

C. P. ASTROM.
DUMPING CAR.
APPLICATION FILED JAN. 9, 1911.

1,037,848.

Patented Sept. 10, 1912.

2 SHEETS—SHEET 1.

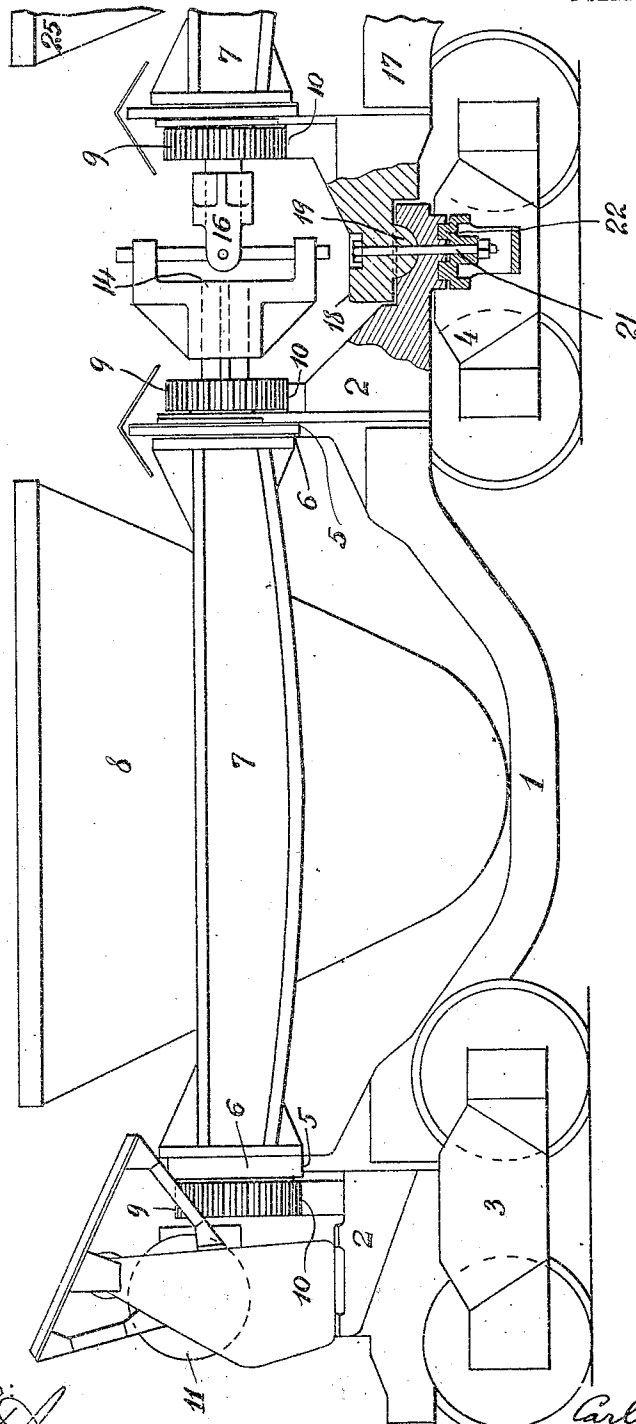


Fig. 1

Witnesses:
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Geo. Kerr

Inventor
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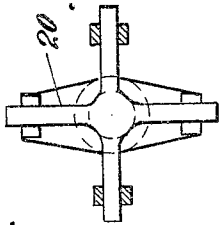


Fig. 5

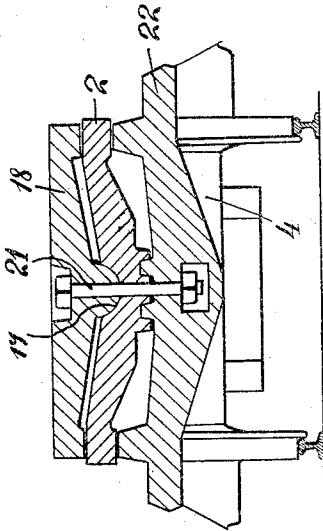


Fig. 3

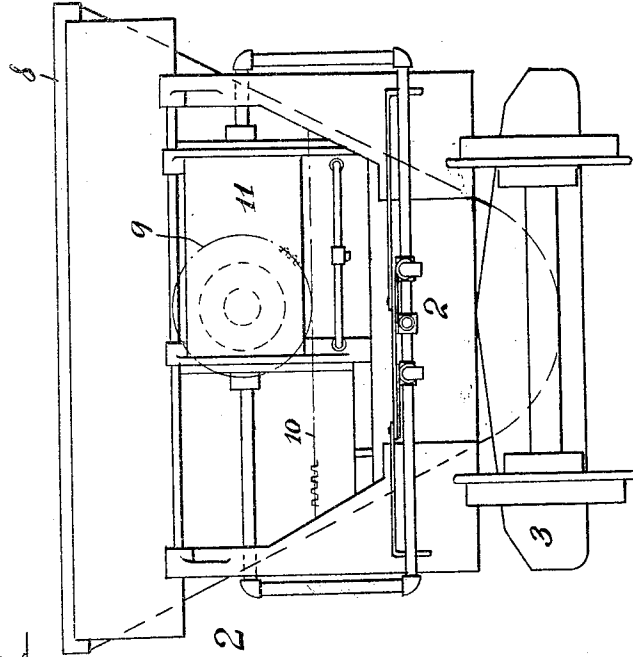


Fig. 2

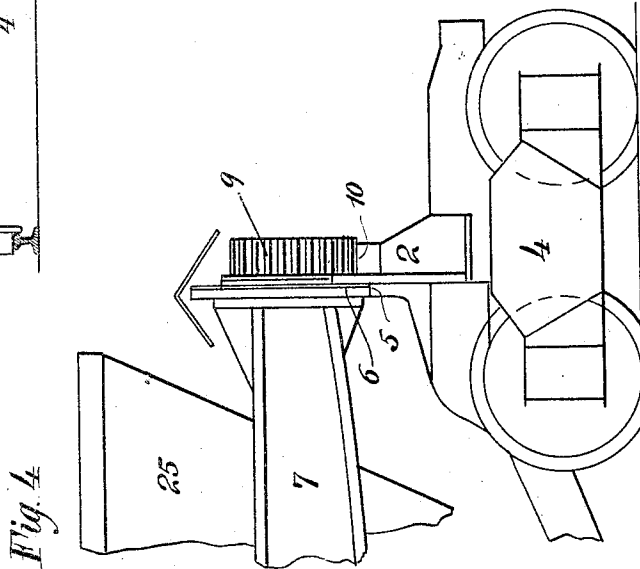


Fig. 4

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UNITED STATES PATENT OFFICE.

CARL P. ASTROM, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO M. H. TREADWELL COMPANY, A CORPORATION OF NEW YORK.

DUMPING-CAR.

1,037,848.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed January 9, 1911. Serial No. 601,503.

To all whom it may concern:

Be it known that I, CARL P. ASTROM, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Dumping-Cars, of which the following is a full, clear, and exact specification.

This invention relates to dumping cars, and more particularly has reference to improvements whereby a plurality of car bodies can be simultaneously dumped from a single motor mounted on one of the car bodies.

The invention is more especially applicable to what are known as cinder cars, which as heretofore constructed, have each had a dumping motor, and which have been coupled together in trains by ordinary coupling devices, the motors being actuated usually by fluid pressure.

According to this invention, I propose to so connect two or more car bodies with a single actuating motor in such manner that this motor can simultaneously operate one or several car bodies, and thereby save not only the expense of providing each car body with its own motor, but also to save time and labor in operating the cars.

As herein shown, the invention is applied to car bodies of the tilting and bodily movable type, wherein the body or ladle is supported in a yoke provided with trunnions which roll on tracks on the car frame, the motor being mounted on the frame and having its moving element connected with one of the trunnions in a well known manner. The trunnion opposite to the one connected to the motor is extended and provided with a universal coupling which connects with the trunnion of the adjoining car body, and the number of car bodies so connected need only be limited by the power of the motor. The car bodies themselves are pivotally connected by a joint or coupling capable of horizontal motion to permit the cars to go around curves, and also a vertical movement of one car body relatively to another so that they may ride over inequalities in the track without straining the joint. The universal coupling connecting the trunnions will

therefore permit the motor to operate a plurality of car bodies, even when not exactly in line.

The invention will be more fully understood in connection with the description of the accompanying drawings, wherein—

Figure 1 is an elevation of a portion of two cars embodying the invention; Fig. 2 is an elevation of the motor end of one car; Fig. 3 is a vertical section showing the connection between the car frames; Fig. 4 is an end elevation of one of the car frames showing the manner of supporting the body, and Fig. 5 is a detail view of the couplings between the car bodies.

1 represents a car frame having pedestals 2, 2, having at one end a pivoted truck 3, preferably of standard railway type, supporting the car frame in the usual manner. At the other end of the frame is mounted a second truck 4, which carries the weight of the adjoining ends of two cars. The pedestals 2 are formed with trucks 5, on which roll trunnions 6 carried by a yoke 7, which latter supports the car body or ladle 8. Rigid with the trunnions 6 are gear wheels 9, which roll on fixed racks 10 carried by the pedestals 2, and to one of the trunnions is attached the moving element of a motor cylinder 11.

The motor cylinder and its actuating mechanism are unnecessary to be described herein specifically, being substantially like that described in my Patent No. 928,837, dated July 20, 1909, or in accordance with other well known constructions, wherein fluid checking means may be adapted for controlling the movements of the car bodies. Suitable couplings will be provided at the forward end of the car to connect it to a locomotive. At the rear end, the trunnion carries a universal coupling member 14, which is connected with a similar member 16 carried by the trunnions of a second car body 17. The connection is made by a four armed cross or spider 20 which has a sliding engagement with the respective coupling members 14, 16. (See Fig. 5.) The pedestal of the second car body is provided at one end with an overhanging portion 18 and a spherical projection 19 which engages in a

spherical depression in the end of pedestal 2 of car frame 1.

21 is a pin passing loosely through the end 18 of car frame 17 and the end of car frame 1, and suitably bolted, there being sufficient play to allow the car frame 17 to swing vertically without bending the pin 21, and to swing horizontally in the spherical depression in the other car frame. The pin 21 is in vertical alinement with the axis of the universal coupling 14, 16, so that when the cars swing relatively to each other the couplings will have a corresponding movement. To assist this, one of the coupling members, as 14, will be splined to its trunnion, it being understood that no longitudinal or pulling strain is applied to the trunnion coupling, as this is all taken by the shoulder 19 on the end of one car frame fitting into the socket in the adjoining car frame.

In Fig. 3, 22 is the cross bearer or bolster of the truck 4. It will be seen that the bolster 22 of the truck 4 can turn relatively to the end frame 2, as is the usual practice, and that the end 18 of the second car can also turn relatively to this bolster on the same vertical axis, and thereby the truck 4 operates equally well for both bodies. The rear end of the frame 17 of the second car is shown in Fig. 4, and the body represented by 25, a second truck 4 being provided to support the rear end, and the yoke being mounted on tracks and operated by rack and gear in the same manner as before described.

From the foregoing description it will be seen that a number of car bodies can thus be operated by a single motor, and thereby considerable expense saved, and also labor. Also, it will be seen that by providing a truck for supporting the ends of two cars simultaneously, there will be a less number of trucks required to carry the same amount of weight. In case it were desired to use only one car, it will be seen that the motor car is complete in itself, and that the other car can easily be disconnected at the universal coupling by removing the bolt 21, and a casting adapted for ordinary couplers easily substituted.

It is thought that the nature and advantages of the invention will be fully understood from the foregoing description, and various changes and modifications within the scope of the appended claims may be made without departing from the invention.

Having thus described my invention, I declare that what I claim as new and desire to secure by Letters Patent is,—

1. The combination with a plurality of separately supported tilting and bodily movable dumping car bodies, of an actuating motor coupled to the supporting means of one of said car bodies, and power trans-

mitting couplings connecting the supports of said car bodies whereby to effect simultaneous operation by one motor.

2. The combination with a plurality of separately supported tilting and bodily movable dumping car bodies, of actuating means connected to the support of one of said car bodies, and a universal driving coupling between the adjacent supports of said car bodies.

3. The combination with a plurality of separately supported tilting car bodies, of an actuating motor connected to one end of the tilting support of one of said car bodies, and a mechanical actuating coupling between the other end of said tilting support and one of the tilting supports of an adjacent car body.

4. The combination with a plurality of separately supported dumping car bodies, of an actuating motor connected to one of said bodies, and a universal coupling between said body and another body.

5. The combination with a plurality of separately mounted dumping car bodies, of an actuating motor connected directly to one of said car bodies, trunnions supporting said car bodies, and a universal coupling connecting said trunnions.

6. The combination with a plurality of car trucks, and a plurality of dumping car bodies supported thereby, of a pivoted coupling connecting the frames so that adjacent cars have a common support, a truck pivoted coincidently with said pivotal connection, and a universal actuating coupling connecting said car bodies whereby they are operable simultaneously.

7. The combination with a plurality of car frames pivoted together at one end, of a truck having its axis coincident with said pivotal connection, trucks supporting the other ends of said car frames, car bodies carried by said frames, a motor on one of said car bodies having connections to dump the car body, and a flexible coupling connecting said car bodies whereby to operate them simultaneously.

8. The combination with a plurality of car frames pivoted together at adjacent ends, of a truck bolster pivoted to one of said frames coincidently with said pivotal connection between the frames, a truck carried by said bolster, separate wheel supports for the other ends of said frames, tilting and bodily movable car bodies carried by said frames, a universal coupling between the supports of said car bodies, and an actuating motor mounted on one of said car frames and connected to the support of one of said car bodies.

9. The combination with a plurality of car frames pivoted together at adjacent ends, of a truck bolster pivoted to one of

said frames coincidently with said pivotal connection between the frames, a truck carried by said bolster, separate wheel supports for the other ends of said frames, car bodies carried by said frames, a universal coupling between the supports of said car bodies, and an actuating motor mounted on one of said car frames and con-

nected to the support of one of said car bodies.

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

CARL P. ASTROM.

Witnesses:

J. S. WOOSTER,

GEO. N. KERR.

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