(No Model.) 2 Sheets—Sheet 1.

# G. NICHOLS, Jr.

## HAY CARRIER.

No. 442,635. Patented Dec. 16, 1890.

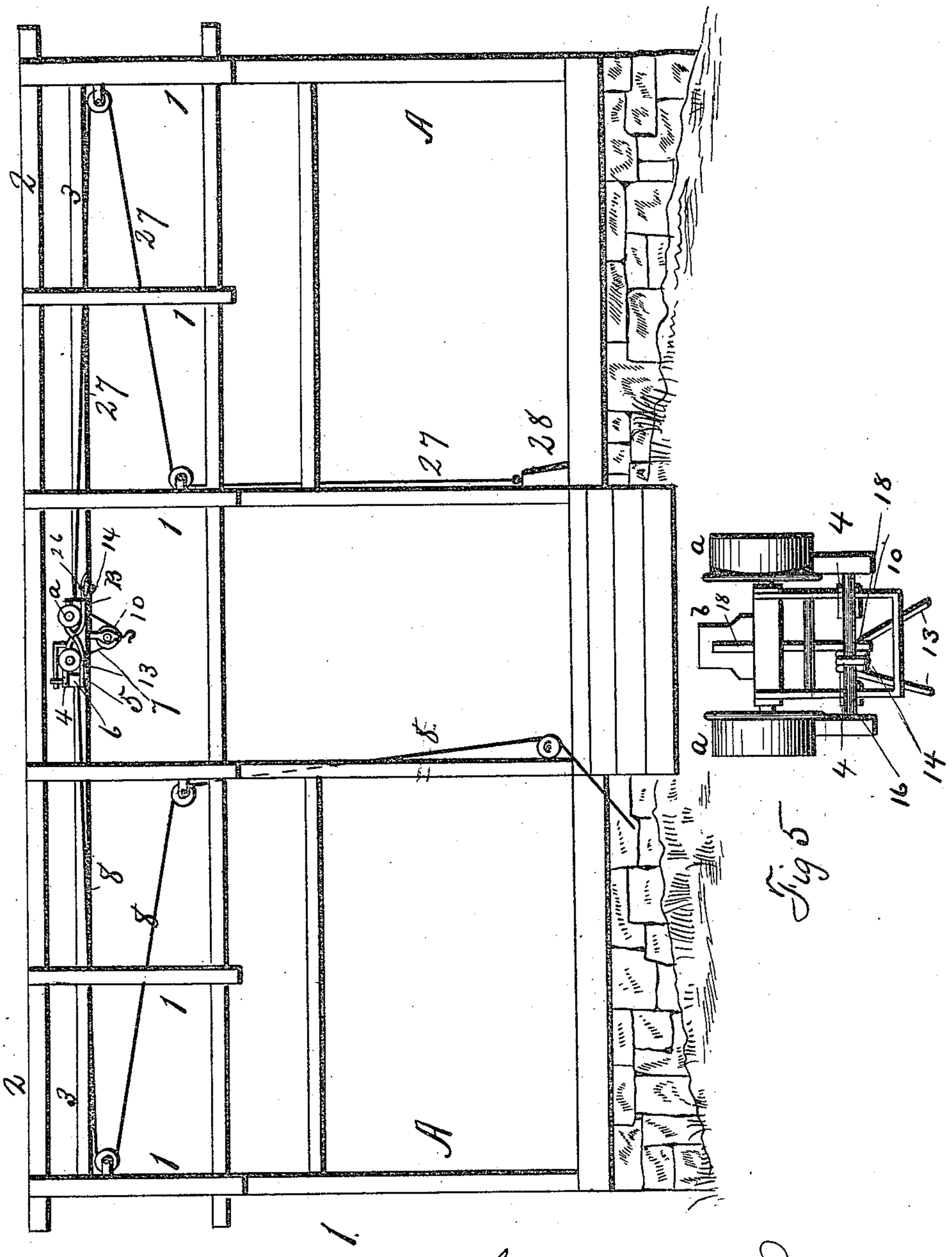


Fig 1.

Fig 5

WITNESSES:

D. F. Van Epps

L. H. Smith

George Nichols Jr INVENTOR

BY

Smith & Dennison

his ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

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## HAY CARRIER.

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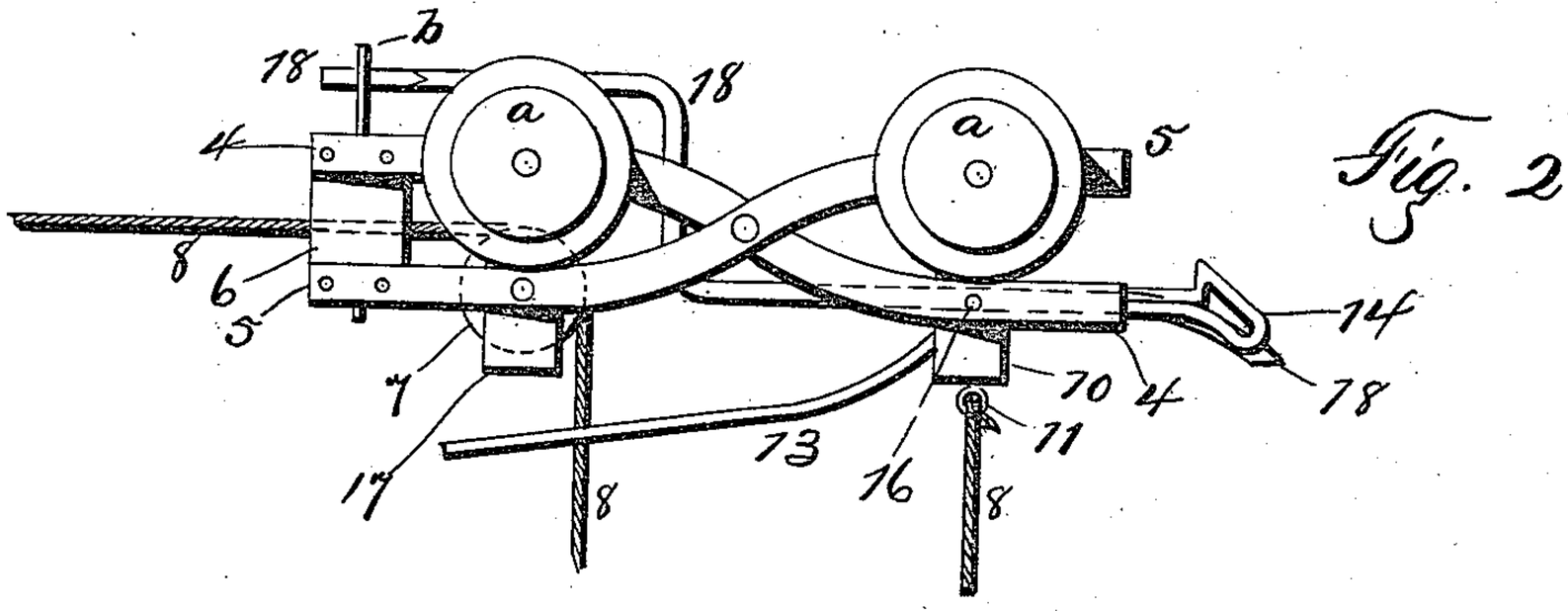


Fig. 2

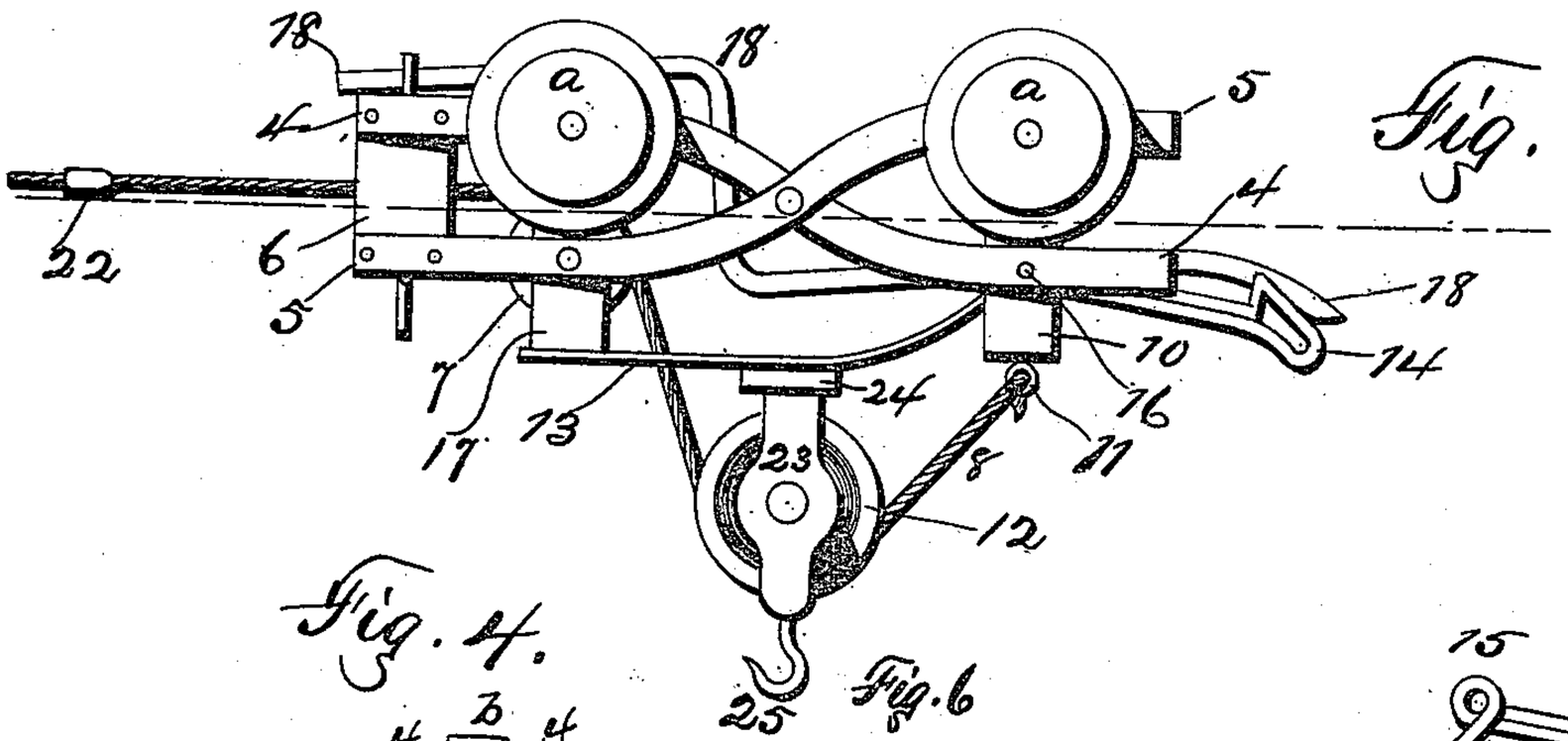


Fig. 3.

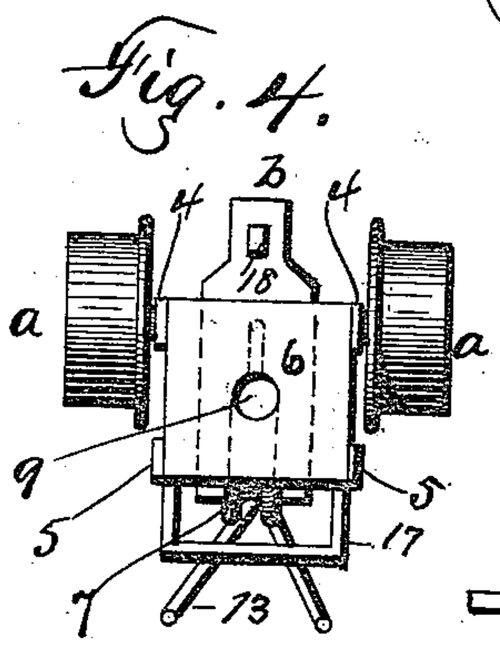


Fig. 4.

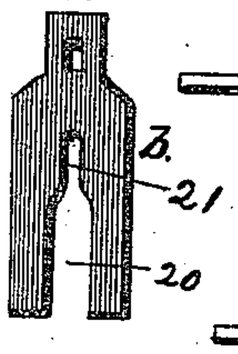


Fig. 6

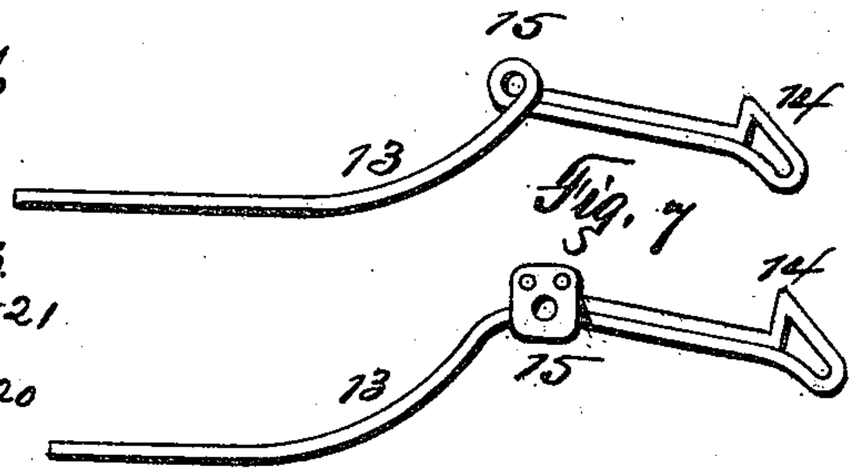


Fig. 7

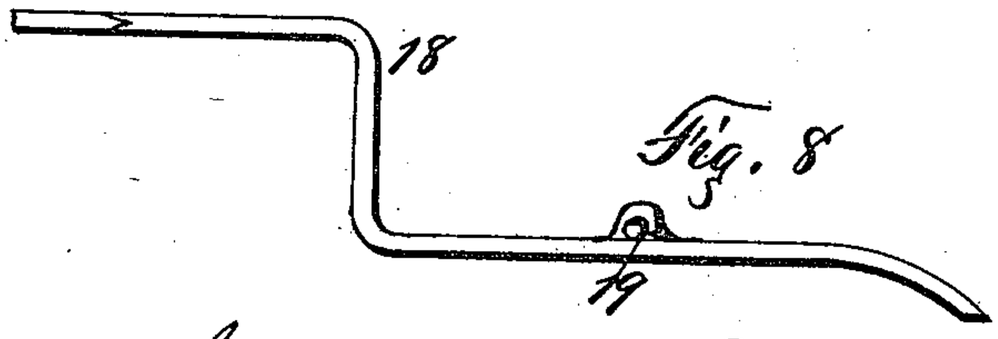


Fig. 8

Witnesses
Atlas J. Hogan.
F. T. Dennon.

George Nichols Jr Inventor

By his Attorneys
Smith & Dennon

# UNITED STATES PATENT OFFICE.

GEORGE NICHOLS, JR., OF SOUTH ONONDAGA, NEW YORK.

## HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 442,635, dated December 16, 1890.

Application filed March 20, 1890. Serial No. 344,651. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE NICHOLS, Jr., of South Onondaga, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Hay-Carriers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to the construction and operation of hay-carriers, consisting of a carriage mounted upon a stationary trackway in the top of the barn and connected to the hoisting-rope through the hoisting-pulley, and provided with an automatic lock operating to hold the hoisting-rope, with the load suspended, or with the hoisting-pulley and fork suspended, until it is desired to dump the load by the trip mechanism or to lower the pulley and fork down for another forkful, and also provided with means for automatically retracting the carriage to its starting-point.

My object is to provide an improved hay-carrier embodying in its construction each of the above features.

My invention consists in the several novel features of construction and operation hereinafter specifically described, and which are specifically set forth in the claim hereunto annexed.

It is constructed as follows, reference being had to the accompaning drawings, in which—

Figure 1 is an elevation of the frame of a barn, showing the trackway, the carriage in position, (the trackway being broken out adjacent to the carriage.) Fig. 2 is a side elevation of the carriage with the hoisting-rope unlocked. Fig. 3 is a like view of the same with the rope locked. Fig. 4 is an end elevation of the left-hand end of the carriage in Fig. 2. Fig. 5 is a like view of the other end. Fig. 6 is a plan view of the lock-plate. Fig. 7 is a side elevation of the catch operating to hold the carriage and the trip-arms connected to the catch. Fig. 8 is a side elevation of the bar which carries the rope-locking plate.

A is the frame of the building. 1 1 are the rafters. 2 is the ridge-pole, and 3 is a trackway consisting of two parallel rails suspended in the same horizontal plane from the rafters.

B is the carriage mounted upon wheels *h*, which travel upon the double trackway. The axles of the wheels are mounted or journaled in or upon the frame-bars 4 5, and these bars are secured at their front ends to the block 6, and adjacent to this block a pulley 7 is journaled between these bars, and the hoisting-rope 8 passes over this pulley and through a hole 9 through the block. A tail block or bridge 10 is secured across and connecting the rear ends of the frame-bars 4, and 11 is an eye secured in the bridge, and one end of the hoisting-rope is secured therein. A hoisting-pulley 12 is mounted upon this rope between the pulley 7 and the eye 11, and thence the rope extends to the end of the building and over a pulley there, and thence over suitable pulleys down to the ground. A trip 13 consisting of a piece of wire bent to form a a catch 14 on one end, thence running to an eye or loop 15, and thence downward and forked at the other end. The eye 15 fits loosely over the cross-bar 16, the forked end extending forward to the bridge 17 beneath the pulley 7, and the hooked end projects to the rear, the weight of the forked end overbalancing that of the other.

My gravity-lock mechanism comprises a rod 18, bent downward at the rear end, thence extending forward and bent upward, and thence bent forward and extending to the front end, and provided with a pivotal eye 19, which fits over the bar 16, and a lock-plate provided with an eye in the upper end and having a wide slot 20 in its lower end, the upper part of which converges, forming a narrow slot 21, which just receives the hoisting-rope, but will not pass the button or enlargement 22 on the rope, though it will pass through the slot 20. This plate fits vertically in a mortise cut in the block 6 and moves vertically therein. The frame 23, which carries the pulley 12, is provided with a flat cross-bar 24 on top, and with a hook 25 on the bottom, which hook carries the hay-fork.

At 26 in Fig. 1 I show a cross-bar connecting the trackways.

It is operated as follows: The carriage is drawn back to the loading-point, the hook engages with the bar 26, and at the same time the rear end of the rod 18 wedges under the rod, and this raises the lock-plate, so that the

rope lies in the slot 20, and then the pulley 12 can be lowered after a load. Then, when loaded, the draft upon the hoisting-rope raises the pulley until the cross-bar 24 meets the forked end of the trip 13 and raises it until the hook is released from the cross-bar 26, which releases the carriage, so that it can be drawn along the track to the point desired to unload. At the same time the release of the hook releases the rod 18 and permits the lock-plate to drop, bringing the rope into the narrow slot, and then when the rope slackens the button will draw against the sides of this slot and sustain the load and pulley until the load has been dumped, and then when the carriage is drawn back by the counter-balance or otherwise the rod 18 will wedge under the bar 26 and raise the lock-plate, releasing the rope, and at the same time the hook will again catch into the cross-bar. The counter-balance consists of a rope 27, connected to the rear end of the frame and running thence over pulleys, and 28 is a weight heavy enough to draw the empty carriage back to the loading-point.

What I claim is—

A hay-carrier consisting of a frame, supporting-wheels journaled thereon, an idler-pulley journaled therein, a hoisting-rope secured to the frame and passing over the idler, and a hoisting-pulley in the bight of the rope, a trackway, a cross-bar between the rails, and a trip having a hook engaging with the cross-bar, and an outer end with which the frame of the hoisting-pulley engages when hoisting, and a rope-lock comprising a rod adapted to wedge under the cross-bar, a lock-plate carried by the rod and provided with slotways of varying widths, and a button upon the rope engaging with the narrow slotway.

In witness whereof I have hereunto set my hand this 8th day of March, 1890.

GEORGE NICHOLS, JR.

In presence of—
H. P. DENISON,
F. T. DENISON.