J. O. NEIKIRK.

DUMP CAR.

APPLICATION FILED NOV. 12, 1908.

1,026,694.

Patented May 21, 1912.

5 SHEETS—SHEET 1.

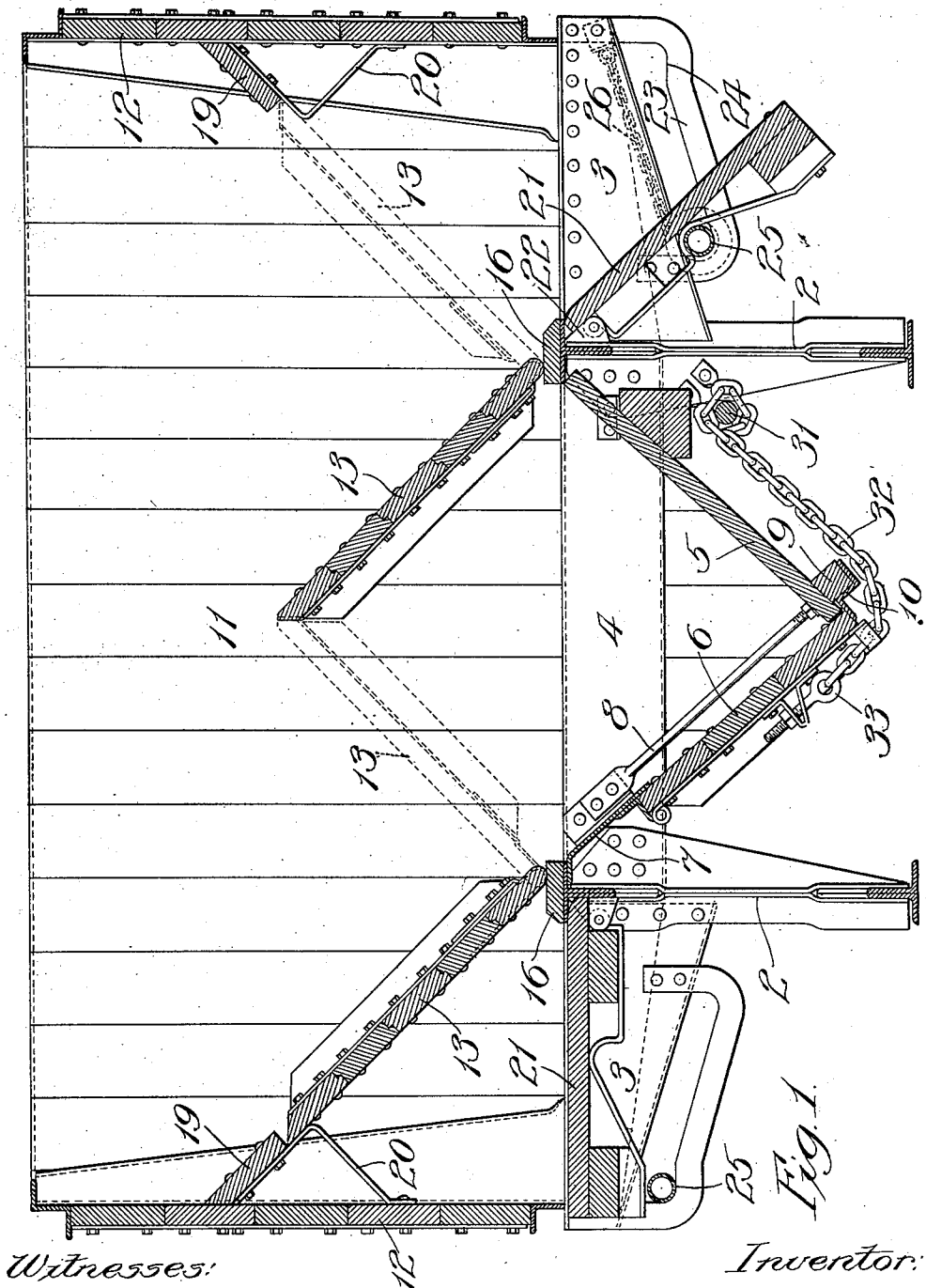


Fig. 1.

Witnesses:

John Enders

Chas. H. Buell.

Inventor:

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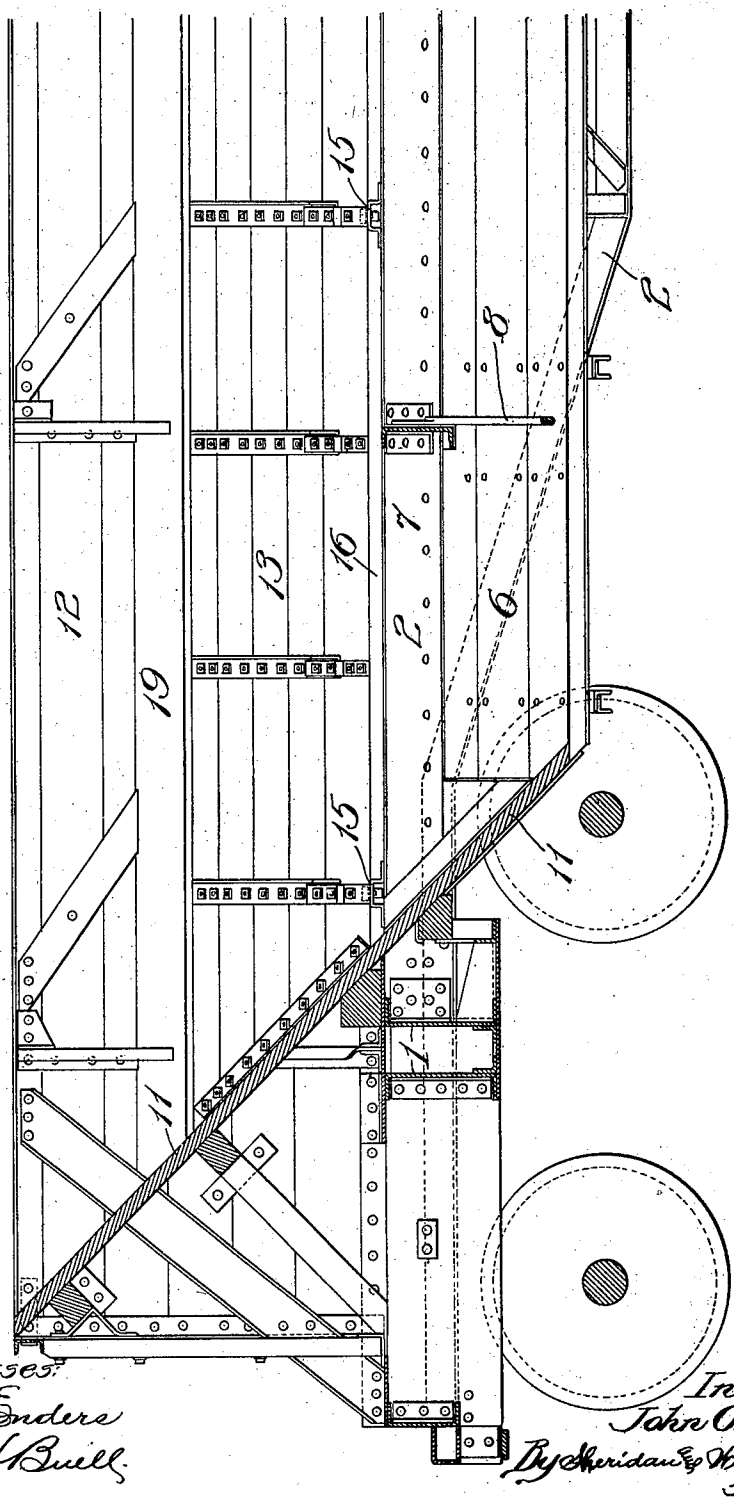


Fig. 2.

Witnesses:
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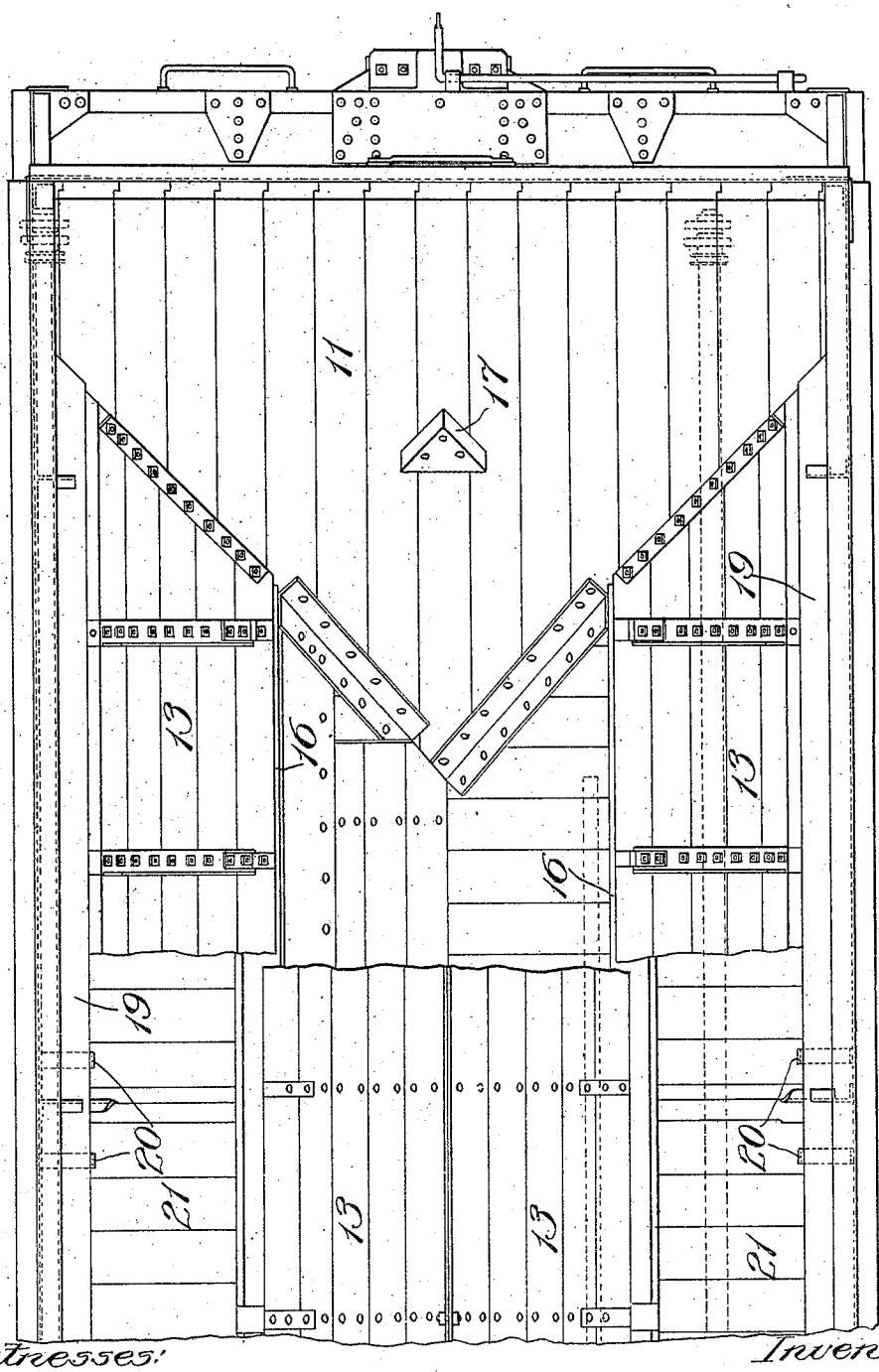


Fig. 3.

Witnesses:
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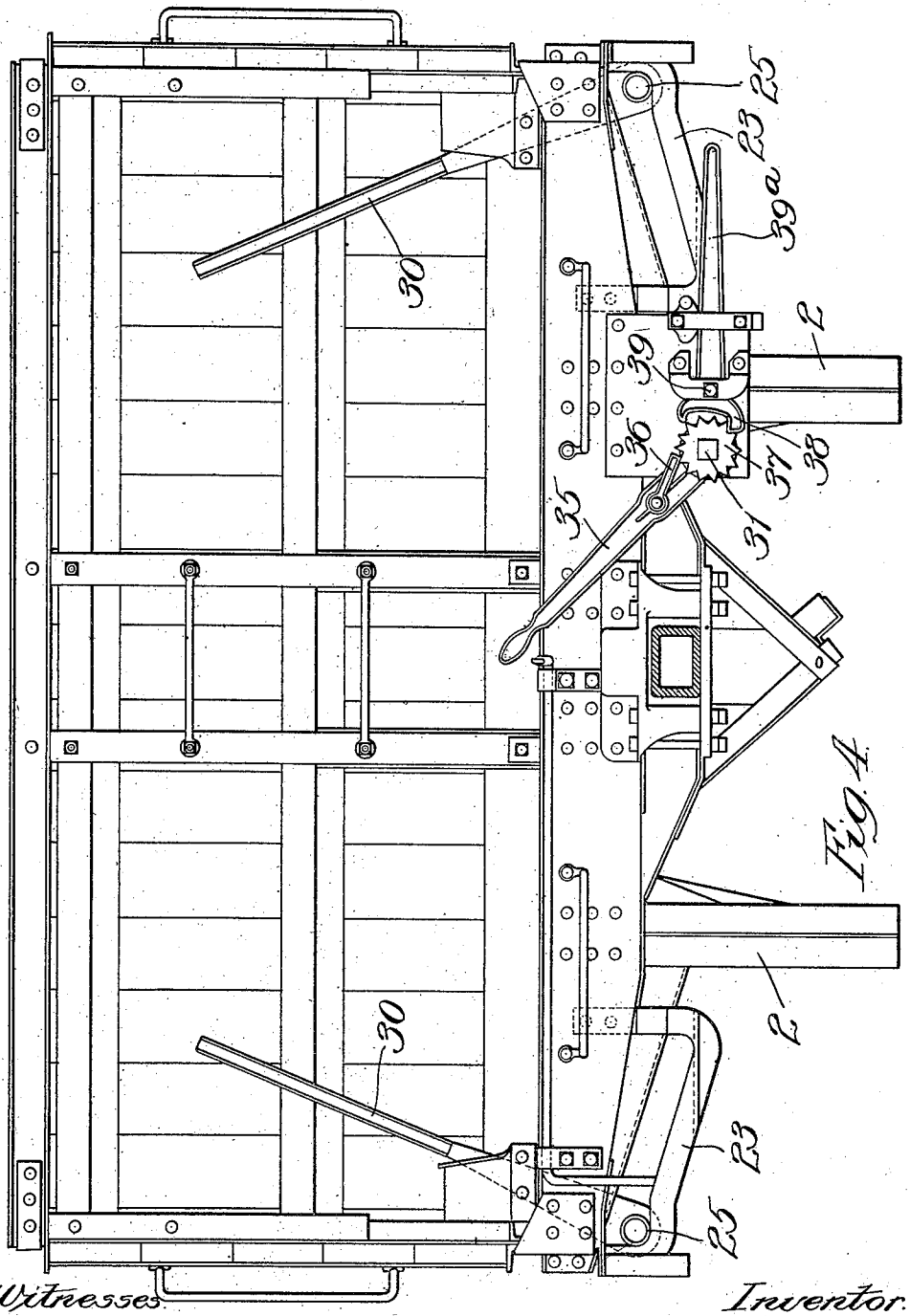


Fig. 4.

Witnesses:
John Enders
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John O. Neikirk.
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J. O. NEIKIRK.

DUMP CAR.

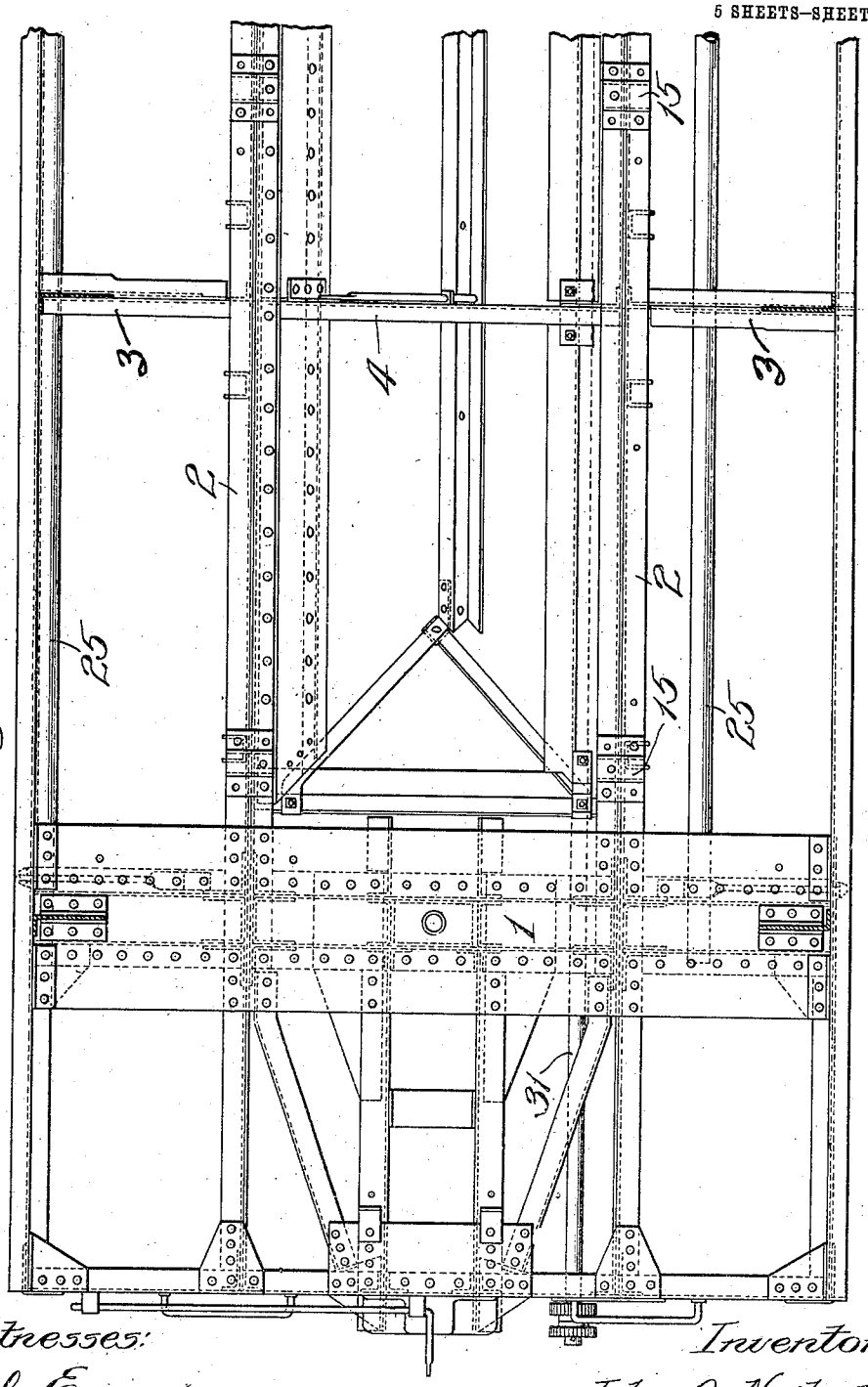
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5 SHEETS—SHEET 5.

Fig. 5.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

JOHN O. NEIKIRK, OF MORGAN PARK, ILLINOIS, ASSIGNOR TO RODGER BALLAST CAR COMPANY, A CORPORATION OF MAINE.

DUMP-CAR.

1,026,694. Specification of Letters Patent. Patented May 21, 1912.

Application filed November 12, 1908. Serial No. 462,288.

To all whom it may concern:

Be it known that I, JOHN O. NEIKIRK, a citizen of the United States, residing at Morgan Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification.

My invention consists in improvements in working cars of the kind used in making railroad fills, ballasting tracks, &c.

In the drawings—Figure 1 is a transverse section of a car equipped with my invention. Fig. 2 is a longitudinal section of one end of the car. Fig. 3 is a plan view of part of the car. Fig. 4 is an end view, and Fig. 5 is a plan view of part of the underframe.

In my improved car the load between the bolsters 1 is carried by longitudinal trussed girders 2 located intermediate the center of the car and the sides thereof, thus leaving an open central space and open side spaces free from longitudinal framing. The sides of the car are supported upon cross members 3 extending outwardly from the girders and secured thereto. The car may also be braced by transverse members 4 extending across the open central space between the members 3. The space between the girders 2 and the bolsters 1 is occupied by the central hopper, which in the present instance comprises a stationary side 5 and a dump door 6 hinged at its upper edge to a plate 7 projecting downwardly and inwardly from the upper edge of the girder on the left side of the car, as viewed in Fig. 1. The stationary side 5 is further supported by tie rods 8 secured at their upper ends to the cross members 4. The lower edge of the stationary side 5 is strengthened by a cleat 9, and a Z-bar 10 embraces two sides of said cleat and lies against the side of the floor 5 projecting beyond the edge thereof to form a close joint with the lower edge of the door 6. The ends 11 of the central hopper bottom are inclined upwardly toward the end of the car and are continuous to the end of the car where they reach the level of the upper edge of the vertical sides 12. Floor sections 13 are pivoted, as shown at 15 (Fig. 2), along the upper edge of the girders 2, the upper edge of said girders, preferably, being protected by floor strips 16. The ends of the floor sections 13 are inclined as shown in Fig. 2 and thereby adapted to fit closely against the inclined ends 11, whether said floor sections 13 are turned inwardly to meet at the center of the car or outwardly toward the sides of the car. When the floor sections 13 are turned inwardly their beveled free edges contact with each other, thus causing said sections to support each other in the form of an A at the center of the car. When in this position these sections may further be supported by means of blocks 17 fixed to the inclined ends, as shown in Fig. 3.

The car illustrated is provided with ledges 19 projecting downwardly from the sides of the car and supported upon brackets 20 fixed to the vertical sides. These brackets project beyond the inclined ledges 19 to form stops against which the outer edges of the floor sections 13 may rest when said sections are outwardly inclined.

Filling the space between the girders 2 and the sides of the car are dump doors 21, said doors being hinged at their inner edges adjacent the tops of the girders 2. In the present instance I have shown these doors as pivoted to brackets 22 secured to said girders. When in closed position the doors 21 contact with the under edge of the sides 12 and with the flanges at the upper edge of the girders 2.

While the dump doors 21 may be operated by any suitable mechanism, I have found that the utility of the car is greatly increased by employing the mechanism shown herein, which is located entirely beneath the floor level, thus leaving the space above the doors unobstructed, which is a great advantage when the car is adjusted for use as a side dump car with the floor sections 13 turned inwardly to form an A center. The operating mechanism shown comprises stationary supporting rails 23 constructed in the form of loops depending from and secured at their ends to the cross members 23. The inner portion of the supporting rails 23 inclines upwardly and outwardly, and at the outer end a short horizontal rest 24 is provided. Operating shafts 25 rest upon the rails 23 and are adapted to move from end to end thereof. This movement is accomplished in the present instance by means of chains 26 secured at their outer ends to the cross members 3 and at their inner ends to the shafts 25. Rotation of the shafts 25 in a direction to wind the chain thereon will cause said shafts to move toward the sides of the car, thus raising the dump

doors from the position shown at the right of Fig. 1 to that shown at the left. Any suitable mechanism may be employed for imparting such rotation to the shafts 25. In the present instance I use levers 30 at the ends of the car, as shown in Fig. 4. These levers may be provided with reversible pawls co-acting with star wheels upon the shafts 25. These parts are not shown in the drawing, but may be of any desired form, that illustrated in connection with shaft 31 of the mechanism for operating the hopper door being well adapted to the purpose.

The door 6 of the central hopper is operated by means of a chain 32 connected at one end to an eye bolt 33 secured to said door and at the other end to a rotatable shaft 31. The shaft 31, as illustrated in Fig. 4, is operated by means of a lever 35 carrying a reversible pawl 36 which co-operates with a star wheel 37 fixed to the end of said shaft 31. The shaft 31 is held against backward rotation while the door 6 is being closed by means of a double pawl 38 pivoted at 39 to a plate depending from the end sill. The double pawl 38 also serves as an escapement which permits the door 6 to be opened step by step when the lever 39ª forming part of said double pawl is oscillated.

From the foregoing it will be apparent that I have provided a center and side dump car from which the entire contents will be discharged, whether adjusted for center or side dump. All parts of the car incline toward the discharge openings in each adjustment. Furthermore, the space above the central hopper is free from longitudinal supporting members, thus leaving this part of the car free for the discharge of its contents. Furthermore, by the use of the type of operating mechanism shown for the side dump doors, the interior of the car is unobstructed when adjusted for side dumping, all of the operating mechanism being located beneath the doors.

I claim:

1. In a car of the class described, an underframe comprising bolsters, longitudinal girders extending between the bolsters intermediate the center and sides of the car leaving an open central space between said bolsters and girders, a hopper bottom extending downwardly in said central space, supports extending outwardly from said girders, sides extending upwardly from the outer ends of said supports, the ends of said hopper being inclined and extending upwardly to the top of the car and from side to side thereof, floor sections extending between the inclined ends of said hopper, the lower edges of said floor sections being pivoted along the upper edges of said girders, the free edges of said floor sections being beveled and their width being such that when turned inward said free edges will abut, downwardly inclined ledges extending inwardly from the car sides, shoulders at the free edges of said ledges, horizontal dump doors between said girders and the car sides, said dump doors being pivoted at their inner edges, and operating mechanism for said dump doors, said operating mechanism being located entirely beneath the same and below the floor level.

2. In a car of the class described, an underframe comprising bolsters, longitudinal girders extending between the bolsters intermediate the center and sides of the car leaving an open central space between said bolsters and girders, a hopper bottom extending downwardly in said central space, supports extending outwardly from said girders, sides extending upwardly from the outer ends of said supports, the ends of said hopper being inclined and extending upwardly to the top of the car and from side to side thereof, floor sections extending between the inclined ends of said hopper, the lower edges of said floor sections being pivoted along the upper edges of said girders, the free edges of said floor sections being beveled and their width being such that when turned inward said free edges will abut, horizontal dump doors between said girders and the car sides, said dump doors being pivoted at their inner edges, and operating mechanism for said dump doors, said operating mechanism being located entirely beneath the same and below the floor level.

3. In a car of the class described, vertical sides, an underframe comprising bolsters, longitudinal girders extending between the bolsters intermediate the center and sides, a hopper bottom extending downwardly between said girders, floor sections pivoted along the upper edges of said girders and movable to incline toward the center or sides of the car, downwardly inclined ledges extending inwardly from the car sides and adapted to support said floor sections in their outwardly inclined positions in the same plane therewith, horizontal floor sections or dump doors extending from said girders to the sides of the cars, said dump doors being pivoted at their inner edges, and operating mechanism for said dump doors located entirely beneath the floor level.

4. In a car of the class described, vertical sides, an underframe comprising bolsters, longitudinal girders extending between the bolsters intermediate the center and sides, a hopper bottom extending downwardly between said girders, floor sections pivoted along the upper edges of said girders, and movable to incline toward the center or sides of the car, downwardly inclined ledges extending inwardly from the car sides and

adapted to support said floor sections in their outwardly inclined positions in the same plane therewith, horizontal floor sections or dump doors extending from said girders to the sides of the cars, said dump doors being pivoted at their inner edges, operating mechanism for said dump doors comprising guide rails beneath the floor level, shafts resting on said rails supporting said doors, and means to move said shafts on said rails to close and open the doors.

5. In a car of the class described, an underframe comprising bolsters, longitudinal girders extending between the bolsters intermediate the center and sides of the car, the space between said girders and between the girders and sides of the car being free of longitudinal supporting members, a longitudinal hopper bottom extending downwardly between said girders, supports extending from said girders to the sides of the car, vertical sides resting on said supports, downwardly inclined ledges extending inwardly from the car sides and adapted to support said floor sections in their outwardly inclined positions in the same plane therewith, longitudinal floor sections pivoted along the upper edges of said girders and adapted to rest against and support each other when inclined inwardly and to rest against and in the same plane with said ledges, horizontal floor sections or dump doors pivoted adjacent the upper edges of said girders and extending to the car sides, and operating mechanism for said dump doors located entirely beneath the floor level.

6. In a car of the class described, a central floor section comprising leaves permanently hinged on longitudinal lines intermediate the center and sides of the car, said leaves being adapted to incline outwardly toward the car sides or to incline upwardly and inwardly toward the center of the car and in the latter position to be self-supporting.

7. In a car of the class described, a central hopper extending downwardly between longitudinal lines intermediate the center and sides of the car, side and end walls, leaves hinged along the upper longitudinal edges of the hopper, aprons inclining downwardly and inwardly from the car sides, said leaves being adapted to incline upwardly and inwardly to form an A center, or to incline upwardly and outwardly to meet said aprons.

8. In a car of the class described, vertical sides, an underframe comprising bolsters, longitudinal girders extending between the bolsters intermediate the center and sides, a hopper bottom extending downwardly between said girders, floor sections pivoted along the upper edges of said girders and movable to incline toward the center or sides of the car, downwardly inclined ledges abutting said car sides and sloping downwardly and inwardly therefrom in alinement with said floor sections when the latter are inclined toward the sides, brackets fixed to the car sides for rigidly supporting said ledges, said brackets projecting below the lower edges of said ledges to support the outer edges of said floor sections, horizontal floor sections or dump doors extending from said girders to the sides of the cars, said dump doors being pivoted at their inner edges, and operating mechanism for said dump doors located entirely beneath the floor level.

9. In a car of the class described, vertical sides, floor sections pivoted at one edge and movable to incline toward the center of the car or toward the sides of the car, downwardly inclined ledges abutting said vertical sides and sloping downwardly and inwardly therefrom in alinement with the floor sections when the latter are inclined outwardly, and brackets fixed to the vertical sides for rigidly supporting said ledges, said brackets projecting below the lower edges of said ledges to support the outer edges of said floor sections.

10. In a car of the class described, floor sections pivoted at one edge and movable to incline toward the center of the car or toward the sides of the car, and downwardly inclined ledges fixed to the car sides adapted to serve as extensions to said floor sections when the latter are inclined toward said sides.

In testimony whereof, I have subscribed my name.

JOHN O. NEIKIRK.

Witnesses:
LILLIAN KIBBY,
ANNA L. WALTON.