

A. CAMPBELL.
INTERCHANGEABLE HOPPER AND GENERAL SERVICE DUMP CAR.

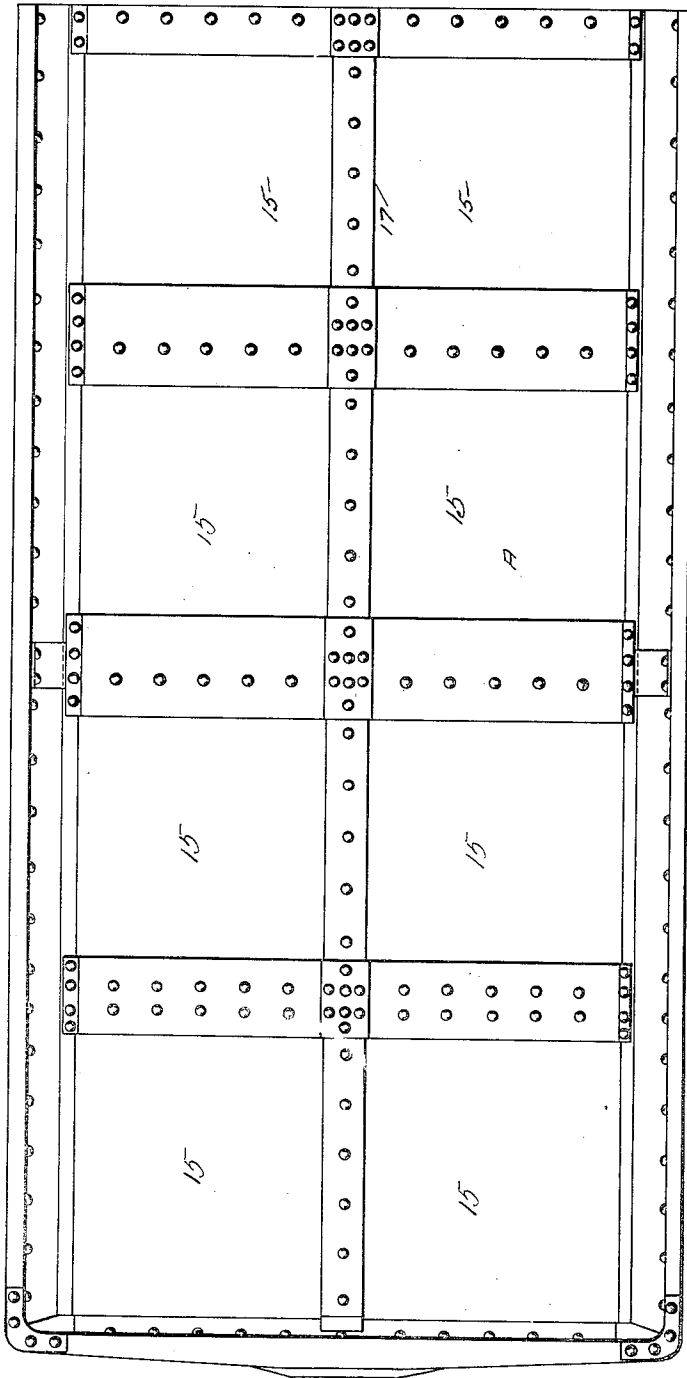
APPLICATION FILED SEPT. 3, 1912.

1,054,087.

Patented Feb. 25, 1913.

3 SHEETS—SHEET 1.

Fig-1



WITNESSES

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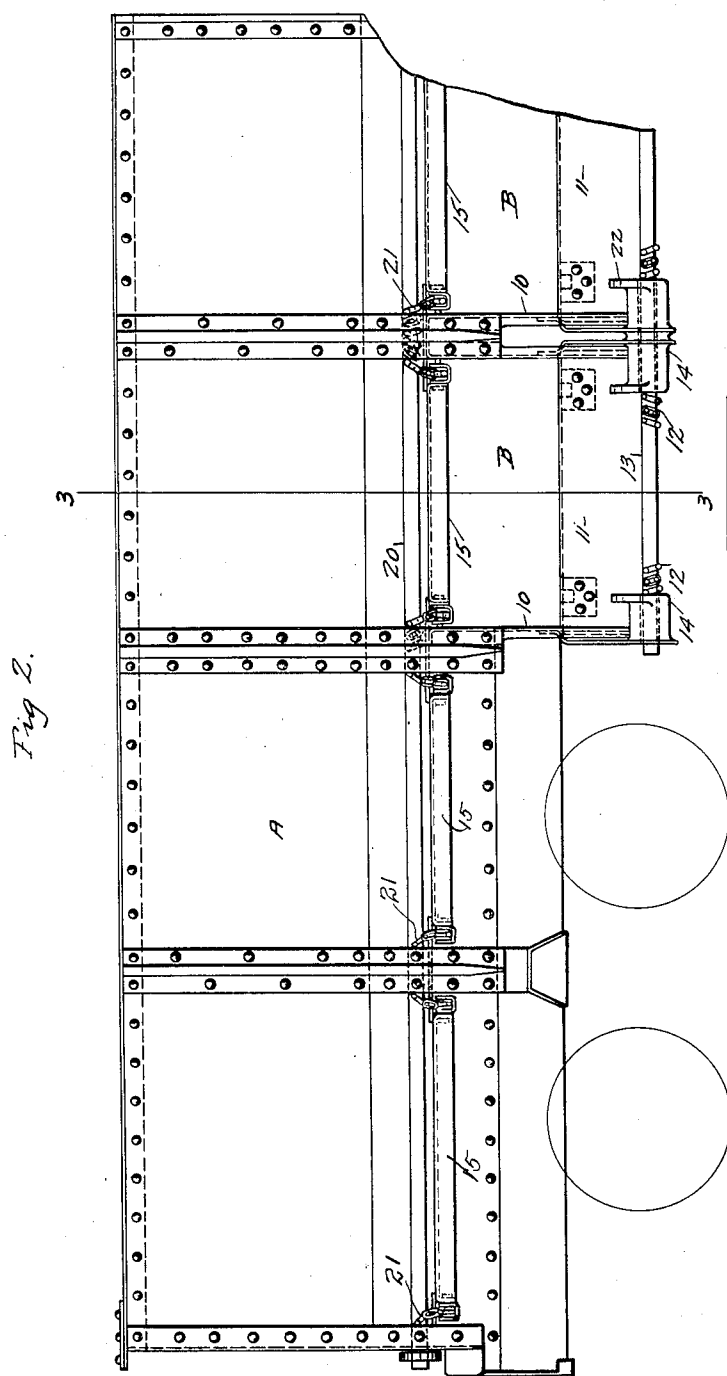


Fig. 2.

WITNESSES

Pearl Abrams.

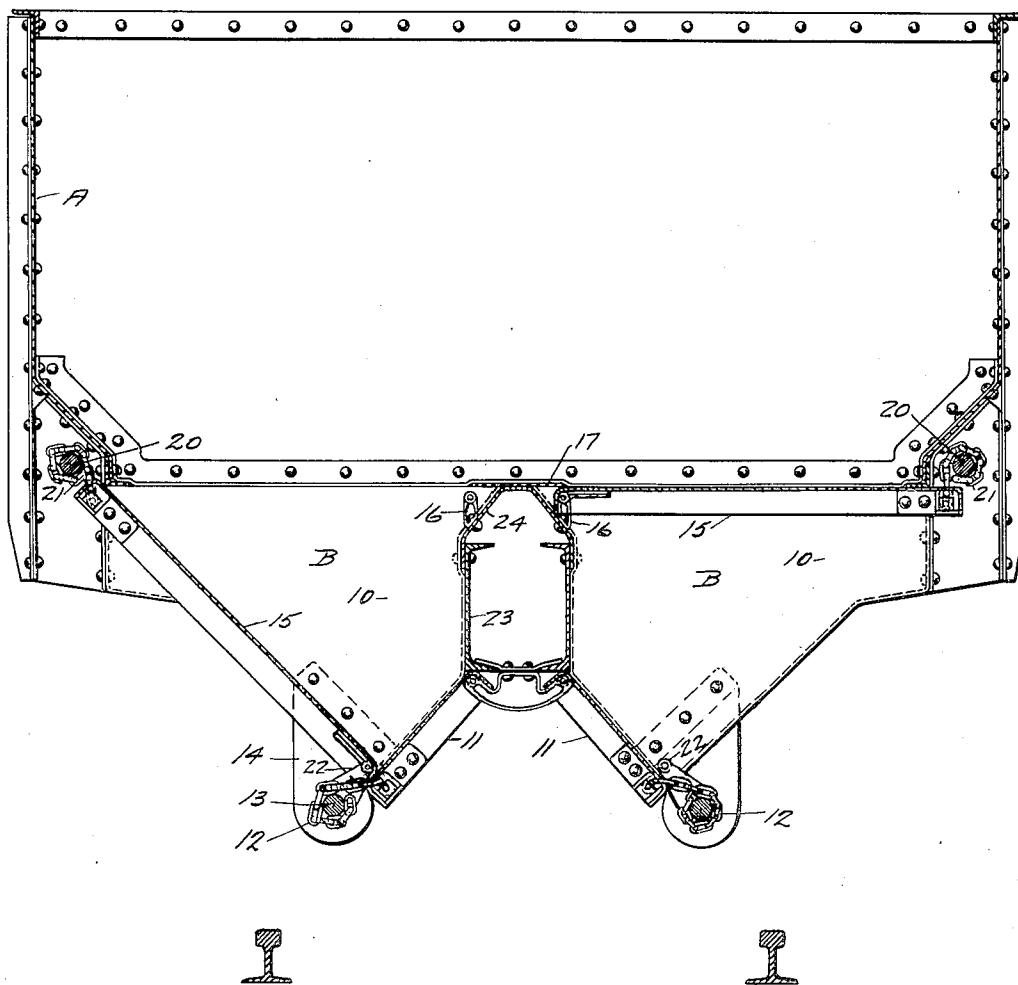
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Fig 3.



WITNESSES
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UNITED STATES PATENT OFFICE.

ARGYLE CAMPBELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO ENTERPRISE RAILWAY EQUIPMENT COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

INTERCHANGEABLE HOPPER AND GENERAL-SERVICE DUMP-CAR.

1,054,087.

Specification of Letters Patent.

Patented Feb. 25, 1913.

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To all whom it may concern:

Be it known that I, ARGYLE CAMPBELL, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Interchangeable Hopper and General-Service Dump-Cars, of which the following is a specification.

This invention relates to improvements in interchangeable hopper and general service dump cars.

An object of the invention is to provide a car which will possess all the advantages of cars commonly known as general service dump cars, and which may be easily interchanged so as to form a center dump, hopper bottom car.

The invention furthermore consists in the improvements in the parts and devices and in the novel combinations of parts and devices herein shown, described or claimed.

In general service dump cars it is desirable that the same be provided with continuous floors throughout the entire length of the car, so that the car is not only adapted to carry bulk materials, such as coal, pipe, lumber and like materials, but also machinery which has to be supported at several points and which cannot be supported merely by allowing the same to rest on the diaphragms.

In practice, it is found that general service dump cars are frequently idle during the fall of the year, at which time it is generally customary to do most of the ballasting of the tracks, and it is the aim of my invention to provide a car construction of the general service type which may be easily converted into a hopper car, particularly adapted for placing ballast between the rails, and thus obtain constant service from the car throughout the year.

In the drawing forming a part of this specification, Figure 1 is a plan view of a portion of a car embodying my improvements. Fig. 2 is a side elevation of the car shown in Fig. 1, and Fig. 3 is a transverse, vertical section of the car structure, taken substantially on the line 3—3 of Fig. 2.

In the drawing, A denotes the car body, the same being provided with a hopper section intermediate the trucks, the hopper section including a plurality of hoppers B, B, each hopper having end sheets 10 and a

hinged center dump door 11, the latter being adapted to be operated by means of chains 12 winding over longitudinally disposed operating shafts 13 mounted in depending brackets 14 secured to the end sheets 10 at the bottoms of the hoppers, and as clearly shown in Fig. 3. The car body, as shown, is provided throughout its entire length with floor door openings adapted to be closed by means of side-dump floor doors 15, 15, the latter being hinged along their inner, longitudinal edges on hinge butts 16, 16, secured to the center sill construction (hereinafter more particularly described) and located below longitudinally extending, central, floor plates 17, which serve to cover and protect the hinges in a well known manner. The doors 15 are adapted to be opened and closed by door operating mechanism which includes longitudinally extending shafts 20 disposed on opposite sides of the car and chains 21 secured to the doors and winding over the shafts.

With the construction so far described, it will be seen that the car may be used as a general service dump car having a continuous, substantially flat bottom, well adapted to support machinery as well as lumber and materials in bulk and adapted to dump one hundred per cent. of bulk materials, such as coal, to the sides of the car.

Those doors 15 which are located above the hoppers B are detachably hinged to their hinge butts 16 and may be unhinged and lowered and supported on hinge butts 22 secured to the bearings 14, and in this position the upper edges of the doors 15 are supported by their operating mechanism, and said doors form the bottoms of the hoppers so that when the hopper center dump doors 11 are opened, the load will be dumped to the center between the rails.

From an inspection of Fig. 3 and the preceding description, it will be seen that the operating mechanism for the doors serves as a hinge connection for the outer edges of the doors to permit the same to be swung from their horizontal position to the position where they form the downwardly and inwardly inclined bottoms of the hoppers.

The underframe construction of the car includes a box-like center sill which, as shown in Fig. 3, is composed of two longitudinally extending, lower portions in the

form of inwardly turned channels 23 and an upper, longitudinally extending, inverted V-shaped portion 24 formed from a rolled plate and secured to the upper portion of the channels 23. With such a center sill construction, the hinges of the floor doors 15 can be placed very closely together and approximately at the floor level, so that the entire load will be dumped when the doors 15 are opened, it being noted that the entire center sill construction is disposed below the floor level, thus giving the maximum capacity to the car and one having a floor unobstructed by undesired projections.

Various changes and modifications may be made in the details of construction without departing from the spirit of the invention, and all such changes and modifications are contemplated as fall within the scope of the claims appended hereto.

I claim:—

1. In a car of the character described, in combination: a car body provided with a hopper section; doors either adapted to be hinged along their inner edges and adjacent the longitudinal center of the car to form floor doors and over the car hoppers or to be placed so as to form the bottoms of the hoppers with their inner edges in the lowest position; and door operating mechanism, substantially as specified.

2. In a car of the character described, in combination: a car body provided with a hopper section having a plurality of hoppers; a plurality of members, corresponding in number to the number of hoppers, adapted to serve interchangeably as floor portions of the car extending from the center sill to the sides thereof, or as downwardly and inwardly inclined bottoms of the hoppers; devices for detachably supporting said members at their inner edges adjacent the center sills when said members form portions of the floor; and means for supporting the lower inner edges of said members when the same form the bottoms of the hoppers, substantially as described.

3. In a car of the character described, in combination: a car body provided with a hopper section and having hinged, hopper center-dump doors; a plurality of hinged side-dump floor doors disposed over the hopper section of the car, said floor doors being adapted to be unhinged and be positioned so as to form bottoms of the hoppers, substantially as specified.

4. In a car of the character described, in combination: a car body provided with a hopper section; side-dump floor doors hinged at their inner, longitudinal edges and adapted also to serve as bottoms of the hoppers; operating shafts disposed along the sides of the car; and connections between said shafts and the doors, the shafts and connections serving as a means of support

for one edge of the doors when the latter form the bottoms of the hoppers, substantially as specified.

5. In a car of the character described, in combination: a car body provided with a hopper section; hinged, side-dump floor doors for the entire length of the car body, the doors over the hopper section being adapted to be removed from their hinges and placed in position so as to form the bottoms of the hoppers; and means for operating all of said doors, substantially as specified.

6. In a car of the character described, in combination: a car body provided with a plurality of hoppers each having a hinged, center-dump door; hinged side-dump floor doors for the entire length of the car, the doors over the hoppers being adapted to be removed from their hinges and to be placed in position to form the bottoms of the hoppers; and door operating mechanism, substantially as specified.

7. In a car of the character described, in combination: a car body having a plurality of hoppers, each hopper having end sheets; hinged center-dump doors for each of said hoppers; operating shafts for said hopper center-dump doors and mounted at the bottom of the hoppers; hinge butts mounted on each of said shafts; side-dump floor doors hinged along their inner edges, the floor doors located over the hoppers being adapted to be removed from their hinges and to be supported on the hinge butts on the shafts; and door operating mechanism for said side-dump floor doors, substantially as specified.

8. In a car of the character described, in combination: a car body provided with floor door openings throughout its entire length, and having also a plurality of hoppers, each hopper including end sheets and a hinged center-dump door and operating mechanism for said doors; a plurality of hinged side-dump, floor doors for said floor openings of the car body, the floor doors disposed above the hoppers being adapted to be removed from their hinges and to be placed in position to form the bottoms of the hoppers; and operating mechanism for the side-dump doors, substantially as specified.

9. An interchangeable hopper and general service dump car comprising a car body provided with a hopper section intermediate the trucks and having a plurality of hoppers, said car body being provided with hinged side dump floor doors throughout its entire length, the floor doors over the hopper section being detachably hinged at their inner edges and adapted to be dropped down to a position to form the bottoms of the hoppers, and mechanism for operating all of said doors, substantially as described.

10. A car of the character described comprising, in combination: a car body pro-

vided with a hopper section having a plurality of hoppers, each hopper having a hinged hopper center dump door; a plurality of members interchangeable from a position where they form parts of the car floor over the hoppers to a position where they form the bottoms of the hoppers; devices for detachably supporting said members at their inner edges when the same are serving as parts of the floor, substantially as described.

11. A car of the character described comprising, in combination: a car body provided with a hopper section having a plurality of hoppers, each hopper having a hinged hopper center dump door; a plurality of mem-

bers interchangeable from a position where they form parts of the car floor over the hoppers to a position where they form the bottoms of the hoppers; devices for detachably supporting said members at their inner edges when the same are serving as parts of the floor; and means, supporting said members at their outer edges when in both of their positions, adapted to permit the same to be swung from one position to the other, substantially as described.

ARGYLE CAMPBELL:

Witnesses:

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