(No Model.)

3 Sheets—Sheet 1.

D. L. TSCHANTZ.

HAY CARRIER.

No. 601,291. Patented Mar. 29, 1898.

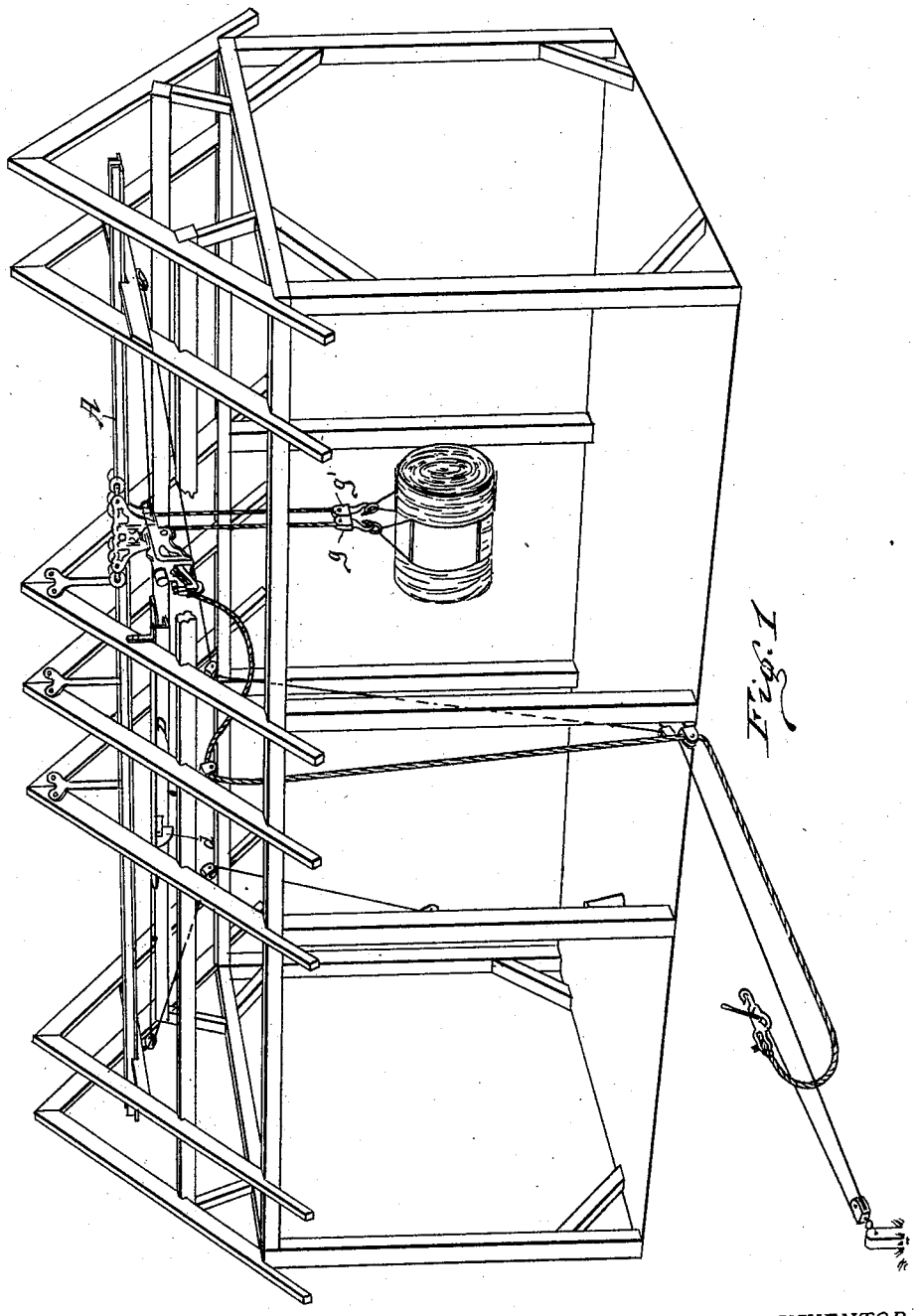

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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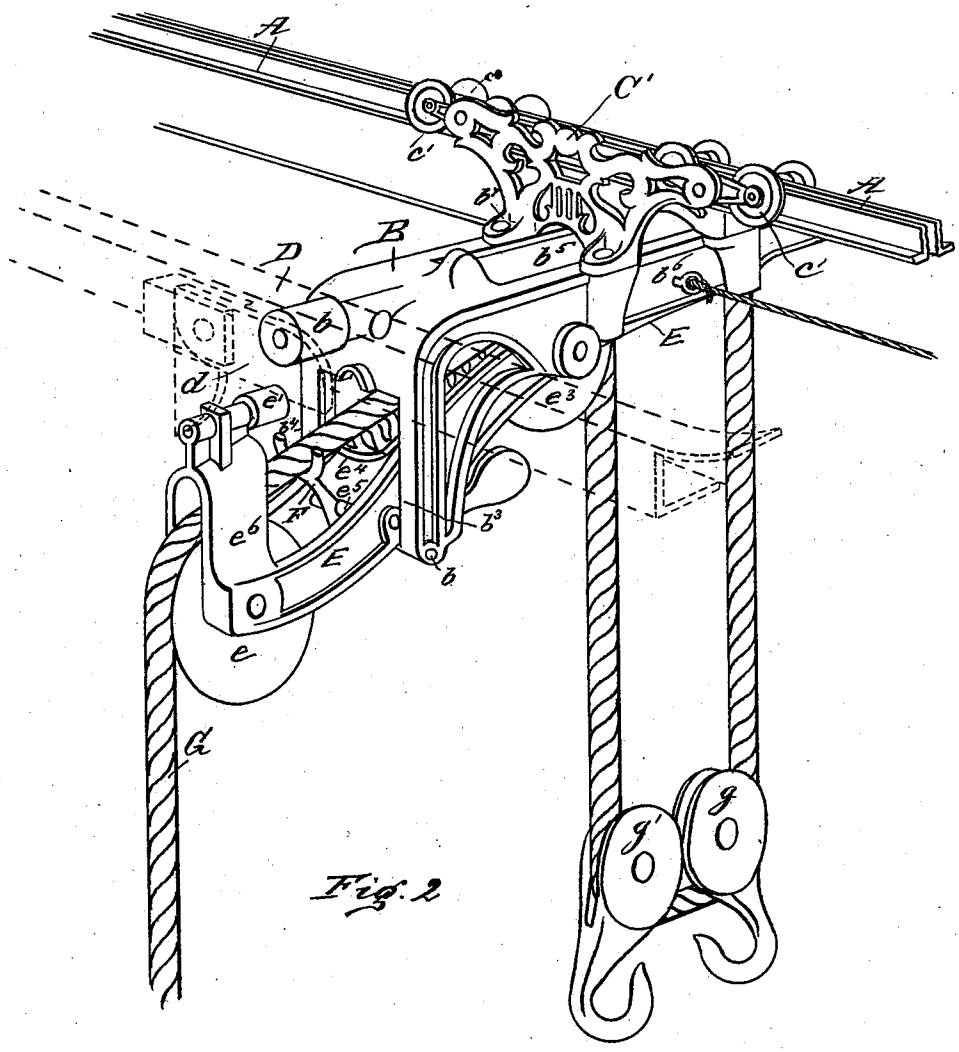

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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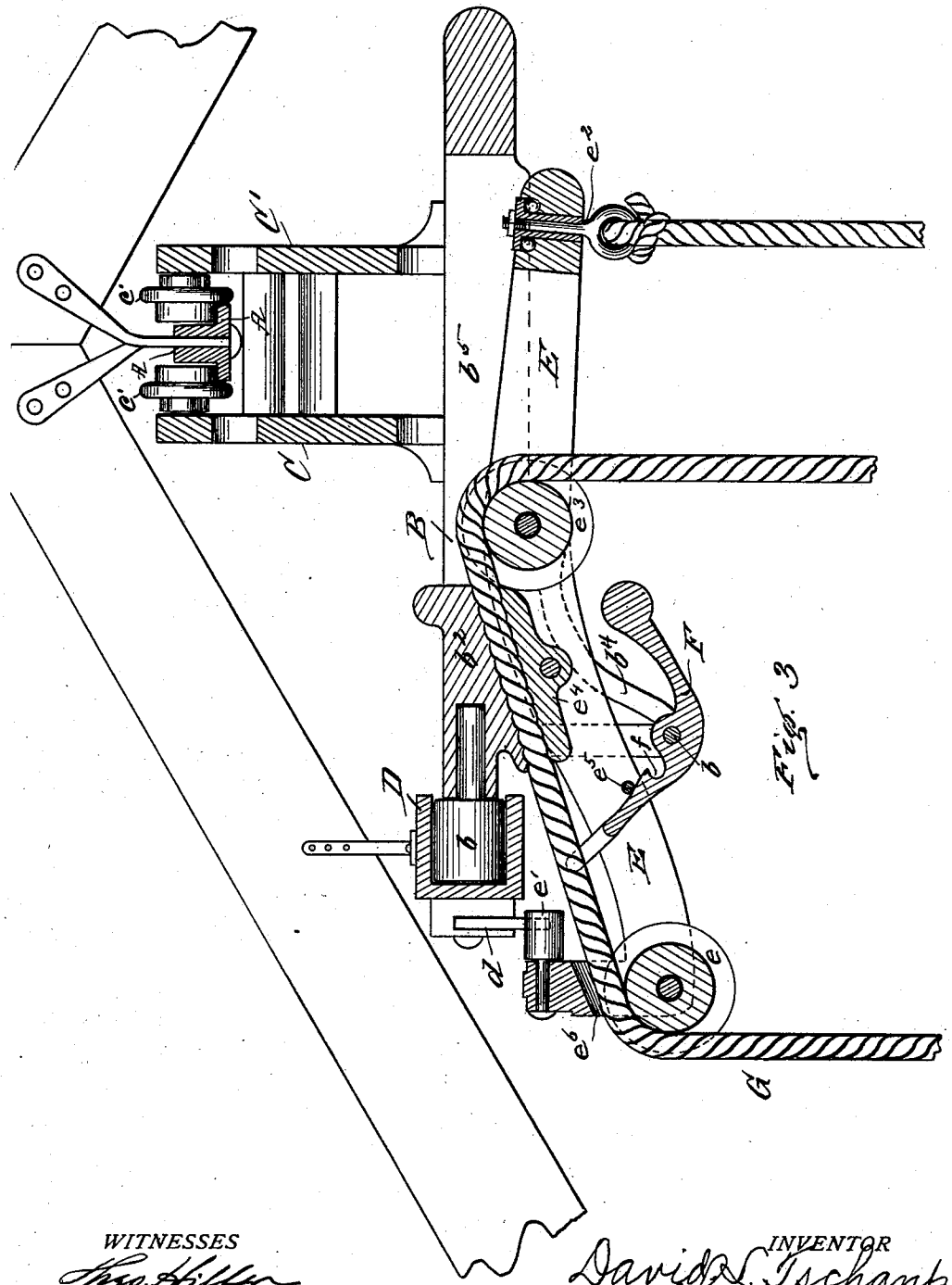

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

DAVID L. TSCHANTZ, OF ORRVILLE, OHIO.

HAY-CARRIER.

SPECIFICATION forming part of Letters Patent No. 601,291, dated March 29, 1898.

Application filed September 9, 1897. Serial No. 651,037. (No model.)

To all whom it may concern:

Be it known that I, DAVID L. TSCHANTZ, a citizen of the United States, and a resident of Orrville, county of Wayne, State of Ohio, have invented a new and useful Improvement in Hay-Carriers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in hay-carriers, the object of which is to provide a side-draft carrier by means of which the load may be raised and lowered at the sides of barn instead of the end thereof, as heretofore, and to provide means by which the load may be automatically locked at any desired elevation, as is hereinafter more fully described and claimed.

In the accompanying drawings similar letters of reference refer to similar parts.

Figure 1 is a perspective view of hay-carrier illustrating my invention and the method of attaching same to the frame of the barn. Fig. 2 is an enlarged perspective view of the carrier. Fig. 3 is a sectional view of carrier, showing the elevating-rope locked in engagement with the frame of carrier.

A denotes the track upon which the carrier is mounted, and may be of any of the well-known forms of strap, T, or angle iron.

B is a carrier-frame proper, upon which there are mounted, at one side thereof, brackets C and C′, carrying the carrier-wheels c', which may be of any desired form to adapt them to the shape of the track. I have shown and I prefer to use upon each side of the carrier four wheels mounted upon pivoted bars, so that the wheels may adapt themselves to any inequality in the track, and by providing in this way eight wheels for each carrier the load is more evenly distributed and the carrier runs more easily along the track.

The frame B is substantially L-shaped, having upon either side of the horizontal limb flanges to which are attached the various parts of the carrier, as hereinafter designated. In the upper part of the frame there is provided an opening b^5, through which the end of the locking-lever hereinafter referred to swings. To the upper outer end of frame B there is attached a roller b, which engages with an additional or supporting track D, attached to the beams of the barn at a point directly opposite to the barn-door or such place of loading as may be desired. In the accompanying drawings I have shown this track D to consist of U-shaped iron; but it may be made of any desired form or shape, its object being simply to act as an additional support to the carrier while the load is being raised and as an additional protection against lateral strain. It is also used for the purpose of carrying the trip d, which consists of a pivotally-depending pawl which depresses the locking-lever of the carrier, as will hereinafter be more fully described.

About the center of the carrier-frame B and to the depending sides or flanges thereof there is pivotally attached a lever-frame E, the outer end e^6 of which is substantially U-shaped, for the purpose of forming a housing for the pulley e and supporting the tripping-roller e', mounted upon the U-shaped portion of the frame and adapted to engage the tripping or unlocking block d. To the inner end of the lever-frame E there is attached in ball-bearings a swivel e^2 and by means of which twisting in the draft-rope is entirely avoided. At the point of pivoting the lever-frame E to the carrier-frame B there is mounted a pulley e^3 to carry the draft-rope. A short distance in advance of this pulley there is pivotally mounted in the lever-frame a clamping-block e^4, which is adapted to clamp the draft-rope up against a corresponding clamping-block b^2, formed in the under surface of the upper part of the carrier-frame B. These clamping-blocks are shaped so as to conform to the shape of the draft-rope, and thus give the greatest amount of gripping or holding force. The lower depending limbs b^3 and b^4 of the carrier-frame B are connected by a rod b, which, in addition to acting as a stop for the lever-frame E, carries the balanced locking-lever F. Forward of the pivotal point of the balanced locking-lever F there is provided a notch f for engagement with a bar e^5, connecting the sides of the lever-frame E. The outer end of the balanced locking-lever F is bifurcated or pronged for engagement with the draft-rope and to lift the same off of the clamping-block e^4 when the lever-frame E shall have been depressed by the trip d. A

draft-rope G is intended to be passed through the pulley e, then through the carrier-frame and between the clamping-block b^2, mounted thereon, and the pivoted clamping-block e^4, mounted on the lever-frame E, thence through the pulley e^3 and through the pulleys g and g', to which may be attached either the hay-fork or the hay-sling, as may be desired, and the rope is then attached to the swivel e^2 at the inner end of lever-frame E.

In erecting the carrier, the tracks A and D having been placed, the draft-rope is passed through the carrier, as heretofore described. The carrier is then mounted on the track A, and the pulley b engages with the supporting-track D. The free end of the draft-rope is then passed through a pulley attached to the rafters of the barn, then passed down and through a pulley attached to the floor, and the end thereof is attached to an automatic horse-hitch, which will be the subject of another application. For the purpose of drawing the carrier to either side of the barn and returning it again to the place of loading, small cords or ropes are attached to hooks b^6 and b^7 upon either side of the carrier-frame, and thence extend to either end of the barn, passed through pulleys, and are returned to pulleys on the rafters near the door, and to one end of the rope there is attached a weight equal to and balancing the weight of the carrier, and the other end of the rope is passed through a pulley on the floor, and thence through a pulley attached to a post or stake driven in the ground outside the barn, and then engages with the automatic horse-hitch heretofore referred to.

In operation, the load of hay or other material having been driven into the center of the barn, the fork or sling is engaged therewith. The horses are detached from the wagon and hitched to the automatic horse-hitch and driven out in a direction at right angles to the track, when the load is raised by means of the draft-rope passing through the pulleys in the carrier heretofore described. When the load has been raised to any desired height, the horses are stopped, when automatically the load resting upon the draft-rope pulls down the inner end of the lever-frame E, thus raising the pivoted clamping-block e^4, which presses the draft-rope up against the clamping-block b^2, holding it tightly in engagement therewith. The horses are then turned around, when the smaller ropes heretofore described come into action and pull the carrier to the end of the barn, where the fork or sling is unlocked and the load dropped. The small rope is then disengaged from the automatic horse-hitch, and the weight heretofore referred to pulls the carrier back toward the center of the barn, and as it passes the trip d the pulley e' on the lever-frame E, disengaging the clamping-blocks from the rope until the rod e^5 engages with the notch f on the lever F, locking it in its lowered position, and the prongs of the balanced lever F engage the rope, lifting it up and off of the pivoted clamping-block e^4, permitting the lowering of the draft-rope G.

When another load has been taken on, the force exerted to raise the load depresses the outer end of the lever-frame, which in turn releases the balanced locking-lever, and the operation is repeated.

It will be observed that by means of this carrier one man can operate the carrier and manage the horses, and that by means of the automatic locking feature much power is saved. Heretofore it has not only been necessary to raise the load to the carrier before it could be locked and moved along the track, but the draft-line has been in line with the track, which places the horses at another part of the yard, necessitating a man or boy to manage the team and another the loading and unloading.

Having thus fully described my invention, what I desire to claim and secure by Letters Patent is—

1. A hay-carrier adapted to be mounted upon a track, and having a lateral extension carrying the pulleys for the draft-rope, substantially as described and for the purpose set forth.

2. The combination in a hay-carrier adapted to be mounted upon a track of a frame having a lateral extension, and a pulley-carrying frame pivotally attached thereto and adapted to carry and engage and disengage automatically, the draft-rope, substantially as described and for the purpose set forth.

3. The combination in a laterally-operated hay-carrier of a frame adapted to be mounted upon a track, a pulley-carrying frame pivotally attached thereto, a clamping-block pivotally attached to the pulley-carrying frame and adapted to engage the draft-rope, and a balanced locking-lever to automatically engage and disengage the pulley-carrying frame, substantially as described and for the purpose set forth.

4. The combination in a hay-carrier of a laterally-extending frame having depending flanges and a clamping-block formed thereon, with a pulley-carrying frame pivotally attached thereto at its center, and having mounted upon its free inner end a swivel hook or ring for engagement with the draft-rope, pulleys mounted in its free outer end and center, a pivoted clamping-block intermediate the pulleys, and means for automatically locking and unlocking the same, substantially as described and for the purpose set forth.

5. The combination in a hay-carrier of a frame adapted to be mounted upon a track, and having a lateral extension, a roller mounted thereon adapted to engage with a supporting-track, a pulley-carrying frame pivotally attached to the carrying-frame, a clamping-block pivotally attached thereto and adapted to engage the draft-rope and a balanced locking-lever adapted to automatically engage and disengage the pulley-carrying frame, a

tripping-roller mounted upon the outer end of the pulley-carrying frame, and a pivotally-depending pawl mounted upon the supporting-track, substantially as described and for the purpose set forth.

6. The combination of a laterally-operated hay-carrier frame, with a lateral supporting-track suspended at the side thereof and adapted to support the outer end of the carrier, substantially as described and for the purpose set forth.

7. The combination in a laterally-operated hay-carrier adapted to be mounted upon a track of a supporting-track suspended at the side thereof to engage the outer end of the carrier, and a tripping device mounted thereon, substantially as described and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 30th day of August, A. D. 1897.

DAVID L. TSCHANTZ.

Witnesses:

CHAS. R. MILLER,

CHAS. M. BALL.