(No Model.) 3 Sheets—Sheet 1.

J. H. BURKHOLDER.

ADJUSTABLE STOP DEVICE FOR HAY CARRIERS.

No. 490,738. Patented Jan. 31, 1893.

Fig. 1.

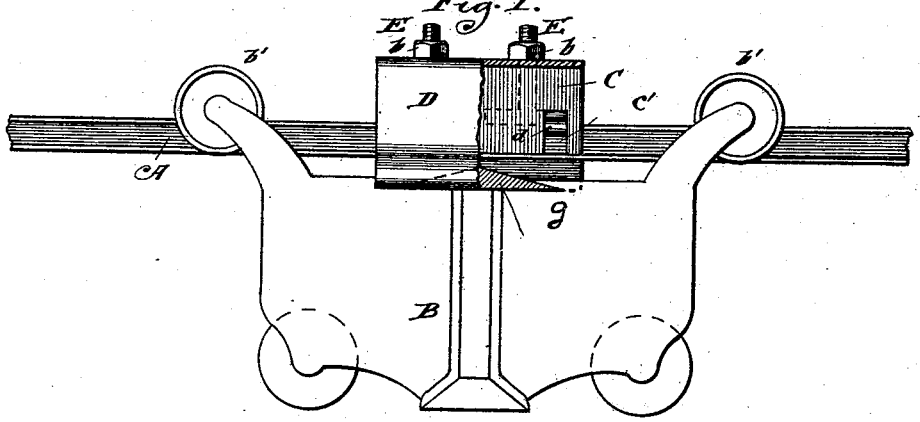


Fig. 2.

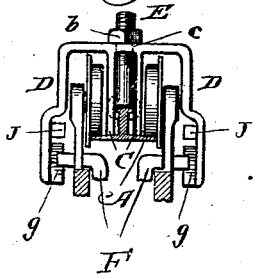


Fig. 3.

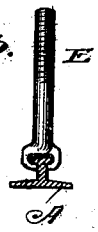


Fig. 6

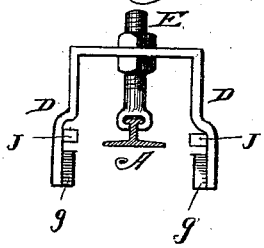


Fig. 4.

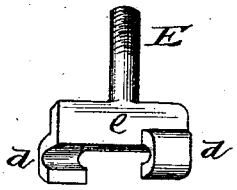
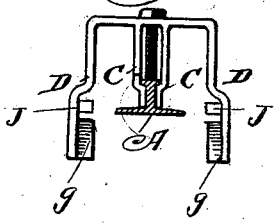


Fig. 5.



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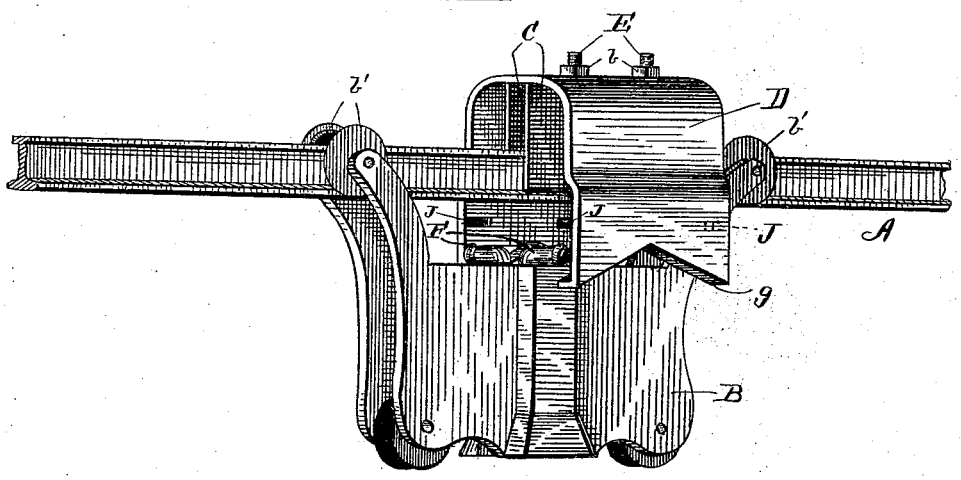
(No Model.) 3 Sheets—Sheet 2.

J. H. BURKHOLDER.

ADJUSTABLE STOP DEVICE FOR HAY CARRIERS.

No. 490,738. Patented Jan. 31, 1893.

Fig-7-



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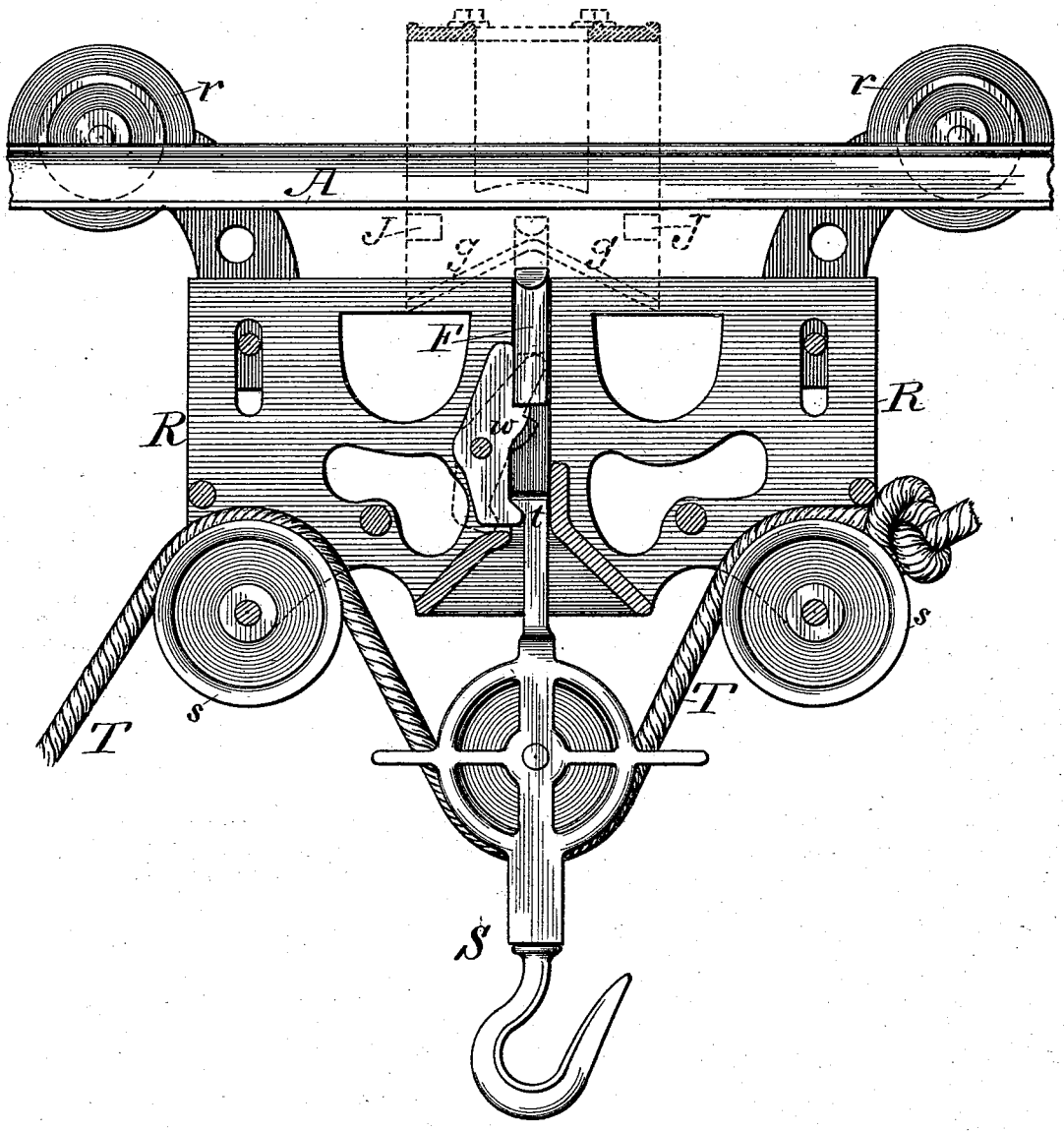
(No Model.) 3 Sheets—Sheet 3.

J. H. BURKHOLDER.

ADJUSTABLE STOP DEVICE FOR HAY CARRIERS.

No. 490,738. Patented Jan. 31, 1893.

Fig. 8.



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UNITED STATES PATENT OFFICE.

JOHN H. BURKHOLDER, OF ASHLAND, OHIO.

ADJUSTABLE STOP DEVICE FOR HAY-CARRIERS.

SPECIFICATION forming part of Letters Patent No. 490,738, dated January 31, 1893.

Application filed March 28, 1891. Serial No. 386,812. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BURKHOLDER, of Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Adjustable Stop Devices for Hay Elevator Carriers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of my invention is to provide a suitable stop for hay carriers, which can be easily adjusted at any point along the suspended track upon which said hay carrier travels; which does not interfere in any way with the lateral flanges of the track upon which the truck of such carrier travels, and which does not require any tapping or other mutilation of the said track, substantially as hereinafter fully described, and as illustrated in the drawings, in which;

Figure 1, shows a side elevation of a section of track, and a hay elevator carrier thereon, together with my improved stop mechanism applied to said track. Fig. 2, shows an end elevation of the upper part of a hay elevator carrier and my improved stop device. Fig. 3, shows an end view of a bolt attached to a rail and used in connection with my invention. Fig. 4, shows a perspective view of said bolt, and Fig. 5, shows a modified form of my invention, particularly as to the means employed for securing it to the rail. Fig. 6 is a detail view. Fig. 7. is a perspective view of my improved stop in conjunction with the carrier. Fig. 8, is a longitudinal central section through a hay-carrier used in connection with my improved stop device, showing the hay-fork carrying device in full side elevation and illustrating the manner of the operation thereof in dotted lines, and a longitudinal section of my improved stop device also in dotted lines above the same.

In the drawings A represents a suspended track of the ordinary inverted T-iron shape, having a bead on the upper edge of its vertical part, and B represents a hay elevator, which I lay no claim to herein, and which may be of any suitable construction so long as the travelers *b*, *b*, thereof run on the horizontal flanges of the track.

My invention consists of a casting having two corresponding vertical legs C, C, which are parallel to each other and are separated a distance corresponding to the width of the bead on the upper edge of the vertical part of track B, so that they may rest upon the basal flanges thereof on either side of its vertical part. These legs are connected a suitable distance above the track by a suitable web and have projecting laterally outward from their upper ends the wings or arms D. These wings D are elevated such a distance above the tread of the rail that the travelers of the hay carrier truck can easily pass under them, and the extent of their lateral projection is such that the frame work of the upper part of the hay carrier when passing thereunder will not interfere with the vertical part of said wings which extend downward to a suitable point below the frame of the rail where their lower edges are turned inward a suitable distance so as to arrest and stop the further progress of the hay carrier when traveling toward it. These wings constitute one of the most important features of my invention, and they may be of any shape or design desired which will permit their lower ends to get in such position that they will stop the progress of the hay carrier by reason of the end of the carrier striking against said stop, or by reason of a suitable lateral projection J of the hay carrier striking against the end adjacent to the free extremities of the wings, substantially as shown in Fig. 1. It is obvious, then, that they may be made of a more open construction than that shown in the accompanying drawings and yet serve the purpose of my invention.

In order to secure my adjustable stop to the track, I have provided the peculiar shaped bolt E shown in Fig. 4. The head *e* of this bolt is of a rectangular shape and considerably longer than it is wide, which latter dimensions correspond to the width of the space between the legs C of my invention.

Projecting laterally, one on each side of the head *e*, contiguous to the opposite ends thereof, and adjacent to the lower edge, are hooks *d*, *d*. The plane in which these hooks project are removed from each other a distance corresponding to the width of the bead on the upper edge of the vertical part of said track, and when placing the said bolt in po-

sition, the head *e* is placed at right angles to the track with the bead passing between the two hooks, and then the bolt is turned around until the extremities of the hooks *d*, *d*, come under said bead. I use two of these bolts E and place them on the track the necessary distance apart, in the manner just described, with relation to the point on the track where it is desired my improved stopping device should be adjusted. I then place the casting, constituting my invention, so that the legs C, C, pass down on each side of the bolts and so that the upper ends of the latter may pass through the bolt holes *c*, *c*, made in the web connecting the upper ends of these legs, until the said legs rest firmly upon the tread of the horizontal flanges to the track. It would be impossible, however, for the legs to rest upon the tread of the track in the manner hereinbefore described unless I recessed the lower part of said leg coming in register with the hooks *d* of the bolt E. I therefore provide the said legs with the recesses *c* this being necessary in order that the projection of the said hook *d* will not interfere with the downward movement of the casting when setting it on the rail. Now it will be apparent that by tightening said bolts, by means of suitable nuts *b* on their upper ends, the legs C will be held firmly and rigidly upon the basal flanges of the track D and any lateral or longitudinal movement of my improved stop will be impossible.

It is apparent that while the bolt E, constructed like that shown in Fig. 4 of the drawings, would be preferable, yet any other kind of bolt, which would enable me to secure my improved stop in position, would answer as well so far as the purposes of my invention are concerned. For instance, a bolt having a head with hooks similar to *d* projecting opposite each other would answer. In this event, however, the bolt would have to be slipped on to the rail from the end thereof, and pushed longitudinally to the point desired. It would, however, have a nut *b* on its upper end, which, upon being tightened would accomplish the same purpose as the hooks of the bolt E, hereinbefore referred to.

It is possible to dispense entirely with the bolt similar to those hereinbefore described, and to fasten my improved stop in place by set-screws, substantially as shown in Fig. 5. In this event the lower ends of the legs C would be turned inward and caught under the bead of the track, either by slipping them over the end of the section of track, or by adopting a construction similar to that of the head of the bolt E. The said screw is then tapped down through the web, connecting these legs, with its lower end bearing upon the top of the bead, and according as the said screw is tightened or loosened, my improved device would be held tight or loose on the track.

While I much prefer the use of the legs C, yet they can be dispensed with by using a bolt similar to E, and having a nut both over and under the web connecting the wings D. In this case by adjusting these nuts, the wings D could be raised or lowered.

In Figs. 1 and 8, I have shown a peculiarly constructed hay-carrier R, which is substantially the same in its construction and operation as that for which Letters Patent of the United States were granted to J. M. Boyd, June 17, 1884, numbered 300,687. This hay-carrier R consists, briefly speaking, of two side frames suitably secured together and having hangers secured to the four upper corners, in the extremities of which are journaled the travelers *r* that move upon the base flange of the track A. This hay-carrier is designed to carry a loaded or unloaded hay-fork, as the case may be, to the stop devices, and then through the agency of my improved stop releases the fork and holds said carrier stationary. The hay-carrier, which is of the usual pattern, is caught upon the hook depending from the lower end of the pulley-block S, and the latter is raised or lowered by means of a hoisting-rope T, one end of which passes over one of the sheaves *s* and is knotted so as to hold said end stationary, as shown; then extends down and around the sheave in the said pulley-block, and then up over the sheave *s* journaled in the opposite end of said carrier R and from thence the hoisting-rope passes down to within easy reach of the operator. By pulling down on the hoisting-rope, the pulley-block is lifted until its extended end *t*, which is provided with a head somewhat similar in shape to that of a railroad spike, enters the throat or passage made centrally between the sides of the carrier about midway its length. When the head of the upper extension of the pulley-block approaches the limit of its upward movement, it pushes against the adjacent edge of the trip *w* and by causing said trip to move on its pivot pushes its upper end out from under a catch block F thereby permitting it to fall, and then as the hoisting-rope is slackened and the pulley-block with its load gravitates downward, the head of the extension of said block is caught by the toe extending laterally from the lower arm of the trip (which it will be observed is pivoted about its center of length,) and then holds up the said pulley-block until the stop devices are reached. The catch-block F is, preferably, U-shape, and its extremities are bent laterally outward and normally rest upon the upper edges of the side frames of the carrier, in vertical alignment with the vertical movement which the upper extension of the pulley-block has, when it enters the throat or passage made with reference thereto in said carrier. I make no claim to this hay-carrier, nor to the catch block F, except so far as the extending outward of the extremities thereof is concerned when used in conjunction with my invention.

To make my improved stop devices useful for such a hay-carrier I provide the inner surface of the lower part of its wings D with

lugs *g* and J, J. The lugs J are placed above the ends of the lugs *g*, as shown, and the upper edge of lug *g* is inclined upward from its end to or toward the center of length thereof, so as to provide an incline by which the lateral projecting extremities of the catch block will slide when said carrier reaches said stop devices from either direction. The raising of the catch block F by means of the inclined lug *g* releases the upper end of the trip, which, thereupon, immediately moves under the lower end of the catch block, by reason of the head of the upper extension of the pulley-block pushing laterally against the lower end of the trip, and supports said catch-block in its lifted position so that were said carrier to have acquired sufficient momentum to carry it beyond the apex of the double incline of the lug *g*, it would strike against the lug J and bring it to a complete stop. The carrier is thus held within the confines of the stop device until the catch-block is free to descend to its original position, whereupon it will descend down the incline of the lug *g* under lug J and beyond the confines of the stop device. This last referred to result is accomplished by again pulling upon the hoisting-rope until the upper extension of the pulley-block, enters the throat made with reference thereto in the carrier, and pushes against the edge of the upper arm of the trip so as to move it out from under the said catch-block.

A reference to the aforesaid Letters Patent explains more fully and amply the construction and operation of the hay-carrier, but the explanation here given is sufficient to fully describe the conjoint operation of the said hay-carrier and my improved stop device.

What I claim as new is:

1. The combination with an inverted T-shaped track, and a hay carrier stopping device secured to and over the vertical portion of said track, and carrying on both sides the double inclined lug *g*, of a hay carrier having a vertically movable catch block F the upper ends of which extend above the sides of said carrier and have lateral projections, which engage with said inclines, as set forth.

2. The combination with an inverted T-shaped track, and a hay carrier stopping device secured to and over the vertical portion of said track, and having wings D, D, which arch over the tread of the track and extend downward, as shown, parallel with the vertical portion of the said track, and a suitable distance removed from the side edges of the horizontal portions thereof, and provided with the double inclined lug *g*, as described, of a hay carrier having a vertically movable catch block F the upper ends of which extend above the sides of the carrier and have lateral projections which engage with said inclines, as set forth.

3. The combination of a track having a bead on the upper edge of its vertical part, a casting consisting of legs C, C, having recesses *c'* in their lower edges and wings D, D, projecting laterally from the upper part of said legs and then downwardly a suitable distance so as to stop the progress of a carrier moving on said tracks, a bolt having hooks projecting from each side of the head thereof which grasp and hold the bead of the track between them and a suitable nut *b*, as set forth.

4. A track B having a bead on the upper edge of its vertical part, in combination with a casting consisting of the legs C, C, having recesses *c'* in their lower edges and wings D, D, as described, a bolt E having a rectangular head *e* and hooks *d*, *d*, projecting one on each side on opposite ends of said head and extending downward and inward therefrom, and a nut *b*, as set forth.

5. A track B having a bead on the upper edge of its vertical portion, a casting having the wings D, and devices as described for securing said casting to said track, said wings having suitable lugs *g* and J in their lower edges below the plane of the said track the said lugs *g* having their upper edges formed with a double incline, in combination with a hay carrier having a catch block F which is provided with lateral projections from its upper end which enter the channels in said wings, as set forth.

6. A track B having a bead on the upper edge of its vertical portion, a casting consisting of the legs C having its lower edges provided with recesses *c'* and having wings D projecting laterally from the upper ends of said legs and then extending downwardly to below the plane of the track where their lower edges are provided on the inner surfaces thereof with lugs *g* and J the former having its upper edge provided with a double incline, a bolt E having the hooks *d* projecting, as described, from the head thereof, in combination with a hay carrier having a vertical movable catch block F which latter has lateral extensions from its upper end which extend beyond the sides of said carrier and enter the said channel in the said wings D, as set forth.

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