

No. 855,267.

PATENTED MAY 28, 1907.

M. I. TUTTLE.
DUMPING DEVICE FOR VEHICLES.

APPLICATION FILED JULY 28, 1906.

2 SHEETS—SHEET 1.

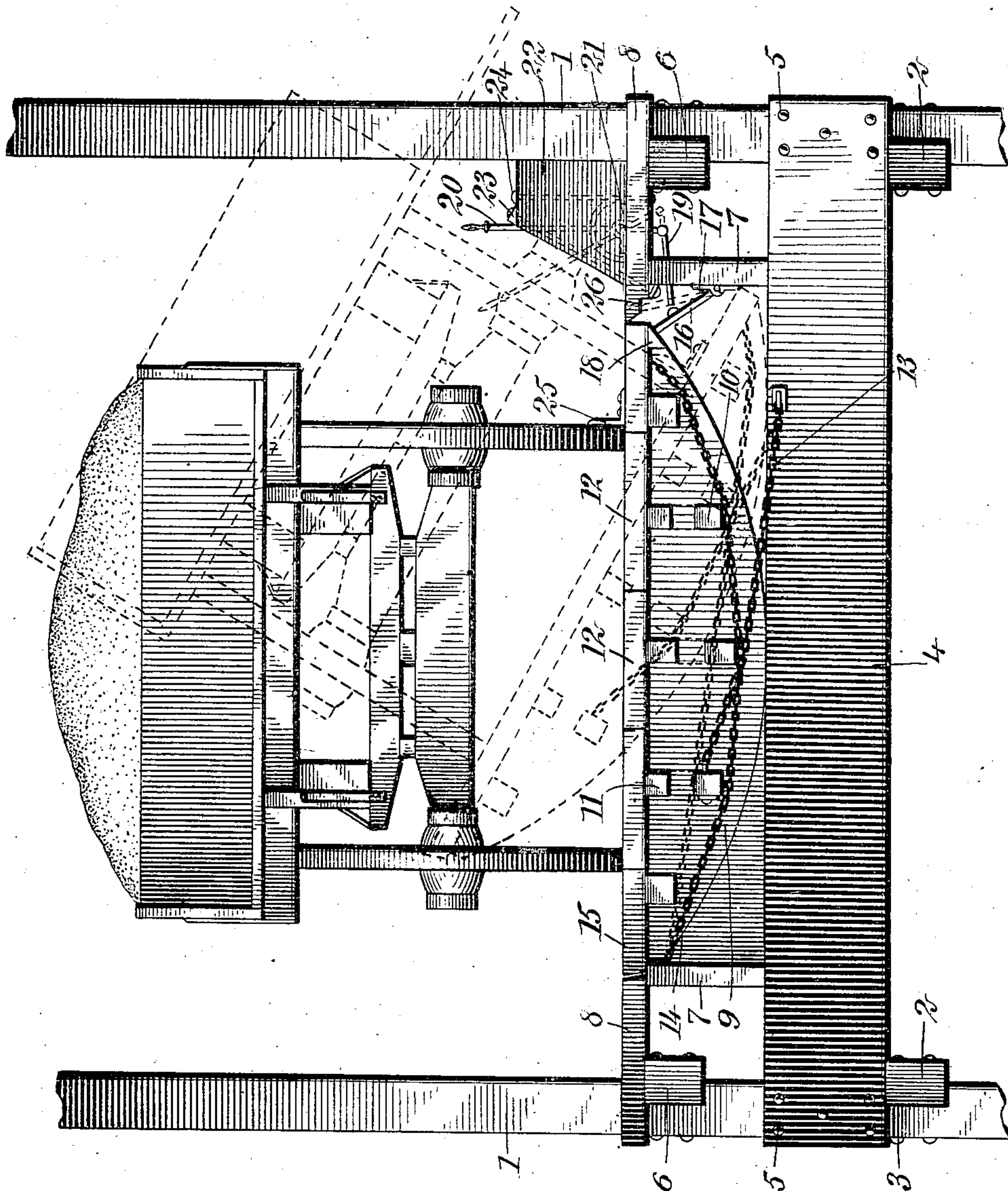


FIG. 1.

WITNESSES

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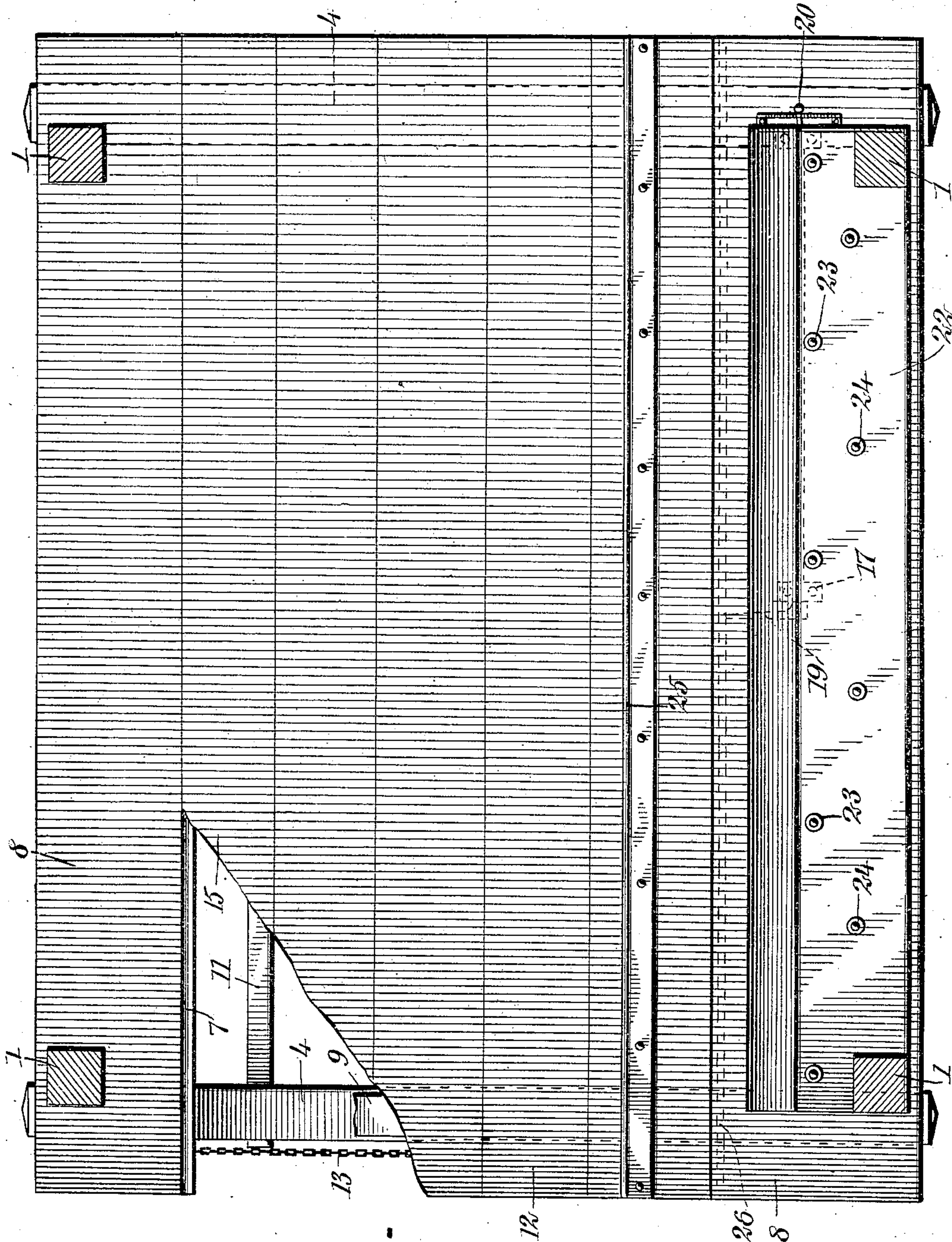
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WITNESSES

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MERRITT I. TUTTLE, OF FORT MORGAN, COLORADO.

DUMPING DEVICE FOR VEHICLES.

No. 855,267.

Specification of Letters Patent.

Patented May 28, 1907.

Application filed July 28, 1906. Serial No. 328,217.

To all whom it may concern:

Be it known that I, MERRITT I. TUTTLE, a citizen of the United States, and a resident of Fort Morgan, in the county of Morgan and State of Colorado, have invented a new and Improved Dumping Device for Vehicles, of which the following is a full, clear, and exact description.

This invention relates to dumping devices for vehicles.

The object of the invention is to provide a device of the character described, by means of which a vehicle may be tilted to one side to allow the load thereupon to slide from the body of the vehicle into an adjacent railway car or the like.

A further object of the invention is to provide a dumping device which is tilted into position to allow the load upon the vehicle to slide from the same, by the weight of the loaded vehicle, while the weight of the unloaded vehicle returns the tilting platform to its normal position through the change of position of the center of gravity of the vehicle when loaded and unloaded.

The invention consists in the construction and combination of parts to be more fully described hereinafter and more fully set forth in the claims.

Reference is to be had to the accompanying drawings in which

Figure 1 represents an end elevation of my invention showing a loaded vehicle thereupon in loaded position and the tilted position of the platform and the vehicle thereupon in dotted outline, and Fig. 2 is a top plan view of my invention showing a part broken away.

Before giving a more detailed description of my invention, it should be understood that the device is substantially automatic in operation, it being merely necessary to release a catch which holds the platform in a normal or horizontal position to allow the platform to be tilted by the weight of the vehicle superposed upon the same. The return of the platform to the normal or horizontal position is effected by the weight of the vehicle, the center of gravity of the same having shifted to a different point from that occupied by the center of gravity of the loaded vehicle, and consequently bringing the center of gravity between the points of contact of the rockers carrying the platform and the center of the same.

Referring more particularly to the drawings, I provide a frame of timber or other suitable material, having uprights 1 constituting preferably a rectangle. The uprights 1 carry longitudinal side members 2 securely bolted in place in notches in said members by means of bolts 3. Transverse members 4 are mounted upon the longitudinal members 2 and span the space therebetween, resting upon the members 2 and at the same time being securely bolted to the uprights by means of bolts 5. Secondary longitudinal members 6 are secured to the uprights in the same manner in which the longitudinal members 2 are attached, the members 6 being located at some distance above the members 2. Floor beams 7 are located upon the transverse members 4 and extend longitudinally of the frame and support side floor members 8 which rest upon the longitudinal members 6 and the floor beams 7 and constitute rigid side members of the platform.

Rockers 9 are located upon the transverse members 4 between the floor beams 7 and are adapted to be rocked laterally with respect to the frame upon said transverse members. The rocking edge of the rockers may be of any suitable curvature for the purpose, while the upper edge is straight and normally horizontal. These rockers are preferably two in number, but the number may be increased to suit the requirements under different circumstances. The rockers are joined by a series of longitudinal braces 10 which are fitted in proper openings in the rockers and extend from one to the other, holding them rigidly a proper distance apart. A second series of braces 11 join the rockers 9 with their upper faces flush with the horizontal upper edges of the rockers, and are adapted to act not only as braces but as supports for the rocking platform as well. The rocking platform consists of a series of longitudinal planks 12 mounted upon the rockers and the braces 11 and extending from one rocker to the other. The planks may be secured in position in the usual manner with bolts or nails. The rockers are secured to the transverse members 4 by means of chains 13 secured to the transverse members and to one of the braces near the end thereof. The rockers are secured to one of the floor beams 7 by means of chains 14 which are secured to said floor beams and to the rocker. The chains are fastened in place by eye-bolts or in any other suitable

manner. It will be understood that the chains allow the rockers to rock freely upon the transverse members but prevent their accidental displacement from the same. The floor beams 7 also act as lateral guards to prevent the accidental displacement of the rockers by jarring or in any other manner. The platform upon the rocker is adapted to be rocked in only one direction; and to prevent its being rocked in the opposite direction the outside floor plank 15 has an edge projecting laterally over the upper edge of the floor beams 7, thus preventing the depression of the platform in that direction.

To hold the platform upon the rockers in a normal position I provide a catch consisting of a rod 16 pivotally mounted upon a bracket 17 at the inner side of a floor beam 7 opposite to the floor beam against which the plank 15 abuts. This rod is adapted to project inwardly and to engage with the under side of a longitudinal bar 18 secured under the platform upon the rockers and to prevent the platform from being depressed when it so engages with the bar 18. A link 19 is pivotally mounted to the bar 16 and to a hand lever 20 which is pivoted to a bracket 21 upon a floor member 8. When the hand lever is moved in one direction the bar 16 is drawn from engagement with the platform by means of the link 19, and thus the platform becomes free to rock upon the transverse members 4.

A longitudinal beam 22 is mounted upon a floor member 8 and is securely bolted in place by means of bolts 23 and 24. The beam 22 presents an inclined face inwardly with respect to the frame, for a purpose which will be hereinafter described. A longitudinal angle-iron 25 is mounted upon the rocking platform near the side thereof adjacent to the beam 22, presenting the outer side of a flange toward the center of the platform.

When my improved device is to be used, the hand lever 20 is so moved that the catch bar 16 is in place to hold the platform in its normal or horizontal position. The vehicle carrying the load which is to be dumped into a freight or other car located upon a track adjacent to the frame, is run up upon the rocking platform by means of an inclined way.

It will be understood that the platform is located at such a height above the ground that when a vehicle is thereupon the body of the same is somewhat higher than the top of the car. Any kind of vehicle may be employed, but I prefer to use one in which one of the sides is hinged outwardly, as shown in dotted position in Fig. 1. The vehicle is so placed upon the platform that the wheels at one side abut against the angle-bar 18, which is adapted to constitute a stop to prevent the accidental displacement from the platform of the vehicle when the platform is tilted. The

arrangement is such that the center of gravity of the vehicle is slightly to one side of the center of the platform in the direction toward which the latter is to be tilted; consequently when the hand lever 20 releases the catch 16 the weight of the vehicle will cause the platform to rock toward that side of the frame until the hubs of the wheels come into contact with the inclined side of the beam 22, which therefore constitutes a stop to prevent the further tilting of the platform. The angle is such that the load upon the vehicle may slide therefrom into the car provided to receive it.

When the vehicle is loaded the center of gravity, it will be understood, is fairly near the upper portion of the body. However, when the load is removed, the center of gravity is displaced toward the lower part of the vehicle. Thus, when the vehicle is loaded, the center of gravity is well up in the body of the vehicle and the weight of the same thus tends to keep the platform in a depressed position; but when the load slides from the vehicle, the center of gravity moves to a position lower down and thus comes between the points of contact of the rockers and the center points thereof. In consequence, it will be understood that the platform is rocked back into its normal position. This operation is due to the fact that when the application of the weight upon the platform is to one side of the point of contact of the supporting members, the rockers will rock toward that side.

The inclination of the beam 22 is such that when the vehicle is tilted the hubs of the wheels may rest squarely upon that surface and at the same time the face of the flange of the angle-iron 25 is substantially parallel with the inclined surface of the beam 22. Thus there is no distortion of the wheels when the vehicle is tilted and consequently there is no danger of injury to the latter. A recess 26 is provided on the under side of a floor member 8, into which the catch bar 16 may be drawn to remove it from the bar 18.

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

1. In a device of the class described, a frame having transverse members, rockers upon said members, a platform upon said rockers and adapted to carry a vehicle transversely of said rockers, means for rocking said platform in a horizontal position, a stop to limit the tilting of said platform, and a stop upon said platform to limit the lateral movement of a vehicle, the arrangement being such that the center of gravity of the vehicle, when loaded, is to one side of the point of contact of the rockers and when unloaded, the center of gravity is to the opposite side of the point of contact of said rockers.

2. In a device of the class described, a

frame having transverse members, rockers upon said members, a platform upon said rockers and adapted to carry a vehicle, a stop upon said platform limiting the lateral movement of the vehicle, means for preventing the displacement of said rockers from said transverse members, and a catch adapted to be manually released and normally to hold said platform in a horizontal position.

3. In a device of the class described, a frame having transverse members, rockers upon said members and having a platform adapted to carry a vehicle, a catch upon said frame adapted to hold said platform in a normal position and having a lever adapted to displace said catch, said platform being adapted to be depressed by the weight of the vehicle thereupon, and a stop upon said frame adapted to abut against said vehicle to limit the movement of said platform.

4. In a device of the class described, a frame having rockers, a platform upon said rockers and having means for holding a vehicle thereupon with the center of gravity to one side of the center of said platform, a catch adapted to hold said platform in a normal position, a stop upon said frame to limit the tilting of said vehicle, and means for pre-

venting said platform from rocking in one direction.

5. In a device of the class described, a frame having transverse members, rockers upon said members and having a platform adapted to carry a vehicle, a bar pivotally mounted upon said frame and adapted to engage with said platform to hold the same in a normal position, and a lever attached to said bar and adapted to displace the same when the position of said lever is altered.

6. In a device of the class described, a frame having a transverse member, a rocker upon said member and having a platform adapted to carry a vehicle, a flexible member secured to said rocker and to said frame at a point adjacent to the opposite end of said rocker, and a second flexible member secured to said rocker and to said frame at a point adjacent to the opposite end of said rocker and remote from the point of the frame at which the first flexible member is secured.

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

MERRITT I. TUTTLE.

Witnesses:

J. F. ARBUCKLE,
JOHN T. ROSS.