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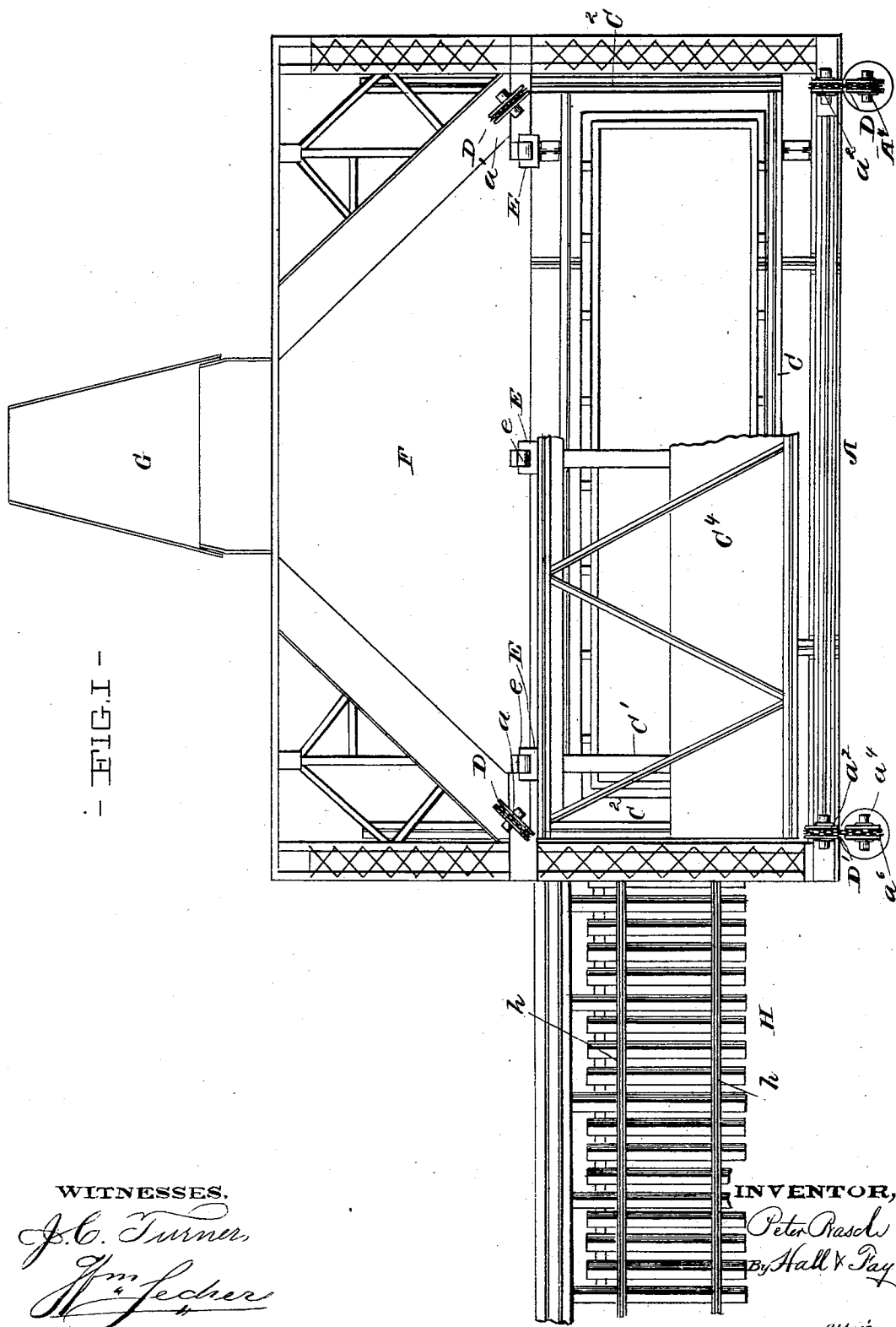
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P. RASCH.

HOISTING AND UNLOADING RAILWAY CARS.

No. 564,646.

Patented July 28, 1896.



WITNESSES,

J. C. Turner,
Jm. Lecher

Im Lechner

INVENTOR,

Peter Rasch
By Hall & Fay

By Hall & Day

Att'y's.

(No Model.)

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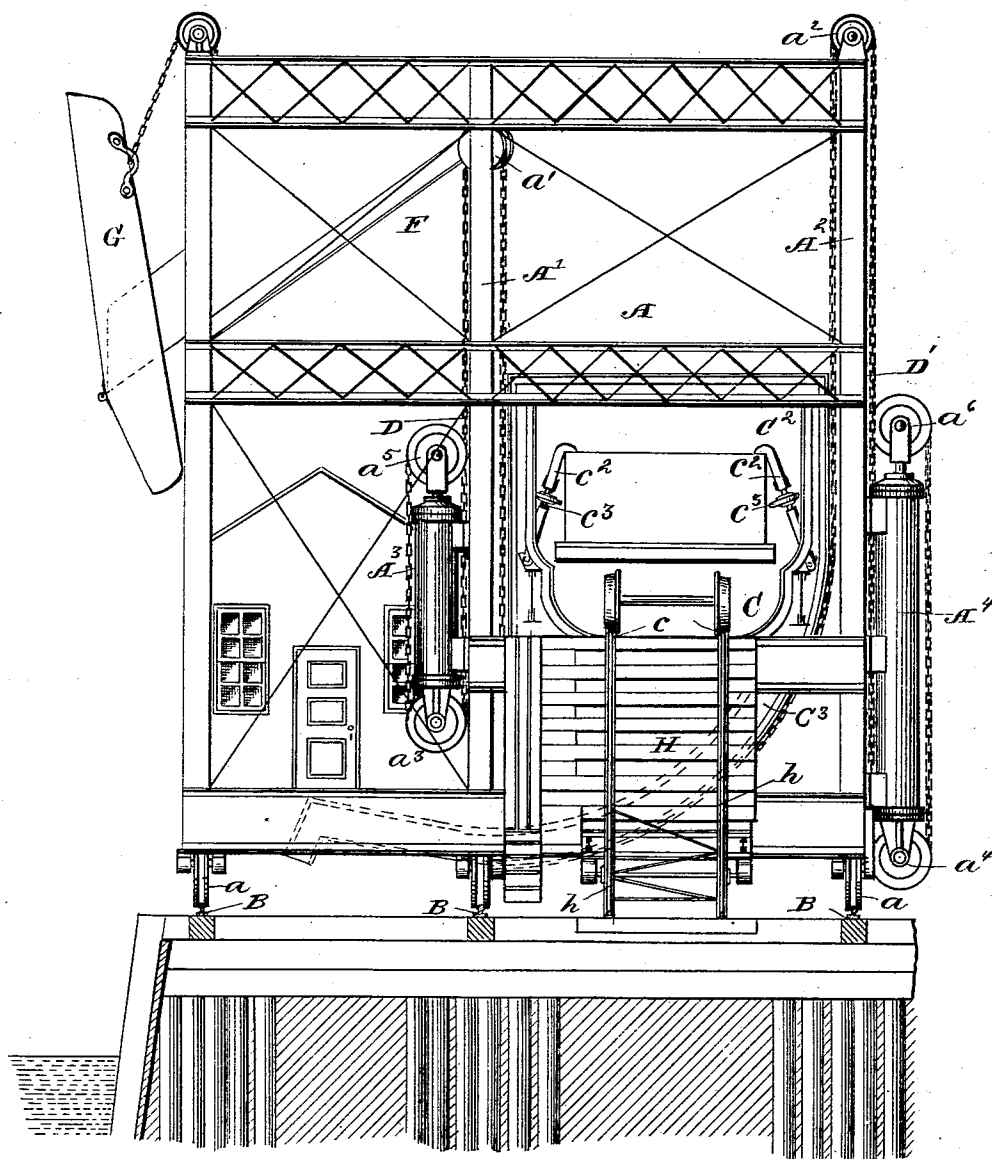
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- FIG. II -



WITNESSES,

J. C. Turner

Wm. Lechner

INVENTOR,

Peter Rasch

By Hall & Fay

Attys.

(No Model.)

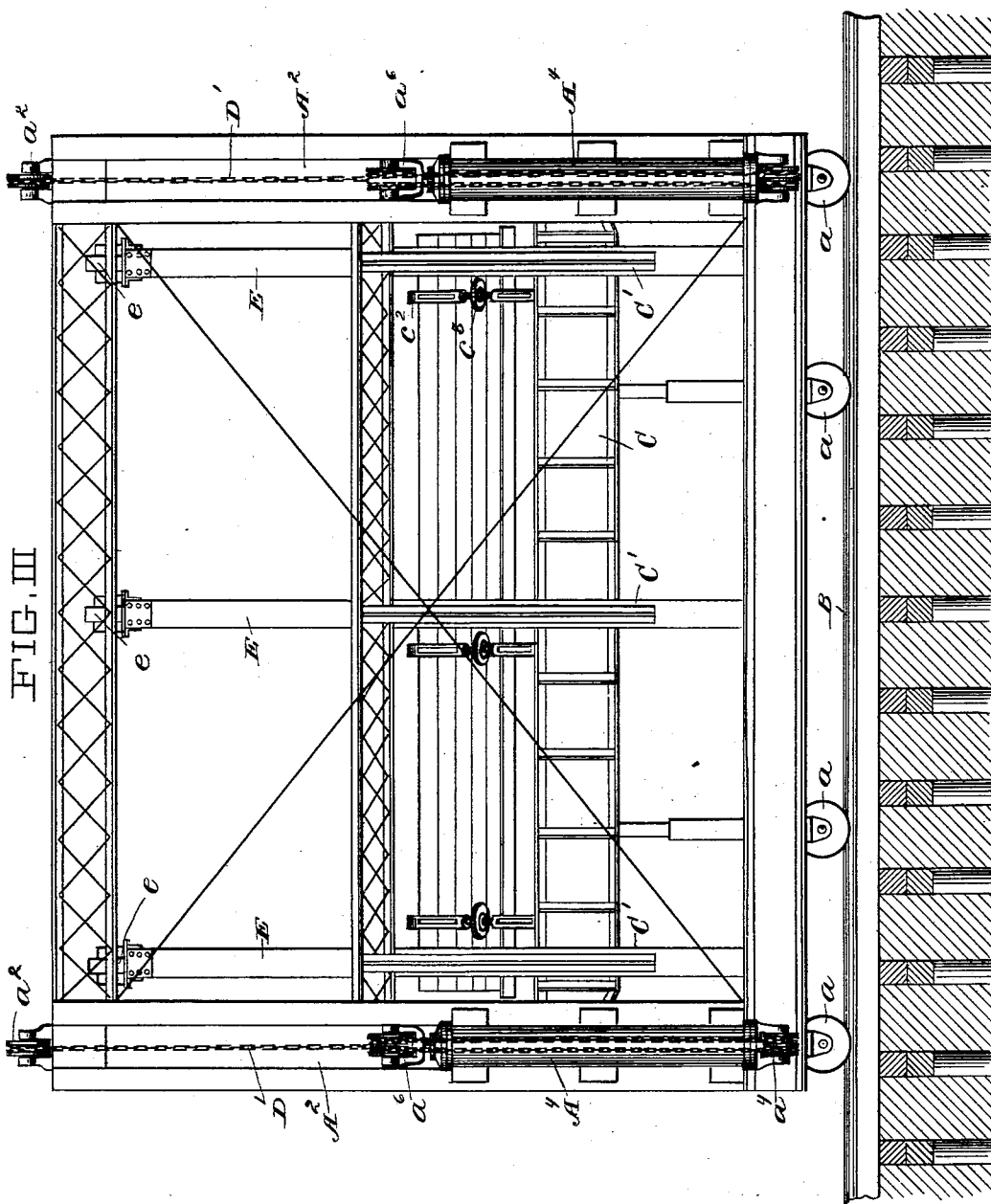
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P. RASCH.

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Patented July 28, 1896.



WITNESSES.

J. C. Turney
Jm. Secher

INVENTOR,

Peter Rasch
By Hall & Fay
Atty's.

(No Model.)

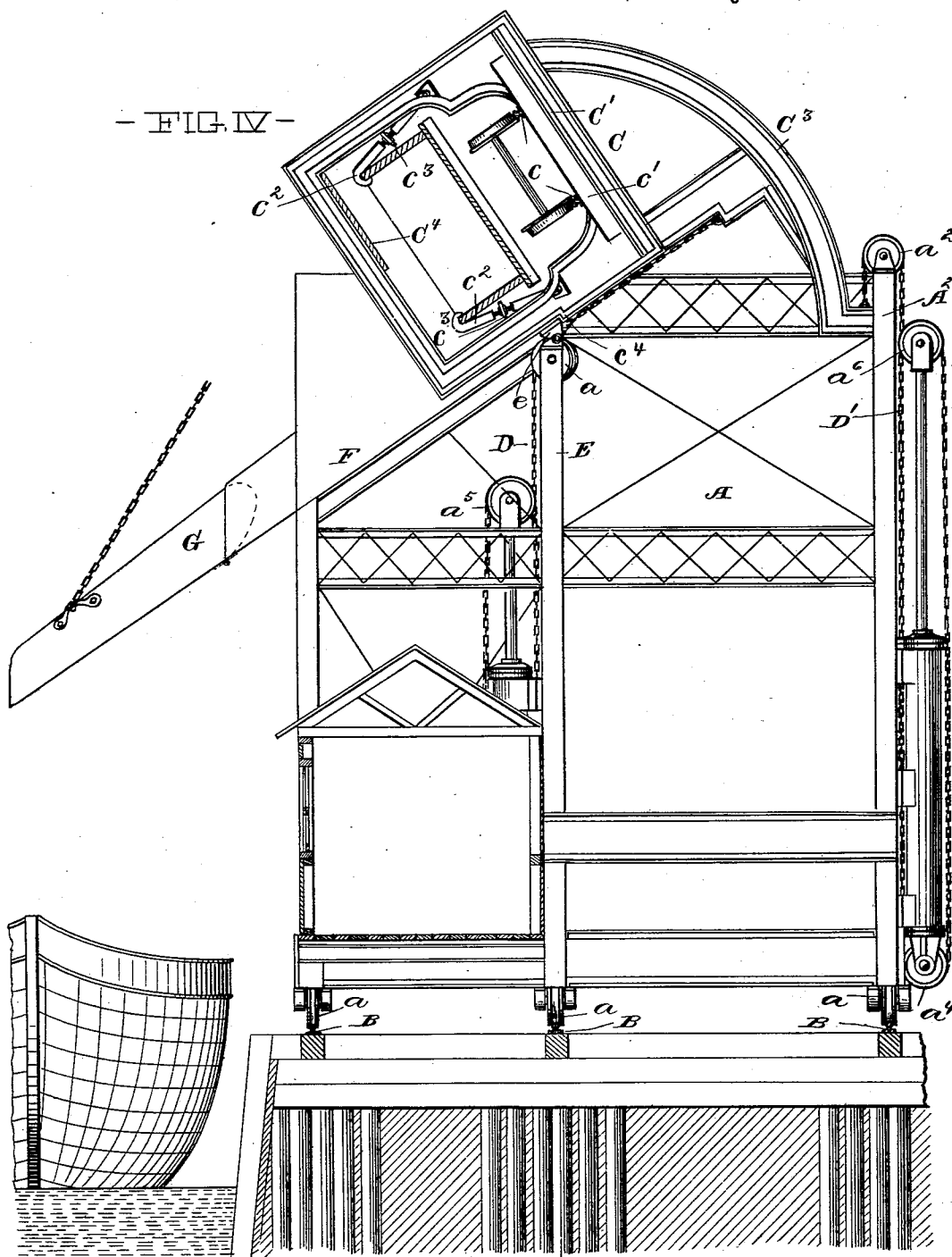
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WITNESSES,

J. C. Turner
Jm^a Lecher

INVENTOR,

Peter Rasch
By Hall & Fay
Attys.

(No Model.)

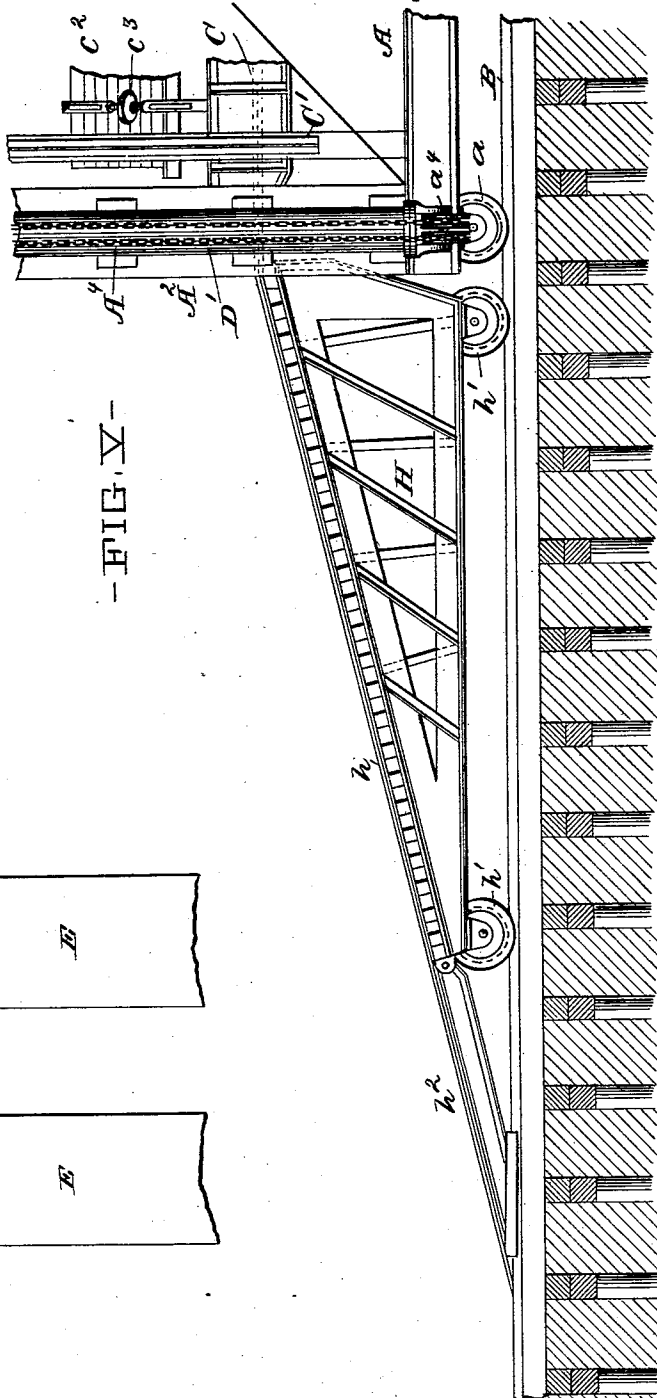
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P. RASCH.

HOISTING AND UNLOADING RAILWAY CARS.

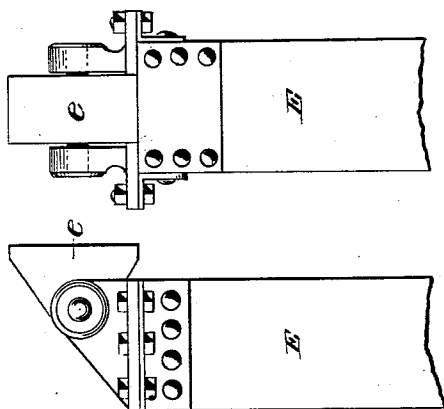
No. 564,646.

Patented July 28, 1896.



- FIG. V -

- FIG. VI -



WITNESSES,

J. C. Turner
Wm. Lecher

INVENTOR,

Peter Rasch
By *Hall & Fay*
Atty's.

UNITED STATES PATENT OFFICE.

PETER RASCH, OF CLEVELAND, OHIO.

HOISTING AND UNLOADING RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 564,646, dated July 28, 1896.

Application filed September 10, 1895. Serial No. 562,038. (No model.)

To all whom it may concern:

Be it known that I, PETER RASCH, a subject of the King of Denmark, and a resident of Cleveland, county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Apparatus for Hoisting and Unloading Railway-Cars, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The annexed drawings and the following description set forth in detail one mechanical form embodying the invention, such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings, Figure I represents a top plan view of my improved apparatus for hoisting and unloading railroad-cars, showing a portion of the top of the upright structure and of the cradle broken away and removed; Fig. II, an end view of the same; Fig. III, a side view; Fig. IV, a transverse section; Fig. V, a side view of the inclined approach for the apparatus, and Fig. VI a side and a front view of the upper end of one of the uprights having the tilting stops.

The apparatus is comprised within an upright structure A, mounted upon wheels *a* which travel upon rails B, laid along the wharf or other place where the cars are to be discharged. By thus mounting the apparatus upon wheels, the discharge may take place at any point along the railway; but it is evident that the structure may be stationary, if one fixed discharge-point only is desired. A cradle C is formed by a number of vertical frames C' and two vertical end frames C², each formed with a segment C³, extending around one side of the cradle, and beneath the bottom of the same to a point beyond the opposite side of the cradle, the segment being more than a quadrant. A track-platform for the cars to be hoisted and unloaded is formed by rails *c* laid upon cross-ties *c'* in the bottom of the cradle. Hooks *c*², having swivel-screws *c*³, or turnbuckles for lengthening and shortening them, are pivotally secured to both sides of the cradle, so that they may be hooked over and tightened

upon the sides of the car to retain the same upon the track when the cradle is tilted. The top of the cradle has a cover C⁴, which covers that half of the top which is raised in tilting the cradle, said cover serving to prevent the contents of the car from scattering when the cradle and car are tilted. Vertical posts A' are provided in the structure at the wharf side, or the side toward which the cradle is tilted, and have guide-pulleys *a'* upon their upper ends. Vertical posts A² are provided in the structure at the shore side, or the side from which the cradle is tilted, and have guide-pulleys *a*² upon their upper ends. The posts A' are shorter than the posts A². Hydrostatic cylinders A³ and A⁴ are supported upon the posts, and cables D and D', which are preferably chains, pass over the guide-pulleys upon the posts, beneath pulleys *a*³ and *a*⁴, at the lower ends of the cylinders, over pulleys *a*⁵ and *a*⁶, upon the piston-rods of the cylinders, whereupon the ends of the cables are rigidly secured, so that the chains may exert draft or release according to the direction in which the pistons of the cylinders operate.

While I term the cylinders "hydrostatic," it is evident that they may employ any fluid as actuating medium.

The arrangement of pulleys and cables may be modified in any desired manner. The cables D, which are actuated by the cylinders upon the shorter posts, have their ends secured to the wharf sides of the end frames C² of the cradle, and the cables D' have their ends secured to the free ends of the segments of said frames, and bear against the convex sides of said segments during the hoisting and tilting of the cradle. The inner vertical frames C' of the cradle are each formed with a step or shoulder *c*⁴, which may engage shoes *e*, hinged upon the upper ends of upright posts E in the upright structure, so that the wharf side of the cradle may rest upon said shoes and turn upon the hinge-pintles of the same when the cradle is tilted.

A hopper F, of a length corresponding to the cars to be handled, is formed at the top of the structure, extending from the upper ends of the car-supporting posts E, inclined toward the wharf side, where it is contracted toward a spout G of any suitable construction. An

inclined approach H is connected to the end of the structure, and has rails h , which may connect with the rails upon the cradle-platform. The approach is mounted upon wheels h' , which travel upon the wharf-rails, and the lower end h^2 of the approach is preferably hinged, so as to be tilted up out of contact with the rails when the approach is moved. One approach at each end of the structure may be provided, if desired.

In practice, a car is drawn up the approach onto the track-platform, whereupon all of the hydrostatic cylinders are started to exert hoisting power upon the hoisting-cables. When the shoulders of the cradle engage the hinged shoes upon the car-supporting posts, the cylinders A^3 at the lower side of the hoisting-frame are stopped, while the cylinders A^4 at the higher side of the frame continue to hoist their side of the cradle. This will cause the cradle to tilt over upon one side, resting upon the hinged shoe-supports, when the contents of the car will be dumped out upon the inclined hopper and be discharged through the spout. The hooks in the cradle are drawn tightly upon the sides of the car, so that the car will be retained upon the track when the cradle is tilted. On account of the hoisting-cables for the tilting side of the cradle working upon the segments the tilting movement of the cradle will be easy and smooth, and the pull of the hoisting-cables will be in a straight vertical line at all points of the hoisting or tilting.

Other modes of applying the principle of my invention may be employed for the mode herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction set forth respectively in the following claims are employed.

I therefore particularly point out and distinctly claim as my invention—

1. In an apparatus for hoisting and unloading railway-cars, the combination of an upright structure having guide-pulleys at its top, a cradle formed with a platform upon which a car may be supported and having segments extending beneath said platform, hoisting-cables attached to one side of the cradle and carried over guide-pulleys, means for exerting draft upon said cables, hoisting-cables secured to the free ends of the segments and bearing against the peripheries of the same and carried over guide-pulleys, and means for exerting draft upon said latter cables, the draft-exerting means for each of said two

sets of hoisting-cables operating independently of each other, substantially as set forth.

2. In an apparatus for hoisting and unloading railway-cars, the combination of a cradle in which a car may be supported and formed with shoulders upon one side, hinged shoes which may be engaged by said shoulders and against which the cradle may be supported, a set of hoisting-cables attached at the shouldered side of the cradle, means for exerting draft upon said cables, another set of hoisting-cables attached to exert hoisting-draft at the opposite side of the cradle, and means for exerting draft upon said cables independently of the draft-exerting means of the first set of cables, substantially as set forth.

3. In an apparatus for hoisting and unloading railway-cars, the combination of an upright structure, a cradle vertically guided to be raised and lowered in said structure and in which a car may be supported, said cradle having shoulders upon one side and provided with segments extending beneath it; hinged shoes in the upright structure and adapted to be engaged by the shoulders of the cradle and to have the latter rest upon them when tilted, cables attached at the shouldered side of the cradle and guided over pulleys at the top of the structure, hydrostatic cylinders connected to exert draft upon said cables, cables attached to the free ends of the segments and guided over the latter and over pulleys at the top of the structure, and hydrostatic cylinders connected to exert draft upon said latter cables, substantially as set forth.

4. In a dumping device for railway-cars, the combination of a traveling structure, an inclined chute at the top of said structure, vertical guides in said structure, a cradle vertically movable in said guides and provided with a track for the reception of a railway-car and means for retaining such car on the track and formed with segments extending beneath it, chains secured to one side of the cradle and to the outer ends of the segments and carried over guide-pulleys at the top of the traveling structure, and means for exerting pulling power upon said chains, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 6th day of September, A. D. 1895.

PETER RASCH.

Witnesses:

WM. SECHER,

DAVID T. DAVIES.