

1,028,283.

3 SHEETS—SHEET 1.

Fig. 1.

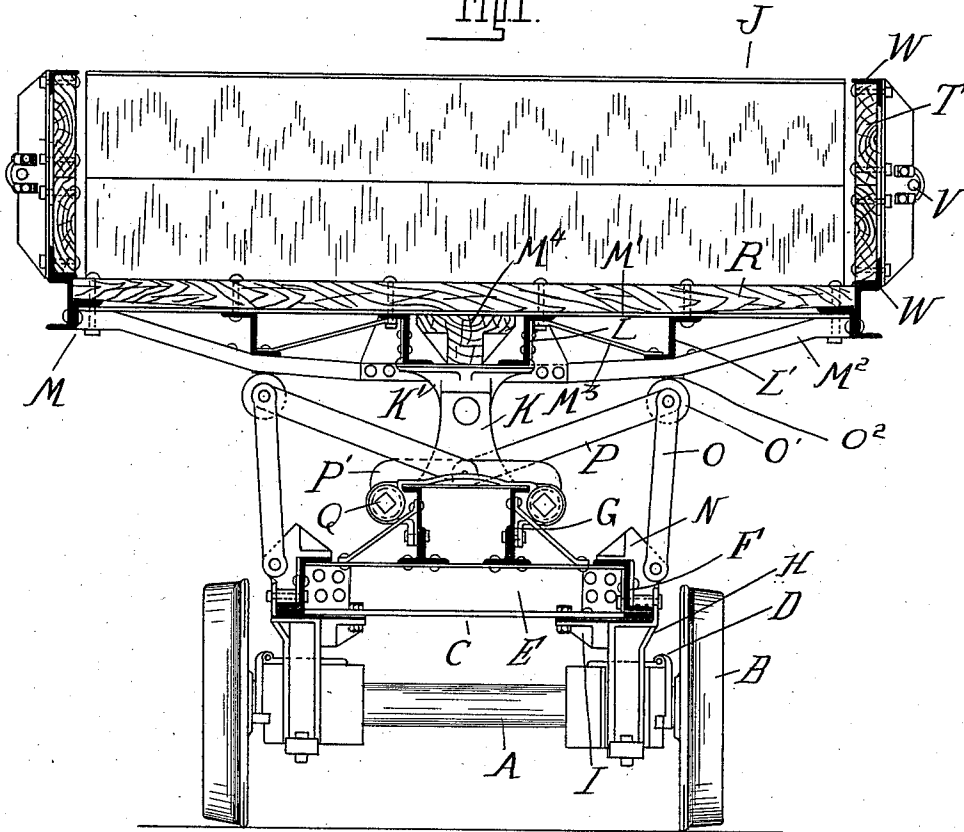
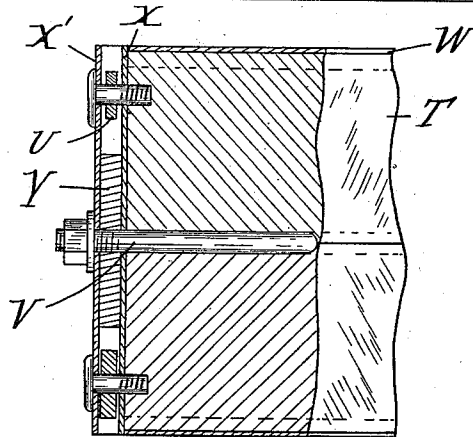


Fig 4.



Witnesses
W K Ford
O B Knap

Inventor
Clinton W. Russell
By Whitcomb Herbert Attys

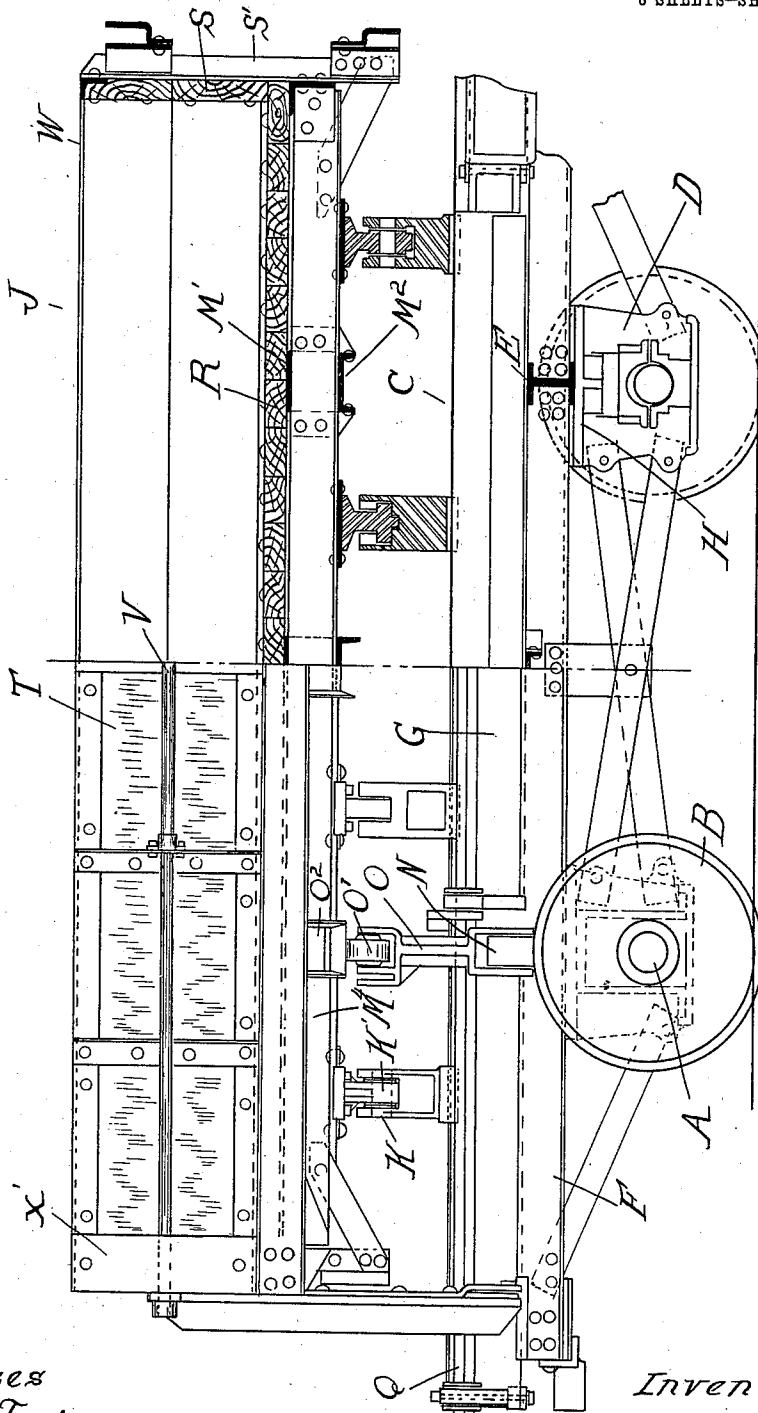
C. W. RUSSELL.
RAILWAY DUMP CAR.
APPLICATION FILED APR. 19, 1909.

1,028,283.

Patented June 4, 1912.

3 SHEETS—SHEET 2.

Fig. 2.



Witnesses
W. D. Ford
H. B. Whelan

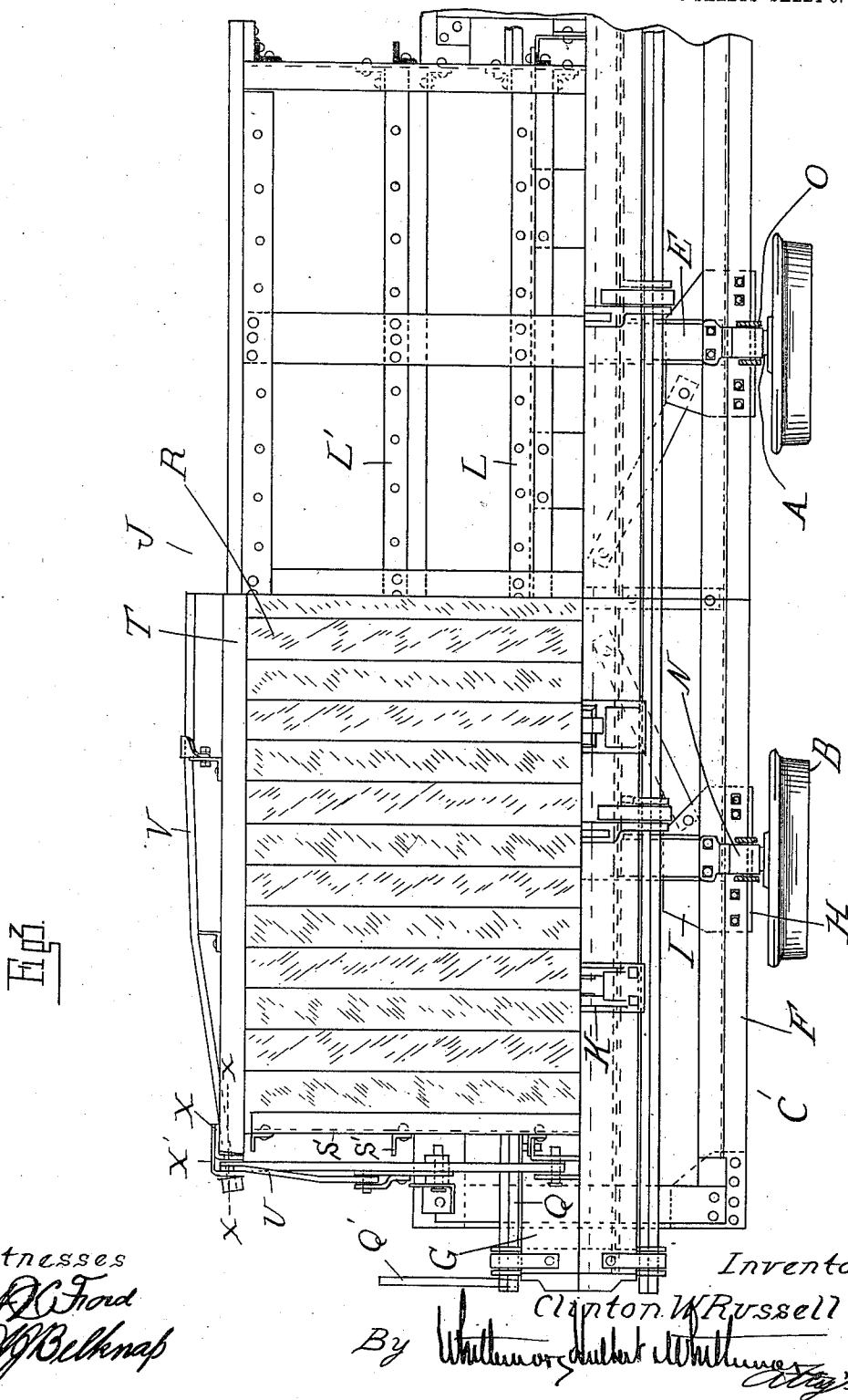
Inventor
Clinton W. Russell
By *Whelan* *Whelan* *Whelan*

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3 SHEETS-SHEET 3.



UNITED STATES PATENT OFFICE.

CLINTON W. RUSSELL, OF DETROIT, MICHIGAN.

RAILWAY DUMP-CAR.

1,028,283.

Specification of Letters Patent.

Patented June 4, 1912.

Application filed April 19, 1909. Serial No. 490,752.

To all whom it may concern:

Be it known that I, CLINTON W. RUSSELL, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Railway Dump-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to railway dump cars and consists in various features of construction particularly designed to secure greater strength, rigidity and durability, together with simplicity and cheapness in construction.

In the drawings; Figure 1 is a sectional end elevation of the car; Fig. 2 is a sectional side elevation; and Fig. 3 is a plan; and Fig. 4 is a fragmentary section through one end of the door.

A are the axles, B the wheels, and C a frame supported thereon preferably through the medium of bearings D arranged on the inside of the wheels. This frame preferably consists of cross beams E arranged above each axle and in the vertical plane thereof, the longitudinal side bars F and the centrally-arranged main sills G mounted upon said cross beams. The beams F are supported upon the bearings D through the medium of brackets H, and these are preferably formed with inwardly-projecting lateral extensions I which form a wide bearing for the beams and brace the brackets from angular movement. The car body J is supported upon this frame by a plurality of rocker bearings K spaced along the longitudinal sills G and is normally held from tilting by the braces upon the opposite sides of the center. It is one of the objects of the present invention to obtain a construction of body with which the stresses from the load upon any portion of the floor will be distributed without distortion of the structure. To this end, the body frame is formed of a series of longitudinal sills L, L', etc., and truss cross sills M. The longitudinal sills preferably extend unbrokenly the entire length of the frame and the central sills L are of greater depth than the sills at the sides. As shown, these longitudinal sills are in the form of Z-bars with vertically-

extending webs and oppositely-extending flanges. The cross sills are formed by upper plates or cord members M' extending across above and secured to the upper flanges of the Z-bars, while below said bars is arranged a bowed cross member M² preferably formed of a channel bar and secured to the lower flanges of the Z-bars. Diagonal braces M³ are also preferably secured to the lower and upper flanges respectively of adjacent Z-bars.

It will be observed that the frame constructed as described is strongly braced and trussed, and that stresses from an unevenly distributed load are conveyed without material distortion of the frame to the rocker bearings K. The upper members K' of these bearings bridge across the central Z-bars to which they are secured and filler blocks M⁴ are preferably placed between the members M' and the members K'.

With the construction as thus far described, it will be observed that the stresses from the load are first carried into the central longitudinal sills G of the frame C and from the latter into the cross beams E, which are directly above the axles and are supported from the bearings D by the brackets H. It is, however, necessary to further support the body upon opposite sides of the rock bearings to prevent tilting, and it is usual to arrange a series of rocker braces along the side members of the truck frame which extend upward and support the body. With such constructions, the load is frequently sufficient to distort these side members of the frame and even to cause the breaking of the same. I have avoided this difficulty by arranging braces directly above the axles so that stresses from the load are conveyed directly through the brackets H to the bearings D, relieving all stress from the side members F.

In detail, N are members secured to the opposite ends of the beams E and constitute abutments for limiting the tilting movement of the body J. These abutments are pivotally secured to brace arms O which, at their upper ends, preferably carry rolls O' and are connected by toggle links P, P' to the central sills G. The links P' are mounted upon rock shafts Q which extend to the end

of the frame C and are there provided with operating levers Q'. Thus by rocking the shafts Q the links P, P', may be folded, rocking inward the brace arm O, and permitting the tilting of the body. The roll O' preferably engages a bearing O² arranged in one of the channel members M², and this bearing is of sufficient length to contact with the roll during its entire travel.

10 The car body J may be of any suitable construction, comprising a floor R secured directly to the frame, and end plates S which are secured to uprights S' attached to the frame. The side doors T of the body are secured to links and operating mechanism forming no part of the present invention, by which they are withdrawn as the body is tilted. The links U are pivotally secured to the ends of the doors T, and there is also a truss rod V extending centrally and longitudinally of the door. In order to provide rigid abutments for this truss rod I preferably form the door with longitudinally-extending metallic members, preferably angle bars W, at the upper and lower edges thereof and at the end arrange a pair of vertically-extending angle bars X, X'. These bars X, X', are spaced to receive the links U having a filler block Y between them at the point of engagement with the truss rod V. The bars X, X', are secured to the bars W and abut against the ends thereof and thus a perfectly rigid strut member is formed for the truss rod without depending upon the planks which form the body of the door.

What I claim as my invention is:

1. In a dump car, a door comprising a plank body, metallic angle bars forming edge-binding strips, a pair of angle bars at the end of said door having overlapping flanges secured to the side and spaced flanges parallel to the end of the door, the inner of said spaced flanges bearing against the ends of said edge-binding strip, and a link for swinging the door pivoted between said spaced flanges.

2. In a dump car, a door comprising a plank body, metallic angle bars forming edge-binding strips extending longitudinally of said body, a pair of angle bars at the end of said body, having overlapping flanges secured to the sides and spaced flanges parallel with the end of said body, a filler block between said spaced flanges in the central portion thereof, a truss rod passing through an aperture in said flanges and filler block, and anchored thereto, and a swinging link pivoted between said spaced flanges.

3. In a dump car, the combination with the axles, of journal bearings thereon, a cross beam supported upon said bearings in the vertical plane of the axles, a longi-

tudinal sill supported centrally upon said cross beam, a platform and a side support for the platform in the vertical plane of said axles.

4. In a dump car, the combination with an axle, and a rigid platform; of a central rocker support for said platform, a cross beam in the vertical plane of the axle bearing said central rocker support and a side support for said tilting platform in the plane of said axle and mounted upon said cross beam.

5. In a dump car, the combination with an axle, of a cross beam arranged in the vertical plane of said axle, journal bearings on said axle and brackets upon said journal bearings having inward lateral extensions forming a wide supporting bearing for said cross beam.

6. In a dump car, the combination with the wheeled axle, of journal bearings upon said axle inside the wheels, a cross beam in the vertical plane of said axle, and a bracket having an inward lateral extension forming a wide supporting bearing for said cross beam and resting upon said journal.

7. In a dump car, the combination with a pair of wheeled axles, of cross beams in the vertical planes of said axles and supported thereon, longitudinal tie beams at the opposite ends of said cross beams, a sill supported centrally upon said cross beams, a tilting platform having a rocker bearing upon said sill and side bearings for said platform in the planes of said axles and mounted upon said cross bars.

8. In a dump car, the combination with an axle, of a cross beam in the plane of said axle and mounted thereon, a central longitudinal sill supported upon said cross beam, a tilting platform having a rocker support on said central sill, a rocker brace forming a side support for said platform pivotally mounted upon said cross beam, and toggle links for rocking said brace.

9. The combination with an axle, of a tilting platform, a central rocker support for said platform, a cross beam in the vertical plane of the axle and supported thereon forming the support for said rocker bearing, a rocker brace secured to said cross bar in the plane thereof and forming a side support for said tilting platform, and a bumper at the end of said cross beam forming a support for said platform in tilted position.

10. In a dump car, the combination with a platform, of axles, journal bearings on said axles, a cross beam supported upon said bearings in the vertical plane of the axles, a longitudinal sill supported centrally upon said cross beam, and a central rocker support for said platform carried by the longitudinal sill.

11. In a dump car, the combination with
a platform, of a plurality of longitudinal
Z-shaped braces therefor, cross trusses hav-
ing cord members, and diagonal braces en-
gaging respectively the upper and lower
5 flanges of said Z-shaped members, and a
central rocker support for said platform.

In testimony whereof I affix my signature
in presence of two witnesses.

CLINTON W. RUSSELL.

Witnesses:

NELLIE KINSELLA,
W. J. BELKNAP.

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