

No. 740,819.

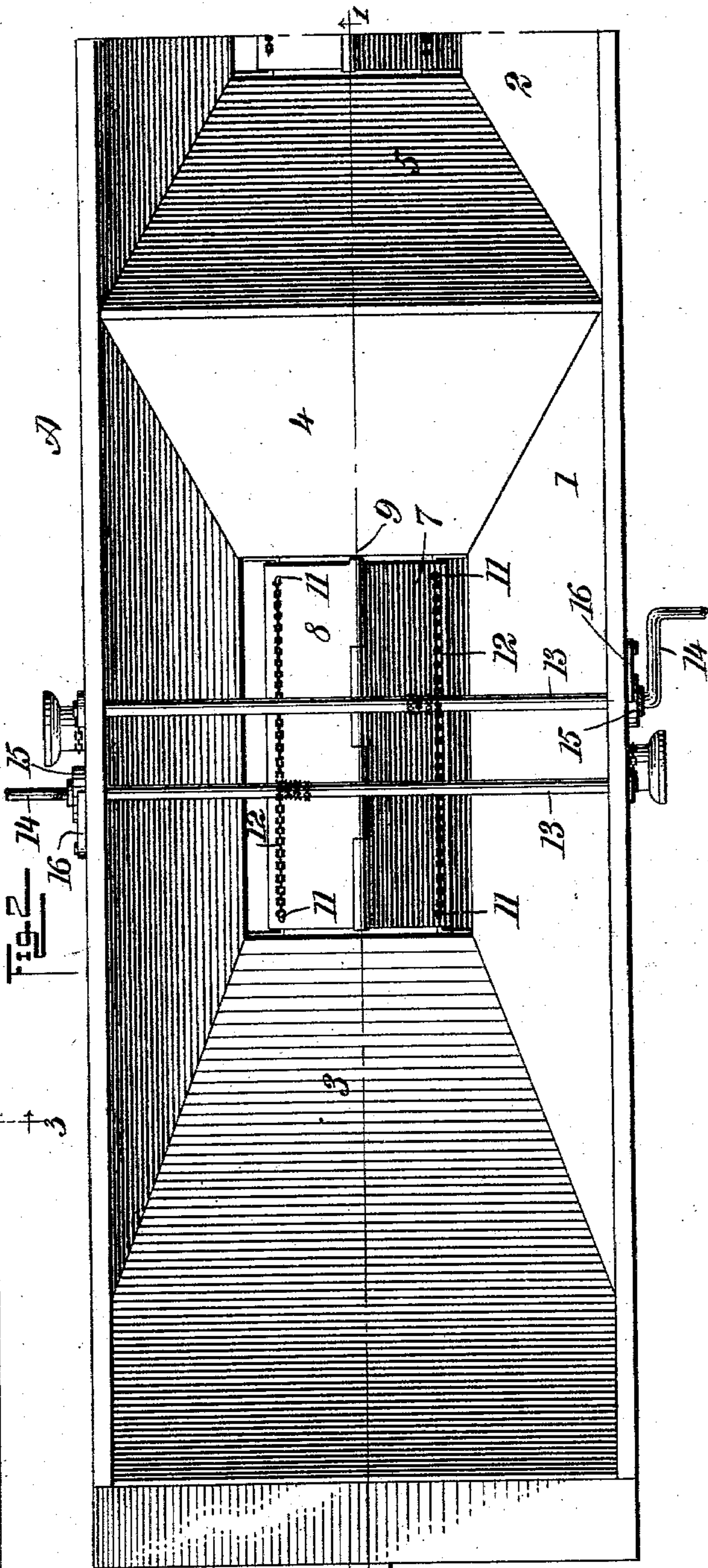
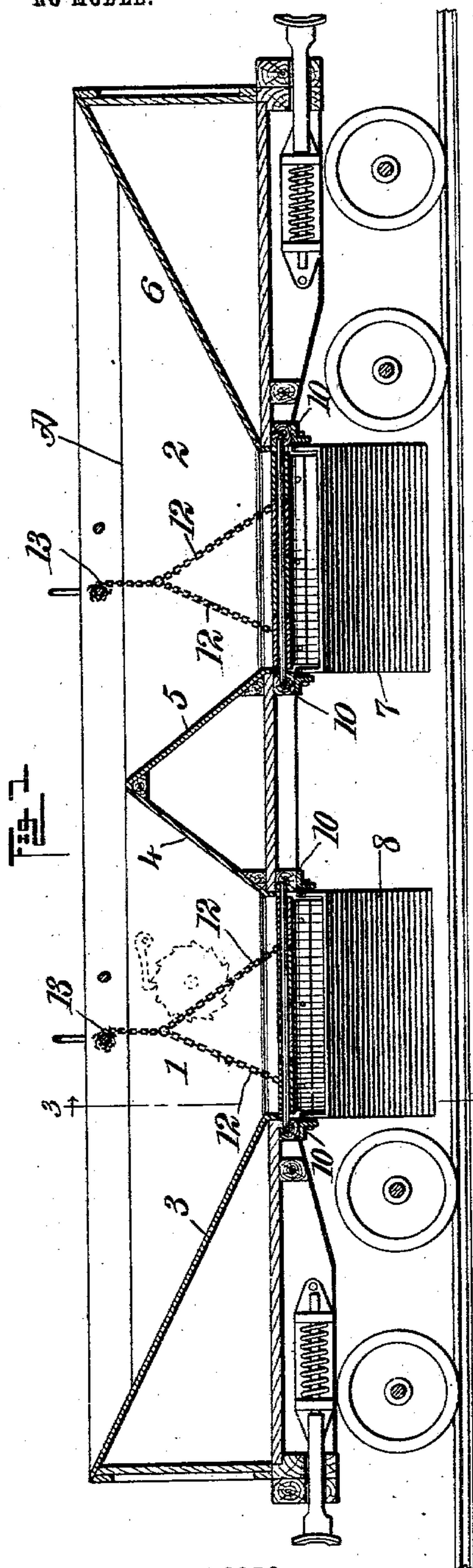
PATENTED OCT. 6, 1903.

W. H. DAVIS.  
DUMPING CAR.

APPLICATION FILED FEB. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

*G. B. C. C. C.*  
*R. B. Cavanagh*

INVENTOR

*Willie H. Davis.*

BY

*Munn & Co.*

ATTORNEYS.

No. 740,819.

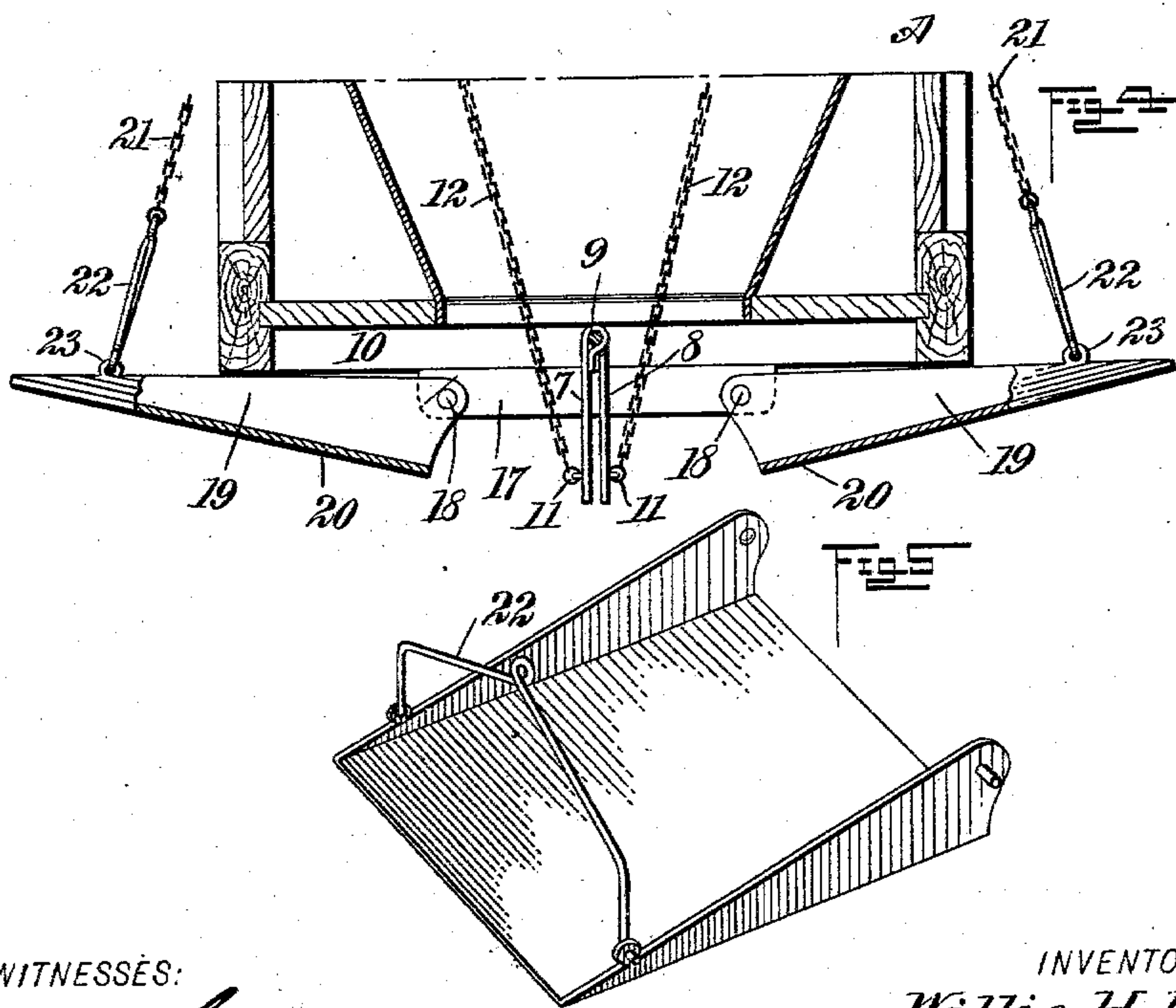
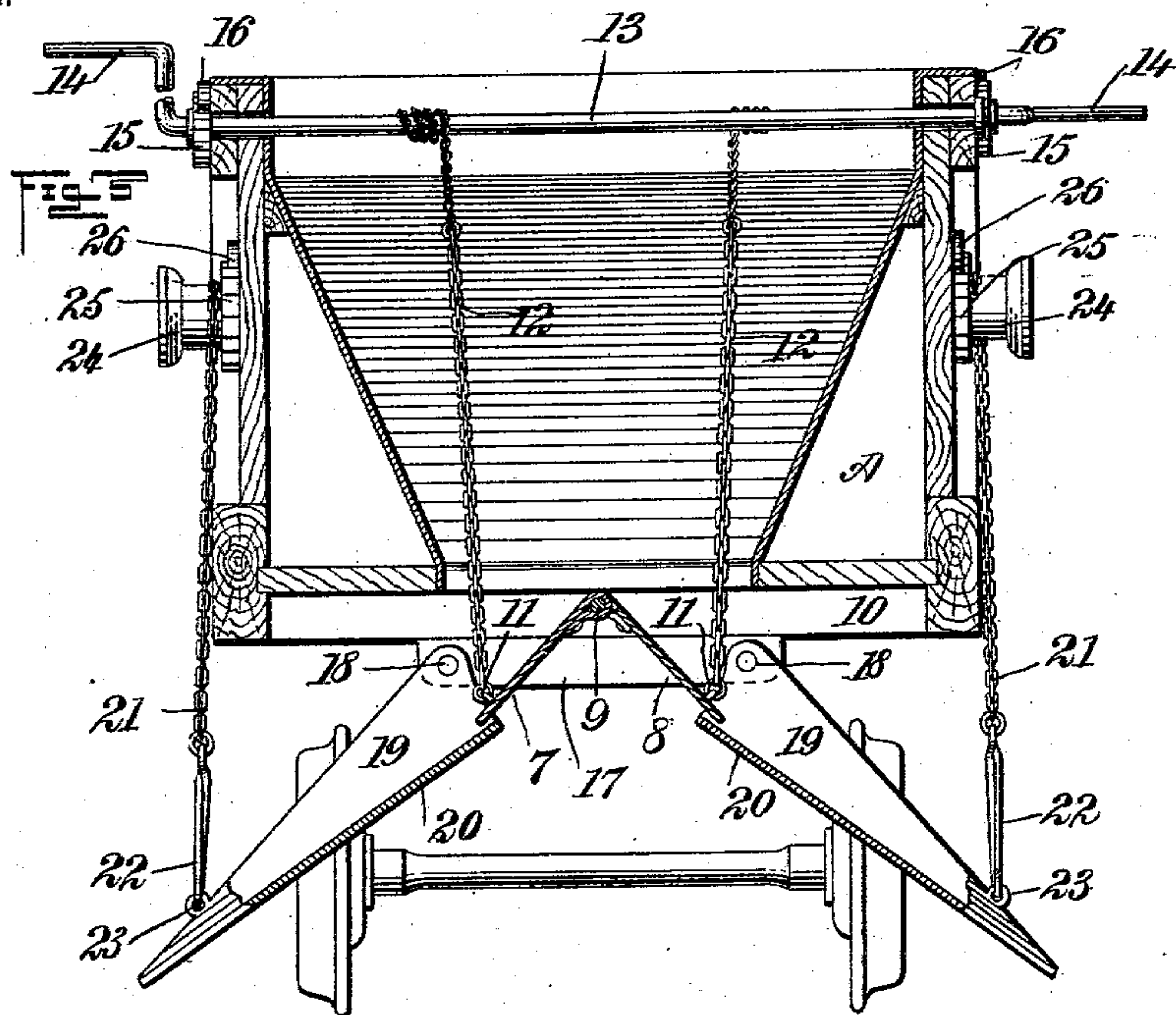
PATENTED OCT. 6, 1903.

W. H. DAVIS.  
DUMPING CAR.

APPLICATION FILED FEB. 27, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



WITNESSES:

*W. H. Davis*  
*R. B. Caranagh*

INVENTOR

*Willie H. Davis*

BY

*Mumford*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

WILLIE HOSEA DAVIS, OF PARACHUTE, COLORADO.

## DUMPING-CAR.

SPECIFICATION forming part of Letters Patent No. 740,819, dated October 6, 1903.

Application filed February 27, 1903. Serial No. 145,301. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIE HOSEA DAVIS, a citizen of the United States, and a resident of Parachute, in the county of Garfield and State of Colorado, have invented new and useful Improvements in Dumping-Cars, of which the following is a full, clear, and exact description.

My invention relates to certain novel and useful improvements in cars, and has particular application to railway dumping-cars.

In carrying out the present invention I have particularly in contemplation the construction of a dumping-car of the "hopper-bottom" type, wherein a load of dirt, coal, ore, or similar material passing through an opening in the bottom of the car will be directed to predetermined points or places alongside said car and out of the way of the wheels thereof.

A further object of my invention is to provide an improved means for covering or closing the opening in the bottom of the hopper of the car, which means will enable a load of dirt or other material to be conveyed in the hopper from place to place; but when said means are opened or released the material will be directed down along the surface of the same into the means used for discharging the material to points alongside the track away from the car.

I have also in view as an object so mounting and arranging the hopper-closing means and the means for directing the material to the sides of the track that, if desired, such material-directing means may be raised or moved to a position away from the path of movement of the hopper-closing means, whereby the material will flow or pass through the opening in the hopper to a point directly beneath the car.

I have also as an object the construction of a car which shall be exceedingly simple, and at the same time the parts thereof shall be so arranged and correlated that the structure will be enabled to withstand the great wear and tear to which cars of this character are usually subjected, owing to the nature of the material which they must convey.

With these and other objects of a like nature in view my invention consists in the construction, combination, and arrangement of parts, as is described in this specification, de-

lineated in the accompanying drawings, and set forth in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a central longitudinal vertical sectional view taken through a dumping-car on the line 1 1 of Fig. 2. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse vertical sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is a transverse vertical sectional view showing the parts in position for depositing the load immediately beneath the body of the car, and Fig. 5 is a perspective view of one of the load-directing chutes.

Referring now to the accompanying drawings in detail, A designates the body portion of a railway freight-car of any suitable character—such, for instance, as one of the type commonly used for transporting dirt, ore, coal, or the like. This car is formed with a number of hoppers—two in the present instance—which hoppers are shown at 1 and 2 and are formed by the downwardly-converging walls 3, 4, 5, and 6, extending transversely of the car. The floor or bottom portion of the car within this hopper is cut away to provide an opening, the base or floor of the hopper being formed by the swinging sections or plates 7 and 8, which are hinged upon a rod 9, extending longitudinally centrally of the bottom of the hopper. This longitudinal hinge or pivot-bar 9 may be supported in any approved manner beneath the hopper, and in the present instance I have shown it journaled or bearing in the blocks or timbers 10 10, extending transversely beneath the car at points adjacent to the side edges of the hopper. Secured to the hinged plates 7 and 8 near the free end thereof are eyes 11 11, to which are secured chains 12 12, adapted to be wound about the crank-rods 13, extending across the hopper near the top of the car, such rods being provided with handles 14 14 and also have small ratchet-wheels 15 mounted thereon adjacent to the longitudinal sides of the car, and the teeth or serrations of said wheels are adapted to be engaged by dogs or pawls 16 16, pivoted to the sides of said car. By this construction it will be seen that the plates or hinged sec-



tions forming the bottom of the hopper may be operated to open or close the exit through the hopper by turning the crank-rod, thereby winding the chains, the rod being prevented from turning or reversing by the dogs or pawls just described.

Secured to the timbers 10 10, extending beneath the hopper of the cars, are a number of supporting-bars 17, which are preferably in the form of angle-irons, and to one of the sides of said angle-irons near the outer ends thereof are pivoted, as at 18, the directing chutes or scoops 19 19, there being two chutes for each hopper, and as will be seen particularly on reference to Figs. 3 and 4, the chutes extend in opposite directions toward the sides of the track. These directing-chutes are so pivoted relative to the hopper and the bottom-forming plates that when they are in the position shown in Fig. 3—that is, inclined downwardly and outwardly from the car in a position almost perpendicular—the plates 7 and 8 may be lowered to rest upon the bottom faces 20 20 of said chutes, and any material flowing from the hopper may be directed down the plates 7 and 8 along the chutes to the point of discharge to the side of and away from the car; but if it be desired to deposit the material directly beneath the car the chutes may be moved upward and outward to a position horizontal relative to the car through the medium of chains 21, which are secured, through the agency of brackets 22, to rings or eyes 23, formed near the ends of the chutes, while the opposite ends of said chains may be wound about drums 24 24, secured to the sides of the car, which drums are controlled through the medium of ratchets 25 and the pawls 26 engaging with the teeth of said ratchets.

From the above description, taken in connection with the accompanying drawings, the construction and operation of my improved dumping-car will be readily apparent.

When the car is to be loaded, the crank-rods 13 are turned to draw the plates 7 and 8 into a horizontal position, thereby closing the opening in the bottom of the hopper, and the car or bins are then filled with the material. If it be desired to remove the material from said car and deposit the same alongside the track, the chutes 19 are lowered, through the medium of the chains 21, to a position approximately as shown in Fig. 3—that is, said chutes being at a pronounced downward inclination relative to the hopper-bottom—and the crank-rods 13 are turned to permit the plates 7 and 8 to rest upon the bottom portion 20 of the chutes. The material through the force of gravity then flows or passes from the hopper down the plates 7 and 8 and is directed by the outwardly-inclined chutes to points alongside the car or away from the body thereof; but if it is intended to deposit the material immediately beneath the car—for instance, beneath the tracks—the chutes 19 are elevated through the chains 21 to a po-

sition substantially as shown in Fig. 4—that is, horizontal to or parallel with the car-bottom—and the plates 7 and 8 are then released, and as they occupy the position shown in Fig. 4 the material will readily drop down to a point below the hopper.

While I have shown and herein described one particular embodiment of my invention, I wish it to be understood that I do not limit myself to the precise details of construction shown herein, as there may be modifications and variations in some respects without departing from the spirit of the invention or sacrificing any of the advantages thereof.

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

1. A dumping-car having an opening formed in the bottom thereof, hinged plates designed to form a floor for said opening, said plates swinging outward relative to each other, to close said opening, and pivoted chutes mounted adjacent to said plates, the construction being such that the chutes are adapted to receive material from the hinged plates, and direct such material alongside the car when the plates are inclined relative to each other and lie above the chutes, but when the plates hang approximately parallel and the chutes are moved on their pivots, away from said plates, the material will be deposited beneath the car.

2. A dumping-car having an open bottom portion, hinged plates adapted to form a floor for the open bottom portion, means for moving said plates to open and close the bottom, such means comprising a rod rotatably journaled in the car, and chains connected with the rod and with the hinged plates, pivoted chutes beneath the hinged plates for directing material from the car to a point alongside the track, and means for moving the chutes on their pivots, substantially as set forth.

3. A dumping-car having an open bottom portion, a movable floor for said bottom, chutes pivoted to swing beneath and to the side of the movable floor for receiving and directing the material in the car to a point alongside the car, when the floor is in its open position, and means connected to the chutes and operated from outside the car for moving the chutes on their pivots, substantially as set forth.

4. A dumping-car having an opening formed in the bottom thereof, a hinged floor for said opening, and chutes pivoted beneath the hinged floor, said chutes having vertical side walls, such chutes being adapted to direct material from the floor to a point alongside the car when the floor rests in contact with the bottom of the chutes and between the vertical side walls thereof, substantially as set forth.

5. A dumping-car having an open bottom portion, a shaft extending beneath said opening, plates hinged to said shaft and adapted to be moved to a horizontal position to close said bottom, and material-direction chutes



pivoted beneath the hinged plates, said chutes having vertically-extending side walls, tapering or decreasing in height toward the outer ends of the chutes; the construction being  
5 such that when the plates rest upon the chutes between the vertical walls the material will be directed down such chutes to a position alongside the track, but when the chutes  
10 are moved on their pivots out of contact with the plates the latter will permit the material to drop directly beneath the car.

6. The combination of a car having an open bottom portion, hinged plates adapted to form a floor for the open portion, crank-rods jour-  
15 naled in the car, and chains encircling said

rods and connected with said plates for supporting the same in a closed position, pivoted directing-chutes for the material, mounted beneath said plates, and chains surrounding the winding-drums on the car and connected  
20 with said directing-chutes, substantially as set forth.

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

WILLIE HOSEA DAVIS.

Witnesses:

MAGGIE SCOTT,

JAS. A. TALBOTT.