

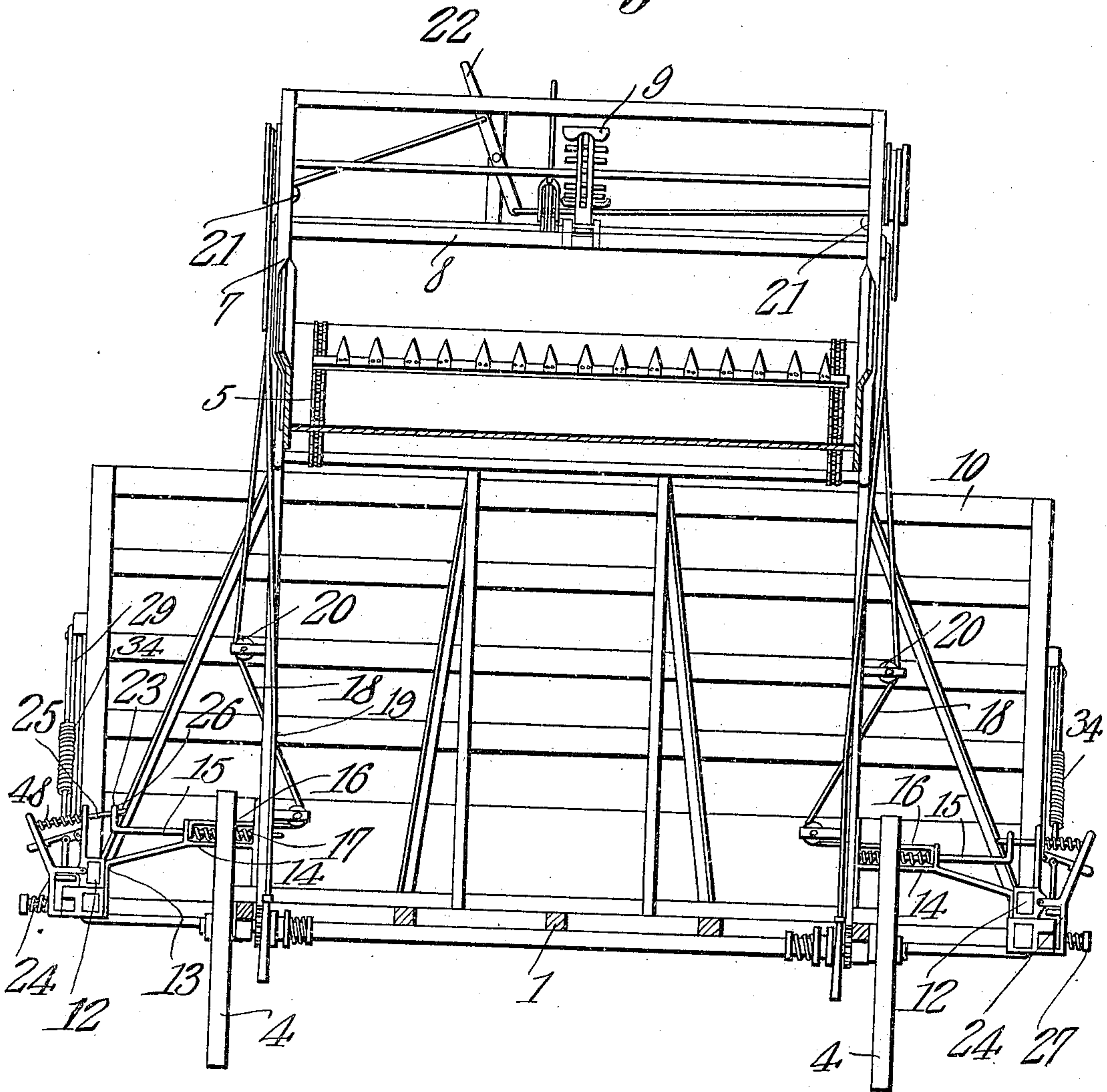
N. FRYMAN.
RACK FOR HAY GATHERERS.
APPLICATION FILED JULY 17, 1909.

952,670.

Patented Mar. 22, 1910.

4 SHEETS—SHEET 2.

Fig. 2.



Witnesses

E. C. Premist
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Inventor

Nicholas Fryman.

By

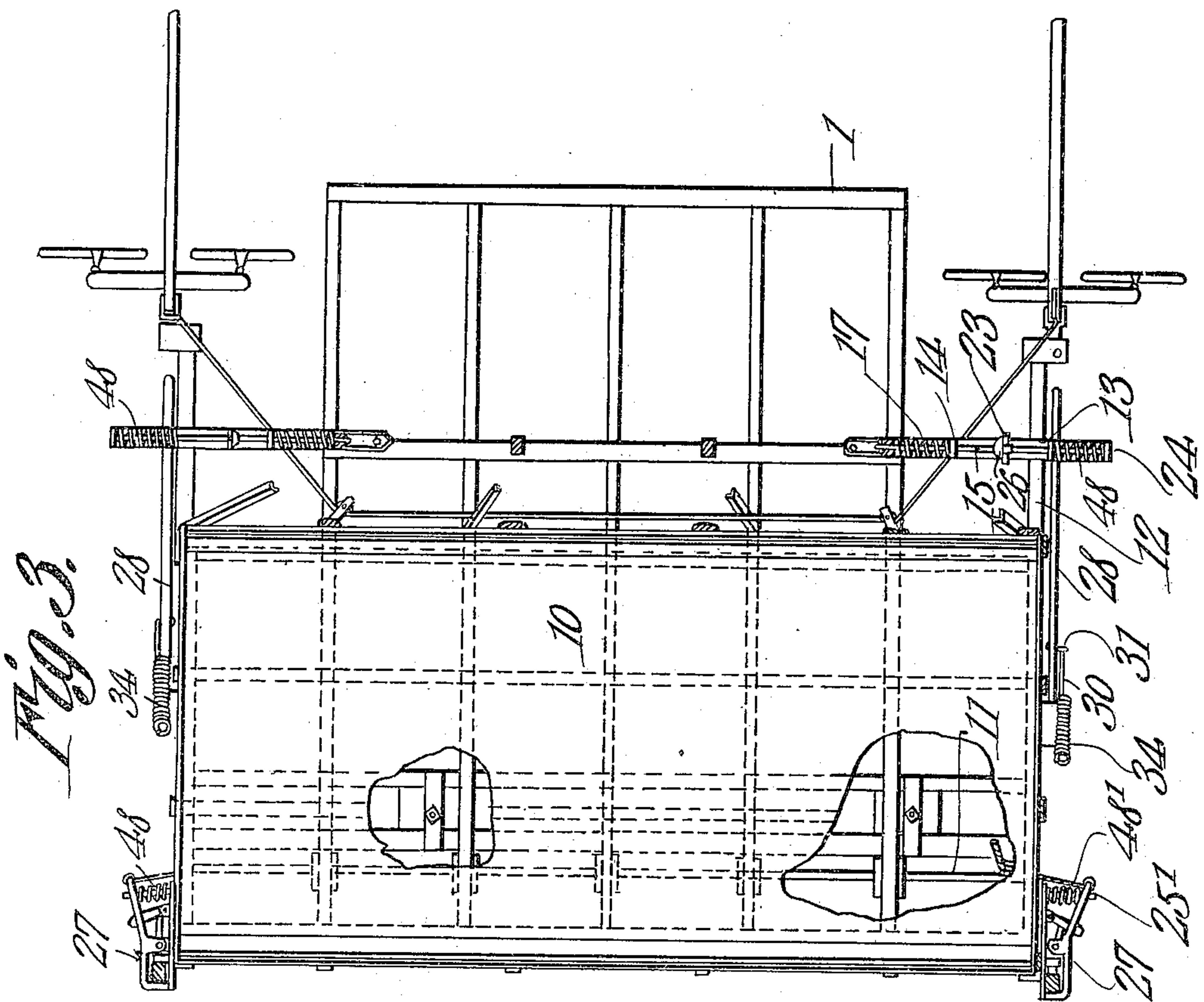
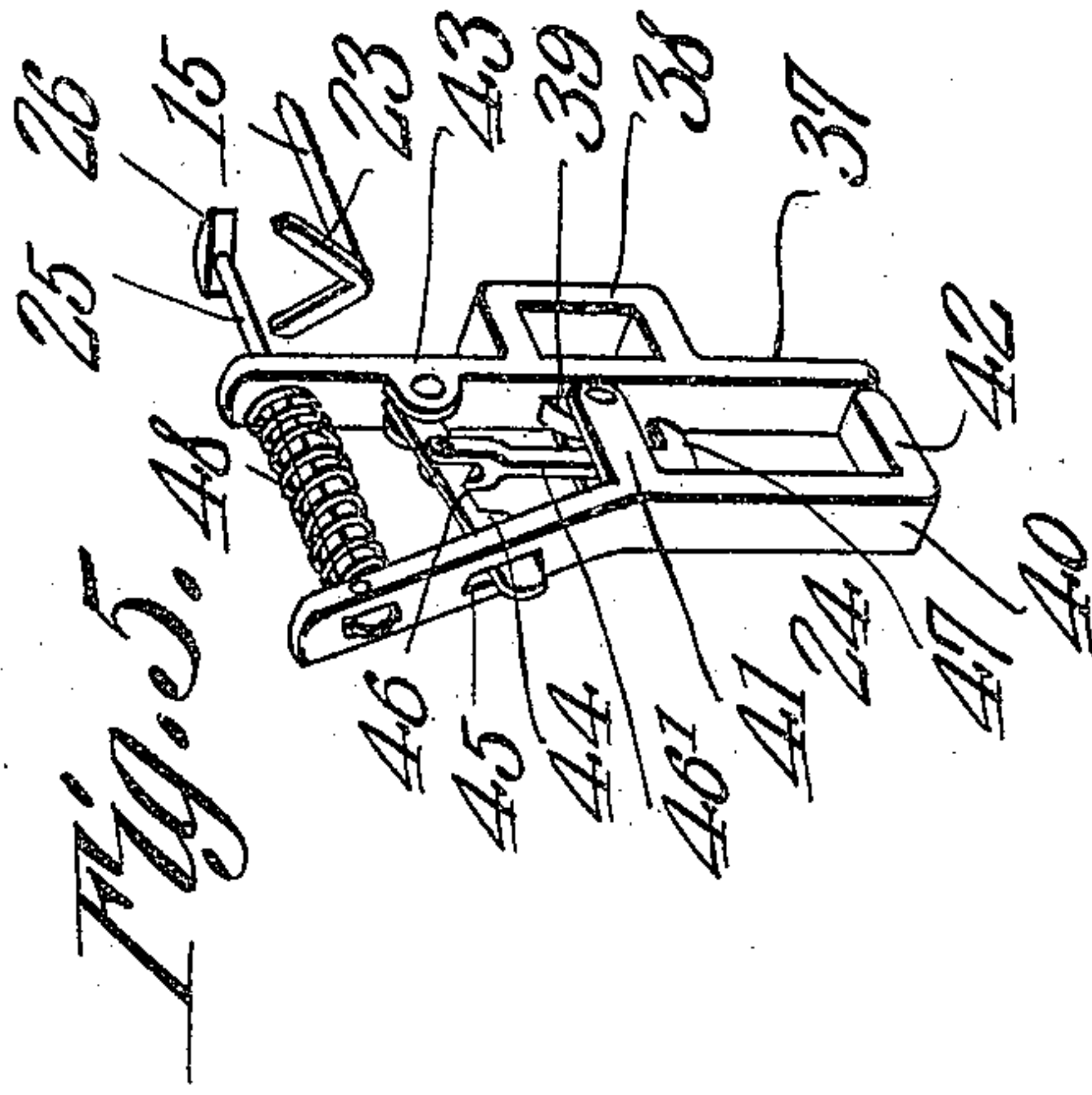
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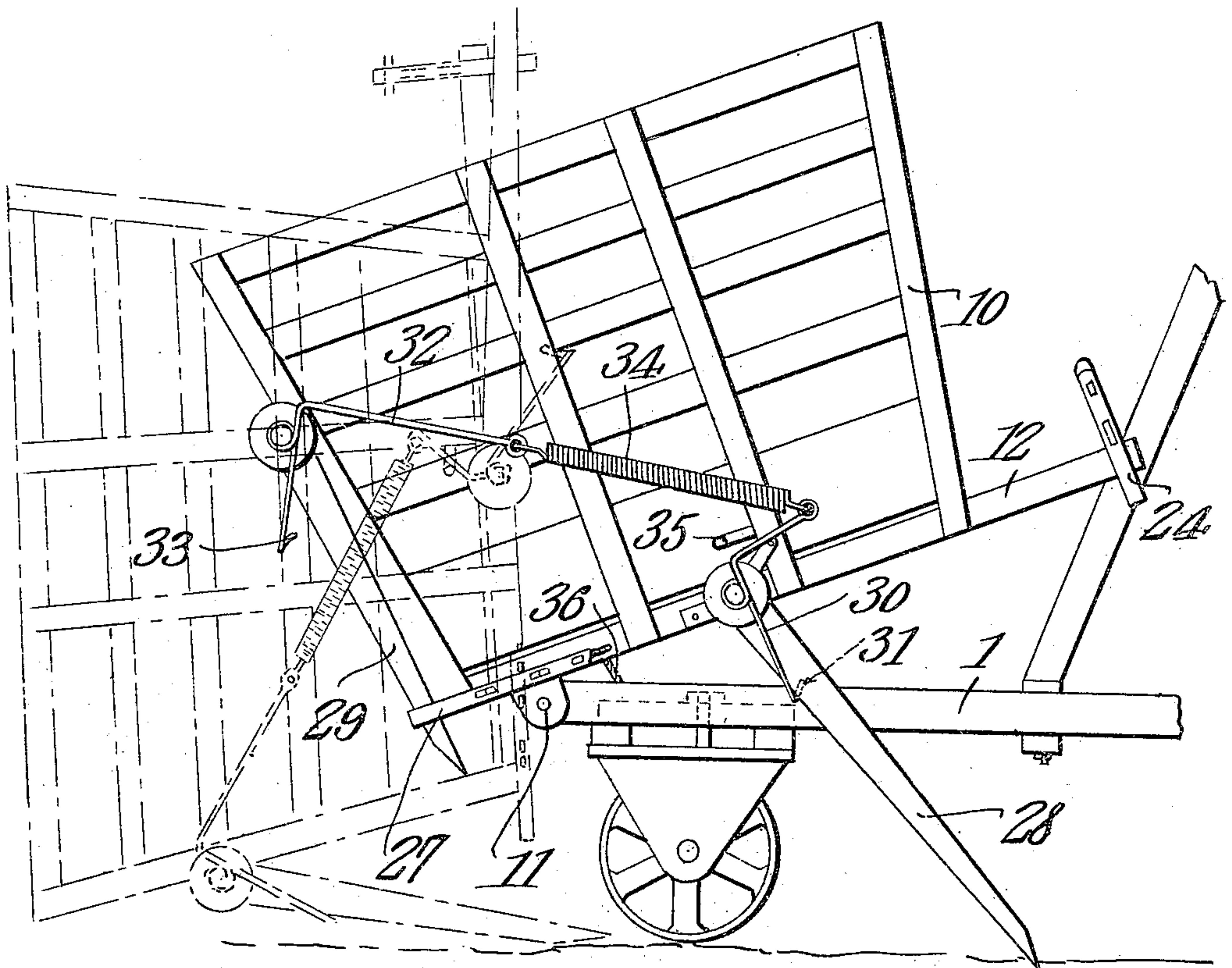
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Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

NICHOLAS FRYMAN, OF BOWDON, NORTH DAKOTA.

RACK FOR HAY-GATHERERS.

952,670.

Specification of Letters Patent. Patented Mar. 22, 1910.

Original application filed February 27, 1909, Serial No. 480,398. Divided and this application filed July 17, 1909. Serial No. 508,121.

To all whom it may concern:

Be it known that I, NICHOLAS FRYMAN, a citizen of the United States, residing at Bowdon, in the county of Wells and State of North Dakota, have invented a new and useful Rack for Hay-Gatherers, of which the following is a specification.

This invention has relation to racks for hay gatherers, and it consists in the novel construction and arrangement of its parts, hereinafter shown and described.

The subject matter of the present invention is divided from my prior application for patent for hay-gatherers, filed February 27th, 1909, Serial No. 480,398.

The object of the invention is to provide, in a hay-gatherer, a rack tiltably mounted thereon, with means whereby an operator may cause the said rack to turn from load-receiving to dumping position at will, and also to have the said means so arranged as to cause the rack, when empty, to assume its normal or load-receiving position upon the body of the gatherer.

With this object in view, the gatherer comprises novel details of construction and arrangement of parts, as pointed out in the description hereinafter given.

In the accompanying drawings:—Figure 1 is a side elevation of a hay-gatherer, with the rack applied thereto. Fig. 2 is a front elevation of the same. Fig. 3 is a top plan view of the rack, with parts broken away and showing portions of the hay-gatherer. Fig. 4 is an end elevation of the rack, showing the same in heavy lines in the act of assuming a dumping position, and, in dotted lines, in dumping position. Fig. 5 is a perspective of a catch used on gatherer.

As illustrated in the accompanying drawings, the hay-gatherer to which the rack is applied consists of a frame 1, which is mounted at its rear portion upon wheels 2, and at its forward portion upon wheels 3. Traction wheels 4 are located under the intermediate portion of the frame 1, and are operatively connected with the moving parts of the gatherer, and as the said gatherer forms no part of the present invention, it is deemed unnecessary to go into further details to explain the same, it being necessary only to use in conjunction with applicant's present invention an elevator, which is illustrated at 5.

A derrick 7 is mounted upon the inter-

mediate portion of the frame 1, and an operator's platform 8 is supported at the upper end portion of the said derrick. A seat 9 is mounted upon the platform 8.

A rack or receptacle 10 is hingedly mounted upon the rear portion of the platform 1, a transversely disposed shaft 11 serving as the hinge pin for the said rack. The base of the said rack normally rests upon the platform 1, and the upper edge of the said rack is normally below the delivery end of the elevator 5. As will be hereinafter described the said rack may tilt rearwardly, and, in doing so, its contents are dumped upon the ground, and, after depositing its contents, means is provided for automatically causing the said rack to assume its normal position upon the platform, as indicated.

The rack 10 is provided, in the plane of its bottom, with forwardly disposed beams 12, which normally lie against the outer portions of shoulders 13, attached to the platform 1 and the derrick 7. Guides 14 are mounted upon the shoulders 13, and arms 15 are slidably mounted in the said guides 14. Rods 16 are slidably mounted in the outer members of the derrick 7, and are connected at their outer ends with the arms 15. Coil springs 17 are interposed between the outer sides of the outer members of the derrick 7, and are the means of connection between the outer ends of the rod 16 and the arms 15. Said springs are under tension with a tendency to hold the arms 15 projected outwardly with relation to the outer members of the derrick 7. Cables 18 are attached at their lower ends to the inner ends of the rods 16 and pass around pulleys journaled for rotation upon the outer members of the derrick 7; thence through openings 19, provided in the said members, and around pulleys 20, journaled for rotation at the outer sides of the said members. Said cables then pass around pulleys journaled for rotation in the said derrick members at points above the platform 8, and connect, at their inner ends, with a lever 22, at opposite sides of the fulcrum point thereof. The arms 15 are provided with upstanding bifurcated ends 23.

From the above description it is obvious that when the lever 22 is swung upon its fulcrum the cable 18 will be moved longitudinally, and that through the connections

between the said cable and the arms 15, said arms will be moved longitudinally in the guides 14 upon the shoulders 13. Such movement on the part of the arms 15 is in an inward direction, and when the lever 22 is released the arms 15 are moved in the opposite direction under the tension of the springs 17.

Catches 24 are mounted upon the beams 12, and will be described in detail hereinafter. Each catch is provided with a cross-bar 25, which is provided at one end with an enlarged head 26, adapted to engage the bifurcated end of the arm 15, the shank of the said bar 25 lying in the bifurcation of the arm. Thus, when the arm 15 is moved longitudinally the catch 24 connected therewith as above described is opened, and the part retained thereby is liberated. Catches 27 are located at the rear portion of the rack 10. Said catches 27 are similar in construction to the structure of the catches 24, to be presently described. Props 28 are pivotally connected at their rear ends to the lower portion of the rack 10, and are normally held in elevated positions at their forward ends by the catches 24. Props 29 are pivotally connected at their upper ends to the rear side of the rack 10 and are normally retained at their lower end portions by the catches 27. Crank levers 30 are pivoted to the pivots of the props 28, and are provided with end portions 31, which normally lie under the said props but are spaced from the same. Crank levers 32 are pivoted to the pivots of the props 29, and are provided with angularly disposed ends 33, which lie behind the rear edges of the said props and are normally spaced from the same. Coil springs 34 are connected at their ends with the opposite ends of the crank levers 30 and 32. Stops 35 are attached to the ends of the rack 10 and are located in the paths of movement of the crank levers 30 and are adapted to limit those ends of said levers 30 which are disposed toward the rear end of the platform 1 in their movement rearwardly.

The parts being arranged as described, it is obvious that when the forward ends of the props 28 are released from the catches 24, the said ends of the props fall to the ground, and, in their descent, they strike the intumed portions 31 of the levers 30. At the same time that the implement advances or moves forward the props swing the rack 10 upon its hinge-pin 11, so that the said rack is tilted rearwardly, and the material which has been collected therein is dumped upon the ground. As soon as this occurs the cables 36 become taut and open the catches 27, with which they are connected, and liberate the lower ends of the props 29, and said props come in contact with the ground and swing the rack bar to its nor-

mal position upon the platform 1. The said cables 36 are connected at their forward ends to points upon the platform 1, and at their rear ends with the outer swinging members of the catches 27; and, as the said catches describe an arc when the rack 10 tilts backward, the cables 36 become taut, as above indicated.

As above stated, the catches 24 and 27 are of the same general construction, the only difference being that the catches 24 are provided with enlarged heads 26 at the ends of the cross-bars 25. This being the only difference, a description of one catch will answer for all. Each catch consists of a member 37, which is provided at one side with a loop 38, adapted to receive a beam or other support. The member 37 is provided upon its side opposite that side upon which the loop 38 is mounted with a lug 39. A member 40 is provided at an intermediate point with laterally disposed lugs 41 which are pivoted to the lug 39 of the member 37, and the said member 40 is provided with a laterally disposed end 42, which is adapted to bear against the extremity of the member 37. The member 37 is also provided with laterally disposed lugs 43, and a latch-bar 44 is pivoted at one end between the lugs 43, and has its opposite end portion lying in an opening 45, provided in the shank portion of the member 40. The latch-bar 44 is provided at an intermediate point with a notch 46, which, at times, is adapted to receive the edge of the slot 45. A trip-bar 46 is pivotally connected with the catch bar 44, and projects between the lugs 41 of the member 40 and is provided at its lower end with an enlarged head 47. In the catch members 24 coil springs 48 surround those portions of the cross-bars 25 which lie between the ends of the members 37 and 40, and the said cross-bars pass through perforations in the ends of the members 37 and are pivoted to the ends of the members 40. Fig. 5 of the drawings is a perspective view of the arrangement of the parts 25 and 48, as described. In the catches 27, the bars 25 as shown in Fig. 5 are substituted by bars 25', and, in lieu of the springs 48, as shown in Fig. 5, a spring 48' is employed. Otherwise, the structure of the catches is identical, as above indicated. Therefore, it will appear that when the prop 28 comes in contact with the surface of the ground, as above described, and illustrated in heavy lines in Fig. 4 of the drawings, the said prop will tilt the rack 10 rearwardly, and, at the same time, comes in contact with the extremities 31 of the angle-levers 30. Thus the springs 34 are stretched, and when the rack 10 dumps its load, the lower ends of the props 29 come in contact with the ground and push the rack 10 back upon the platform 1. As the said rack 10 seats upon the platform 1, the tension of the springs 34 is

exerted through the levers 30, and the said props are swung toward the open catches 24. The said catches 24 are held open by reason of the fact that the latch-bars 46 thereof have moved longitudinally in the slots 45, and the notches 44 of the said latch-bars have received the lower edges of the said slots. As the lower portions of the props 28 fly or swing toward the catches 24 under the tension of the springs 34, as above described, the said props 28 strike the heads 47 of the trip-bars 46, which are thereby moved longitudinally, and, in turn, swing the latch-bars 44, so that the lower edges of the notches 46 are moved away from the edges of the slots 45, and the said catch members 40 are thus liberated and are free to swing under the tension of the springs. When the members 40 swing as indicated the end portions 42 thereof come behind the props 28 and the said props are thus secured in their normal or elevated positions. At the same time the props 29 swing under the tension of the springs 34 and enter between the jaws of the catches 27, which operate in a manner similar to that just above described, and thus the props 29 are secured in normal positions with relation to the racks 10.

By this means it will be seen that a rack is tiltably mounted upon a movable platform, and, as the said platform is drawn along the surface of the ground and the releasing device is operated manually, the said rack automatically swings from load-receiving to dumping position, and, in a similar manner is resealed upon the platform in load-receiving position below the delivery end of an elevator, which is also mounted upon the said platform.

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

1. A wheel-mounted frame, an elevator located thereon, a tiltable rack mounted upon the frame, props pivotally connected with the rack, catches for holding the said props in elevated position, means for actuating the catches to release the props, and resilient connections between the props.

2. A wheel-mounted frame, an elevator located thereon, a tiltable rack mounted upon the frame below the delivery end of the elevator, a prop for tilting the rack in a rearward direction, said prop being pivotally connected with the rack, a catch for

holding said prop, a prop pivoted to the rack and adapted to tilt the same in a forward direction, and a resilient connection between said props.

3. A wheel-mounted frame, an elevator located thereon, a rack tiltably mounted upon the frame and located below the delivery end of the elevator, shoulders mounted upon the frame, beams attached to the rack and adapted to bear against the outer surfaces of said shoulders, and means for tilting the rack to dumping position, and for reseating the rack upon the platform.

4. A wheel-mounted frame, an elevator located thereon, a tiltable rack mounted upon the frame below the delivery end of the elevator, a prop pivotally attached to the lower portion of the rack, a catch for holding said prop in an elevated position, a prop pivoted to the rear portion of the rack, a catch for retaining the free end portion of the last said prop, and a resilient connection between said props.

5. A wheel-mounted frame, an elevator located thereon, a tiltable rack mounted upon the frame below the delivery end of the elevator, a prop pivotally attached to the rack and located at one side of the point at which the rack is pivoted, a catch for holding said prop in elevated position, a prop pivoted to the rack at the opposite side of the pivotal point of the rack, a catch for retaining the free end of the last said prop, and a resilient connection between said props.

6. A wheel-mounted frame, an elevator located thereon, a tiltable rack mounted upon the frame and located below the delivery end of the elevator, a prop pivotally attached to the rack for tilting the same to unloading position, a catch for retaining the free end of said prop, means for actuating the catch, a second prop pivoted to the rack for reseating the same upon the frame, an automatically released catch for retaining the free end of the last said prop, and a resilient connection between said props.

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

NICHOLAS FRYMAN.

Witnesses:

JOHN F. WALL,
FRED JANSONIUS.