

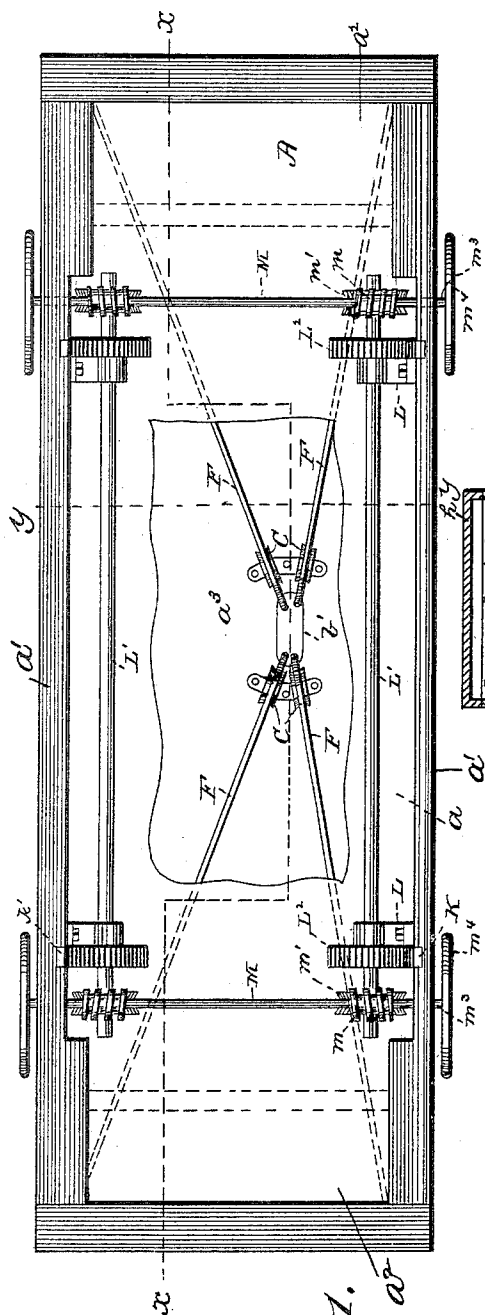
(No Model.)

2 Sheets—Sheet 1.

J. R. WILSON.
STOCK CAR.

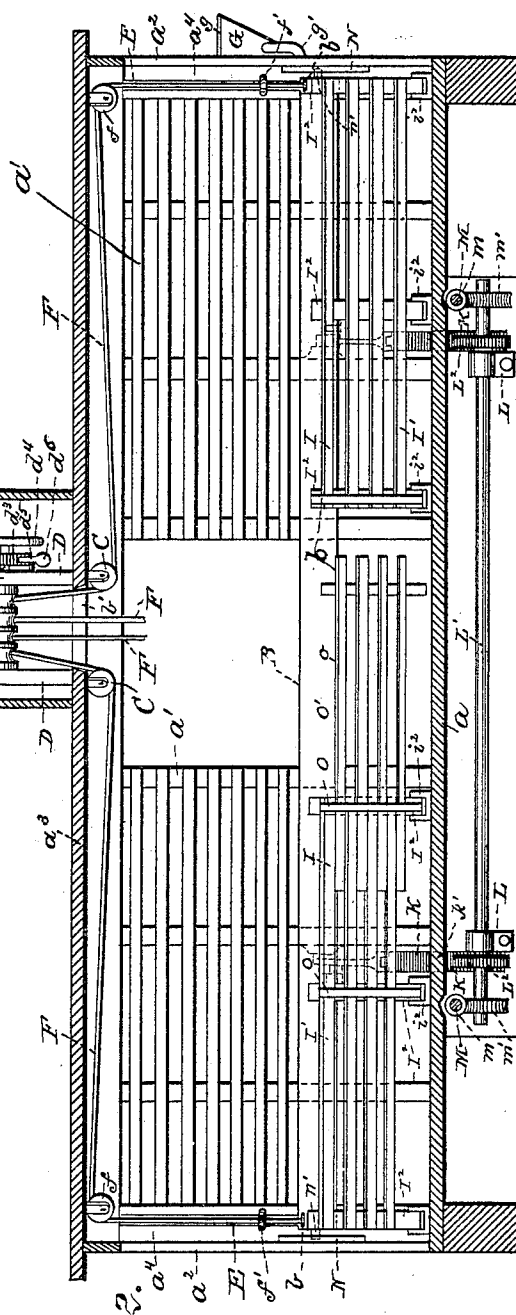
No. 442,161.

Patented Dec. 9, 1890.



Witnesses
M. B. Harris

Alvey Lloyd Law



Inventor
John R. Wilson
By *Henry Rice Garnett*
Attorney

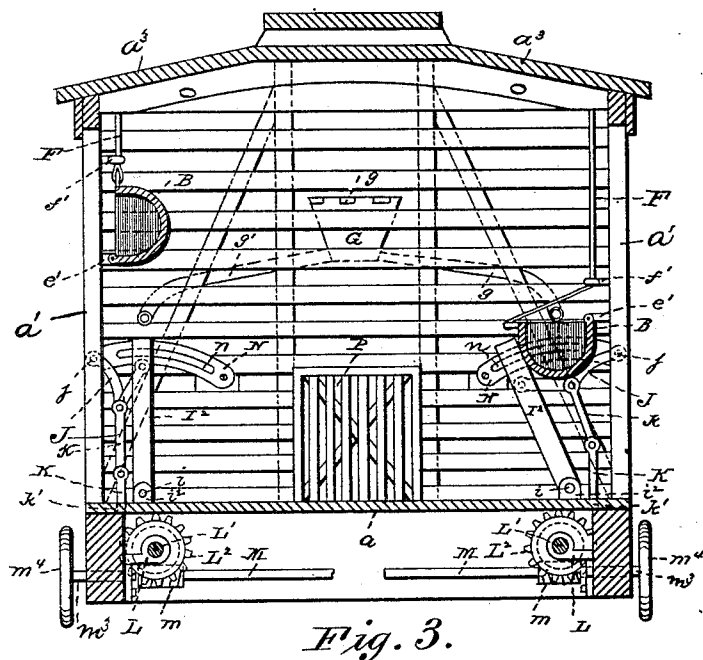
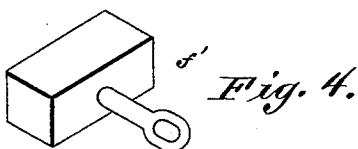
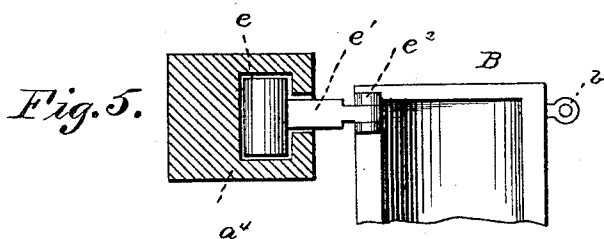
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2 Sheets—Sheet 2.

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Witnesses
N. B. Harris
[Signature]

Inventor
John R. Wilson
By Henry H. Garnett.
Attorney

UNITED STATES PATENT OFFICE.

JOHN R. WILSON, OF FARMVILLE, VIRGINIA.

STOCK-CAR.

SPECIFICATION forming part of Letters Patent No. 442,161, dated December 9, 1890.

Application filed April 21, 1890. Serial No. 348,778. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. WILSON, a citizen of the United States, residing at Farmville, in the county of Prince Edward and State of Virginia, have invented certain new and useful Improvements in Stock-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has relation to stock-cars; and it consists in the construction and novel arrangement of parts, as hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the appended claims, and is designed as an improvement on Patent No. 401,091, granted to me April 9, 1889.

The objects of this invention are to overcome certain defects in the former application, consisting, essentially, of locating the trough-operating ropes upon the inside of the car; to convert the receiving-drum from a vertical to more horizontal ones and provide the same with grooves, whereby all danger of the ropes being wound upon each other and causing the troughs to hang when being lowered is removed; to protect the winding mechanism from the weather by placing a suitable housing over the same, and to provide the car with pivoted adjustable hay-racks, and certain other improvements, as will hereinafter appear.

In the drawings, Figure 1 is an inverted plan view of a car embodying my improvements, partly in section. Fig. 2 is a vertical longitudinal section on the line xx of Fig. 1. Fig. 3 is a transverse section on the line yy of Fig. 1; Fig. 4, a detail view of one of the weighted eyes; Fig. 5, a horizontal section of one of the corner-posts, showing the arm e' attached to the trough.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, the letter A indicates a stock-car of the usual well-known construction, consisting of the bottom a , sides a' , ends a^2 , and top a^3 . Located upon the inside of the car and extending from end to end, as shown in Fig. 2, are troughs B, provided at each end upon their upper outer

edges with eyes b , for a purpose presently explained.

To one side of the longitudinal center of the car and about midway its length in the top a^3 is formed an elongated opening b' , and upon the under side of the top of the car, as shown in Figs. 1, 2, and 3, surrounding said opening, having their sheaves angularly placed to the sides of said opening and in line with the corners of the car, are pulleys C. Journaled in bearings d , formed in uprights D on the top of the car, is a shaft d' , carrying a grooved drum d^2 , said shaft having keyed upon it at one side of the drum a ratchet-wheel d^3 and carrying at its end a crank-wheel d^4 . Engaging the ratchet-wheel and fulcrumed to one of the uprights D is a pawl d^5 , provided at its outer end with a weight d^6 .

The letter a^4 indicates corner-posts of the car, and are provided for a portion of their length with grooves E, in which are adapted to fit and slide the T-shaped ends e of the laterally-extending arms e' , which are loosely pivoted at their outer ends between perforated lugs e^2 , formed on the inner upper edge of the troughs B.

The letter F designates ropes, preferably four in number, having one of their ends secured in its respective groove in the drum d^2 , their opposite ends passed down through the elongated opening b' , around the pulleys C, over pulleys f in the corners of the car, and down through the weighted eyes f' , and their lower ends secured in the eyes b on the troughs. It will be readily seen that, owing to the hinged connection of the troughs at their outer upper edges and the flexible connection with the winding-drum at their upper inner edges, when the ropes are wound up the troughs will tilt outward, as shown in Fig. 3, thus freeing them of stale water or foreign matter that may be in them. The object of the weighted eyes, which are capable of vertical play, is to hold the trough-operating ropes close to the corner-posts to prevent stock from getting their horns or heads caught therein and tilting the troughs when in a lowered position.

Secured in any desired manner to one end of the car is a funnel-shaped tank G, provided with a hinged cover g and having

branching from it at its lower end pipes g' , through which water is fed to the troughs for stock.

To prevent the weather from rotting the operating-ropes, as well as to protect the trough-elevating machinery, I place a suitable housing H over said machinery, provided with a hinged lid h , as shown in Fig. 2.

The letter I designates hay-racks, consisting of the parallel longitudinal strips I' , secured at their middle and ends by the posts I^2 , said posts having at their lower ends perforations i , by means of which they are loosely pivoted between the upstanding perforated lugs i^2 , secured to the bottom of the car.

In order that the hay-racks when not in use may be closed up against the sides of the car, thereby giving more room to the stock, I employ the following means: Loosely pivoted in the sides of the car and to the upper ends of the middle posts I^2 of the hay-racks by pivot-pins j are the hinged levers J , which in turn have loosely pivoted to them links k , which in turn are pivoted to the upper ends of the vertical rack-bars K , which pass down through openings k' in the bottom of the car.

Journaled in bearings L , secured to the bottom sills of the car, are the parallel longitudinal shafts L' , carrying near their ends gear-wheels L^2 , designed to mesh with the rack-shafts K . Journaled in bearings formed in the bottom sills of the car and at right angles to the shafts L' are shafts M , carrying near their ends worms m , meshing with like wheels m' , carried upon the ends of the shafts L' . In order that the shafts M L' may be turned, thereby opening and closing the hay-racks when desired, I place upon the extended squared ends m^3 of shafts M suitable operating wheels or cranks m^4 .

Secured in each end of the car and opposite the ends of the hay-racks I are plates N , having formed therein curved slots n , in which fit and work pins n' , extending laterally from the outer ends of the hay-racks, and which are designed to form a support for the ends of said racks. In order that the racks may be supported at their inner ends, as well as to form a continuation of the racks across the door-openings to prevent stock from getting out when the doors are opened, I secure in any desired manner to the inner and middle posts of opposite sections on one side of the doorway keepers O , adapted to receive and support the slats o of the sliding sections o' , and on the inner posts of the hay-racks, on the opposite side of the doorway, keepers p are secured, in which are adapted to enter and be held the ends of the slats o of the sliding sections o' . It will be noticed that the hinged levers when in their raised position form a cradle or support for the troughs B ; furthermore, that when the troughs are in a raised position, by lowering the hay-racks stock may be forced away from the sides of the car and not interfere with the ready lowering of the troughs, and when seated in the hay-racks it

is impossible for the stock to get their horns or heads under the troughs and tilt them, and to readily permit of feed being passed into the car when it is not desired to open car-doors small doors P are formed in the ends of the car, as shown in Fig. 3.

The operation of my improved stock-car, taken in connection with the above description and accompanying drawings, may be briefly described as follows: Assuming that the troughs B are raised and the hay-racks closed against the sides of the car, then by turning the wheels m^2 the rack-shafts are caused to raise and open the hinged levers, and with them the hay-racks. Then by disengaging the weighted pawl d^6 from the ratchet-wheel d^3 the troughs will be allowed, through their own weight, to descend and rest upon the hinged levers. After the stock has been watered and fed, turning the crank-wheel on the winding mechanism causes the troughs to be raised and tilted outward, emptying them of any matter that may remain therein. Then by turning the wheels m^2 in an opposite direction from that used in lowering the hay-racks said racks may be closed up against the sides of the car.

In practice, should it be found that one winding-drum is not sufficient for raising the troughs, two may be employed, placed upon opposite sides of the top of the car, and the ropes run to each drum from the troughs on that side of the car.

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

1. The combination, with a stock-car and the troughs located therein, having at their outer edges hinged arms and at their inner edges eyes, of ropes secured to the eyes on the inner edges of the troughs, weighted guide-eyes working in grooves formed in the corner-posts of the car above the troughs, through which eyes the ropes pass, and pulleys in the top of the car, over which said ropes pass, and a winding-drum to receive said ropes on the top of the car, whereby the troughs are tilted and raised, substantially as described.

2. The combination, with a stock-car and the troughs located therein, provided with hinged T-shaped arms working in grooves in the corner-posts, of the trough-raising mechanism located upon the top of the car, a suitable housing for said raising mechanism, a flexible connection between the raising mechanism and the inner edges of the troughs, and weighted guide-eyes working in grooves in the corner-posts above the troughs, through which eyes the said flexible connection passes, substantially as described.

3. The combination, with the car and the troughs located therein, provided with hinged arms at their outer edges, ropes secured to the inner edges of troughs, weighted guide-eyes above the troughs working in grooves in the corner-posts, through which eyes the said ropes pass, suitable pulleys upon the interior

of the car, over which said ropes pass, and the winding mechanism upon the top of the car, of the hinged levers carried by the hay-racks and sides of the car, forming a cradle or support for the troughs, substantially as described.

4. The combination, with the car, of hay-racks located therein, having a pivotal connection with the bottom of the car, the hinged levers loosely pivoted in the sides of the car and to the hay-racks, a vertically-adjustable rack-bar having bifurcated ends, links pivoted thereto, which in turn are pivoted to the hinged levers, gear-wheels meshing with the rack-bars, and means, substantially such as described, for operating said gear-wheels for opening and closing the hay-racks.

5. In a stock-car, the combination, with the car and the hay-racks located therein, having a pivotal connection with the bottom of the car, of the hinged levers loosely pivoted in the sides of the car and to the hay-racks, ver-

tically-adjustable rack-bars pivoted to links that in turn are pivoted to the hinged levers, and longitudinal and transverse shafts on the bottom of the car carrying intermeshing worms and gear-wheels, the gear-wheels on the longitudinal shafts meshing with the vertical rack-bars, and hand wheels or cranks on the ends of the transverse shafts for operating said shafts, substantially as described, for the purposes specified.

6. In a stock-car, the combination, with the car and the hay-racks therein, having a pivotal connection with the bottom of the car, of the sliding sections forming a continuation of the racks across the door-opening and the keepers carried by the vertical posts of the racks to engage the parallel rails of the sliding section, substantially as described.

JOHN R. WILSON.

Witnesses:

C. D. DIGGS,

H. A. JOHNSON.