No. 746,555. PATENTED DEC. 8, 1903.

E. I. MOREY.

DUMPING CAR.

APPLICATION FILED APR. 22, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

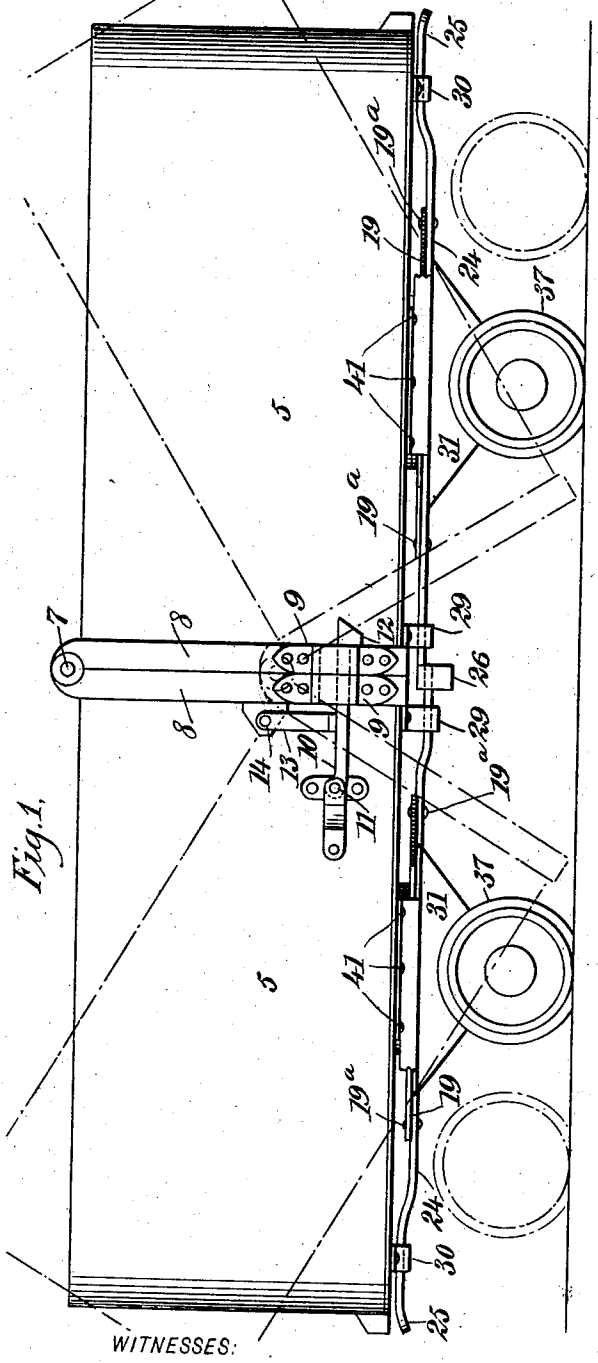


Fig. 1.

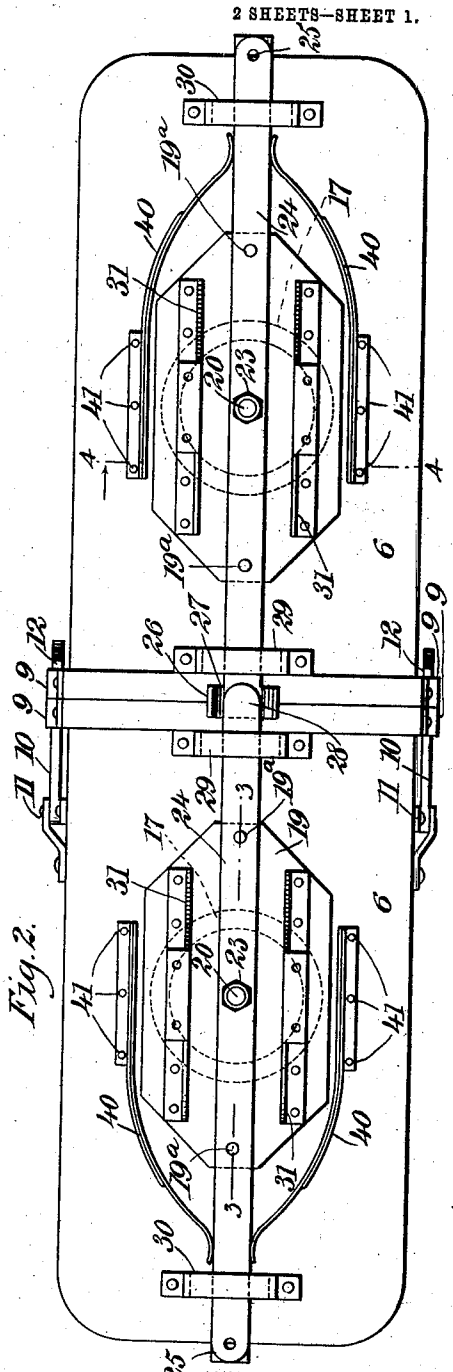


Fig. 2.

WITNESSES:

Edward Thorpe.

E. E. Ellis

INVENTOR

Edward I. Morey

BY

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 746,555. PATENTED DEC. 8, 1903.

E. I. MOREY.

DUMPING CAR.

APPLICATION FILED APR. 22, 1903.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

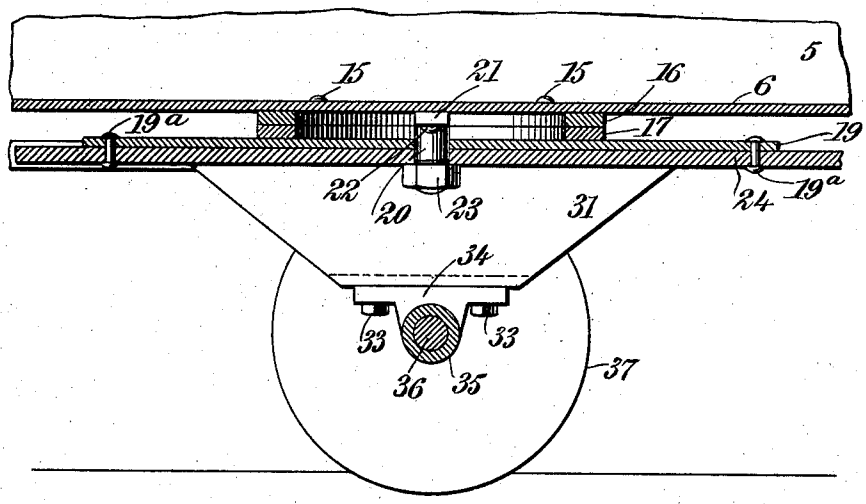


Fig. 4.

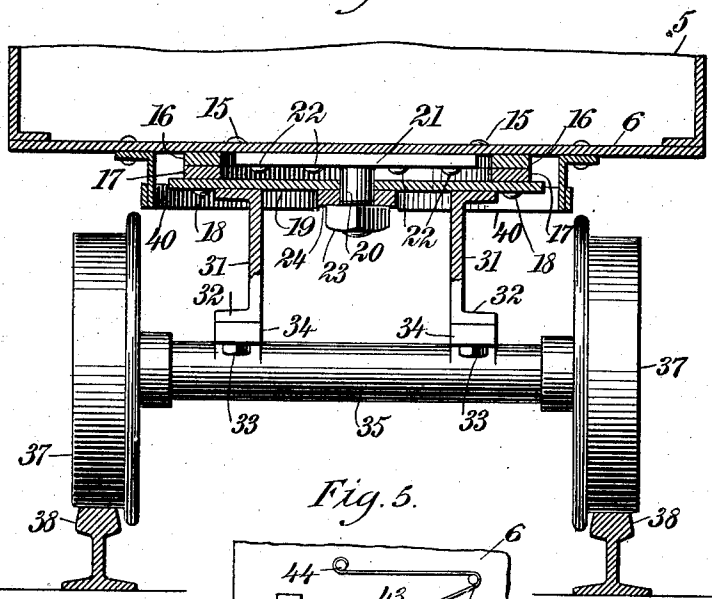
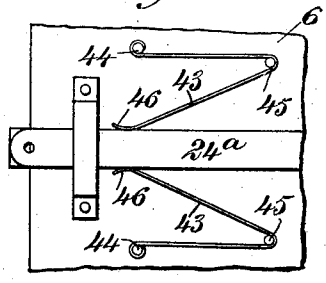


Fig. 5.



WITNESSES:

Edward Thorpe.

E. E. Ellis

INVENTOR

Edward I. Morey

BY Munn & Co

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 746,555. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

EDWARD IVES MOREY, OF TELLURIDE, COLORADO, ASSIGNOR OF ONE-THIRD TO GEORGE E. COLLINS, OF DENVER, COLORADO.

DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 746,555, dated December 8, 1903.

Application filed April 22, 1903. Serial No. 153,773. (No model.)

To all whom it may concern:

Be it known that I, EDWARD IVES MOREY, a citizen of the United States, and a resident of Telluride, in the county of San Miguel and State of Colorado, have invented new and useful Improvements in Dumping-Cars, of which the following is a full, clear, and exact description.

This invention relates to railway-cars; and it consists, substantially, in the improvements hereinafter particularly described and claimed.

Though applicable to railway-cars of different types, my improvements have reference more especially to dumping-cars, such as are employed in mines—for instance, for transporting loads of ore from one point to another—and the principal object of my invention is to provide a car of this kind which is both simple and effective, besides being reliable in use and possessing the capacity for long and repeated service.

A further object of the invention is to provide an improved running-gear or trucks for the car to facilitate the turning of curves traversed by the wheels of the car, and also to provide effectively operating devices whereby the dumping-sections of the car may be raised and lowered in the ordinary working thereof.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of a dumping-car having my improvements embodied in connection therewith. Fig. 2 is a bottom plan view of the same, the wheels and axles of the car being detatched or removed. Fig. 3 is an enlarged longitudinal sectional view in detail to more clearly indicate the construction and organization of some of the elements or parts employed, said view being taken substantially on the line 3 3 in Fig. 2. Fig. 4 is an enlarged transverse sectional elevation taken on the line 4 4 in Fig. 2, and Fig. 5 is a detail bottom plan view showing a modification.

Preliminarily to a more detailed description it may be stated that in the embodiment of my improvements herein shown I preferably employ a dumping-car comprising a body constructed of two sections which normally are maintained in horizontal position or alinement with each other, each section being movably mounted upon a truck of special embodiment and the two sections being adapted to be dumped or lowered at their adjacent or or inner ends, by which to deposit the contents thereof at any desired place therefor. Said sections are preferably movably joined together, and the dumping of each section is effected upon the truck-axle of that section as a working center therefor, the running-gear of the car being also of special embodiment or organization, by which the entire movable structure is capable of turning very short curves without liability of derailment thereof. Other features of the structure will be more fully hereinafter explained, and while I have herein represented a certain preferred form of my improvements it will be understood that I do not limit myself to the precise details thereof in practice, since immaterial changes therein may be resorted to coming within the scope of my invention.

Specific reference being had to the drawings, 5 5 each represent a section of the body of my improved dumping-car provided with a bottom 6, said sections being preferably hinged or movably connected together at 7. (See Fig. 1.) The vertical portions 8 8 of the framework of the inner ends of the body or car sections are each provided at the outer side with a metal keeper 9 for a bolt or latch 10, which is pivoted at one end to the adjacent side of one section 5 at 11, the other end thereof being hooked at 12 to engage the edge of one of said keepers to thus maintain the two body-sections in horizontal position or alinement with each other, said bolts or latches each being held in its locking engagement with such keeper by means of the notched end of a detent or dog 13, which may be swung on a pivot 14 therefor.

Secured to the under side of the bottom of each body-section of the car by means of rivets 15 or their equivalents is a properly-located ring-plate 16, concentric and in rotatable contact with which is a similar ring-plate 17, which is secured by rivets 18 to the

upper surface of preferably a metal table 19, having in the center thereof an opening through which passes a king-bolt 20, which is provided with a cross-head 21, secured to the under side of the bottom 6 of the section by means of rivets 22 or in any other suitable manner, said king-bolt being threaded and provided with a nut 23. Each king-bolt likewise passes through a corresponding opening therefor in a draw-bar 24 on the under side of each body-section 5, said bars being adapted at their outer ends 25 for attachment thereto of any suitable coupling or draft appliance (not shown) and the inner end of one of these bars being provided with a head 26, formed on its under surface with a curved recess or socket 27, while the corresponding end of the other bar is provided with a tongue 28, adapted to fit said recess or socket in a manner to permit said bars to move or turn hinge-like in lateral directions with respect to each other. To limit this lateral movement of said draw-bars in either direction, I provide a guide 29 on the under side of the bottom of each section 5 near the inner end thereof, and I also provide similar guides 30 for the bars near the outer ends of said sections. Each draw-bar 24 is secured lengthwise to the under side of its coöperating table in any suitable way, preferably by rivets 19^a, passing through both at near the forward and rearward ends of the table, as shown, and thus it will be seen that on lateral movement being imparted to either draw-bar in either direction such movement will be communicated to the other draw-bar in a reverse manner, each bar thus turning upon its particular king-bolt as a center. In this way of course the tables 19, together with their ring-plates 17, partake of the different movements of said draw-bars, and attention is called to the fact that the herein-described tongue-and-socket joint between the inner ends of the draw-bars is of such construction that these ends may readily separate one from the other to permit dumping of the body-sections 5 of the car to take place and also to become engaged again automatically, as it were, when said sections are again elevated to their normal horizontal positions. The embodiment of the said draw-bars with their connected tables also has other important advantages, as will presently be described, it being added that the laterally hinge-like connection between the draw-bars is such as to always prevent the said inner ends thereof from entirely separating in action, the guides 29 and 30, hereinbefore mentioned, also assisting in this respect, since they prevent the bars being carried too far around in either direction.

Secured to the under surface of each plate or table 19 on either side of each draw-bar 24 are duplicate supports or bolster-plates 31, which are preferably approximately triangular in side view, and the lower ends of which are flanged outwardly at 32 and secured at 33 to seats 34 therefor, formed or provided on the sleeves 35, in which operates or turns the axle 36 for the wheels 37 of the truck of each body-section, said wheels being shown as fitting upon the rails 38 of any desired railway system.

From the foregoing it will be seen that when united the said draw-bars 24 between them constitute a "reach" practically connecting the two axle elements of the body-sections, and it will also be seen that I only employ a single pair of wheels for each of said sections, the construction and organization of the different elements employed being, as already stated, effective in the rounding of curves which are traversed by the wheels of the car, the movable joint between said draw-bars yielding laterally in such cases, as is apparent. To dump the sections to the positions shown in dotted lines, Fig. 1, it is simply necessary to release the locking bolts between them, whereupon they may be caused to be lowered very easily and readily, as is also apparent, the weight of the ore or other material therein causing the two sections to part and to turn downwardly at their inner ends, so that the contents will be readily discharged or dumped in an obvious manner.

In order to maintain the draw-bars as nearly as possible in normal longitudinal alinement with each other or practically centrally with reference to the sides of the body-sections, I employ a pair of suitable leaf-springs 40, secured at 41 to the under surface of the bottom 6 of each section, the free ends of said springs bearing against the sides of the draw-bar, as shown.

Instead of the form of springs shown in Figs. 1, 2, and 4, however, I may employ the form shown in Fig. 5, wherein each spring 43 is bent at one end to fit a pin 44, thence inwardly and around another pin 45, and finally outwardly and bearing at its free end 46 against a side of the draw-bar 24^a. In either case the purpose of either form of springs referred to is the same—viz., to bring the draw-bars into alinement after being deflected reversely to each other in rounding a curve and to cause the tongue 28 on one bar to again engage with the socket of the other bar after the two body-sections of the car are again raised after being dumped. The construction and organization described also permits the axle of the truck for each body-section to "radiate" or assume different positions relatively to said body-sections in conformity with curvilinear movements imparted to the trucks or running-gear, either in turning ordinary curves or due to irregularities in the rails over which the structure may be propelled, the wheels of the structure being thereby maintained in position on the rails, as is apparent, and in view of the fact that the motion received by one set of truck elements is communicated to the other set there is of course an equal distribution of vibration between the two.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. A dumping-car comprising vertically-movable body-sections, means for normally maintaining said sections in horizontal position, and a horizontally-movable draw-bar on the under side of each section, said bars constituting a reach for the sections, and adapted to be carried downwardly with the latter, and being provided with means movably connecting the adjacent ends thereof in substantially horizontal positions of the bars.

2. A dumping-car comprising movably-united dumping body-sections, supporting-wheels for each section, means for normally maintaining the sections in horizontal position, and a pivoted draw-bar for each section, one of said bars being provided at its inner end with a socket, and the other at its corresponding end with a tongue adapted to said socket, whereby said bars may have lateral movement one upon the other, and means for limiting such movement.

3. A dumping-car comprising movably-united dumping body-sections, each having a ring-plate on its under surface, a plate or table beneath each section provided with a corresponding ring-plate, having rotatable contact with the first, said table having a central opening, a draw-bar having a corresponding opening, and a bolt passing through said openings, said draw-bars constituting a reach between the said sections and constructed at their adjacent ends to have lateral movement one upon the other.

4. A dumping-car comprising movably-united dumping body-sections, each having a ring-plate on its under surface, a table beneath each section provided with a corresponding ring-plate having rotatable contact with the first, said table having a central opening, a draw-bar having corresponding opening, a bolt passing through said openings, and means normally maintaining the draw-bars in alinement longitudinally, said draw-bars constituting a reach between the sections and constructed to have lateral movement one upon the other.

5. A dumping-car comprising movably-united dumping body-sections, each having a ring-plate on its under surface, a table beneath each section provided with a corresponding ring-plate having rotatable contact with the first, said table having a central opening, a draw-bar having corresponding opening, a bolt passing through said openings, means normally maintaining the draw-bars in alinement longitudinally, said draw-bars being constructed at their inner ends to have lateral movement one upon the other, and means for limiting such movement.

6. A dumping-car comprising movably-connected dumping body-sections, an axle and a pair of supporting-wheels for each section, said axle having a sleeve-bearing, a horizontal rotatable table on the under surface of each section, movably-united draw-bars between the sections, and vertical bolster-plates secured to the table on opposite sides of each draw-bar, said plates being seated and secured in place upon said sleeve-bearing.

7. A dumping-car, comprising duplicate movably-united dumping body-sections, and pivoted draw-bars for the sections, constituting a reach between the sections, each bar adapted for lateral horizontal movement, and the two bars constructed at their adjacent ends with a movable joint permitting disconnection of the bars on separation of the said body-sections, to dump the contents thereof.

8. A dumping-car comprising two dumping body-sections, a draw-bar for each section, adapted for lateral movement, and means tending to normally maintain the two bars in alinement.

9. A dumping-car, comprising duplicate dumping body-sections, supporting-wheels and an axle for each section, and means whereby said axles are caused to radiate or assume different positions, in conformity with the rounding of curves by the wheels, or other deviations from a rectilinear path.

10. A dumping-car, comprising two dumping body-sections, pivoted draw-bars for the sections, each bar adapted for lateral horizontal movement, and the two bars constructed at their adjacent ends with a movable joint permitting disconnection of the bars on separation of the body-sections to dump the latter, supporting-wheels and an axle for each section, and means whereby said axles are caused to radiate or assume different positions in conformity with the rounding of curves by the wheels, or other deviations from a rectilinear path.

11. A dumping-car, comprising two dumping body-sections, a horizontally-pivoted table on the under side of each section, a draw-bar extending longitudinally of each table, and rigid therewith, said table and bar being adapted to move together laterally in a horizontal plane, and the two bars being detachably joined together at their adjacent ends, and a pair of wheels and an axle for each section, supported by means rigid with the table on either side of the draw-bar of that section.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD IVES MOREY.

Witnesses:

C. I. CARRUTHERS,

W. GREGG HAUSON.