W. R. SCOTT.

BALLAST CAR.

APPLICATION FILED APR. 6, 1921.

1,418,402.

Patented June 6, 1922.

2 SHEETS—SHEET 1.

Fig. 1.

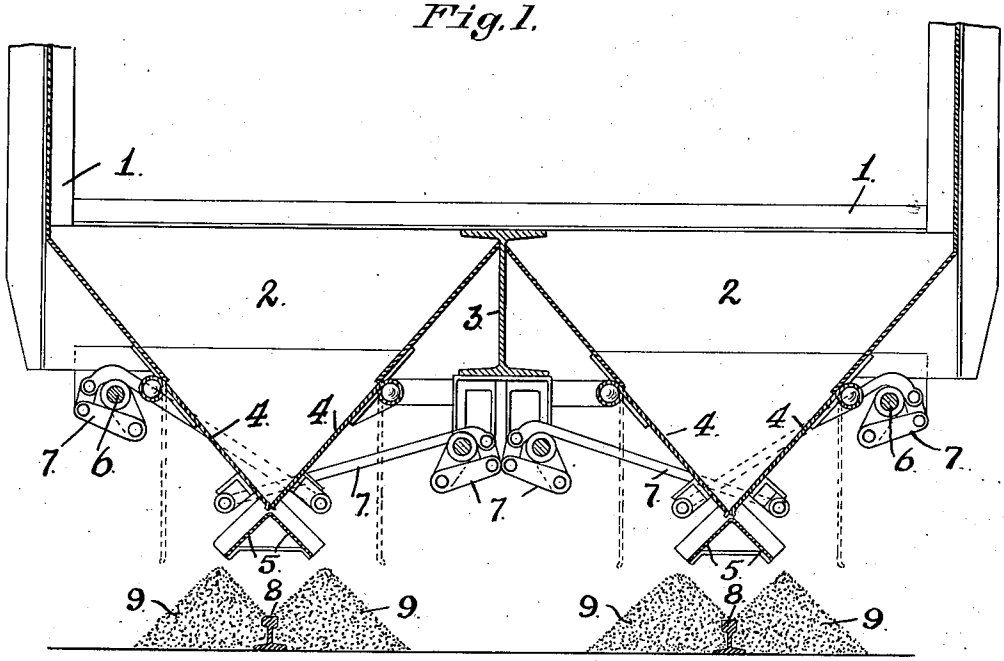


Fig. 2.

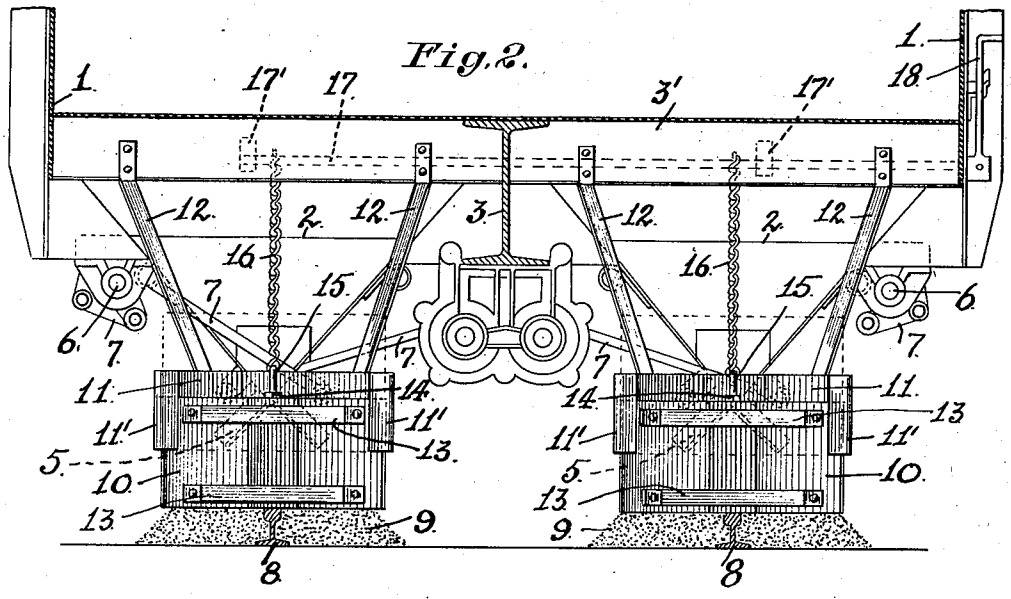
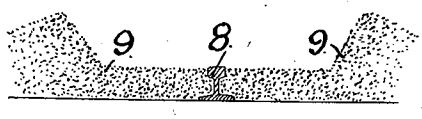


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

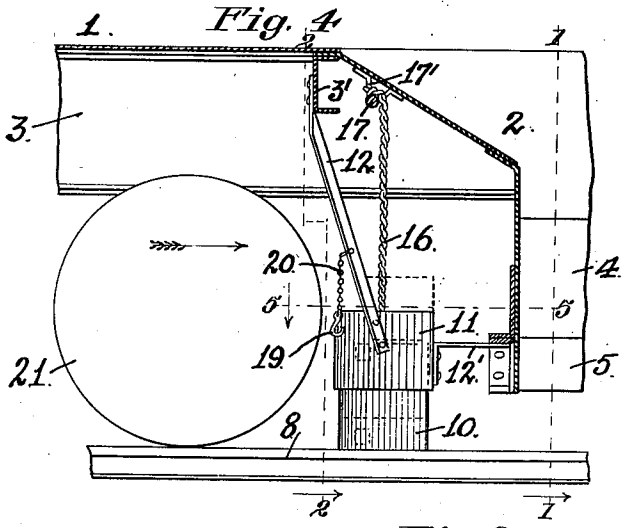


Fig. 5.

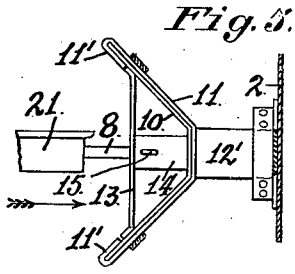


Fig. 6.

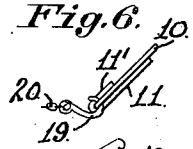


Fig. 7.

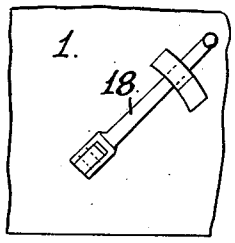


Fig. 8.

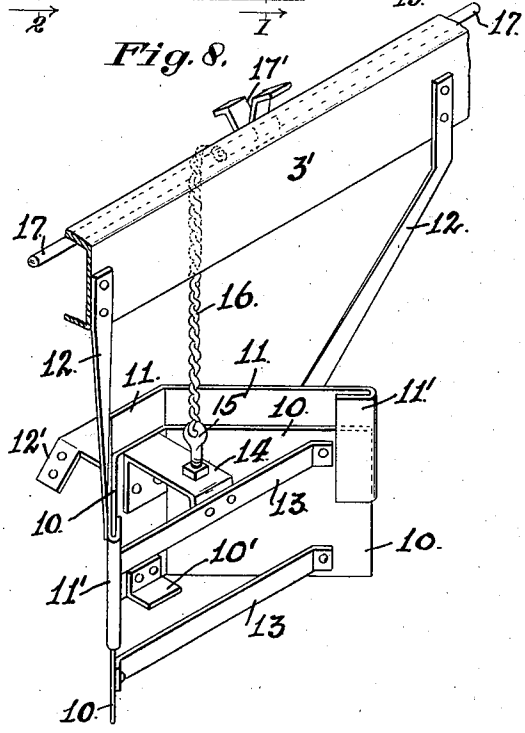
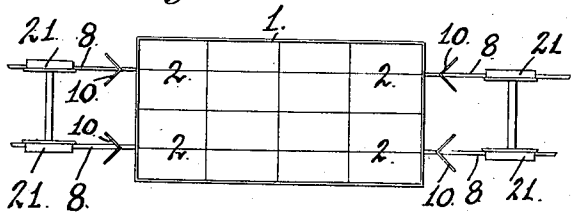


Fig. 9.



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UNITED STATES PATENT OFFICE.

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BALLAST CAR.

1,418,402. Specification of Letters Patent. Patented June 6, 1922.

Application filed April 6, 1921. Serial No. 459,079.

To all whom it may concern:

Be it known that I, WILLIAM R. SCOTT, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Ballast Cars, of which the following is a specification.

My invention relates to that class of ballast-cars or gondola cars used for ballast purposes, in which provision is made, by means of door or slide controlled dumping pockets, for the distribution of material in rows deposited adjacent the rails, either outside or inside or both, and with or without a diverting member to assist in the distribution.

The object of my invention is to clear the rails of the deposited material ahead of the car wheels, thus preventing derailments, and at the same time to distribute such material to either or both sides of the rail properly and efficiently.

To this end my invention consists in the novel improvement in ballast-cars which I shall hereinafter fully describe by reference to the accompanying drawings, in which—

Fig. 1 is a vertical transverse section of the body of a ballast car taken on the line 1—1 of Fig. 4, looking in the direction of the arrows and showing the dumping pockets one on each side of the center member of the car; the distributing angle members associated with the pockets; and the initial effect, with regard to the rails, of the deposition of the material.

Fig. 2 is a vertical transverse section of the car body taken on the line 2—2 of Fig. 4, looking in the direction of the arrows, and showing the rail-clearing and spreading members and their effect in cleaning the heads of the rails and distributing the material to each side.

Fig. 3 is a cross sectional view of the ballast showing it after the rail is cleared.

Fig. 4 is a longitudinal section of a portion of the car, showing the rail clearing and spreading member in side elevation and in operative position with respect to the dumping pocket, the car wheel and the rail.

Fig. 5 is a horizontal section on the line 5—5 of Fig. 4.

Fig. 6 is a detail view of the safety-hook for positively carrying the rail clearing and spreading member in non-functional position.

Fig. 7 is a detail of the end lever for operating the winding shaft of the adjusting mechanism of the rail clearing and spreading members.

Fig. 8 is a perspective view of the rail-clearing and spreading member showing its mounting and means for adjustment.

Fig. 9 is a diagrammatic plan view, on a reduced scale, showing the relation of the track-clearing and spreading members to the car, its wheels and the rails.

Referring particularly to Fig. 1, the numeral 1 indicates the body of a car having dumping pockets 2 on each side of a central member 3, said pockets having controlling gates 4, which, as shown by the dotted lines, are adapted to open in order to dump the material from the pockets. 5 indicates diverting members to assist in the distribution of the gravel. 6 are rock shafts which through a system of cranks, levers and links indicated generally by 7 operate the gates 4. These are all parts of a well known type of ballast car and need no further description, the showing here made being ample for the full disclosure of my improvements.

In Fig. 1 the general effect of the dumping and distribution of the material with relation to the rails 8, is indicated by the rows of mounds or piles of the material 9; and it will be seen from this showing that which in practice takes place, namely, that the ballast material does not sufficiently clear the rails, so that in dumping successive cars the rails are so obstructed as to derail the cars.

The object of my invention is to avoid this difficulty, and I accomplish said object by the provision of rail-clearing and spreading members attached to the car behind the dumping pockets and ahead of and so located with respect to the wheels as to remove the surplus of material from the rail heads and to distribute it properly to the side.

Referring now to Figs. 4, 5 and 8, the nature of the rail-clearing and spreading members, their mounting and adjustment and their relation to the dumping pockets, the wheels and the rails will clearly appear.

The rail clearing and spreading member indicated by the numeral 10 is a three sided structure, forming a plow-like device with a double mold board or rearwardly divergent wings joining a flattened front. This structure is mounted for vertical adjustment in a housing guide 11 of substantially similar shape, said housing having bent ends 11′ in

which the ends of the member 10 slidably fit.

The housing guide 11 is rigidly suspended from a sill or cross beam 3′ of the car 1 by means of hangers 12, and a brace 12′ to the dumping pocket wall—Figs. 4 and 5. The clearing member 10 is fitted with braces 13 between its wings and with a suspension bracket 14, having an eye-bolt 15 (Fig. 8) to which is connected a chain or cable 16, which passes up to and is adapted to wind upon and to unwind from a cross shaft 17 mounted in bearings 17′ under the dumping pocket wall, Fig. 4, and rotated by a lever 18 (Figs. 2 and 7) on the side of the car. By these means the clearing member 10 may be adjusted vertically to vary the relation of its lower edge to the track rail. 10′ is a wearing shoe on the bottom of the front of member 10, Fig. 8. In order to safely carry the clearing member 10 in its elevated or non-functional position, there is a hook 19, carried by a chain 20, Fig. 4, from one of the hangers 12, said hook being adapted when the upper edge of the member 10 rises above the upper edge of the housing guide 11 to be passed into a hole in the projecting edge of member 10, as seen in Fig. 6.

As shown in Figs. 4 and 5, the rail clearing and spreading member 10 is located above the track rail 8, in advance of the car wheel 21, and behind the dumping pocket 2, with its front pointing away from the wheel and towards the pocket. The effect of the member, thus arranged is shown in Fig. 2, wherein it is shown in functional position operating along the rail head and on each side thereof, clearing the rail and distributing the material to each side level with the rail head; and in Fig. 3, such surplus material as may be pushed aside and rise in mounds is safely distant from the rail.

There will, of course, be one of these rail clearers associated with each rail and dumping pocket, and as shown in Fig. 9, in order to provide for the reversal of the car-travel, a pair of such members will be located at each end of the dumping pockets in proper relation to the wheels they protect.

I claim:—

1. In a ballast car means overlying each rail of the road-bed for dumping material thereupon, a rail clearing and spreading member with divergent wings, under the car to the rear of the dumping means and in advance of the car-wheel, adapted to clear from the rail the material dumped and spread it sidewise; a housing guide of substantially the shape of said member and in which it is slidably mounted for adjustment to and from functional position; means for fixedly carrying said housing guide under the car; and means for adjusting the rail-clearing and spreading member.

2. In a ballast car means overlying each rail of the road-bed for dumping material thereupon, a rail clearing and spreading member with divergent wings, under the car to the rear of the dumping means and in advance of the car-wheel, adapted to clear from the rail the material dumped and spread it sidewise; a housing guide of substantially the shape of said member and in which it is slidably mounted for adjustment to and from functional position, said guide having divergent wings with terminal bent ends to receive the ends of the wings of the spreading member; means for fixedly carrying said housing guide under the car; means for adjusting the rail-clearing and spreading member; and means for locking said member out of functional position.

In testimony whereof I have signed my name to this specification.

WILLIAM R. SCOTT.