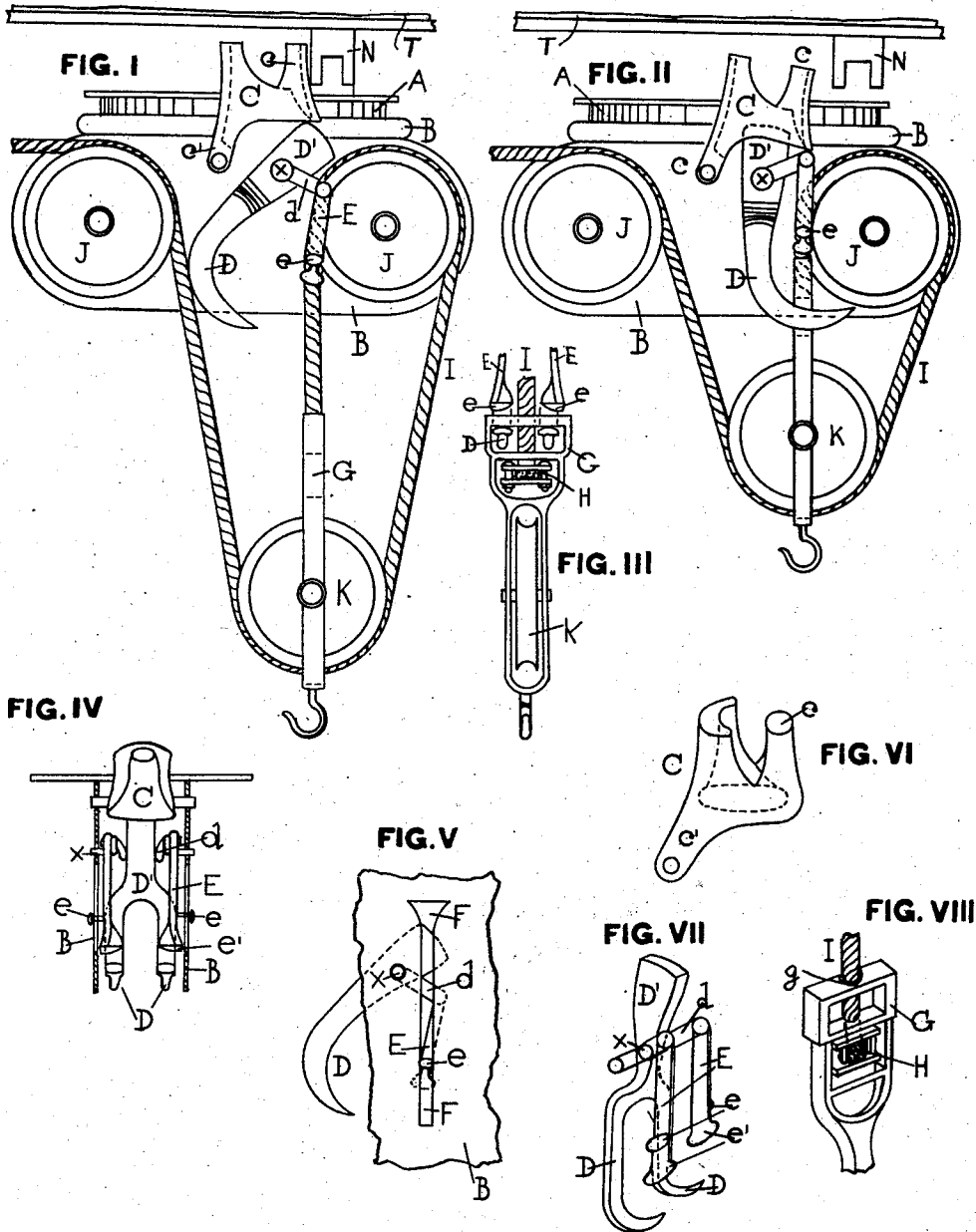


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 TRIPLE DRAFT HAY SLING CARRIER.
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TRIPLE-DRAFT-HAY-SLING CARRIER.

1,011,388.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES H. STEVENSON, a subject of His Majesty King George V, residing at the city of Guelph, in the county of Wellington and Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Triple-Draft-Hay-Sling Carriers, of which the following is a specification.

Heretofore the pulleys of triple draft hay sling carriers have been secured when loaded by means of spring rope grips which clutch the rope and hold the load thereby till tripped by the stop on the overhead track. This constant gripping of the rope tended to destroy the same, and necessitated frequent renewals of the rope with the consequent trouble of replacing the same, often when the carriage was in an inconvenient position to get at.

My invention consists in dispensing with the rope grips altogether and providing an automatic pronged grab hook adapted to hook into and hold the top link of the sling pulley itself when the loaded slings are drawn up to the carriage, said grab hook being brought into operation by a lever operated by the ascending top of the sling pulley and locked by a heavy circular collar or latch hinged or pivoted at one side, which slips over the top of the pivoted grab hook and which can be raised off the top of the same by means of stops on the overhead track; upon which the sling pulley is released and the load is dropped wherever desired.

The mechanism of my improvements is illustrated in the accompanying drawings, in which—

Figure I. is an elevation of my improvements in triple draft hay sling carriers the casing being removed showing the grab hook thrown back and held in position by the heavy circular latch resting thereon. Fig. II. is a similar view showing the grab hook in engagement with the top of the sling pulleys and locked by the heavy circular latch. Fig. III. is a vertical cross section of the suspended sling pulley showing the pronged grab hook in engagement with the top link of the same and the method of attaching said pulley to the end of the rope. Fig. IV. is a front view of the circular latch, the grab hook, and the operating and connecting levers in connection with the

same. Fig. V. is an enlarged view of a portion of the side of the casing showing the slot in which the guide stop or stud on the operating lever slides. Fig. VI. is a perspective view of the heavy circular latch which falls over and secures the upper member of the pronged hook when same is in a vertical position. Fig. VII. is a perspective view of the pronged grab hook with its connecting bars and oscillating levers for opening the same. Fig. VIII. is a perspective view of the top link of the suspended sling pulley as shown in Fig. III. These drawings are not to be considered as absolute representations of the component parts of my invention but more as diagrammatic of the same.

Similar letters of reference indicate similar parts in all the drawings.

In Figs. I. and II. A is the swivel collar carrying the frame B of the hay carrier head, it revolves in and is suspended from a collar, (not shown) carried by the trolley running on the overhead track T. B is the cast iron frame carrying the rope pulleys J. J., the hinged or pivoted circular collar or latch C, the pronged grab hook D. D', and the mechanism for operating the same. I is the operating rope which terminates in the rope swivel H in the top link G of the pulley sling as shown in Fig. III.

The pronged grab hook D. D' Figs. I, II, IV, and VII, is pivoted in the frame B at *x* Figs. I, II, and V and consists of two parts the heavy upwardly projecting stem D' and the two prongs D shown in Figs. IV and VII. These prongs D are bent forward in a horizontal direction and slightly upward at the points for the purpose of passing through the top link G of the pulley sling, and carrying the same when the rope is slackened off.

d d are short levers rigidly attached to the grab hook at the point *x* Figs. I and II for the purpose of operating the same. They carry at their free ends the vertical oscillating connecting bars E E terminating in broad shoes *e' e'* Fig. VII which are struck and lifted by the top link G of the pulley sling when the load is drawn to its highest point. Studs *e e* Figs. I, II, IV, and VII are mounted on the outer sides of the vertical oscillating bars E E near their lower ends, said studs passing through vertical slots F in the frame B Fig. V for the

purpose of guiding the lower ends of the oscillating bars E E in an up and down direction.

The upwardly projecting stem D' is as shown in Fig. VII heavy and flat and slightly segmental or paddle shaped with rounded upper end for the purpose of sliding easily under the lip of the latch or collar C. Normally the weight of the heavy stem D' supplemented by the weight of the lever arms *d d* and the oscillating connecting bars E swinging therefrom, brings forward the heavy stem D' thus holding the prongs D out of engagement as shown in Fig. I, while the lip of the circular latch or collar C rests on the semi-circular top of the stem D'.

The heavy circular collar or latch C is provided with a downwardly projecting heel or hinge *c'* pivoted in the frame B, its forward edge or lip rests on the top of the upwardly projecting stem D' of the grab hook, when the hook is in its normal position disengaged as shown in Fig. I; as soon however as the prongs D. D. are brought into engagement with the top link G of the suspended pulley K, the stem D' of the grab hook assumes a vertical position under the center of the collar C which then slips down over the top of the stem D' thus securely locking the load until released by the spur *c* of the collar or latch C striking against the stationary stop N on the overhead track T.

The oscillating connecting bars E. E. swinging from the ends of the lever arms *d d* which are rigidly connected to the stem of the grab hook are in duplicate and are arranged at each side of the stem D'.

The top link G of the pulley sling consists of a wide rectangular link with a circular opening *g* in the center of the top and bottom members of the same, through which the rope is passed. The latter is then unraveled, knotted and clamped between the plates of a rope swivel H which is free to revolve in the lower semi-circular portion of the link G to which the pulley K is attached Fig. III. The object of having a wide top link G with the rope threaded through the center is to hold the rope which falls off the rope pulley J to the center of the carrier head, so that the prongs of the grab hook may engage with the top link G at each side of the rope.

As soon as the hay sling has received its load it is drawn up by the rope in the usual manner, the top link G of the carrier head or pulley sling registers with and strikes against the shoes *e' e'* at the bottom of the oscillating bars E E thus driving them and the levers *d d* on which they swing upward, the levers *d d* acting as bell crank levers bring the horizontal points of the prongs D forward through the link G on either side of

the rope thus supporting the load; while at the same time the upwardly projecting stem D' of the grab hook is secured in position by means of the hinged circular collar or latch C as hereinbefore described. The hay carrier is drawn along the track T in the usual manner until the projecting top *c* of the circular latch C strikes against the stationary stop N on the track. This lifts the circular latch or collar C from the upwardly projecting stem D' of the grab hook when a slight pull on the rope I raises the sling pulley thus completely releasing the grab hook prongs D which yielding to the weight of the heavy stem D' the lever arm *d* and the oscillating connecting bars E at once fall back into their normal position as shown in Fig. I.

I claim—

1. The improvement in triple draft hay sling carriers comprising in combination, a circular revolving collar to which is attached a frame carrying two of the pulley wheels of a triple draft attachment, a pivoted grab hook, operated by means of levers with swinging dependable arms, a suspended pulley sling the top link of which is adapted to register with the lower ends of the swinging arms, and to be engaged by the prongs of the grab hook when the load is drawn up, together with means for securing the grab hook in position when engaged with the top link of the pulley sling substantially as hereinbefore described.

2. In combination with triple draft hay sling carriers comprising a revolving collar and a frame carrying part of the pulley attachment, a pronged grab hook consisting of a stem pivoted in the frame of the carrier, the lower part of said stem being provided with two prongs bent forward at right angles so as to engage the top link of the sling pulley when the load is drawn up, levers rigidly attached at either side of the stem of the grab hook and carrying at their free ends dependable oscillating arms provided with guide studs working in a vertical slot in the frame, and striker feet at their lower ends, adapted to be operated by the upward motion of the suspended sling pulley, and a suitable retaining collar or latch adapted to fall over and lock the upwardly projecting stem of the grab hook when in a vertical position: substantially as described.

3. In combination with a triple draft hay sling carrier comprising in combination a revolving collar and frame carrying part of the pulley attachment, a grab hook operated by means of levers with oscillating dependable arms, and a hay sling pulley adapted to be engaged by the grab hook, a heavy circular latch or collar hinged at one side to the frame immediately above the said grab hook, the lip of the collar opposite to the hinge

adapted to rest on the top of the stem of the grab hook when in its normal position and to slip over and to securely lock the same when it assumes a vertical position, said collar being provided with upwardly projecting spurs adapted to engage with fixed stops on the track and to be lifted by the same, substantially as described.

4. In combination with triple draft hay sling carriers comprising a revolving collar and frame carrying part of the pulley attachment, a pivoted grab hook and means for operating the same a circular collar or latch for locking the grab hook, the suspended pulley sling consisting of a rectangular shaped wide top link with a lower semi-circular link to which the third pulley

of the triple draft attachment is secured, holes or openings being provided in the center of the top and bottom bars of the top link through which the end of the operating rope is passed and knotted or clamped in the lower semi-circular link, said top link being wide enough to allow of the horizontal prongs of the grab hook passing through and engaging with same on either side of the elevating rope: substantially as described.

Guelph, 5th April, 1910.

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