

W. F. JACOBS.
CROSS DRAFT HAY CARRIER.
APPLICATION FILED DEC. 18, 1909.

988,573.

Patented Apr. 4, 1911.

3 SHEETS—SHEET 1.

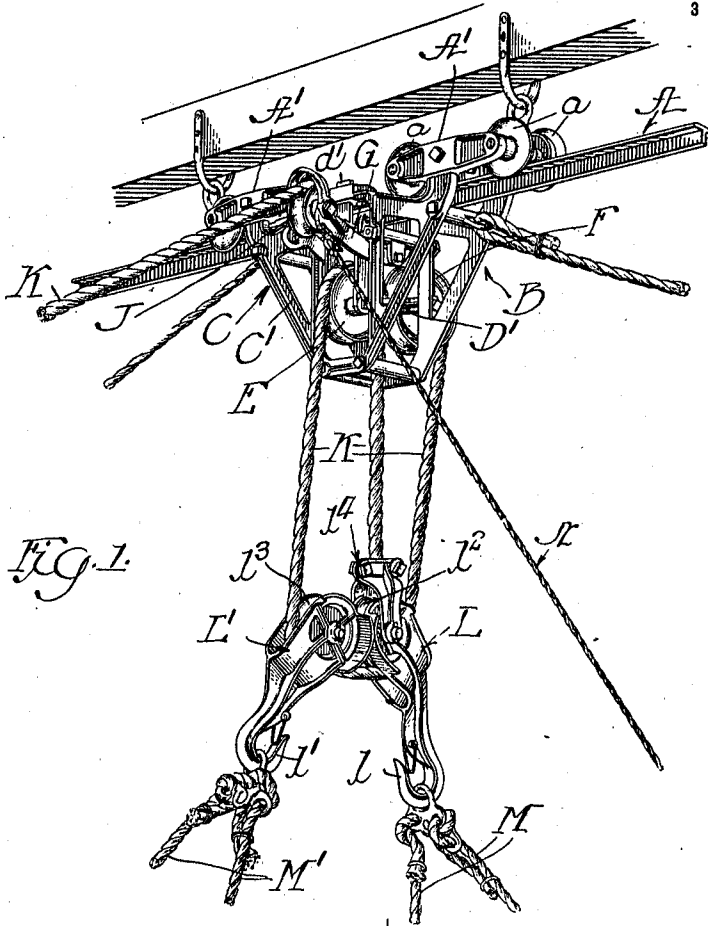


FIG. 1.

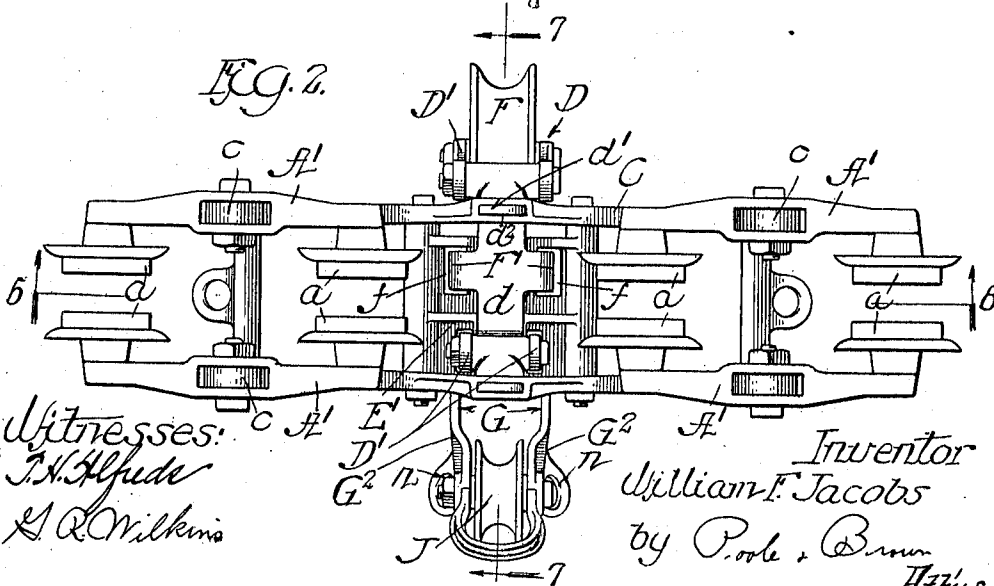


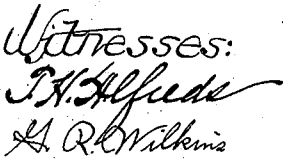
FIG. 2.

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3 SHEETS--SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM F. JACOBS, OF OTTAWA, ILLINOIS, ASSIGNOR TO J. E. PORTER COMPANY, A CORPORATION OF ILLINOIS.

CROSS-DRAFT HAY-CARRIER.

988,573.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed December 18, 1909. Serial No. 533,770.

To all whom it may concern:

Be it known that I, WILLIAM F. JACOBS, a citizen of the United States, and a resident of Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Cross-Draft Hay-Carriers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in hay carriers, and more particularly to the cross draft carrier by means of which the hay sling is suspended from the overhead track and is raised or lowered in loading or unloading, and is transported from one place to another.

The invention relates particularly to an improved locking mechanism by means of which the draft rope may be locked or unlocked in any position of the load.

The invention consists in the combination of parts hereinafter described and more particularly pointed out in the claims.

In the drawings:—Figure 1 is a perspective view of my improved cross draft carrier in position on its track. Fig. 2 is a top plan view of the same. Fig. 3 is a side elevation of the carrier. Fig. 4 is a vertical section through Fig. 3 on the line 4—4 thereof. Fig. 5 is a transverse section through Fig. 3 on the line 5—5 thereof. Fig. 6 is a vertical section through Fig. 2 on the line 6—6 thereof. Fig. 7 is a vertical section through Fig. 2 on the line 7—7 thereof.

In the drawings, A indicates the overhead track and B, the cross draft carrier as a whole. The carrier comprises a frame C consisting of V-shaped open side frames C¹, C¹, braced apart and secured rigidly in parallel relation to each other and provided at their upper ends with hanger extensions c, one at each end of each side frame, to which are pivotally attached truck members A¹ provided with wheels a which engage on opposite sides of the overhead track. As will be seen from the drawings, there are eight of said wheels a, four arranged on each side of the track in order to suitably support the frame C in suspended rolling relation below the track.

D indicates an auxiliary frame which is arranged transversely of the main frame C

and which extends through vertical slots C² formed in the vertical side frames C¹. Said frame D comprises U-shaped side members D¹, D¹, between which are suspended two sheaves or pulleys E and F, and to the upper ends of the legs of which is secured a jaw member d. Said jaw extends the length of the auxiliary frame D and is curved on its bottom side transversely of its length with the concave side down, as indicated at d^x.

d¹, d¹ indicate upright guide plates projecting from said jaw which engage within slots d², d² formed through the top webs of the main frame side plates C¹, C¹. A fixed jaw E¹ is located below the jaw d and is secured to the main frame C. Said jaw is parallel to the first named jaw and it is curved transverse of its length, but with its concave side up, as indicated at e^x. Suitable openings are formed at the side of the fixed jaw member to permit the legs of the U-shaped plate to pass up beyond said fixed jaw member.

F¹ F¹ indicate depending lugs which pass downward through suitable slots f f formed at the sides of the fixed jaw E¹ in position to be engaged by the short arms G¹ of a pair of levers G, G pivoted to the main frame C by means of depending ears g g, depending from the fixed jaw E¹, one on each side of the supplemental frame D. The long arms G² G² of said levers project laterally beyond the main frame C and carry between their ends a pulley J. Said pulley J is located a sufficient distance beyond the frame C so as not to interfere with the sheave or pulley E, as it is moved up or down by the levers G G.

L L¹ indicate a pair of parallel pulley blocks which are provided with hooks l l¹ to which the ends of the slings indicated at M M¹ are attached. Said pulley blocks have pulleys l² l² and to one of said blocks L is fixed one end of the draft rope K, as indicated at l⁴.

The draft rope K (see Figs. 1 and 7) passes over the pulley J, thence between the movable jaws d and the fixed jaw E¹, thence over the sheave F, then about the pulley l², thence about the pulley l², then up about the sheave E, and back to the block L.

From the above description it is apparent that, with the weight of the hay carried by the slings M M¹, pulling down on the sheaves

E, F and thence on the auxiliary frame D and with no forward pull on the draft-rope K, the movable jaw *d* will be caused by the weight of the load to forcibly engage the rope and block it against movement. A forward pull on the draft-rope, as when raising a sling of hay, will, through the pulley J, depress the levers G, G, thereby raising their short arms G¹, G¹, to engage and lift the lugs F¹, F¹ and raise the movable jaw *d* and release the rope. In order to more securely engage the rope, one of the jaws *d* is preferably provided on its concave surface *d*^x with cross-ribs *d*^y. When it is desired to release the rope without pulling forward on the draft rope K, as when it is desired to lower the sling, the levers G, G are depressed by means of a latch rope N attached to eyes *n n* formed at the ends of said levers.

It is apparent that the details of mechanical construction shown herein in describing one embodiment of my invention may be variously modified without departing from the spirit of the invention and I do not wish to be limited thereto except as pointed out in the appended claims.

I claim as my invention:—

1. In a cross draft hay carrier, in combination with the main frame, the draft rope, a pair of opposing jaws, one of which is movable, interposed in the path of the draft rope, an auxiliary frame vertically movable with respect to said main frame, said auxiliary frame directly supporting the load and being rigidly secured to said movable jaw, and means operatively connected to the main frame adapted to be actuated by a forward pull on the draft rope to raise said auxiliary frame.

2. In a cross draft hay carrier, in combination with the main frame, the draft rope and the draft rope pulleys, a fixed jaw secured to the main frame forming one of the supports of said draft rope, a movable jaw adapted to engage and lock the draft rope against said fixed jaw, said movable jaw being actuated by the load, and means automatically operated by a forward pull on the draft rope to release the movable jaw from its engagement with said draft rope.

3. In a cross draft hay carrier, in combination with the main frame, the draft rope, a pair of opposing jaws interposed in the path of the draft rope, an auxiliary frame vertically movable with respect to said main frame, said auxiliary frame directly supporting the load, one of said jaws being secured to the main frame and the other being secured to the auxiliary frame, and means operatively connected to the main frame and actuated by a forward pull on the draft rope adapted to raise said auxiliary frame to release the grip of the jaw secured to said auxiliary frame.

4. In a cross draft hay carrier, in combination with the main frame, the draft rope,

a fixed jaw forming one of the supports of said draft rope, a movable jaw adapted to engage and lock the draft rope against said fixed jaw, an auxiliary frame adapted to actuate said movable jaw, draft rope supporting pulleys carried by said frame, one of said pulleys being substantially tangential to said fixed jaw when the movable jaw is in inoperative position, a third pulley movable under a forward pull on said draft rope, and means actuated by said movement of said third pulley adapted to release the movable jaw from its engagement with said draft rope.

5. In a cross draft hay carrier, in combination with the main frame, the draft rope, a fixed jaw secured to said main frame, and forming one of the supports of said draft rope, a movable jaw adapted to engage and lock the draft rope against said fixed jaw, a vertically movable frame arranged transversely of said main frame adapted to actuate said movable jaw to engage said draft rope, draft rope supporting pulleys carried by said auxiliary frame, one of said pulleys being substantially tangential to said fixed jaw when said movable jaw is in inoperative position, a lever member pivotally secured to said main frame and adapted to raise said auxiliary frame, and a third pulley carried by said lever member in the plane of the other pulleys, said third pulley being adapted to be depressed to actuate said levers, by a forward pull on said draft rope.

6. In a cross draft hay carrier, in combination with the main frame, the draft rope, a fixed jaw secured to said main frame, and forming one of the supports of said draft rope, a movable jaw adapted to engage and lock the draft rope against said fixed jaw, a vertically movable frame arranged transversely of said main frame adapted to actuate said movable jaw to engage said draft rope, draft rope supporting pulleys carried by said auxiliary frame, one of said pulleys being substantially tangential to said fixed jaw when said movable jaw is in inoperative position, a lever member pivotally secured to said main frame and adapted to raise said auxiliary frame, a third pulley carried by said lever member in the plane of the other pulleys, said third pulley being adapted to be depressed to actuate said levers, by a forward pull on said draft rope, and a latch rope secured to the lever member and adapted to depress said third pulley.

7. In a cross draft hay carrier, in combination with the main frame, and the draft rope, a fixed jaw secured to said frame and forming one of the supports of said draft rope, a movable jaw adapted to engage and lock the draft rope against said fixed jaw, a vertically movable frame arranged trans-

versely of said main frame and vertically guided therein, adapted to actuate said movable jaw to engage said draft rope, draft rope supporting pulleys carried by said auxiliary frame, one at each end thereof, one of said pulleys being substantially tangential to said fixed jaw when said movable jaw is in inoperative position, levers pivotally secured to said main frame having short arms adapted to engage and lift said movable jaw and long arms projecting laterally from said main frame, a third pulley carried at the ends of the long arms of said levers in the plane of the other pulleys, and a pair of parallel pulley blocks supported below the main frame, said draft rope being fixed to

one of said parallel pulley blocks and passing up about one of the pulleys carried by the auxiliary frame and thence down about the pulleys carried by said parallel pulley blocks and up about the pulley adapted to come into a position tangential to the fixed jaw, then over said jaw and said third pulley.

In testimony, that I, claim the foregoing as my invention I affix my signature in the presence of two witnesses, this 14th day of December A. D. 1909.

WILLIAM F. JACOBS.

Witnesses:

JOHN F. ZELLERS,
E. J. CASSIDY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
