

M. P. HENVIS.
RAILWAY DUMPING CAR.

APPLICATION FILED FEB. 19, 1908. RENEWED MAR. 16, 1909.

962,348.

Patented June 21, 1910.

3 SHEETS—SHEET 1.

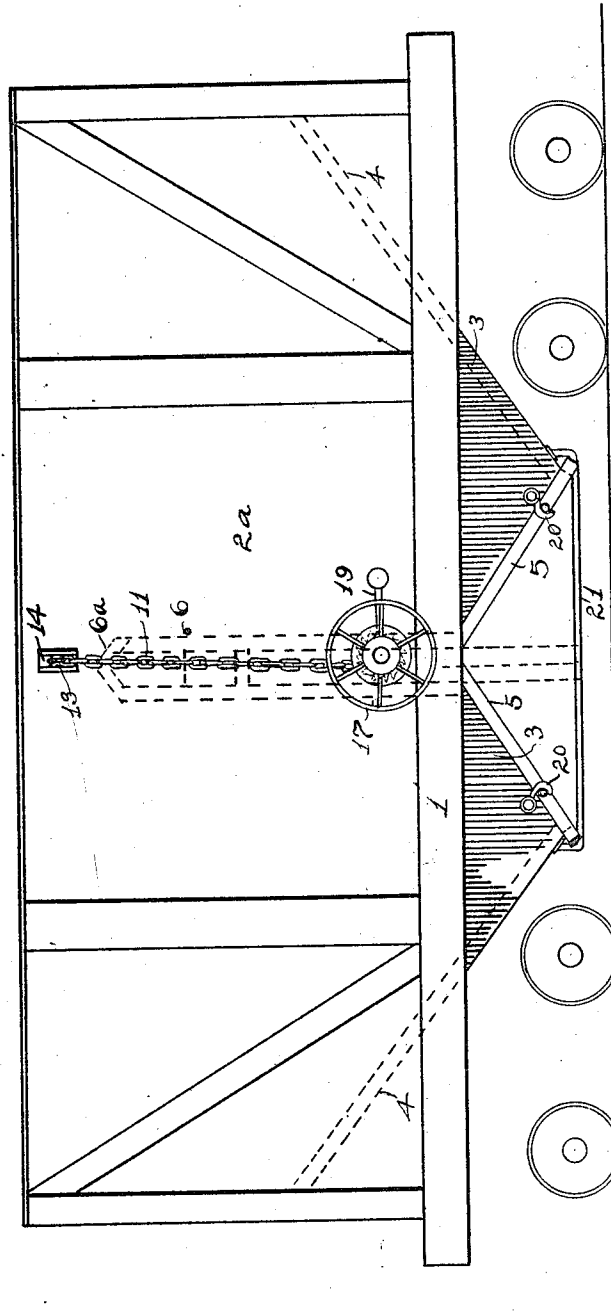


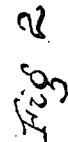
Fig. 1

Witnesses: *Maurice P. Hervis* Inventor
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3 SHEETS—SHEET 2.



Monie Hyman
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By *his* Attorney

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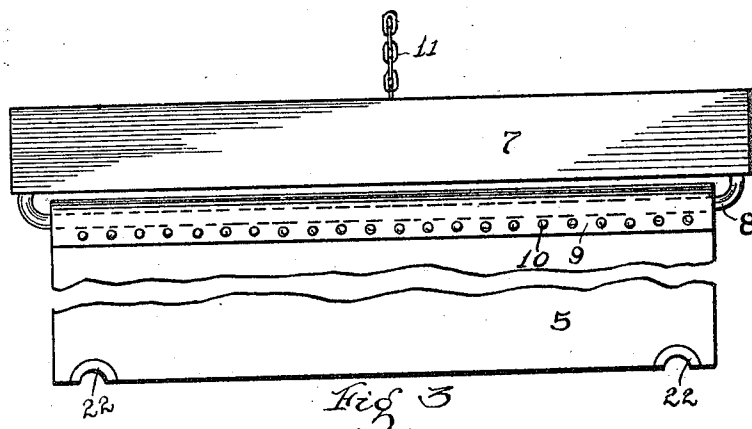


Fig 3

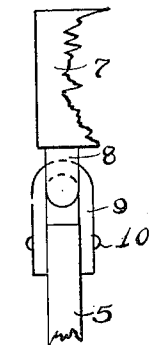


Fig 4

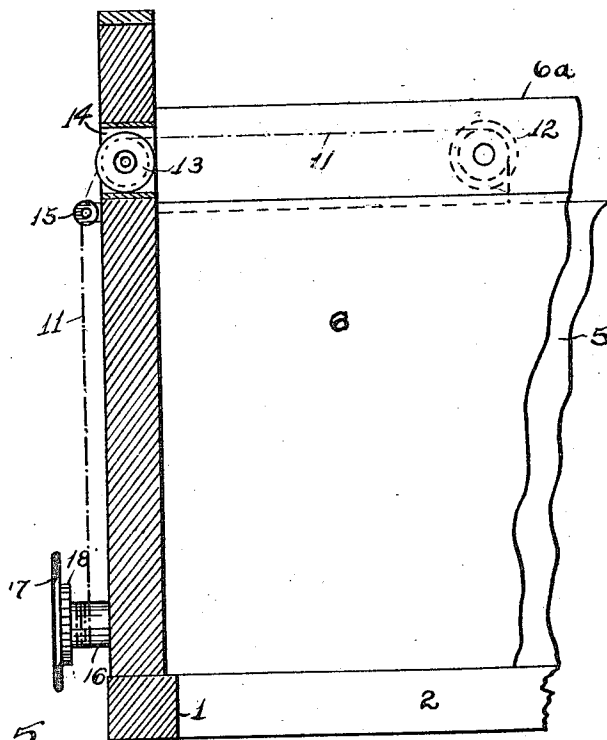


Fig 5

Witnesses:
Morris Hyman
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Maurice P. Hervis Inventor

By his Attorney

Walter B. Burr

UNITED STATES PATENT OFFICE.

MAURICE P. HENVIS, OF NORFOLK, VIRGINIA, ASSIGNOR. BY DIRECT AND MESNE ASSIGNMENTS, TO PATRICK J. HARRIGAN, OF McKEESPORT, PENNSYLVANIA.

RAILWAY DUMPING-CAR.

962,348.

Specification of Letters Patent. Patented June 21, 1910.

Application filed February 19, 1903, Serial No. 416,693. Renewed March 16, 1909. Serial No. 483,868.

To all whom it may concern:

Be it known that I, MAURICE P. HENVIS, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Railway Dumping-Cars, of which the following is a specification.

This invention relates to a dumping car and particularly to a construction having a hopper bottom from which the contents are discharged.

The invention has for an object to provide a novel and improved construction of the discharge door for the bottom which has its pivot connected to a carrier disposed to move into a casing by which the door is bodily removed from the discharge opening and protected against injury when discharging the contents of the car.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined in the appended claims.

In the drawing—Figure 1 is a side elevation of a car having the invention applied thereto; Fig. 2 is a longitudinal section through said car; Fig. 3 is an elevation of the hopper door and carrier therefor; Fig. 4 is a detail end view thereof; and Fig. 5 is a detail vertical section through the car casing.

Like numerals refer to like parts in the several figures of the drawing.

The numeral 1 designates the longitudinal sills and 2 the cross sills of a car 2^a which may be of any desired size or configuration. This car is formed with one or more hopper portions 3 having fixed inclined bottom portions 4 disposed toward the center of the car. Coöperating with these portions 4 are oppositely inclined doors or bottoms 5 which when opened permit the material within the car to be freely discharged. The car is provided with a transverse casing or partition 6 into which the doors 5 are adapted to travel when opened. This casing may be formed with an oppositely inclined upper face 6^a if so desired to prevent material lodging thereon. Within the casing a carrier or beam 7 is disposed to slide and each of the doors is pivotally connected thereto by any desired means. One means for this purpose comprises the rod 8 carried by the under face of

the beam and adapted to receive the U-shaped strap hinge 9 secured to the door 5 by any means, for instance as shown at 10. This carrier may be raised within the casing by any preferred means, for instance, a chain or cable 11 connected thereto and passing over pulley 12 disposed within the casing, thence over idler 13 in the opening 14 formed in the car side and downward over idler 15 to the winding drum 16 as shown in Fig. 5. This drum is provided with a hand wheel 17 for operating the same and also with a ratchet wheel 18 coöperating with a weighted pawl 19 for holding the drum and doors in any desired position. For the purpose of retaining the doors in closed position when the load is upon them pivoted hooks or fasteners 20 are provided, and this is also facilitated by the rod 21 extending from the lower portion of the hoppers and adapted to contact with the U-shaped bearing faces 22 on the doors which prevent wear of the door by frictional contact. These rods guide the doors when being raised to discharge the load and when lowered to close the car bottom, and also prevent the doors at any time swinging downward below the bottom and being injured by contact with the track.

In the operation of the invention the carrier is raised through the connections shown and draws the doors and their pivot upward into the casing so that they are removed from any obstruction to the discharge of material from the car and also from injury during such operation. The vertical inclination of the doors at the same angle as the fixed bottom of the hopper permits the largest discharge opening and prevents the wedging or clogging of coal or other material when the car is being dumped. The central casing divides the load into separate parts also preventing the wedging thereof, and binds the sides of the car together to prevent bulging thus obviating the use of tie rods or other obstructing devices extending across the car. It will therefore be seen that the invention presents a simple, efficient and economically constructed form of dumping car in which the doors are fully protected both against injury from contact with the track or the discharge of material from the car.

Having described my invention and set

forth its merits what I claim and desire to secure by Letters Patent is—

1. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, and means for raising the pivot of said door into said casing.
2. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, and a slidably mounted carrier within said casing upon which said door is pivoted.
3. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, a slidably mounted carrier within said casing upon which said door is pivoted, and means for raising said carrier disposed within said casing.
4. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, a slidably mounted carrier within said casing upon which said door is pivoted, and a cable connection from said carrier extending to a winding drum upon said car.
5. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, a slidably mounted carrier within said casing upon which said door is pivoted, a cable connection from said carrier extending to a winding drum on said car, a ratchet upon said drum, and a pawl mounted to engage said ratchet.
6. The combination with a car having an inclined bottom, of a casing therein, a carrier mounted to reciprocate within said casing, opposite doors pivoted to said carrier, and means for raising said carrier within said casing.
7. The combination with a car having an inclined bottom, of a vertically disposed casing therein, a door forming a portion of said bottom and inclined diagonally to said casing, and means for raising said door into a vertical position within said casing.
8. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, a device for raising the pivot of said door into said casing, and means disposed beneath said bottom to engage the free edge of said door during its opening and closing movement.
9. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, a slidably mounted carrier within said cas-

ing upon which said door is pivoted, and a cross bar extending beneath said door to engage the free edge thereof.

10. The combination with a car having an inclined bottom, of a casing therein, a pivoted door forming a portion of said bottom, a device for raising the pivot of said door into said casing, a cross bar extending beneath said door to engage the free edge thereof, and a recessed bearing upon the edge of said door to contact with said rod.

11. The combination with a car having inclined bottoms, of a casing disposed centrally therein, raising means traveling within said casing, opposite doors pivotally connected to said means, and means for securing said doors when lowered in closed contact with said bottoms.

12. The combination with a car having inclined hopper bottoms, of a casing disposed centrally therein, raising means disposed within said casing, opposite bottom doors pivotally suspended from said means, and means to guide the free ends of said doors as they are opened or closed.

13. A dumping car comprising hoppers, movable bottoms therefor, a central casing disposed in the hopper portion, an elevating beam within said casing and hingedly connected to said bottoms, means for slidably moving said beam, and a rod for guiding said bottoms when opened and closed.

14. The combination with a car having oppositely inclined bottoms, of an intermediate transverse casing, raising means traveling within said casing, and opposite hopper doors pivoted to said raising means and movable vertically into and out of said casing.

15. The combination of doors adapted to control a discharge opening, tracks for guiding the lower edges of said doors in a horizontal plane, and means for guiding the upper edges of said doors in a plane at right angles to said horizontal plane.

16. The combination of doors adapted to control a discharge opening, means for guiding the lower edges of said doors in a horizontal plane, and means for guiding the upper edges of said doors in a plane at a right angle to said horizontal plane.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

MAURICE P. HENVIS.

Witnesses:

WALTER B. BURROW,
EPH. BALL.