacement except by forcibly lift- 85
ing the bar 36. Stops 38 38 on the plate 29 are located one on each side at the rear of the levers 32 to prevent their swinging rearwardly beyond a limited distance, and thus obviate the undue raising of the lifting-bar 36 when
90 elevating the stop-block above the path of the key 23. One or more of these automatic stop-blocks may be employed on the track either in connection with a stop-block of the ordinary kind (shown at 25) or without a stop-block 95
of this common form. It will be understood that when the carriage comes to a stop-block and the key 23 has been elevated thereby in the manner shown in Fig. 1 on slacking up the hoisting-rope 18 the pulley-block 20 100
will come down by gravity, tilting and escaping from the dog 17, the upper end of which will be tilted beneath the key 23, holding the key in this elevated position, in which elevated position it becomes a lock that strikes 105
against the under surface of the keyway 31 and prevents the carriage from moving away from the stop-block in either direction, and also it will be understood that when by pulling on the hoisting-rope 18 the pulley-block 110
20 and its load has been again elevated to the position shown in Fig. 1 the carriage can be pulled along on the track, the key 23 descending as it moves along on the keyway 31 until it enters the recess 24 and engages the dog 17 115
at its side, and thereby locks the dog 17 in the position shown in Fig. 1, in which position, being under the pulley 21, it holds the pulley-block 20 and its load in place, supported on the carriage. 120

What I claim as my invention is—

1. In combination with a carrier-track, a carrier stop-block, comprising a vertically-disposed plate 29, latches 32 pivoted on the plate and adapted to hold the stop-block releasably in place on the track, a vertically- 125
movable lifting-bar, and straps connecting the lifting-bar to the latches.
2. In combination, a track comprising two parallel rails, a carrier-frame provided with 130
wheels adapted to travel on the rails of the track, a stop-block frame fixed on the track, said stop-block frame being provided with vertically-disposed ways, a stop-block plate

slidable vertically in said ways and provided with oblique ways adapted to be engaged releasably by a key, latches pivoted on the plate and adapted to engage catches on the stop-block frame, and means on the plate adapted for tilting the latches.

3. In combination, a carrier-track consisting of two parallel rails at a distance apart, a carriage provided with a stop-engaging key therein, stop-block ways on the track, a stop-block movable vertically in said ways, latches

on the stop-block adapted to engage catches on the ways, and means for releasing the latches and lifting the stop-block out of the path of said key.

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

RICHARD MILLER.

Witnesses:

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AUG. RUHLANDER.