(No Model.)

W. LOUDEN.

HAY CARRIER APPARATUS.

No. 526,839. Patented Oct. 2, 1894.

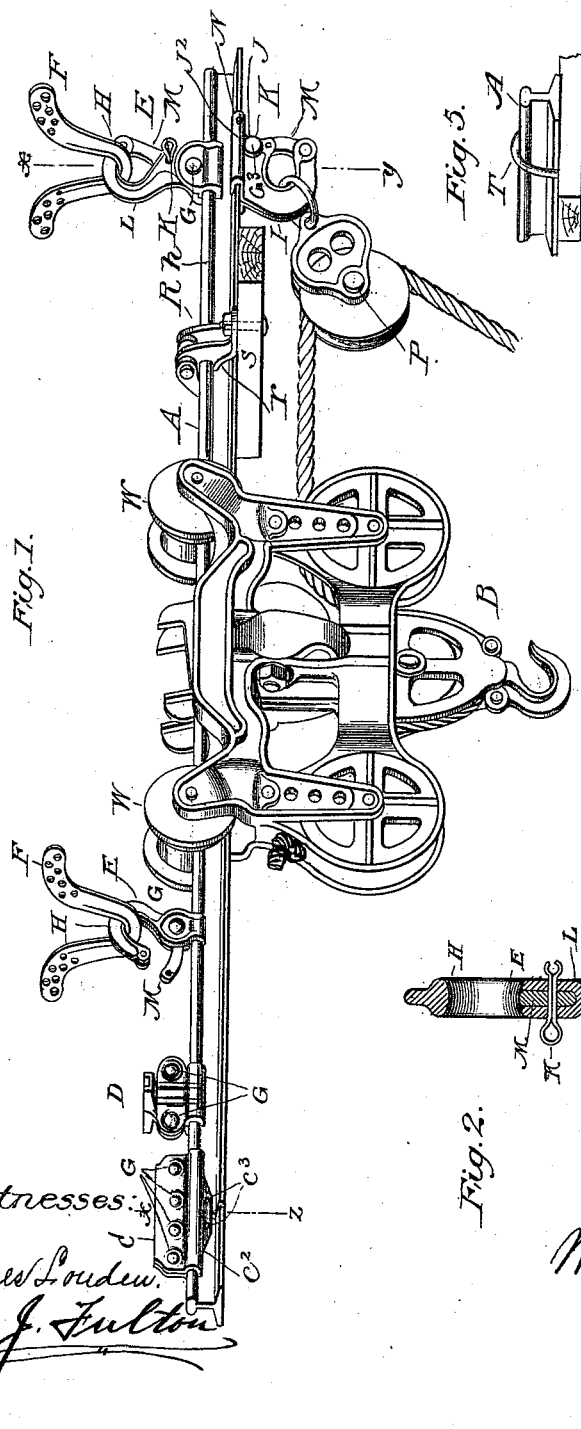

Fig. 1.

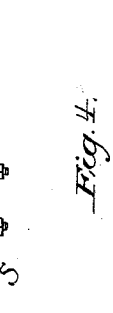

Fig. 5.

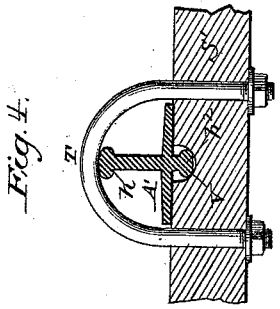

Fig. 4.

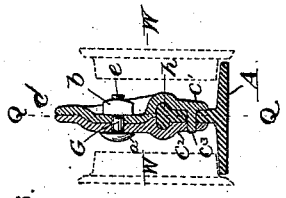

Fig. 3.

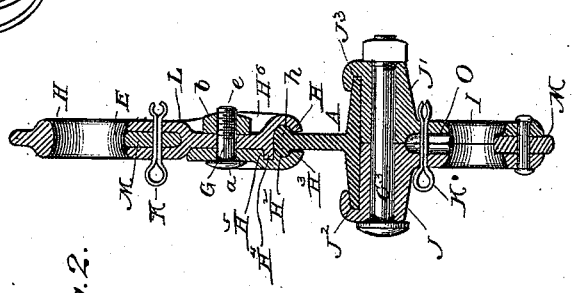

Fig. 2.

Witnesses:
Agnes Louden.
E. J. Fulton

Inventor:
William Louden

UNITED STATES PATENT OFFICE.

WILLIAM LOUDEN, OF FAIRFIELD, IOWA.

HAY-CARRIER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 526,839, dated October 2, 1894.

Application filed May 22, 1893. Serial No. 475,301. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LOUDEN, a citizen of the United States, residing at Fairfield, in the county of Jefferson and State of Iowa, have invented a new and useful Improvement in Hay-Carrier Apparatus, of which the following is a specification.

This invention relates to hay carrier apparatus; and consists in means for making the necessary attachments to the head of said rail, so as to economize room and let the carrier pass freely by them; also, in an improved form of suspending hook, and in other details hereinafter set forth.

In the accompanying drawings representing the invention Figure 1. is a perspective showing the rail with the attachments secured to it and having a hay carrier and its tackle block mounted thereon. Fig. 2. is a cross section drawn on the line *x*, *y*, of Fig. 1. Fig. 3. is a cross section drawn on the line *x*, *z*, of Fig. 1. Figs. 4 and 5 are modified forms of the end stop.

A represents the rail, and B the carrier, which latter may be of any desired construction adapted to run upon the side flanges of the rail, and having a longitudinal opening through the center of the upper part of its frame to clear the attachments mounted upon the upper edge of the rail.

C is the splice clamp which unites the adjoining sections of the rail, and D is the trip stop which operates the lock mechanism of the carrier.

E and E′ represent the suspending hooks and F the rafter brackets by which they are supported. It will be observed that these attachments are all made in two parts, which are clamped to the upper edge or head *h* of the rail A by means of bolts G. Plainly shown in Figs. 2 and 3. These dual clamping pieces are made "dishing" or so as to set to one side of the central line of the rail, where the bolt G passes through them. This feature is shown in Figs. 1, 2, and 3,—particularly in Fig. 3, in which the dotted line Q. Q. represents the central line of the rail A.

It is desirable to have the carrier wheels *w* run upon the side flanges of the rail at as nearly equal distances from the central line Q, Q, as practical, so that the weight of the carrier load may bear equally upon both sides of the rail, that the rail may be held perfectly in line with the upper end of the suspending hooks E. As ordinary bolts are made the burrs *b* are always considerably thicker than the heads *a*, and when two parallel plates of equal thickness are bolted together the point *e* of the bolt will always stand farther out from the common center than the head. To give the threads of the bolt a good hold, the point of the bolt should project through the burr *b*, and in case the head *h* of the rail A should be of small size this would make the points *e* project through the burrs still more. Naturally the point of the bolt would come closer to the carrier wheels W than the head *a*, and from its shape would be much more liable to catch on the carrier wheels or frame than the head, even if they were both the same distance away. This requires a wide opening through the carrier to escape the points of the bolts, and wide flanges on the sides of the rail for the carrier wheels to run on, while there will be room to spare on the side having the heads of the bolts. I overcome this difficulty and reduce the space required to the minimum by "dishing" the parts of the attachment used to clamp the head of the rail, so as to set the head *a* of the bolt out from, and the point *e* in toward the center line Q, Q. By this means the point *e* will be set in toward the center line and shielded from contact with the carrier, and the head *a* being rounded the carrier will readily slip around it in case of contact. This feature is applicable alike to the suspending clamps E and E′, splice clamps C, trip stop D, or any other attachment composed of two pieces and designed to be clamped upon the head of the rail by means of a bolt G in the least possible space to avoid contact with the passing carrier.

The splice clamp C is composed of the two pieces C′ and C^2 formed and bolted together on the head of the rail A as already described. The central parts of these pieces are extended downward to embrace the central web of the rail as shown in the drawings, and the piece C′ has two pins C^3 formed upon its lower section. Holes corresponding to these pins are made in the adjoining ends of the rails and also in the part C^2 of the clamp. When the pieces C′ and C^2 are bolted together these pins C^3 will enter

the holes in the rail, and also in the part C^2, and effectually hold the ends of the rails together without depending altogether upon the clamping power of the bolts.

The suspending device E is composed of the main part L having a hook H at its upper end to catch over the rafter bracket F, and a flange H′ at its lower end to catch under the head of the rail and the clamping part H^2 which is also preferably fitted with a flange H^3 to catch under the head of the rail. These two parts, L and H^2, are held together by the bolt G, and will firmly grip the head of the rail between them. To hold the pieces comprising the hanger from slipping on each other, a flange or shoulder H^4 is formed on the main part L, which flange catches under a shoulder or offset H^5 on the clamping part H^2, all of which is clearly shown in Fig. 2. The nut *b* of the bolt G is set in a recess while the main part of the hanger is strengthened by a flange H^6 at one or both sides of the nut. This forms a very simple, strong, easily applied hanging device for a hay carrier track rail, and may be fitted with any suitable suspending means at its upper end. However, I prefer to use a hook H to catch over the rafter bracket F and to pivot a latch or finger M to the point of the hook to close the throat of the hook and prevent it from getting off the bracket.

The latch or finger M is preferably pivoted at one end in a slot or opening in the point of the hook, while its opposite end enters an opening in the shank of the hook, and is held in place by a key K. However, this order may be reversed and the latch be pivoted in the shank of the hook and secured by the key to the point of the hook as shown in the hanger E′ in Fig. 1, in which the latch is shown open to admit or release the bracket F.

To secure the tackle of the carrier to the rail A, I form a hook I in two parts, J and J′, fitted with jaws J^2 and J^3 to grasp the side flanges of the rail, and a bolt G^3 to hold the two parts firmly upon the rail. The pulley P through which the carrier rope passes is hung in this hook, which may also be provided with a latch M similar to that used in the suspending hook E. This hook may be clamped upon the side flanges of the rail at any point on the track and be held by the clamping power of the bolt G^3 alone, or it may be set at the end of the rail as shown in Fig. 1, and a nail or pin be passed through holes N in the jaws J^2 and J^3, and made to rest against the end of the rail A and prevent the hook from slipping along it under the pressure of the carrier tackle.

To prevent the carrier from running off the track, and also to keep it from running against and injuring the pulley P, I place a stop S upon the lower edge of the rail A, so as to project on either side sufficiently to abut the frame of the carrier and positively arrest its movement along the track. This stop is made of wood or any other material which will not injure the frame of the carrier. It is shown in its simplest form in Fig. 5, in which I use a block of wood having two holes, and a U shaped bolt T, passing around the top of the rail and through the holes, so as to clamp the stop to the rail. The holes are made near the back edge of the stop so the carrier wheels will not run against the bolt T. In Fig. 1, my preferred form of clamp for the stop is shown, comprising two clamping pieces R, hinged together above the rail, each piece provided with a shoulder *r* to grasp the head of the rail between them. They are bolted to the stop as shown in the drawings. This form of clamp takes a very firm grip on the rail and holds the stop so it cannot be bumped loose by the carrier. When the stop S is used in connection with the hook I, they should be placed far enough apart so the carrier will strike the stop before striking the pulley P.

Fig. 4 shows a modified form of stop S′ having a notch *v* designed to be used in connection with a rail A′ having a lower head h^2. The clamping pieces R can also be used with this form of stop.

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

1. In hay carriers the combination of a metallic track having an upper central web, a two part clamping device to embrace the web and a threaded bolt and nut to hold the parts together, said clamping parts where the bolt passes through them being set to one side of the center line of the track, substantially as and for the purpose set forth.

2. In hay carriers, the combination of a metallic track having an upper central web, a two part clamping device to embrace the web and a threaded bolt and nut to hold the parts together, one of said clamping parts being dished into the other one where the bolt passes through them, so as to set the head of the bolt farther from the center of said track than the nut of said bolt.

3. In hay carriers, the combination of a metallic track having an upper vertical web and two horizontal side flanges, a two part hanging device adapted to clamp upon the web and support the track, a carrier adapted to traverse the side flanges and having an opening through its upper edge to escape the hanger, and a threaded bolt and nut to hold the parts of the hanger together, said clamping parts, where the bolt passes through them, being set to one side of the center line of the track, substantially as, and for the purpose set forth.

4. In hay carriers, the combination of a metallic track having an upper vertical web, and two horizontal side flanges, a two part hanging device adapted to clamp upon the web and support the track, a carrier adapted to traverse the side flanges and having an opening through its upper edge to escape the hanger, and a threaded bolt and nut to hold the parts of the hanger together, one of the parts of said hanging device being dished into the other part where the bolt passes through

them, so as to set the head of said bolt farther from the center of said track than the nut of the bolt.

5. In hay carriers a track suspending device consisting of two separable parts placed side by side and adapted to hold the track rail between them, one of the parts having suspending means at its upper end adapted to catch over a supporting device and also having a shoulder, and the other part having its upper end cut off so as to bear against the shoulder on the other and form a clamping part to hold the track rail in engagement with the suspending part, and means to hold the parts together.

6. In hay carriers, a track hanger consisting of a suspending part and a clamping part placed side by side and means for holding them together, both parts being adapted to catch under the head of the rail, the suspending part having a shoulder and the clamping part being adapted to catch over the shoulder on the suspending part, substantially as shown and described.

7. In hay carriers, a track suspending device having a hook to catch over a supporting device, said hook having a slot in its shank, and also a slot in its point, a latch pivoted in one of said slots and adapted to close the throat of the hook and a key to fasten the free end of latch in the other slot.

8. In hay carriers, a two part pulley holding hook adapted to clamp upon the track rail and means for holding the parts together, substantially as described.

9. In hay carriers, a two part pulley holding hook, each part having a jaw to catch over the flanges of the rail, and means for holding the parts together, substantially as set forth.

10. In hay carriers, a two part pulley holding hook, each part having a jaw to catch over the flanges of a track rail, means to hold the parts together, and a latch pivoted between the parts to close the throat of the hook.

11. In hay carriers the combination of a metalic track rail having a vertical web and horizontal side flanges, a carrier adapted to run on these side flanges, a pulley holding hook adapted to clamp upon said side flanges, and a stop on said rail between the carrier and said hook, said stop being adapted to abut the frame of the carrier and arrest its movement toward the hook, substantially as set forth.

12. In hay carriers, a metallic rail having a vertical web and horizontal flanges, a carrier adapted to run on said flanges, a stop placed on the under side of the flanges to arrest the movement of the carrier, and clamping means passed up around said flanges and over said web to hold the stop in position on the rail, said stop being adjustable along the rail by loosening the clamping means.

13. In hay carriers, the combination of a metallic track rail, having a vertical web and horizontal side flanges, a carrier adapted to run on said side flanges, a stop on said rail having extended ends to abut the frame of the carrier on each side of the rail, and clamping means passed up over the vertical web of the rail to clamp the stop against the under side of the rail.

14. In hay carriers the combination of a metallic track rail having a vertical web and horizontal side flanges, a carrier adapted to run on said side flanges, a stop on the under side of said rail to arrest the movement of the carrier, and jointed clamps adapted to grasp the upper edge of said web and be secured by bolts to the stop below.

15. In hay carriers, a metallic track rail, having a vertical web and horizontal side flanges and composed of two or more sections of rail, and a two part splicing device to clamp upon the vertical web of the rail and join the sections together, one of the pieces of said splicing device having holes in its lower extremity, and the other having corresponding pins which are adapted to pass through holes in the web of the rail and into the holes in the aforesaid piece, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM LOUDEN.

Witnesses:
JOHN BARTHOLOMEW,
F. M. DROZ.