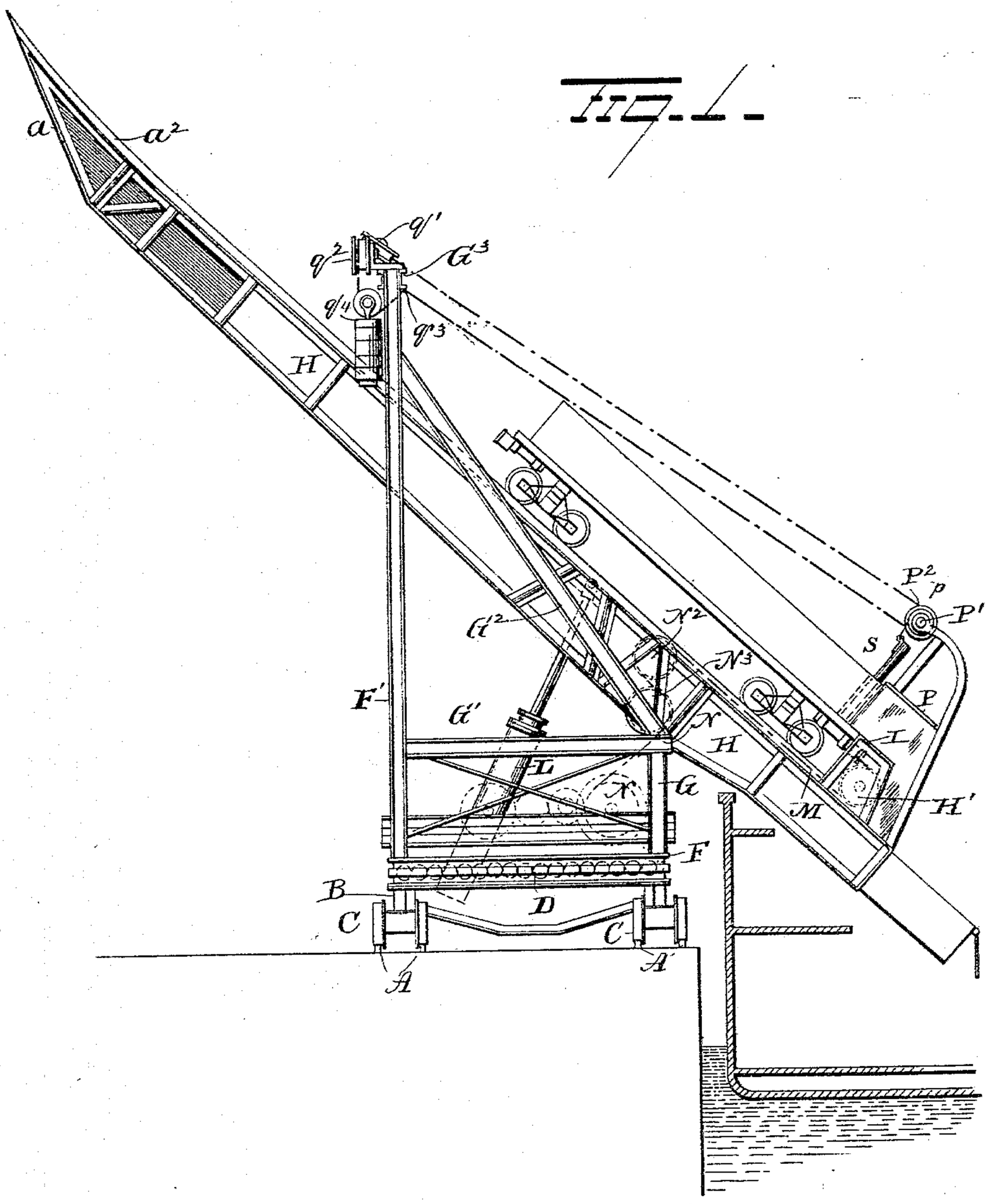
(No Model.) 2 Sheets—Sheet 1.

G. H. HULETT.

DEVICE FOR UNLOADING CARS.

No. 545,293. Patented Aug. 27, 1895.

FIG. 1.



Witnesses
C. D. Nottingham
G. F. Downing.

Inventor
G. H. Hulett
By H. A. Seymour
Attorney

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

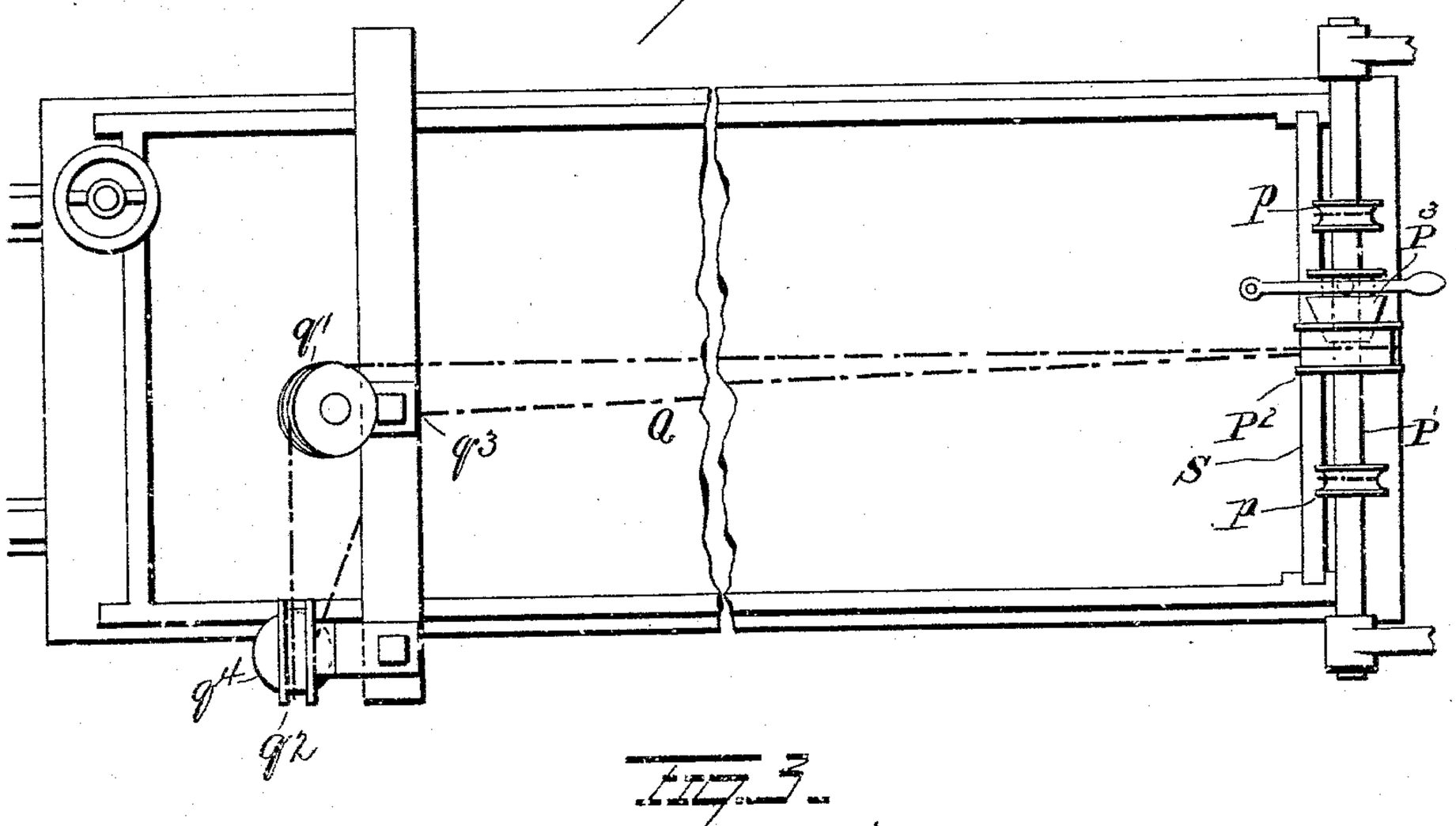

Fig. 3.

Witnesses
C. J. Nottingham
G. F. Downing.

Inventor
G. H. Hulett
By H. A. Seymour
Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. HULETT, OF CLEVELAND, OHIO.

DEVICE FOR UNLOADING CARS.

SPECIFICATION forming part of Letters Patent No. 545,293, dated August 27, 1895.

Application filed October 31, 1894. Serial No. 527,518. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. HULETT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Devices for Unloading Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in devices for unloading cars, and is designed more particularly as an improvement on the construction disclosed in my patent, No. 516,053, granted to me March 6, 1894.

The present invention consists in means for elevating the end-gate of a railway-car by the movement of the tilting platform.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved apparatus. Fig. 2 is a plan view of the gate-elevating apparatus; and Fig. 3 is a view of the body of the car, showing the end-gate and gate-lifting chains and actuating-shaft.

A represents a railway constructed to receive the truck B, which latter is mounted on wheels C and is adapted to travel back and forth parallel to the pier or water-front, as shown. This truck B is provided on its upper face with a bearing or way for the rollers D.

Resting on the rollers D and secured to the truck by a suitable king-bolt or equivalent device is the rotary platform F, which latter carries a suitable engine and boiler or electric or other motors for actuating the drums and other movable parts. The platform is rotated by means of a rack and pinion, ordinarily employed for that purpose, and is provided with the uprights F′ and G, the former being considerably longer or higher than the latter and connected thereto by the braces G′ G^2. The two shorter uprights G are connected together at the tops and at intermediate points, if desired, while the uprights F′ are also connected at their tops by the braces G^3.

Pivotally mounted on the upper ends of the shorter uprights G is the inclined platform H, which latter consists of preferably two parallel girders located a proper distance apart and connected at intervals throughout their length, forming in effect a platform. The platform thus formed is provided with rails and is curved, as at a^2, and beveled at *a*, so that when in proper position the beveled ends of the rails will rest against or on the rails of a surface track and form a continuation thereof, so that a car on the surface track can by the mechanism to be hereinafter described be drawn up the inclined platform, discharged of its contents, and lowered into the same or onto another track. The platform H is preferably pivoted to one side of its longitudinal center, as shown, and is provided at its outer or shorter end with a bumper or buffer I.

Located over the bumper is the operator's platform or cage P, and convenient thereto is the shaft P′. This shaft carries two small drums *p*, to each of which is secured a chain. Each chain carries a hook or clamp for engaging the end-gate S of the car, and hence it will be seen that by rotating the shaft P the chains will be wound on their respective drums and the gate elevated. This shaft P′ carries the drum or pulley P^2 loose thereon, and also a clutch P^3, which in the present case is shown as a friction-clutch. This clutch is keyed to the shaft and is moved longitudinally by a lever in the ordinary manner. Secured at one end to the brace connecting the uprights F′ is a rope or cable Q, which latter is carried to the drum P^2 and is wound one or more times around same, so as to turn same as the cable passes around same, and is then carried back to the brace and around sheaves q' q^2 back to the starting-point q^3. Mounted or hung on the cable between pulleys q' and q^2 are the weights q^4, which latter are designed to keep the cable Q taut. As the platform is pivoted at N, it will be seen that as its discharging end moves upwardly from the position shown in Fig. 1 the shaft P′ approaches the uprights F′. As the shaft is carried toward the upright the slack in the cable is taken up by the weights, and as the cable is thus kept taut the pulley P^2 is necessarily turned. The chains are preferably attached to the gate before or about the time the platform begins to tilt, and they are so wound on their drums that the movement of the shaft while the discharging end of the platform is being elevated lowers the gate and when moving to the position shown in Fig. 1 ele-

vates the gate. Hence it is simply necessary for the operator to throw the clutch at the proper time and the movements of the platform operate to elevate and lower the end-gate. After the car has been discharged of its load the platform is tilted, so as to carry the end thereof well out of the hold, and the rotary platform is then turned, so as to bring the beveled end of the tilting platform over a track, onto which the empty cars are run. The platform is then lowered onto said track and the empty car lowered, after which the platform is turned to the track having the loaded cars thereon and another one carried up and discharged, as described.

L is a hydraulic cylinder pivotally or loosely mounted on platform F and provided with a plunger, the free end of which is connected to the tilting platform, as shown. By means of this plunger and suitable means for forcing water therein the tilting platform can be raised to the position shown in Fig. 1. By permitting the water to escape from the hydraulic cylinder the opposite end of the platform is lowered onto the track.

The platform H is provided with a sheave H′, around which passes chain M. The free end of this chain is adapted to be attached to the car-coupler, while the opposite end thereof is secured to drum N after passing around sheaves N^2 N^3. Thus when the platform is in the position shown in dotted lines and the chain M attached to the car the rotation of the drum N, which is actuated by a suitable motor, causes the car to move up the incline until it comes in contact with the buffer. The drum is then locked against rotation and the platform tilted by the mechanism previously described.

By mounting the tilting platform on a truck the apparatus can be moved lengthwise the vessel, so as to bring the discharging end thereof over the several hatchways, thus permitting the entire cargo to be stored without shifting the bolt.

While I have described the tilting platform as being mounted on a rotary platform carried by a truck, I do not limit the employment of the novel features herein claimed to a tilting platform carried by a rotary platform, but claim the parts when used on a tilting platform mounted on any suitable support.

I would have it understood that I do not confine myself to details of construction, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. In a device for unloading cars, the combination with a support and a tilting platform carried by said support, of a shaft carried by the tilting platform, means connected to the support and engaging the shaft whereby the latter may be rotated as the platform is tilted, and gate elevating devices actuated by said shaft.

2. In a device for unloading cars, the combination with a truck, a tilting platform carried thereby, and a shaft carried by the tilting platform, of means connected to a part carried by the truck and engaging the shaft whereby the latter may be rotated while the tilting platform is moving on its axis, substantially as set forth.

3. In a device for unloading cars, the combination with a support and a tilting platform carried thereby, of a shaft on the tilting platform, a drum on the shaft, a flexible device attached to the support and passing around the drum for rotating the latter as the tilting platform is moved on its axis and gate elevating devices carried by the shaft, substantially as set forth.

4. In a device for unloading cars, the combination with a support and a tilting platform carried thereby, of a shaft carried by the tilting platform, a drum loose on the shaft, a clutch for locking the drum to the shaft, gate elevating devices carried by the shaft, and means attached to the support and engaging the drum for rotating the latter as the tilting platform turns on its axis, substantially as set forth.

5. In a device for unloading cars, the combination with a support and a tilting platform carried thereby, of a shaft on the tilting platform, a drum on the shaft end gate elevating devices attached to the shaft, a flexible line attached at its ends to the support and passing around the drum, and a device for taking up the slack in the flexible line as the discharging end of the tilting platform is being raised.

6. In a device for unloading cars, the combination with a support and a tilting platform thereon, of a shaft carried by the tilting platform, a drum loose on the shaft, a clutch for locking the drum to the shaft, end gate elevating devices attached to the shaft, a flexible line attached at its ends to said support and passing around the drum, and a weight for taking up the slack in said flexible line, substantially as set forth.

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

GEORGE H. HULETT.

Witnesses:
S. G. NOTTINGHAM,
A. W. BRIGHT.