

No. 725,084.

PATENTED APR. 14, 1903.

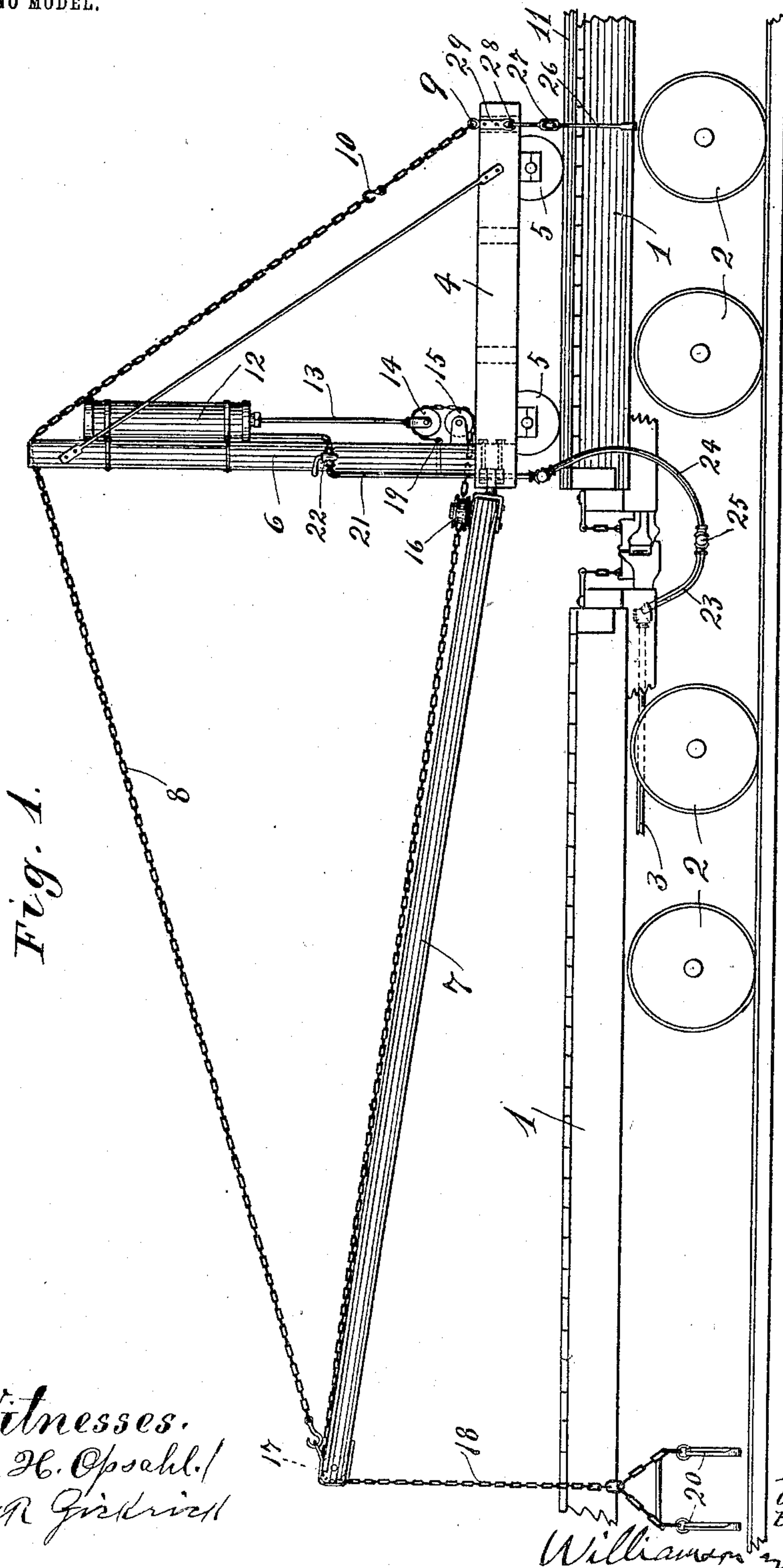
G. R. HUNTINGTON & T. A. FOQUE.

RAIL LOADER.

APPLICATION FILED SEPT. 3, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses.  
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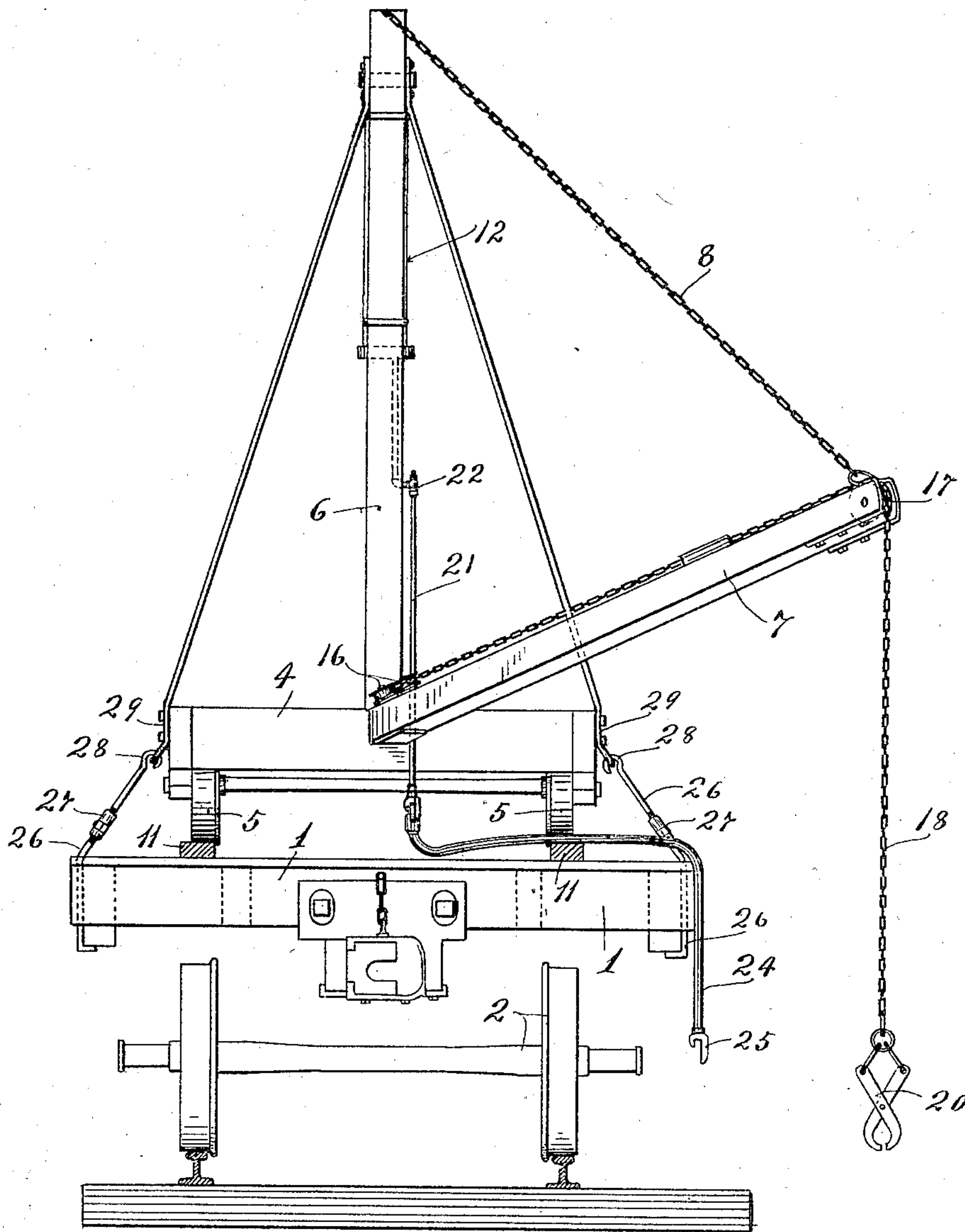
RAIL LOADER.

APPLICATION FILED SEPT. 3, 1902.

NO MODEL.

2 SHEETS—SHEET 2.

*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

GEORGE R. HUNTINGTON AND THEODORE A. FOQUE, OF MINNEAPOLIS,  
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## RAIL-LOADER.

SPECIFICATION forming part of Letters Patent No. 725,084, dated April 14, 1903.

Application filed September 3, 1902. Serial No. 121,924. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE R. HUNTINGTON and THEODORE A. FOQUE, citizens of the United States, residing at Minneapolis, in the  
5 county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Rail-Loaders; and we do hereby declare the following to be a full, clear, and exact description of the invention, such  
10 as will enable others skilled in the art to which it appertains to make and use the same.

Our invention has for its especial object to provide improved means for rapidly loading  
15 rails onto flat-cars and reducing to a minimum the number of men required in such operation.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the  
20 claims.

In accordance with our invention we provide a portable derrick, which is adapted to be readily moved from one car onto another just in advance of the car to be loaded. To  
25 make the movement of the derrick an easy matter, it is mounted on a truck, and to securely anchor the same in working position to the bodies of the different cars suitable anchoring devices are provided. To operate  
30 the hoisting device of the derrick a fluid-actuated engine is provided. This engine is best afforded by a straight-line cylinder-and-piston engine which is preferably directly  
35 mounted on the mast of the derrick, but may be otherwise supported. To actuate this derrick-engine, pipe or tube connections are provided for supplying the same with the motive fluid from a distant source.

As is well known, freight cars are at present quite generally equipped with air-brakes. As one feature of our invention, we utilize  
40 "train-pipes" of such air-brake equipment to convey air under pressure from the air-storage reservoir on the locomotive which is used to move the train to the hoisting-engine  
45 on the portable derrick. The said hoisting-engine is provided with a suitable air tube or pipe and coupling whereby it may be successively connected to the train-pipes of the  
50 several cars of the train. When cars not equipped with air-brakes are to be loaded,

independent pipe-sections must be provided for conveying the motive fluid from the air-storage reservoir to the hoisting-engine.

The invention is illustrated in the accompanying drawings, wherein like characters  
55 indicate like parts throughout both views.

Figure 1 is a side elevation showing our improved derrick applied to one of several cars of the train, some parts being broken away; 60 and Fig. 2 is an end elevation of one of the cars and of the derrick which is applied thereto. In the said two views the cars are shown only in part.

The numeral 1 indicates the bodies, and the  
65 numeral 2 the trucks, of ordinary flat-cars which are equipped with air-brakes, the train-pipes 3 only of which are shown.

The numeral 4 indicates the body, and the  
70 numeral 5 the wheels, of the derrick-truck. The truck-body 4, as shown, has a rigidly-secured mast 6, to the lower end of which is pivoted with freedom for both lateral and vertical movements a long boom 7, the free  
75 end of which is supported by a chain 8, passed over the top of the mast 6 and anchored at 9 to that end of the truck-frame which is moved in advance with respect to the travel of the truck. The rear section of the chain 8 is  
80 provided with a hook 10, which is engageable with any of the links of said chain to thereby support the boom at any desired elevation. As the boom is not frequently lifted, it is not  
85 often necessary to change the adjustment of said hook.

As shown, the wheels 5 are flanged and are  
85 adapted to run over loose rails 11, placed on the top of the car-body 1; but these wheels may be provided with flat faces and made to run directly upon the tops of the car-bodies.  
90 When the rails 11 are used, they may be projected, so as to bridge the gap between the ends of two coupled cars; but when said rails are not employed short bridging-rails (not  
95 shown) would be employed to afford the track over which the derrick-truck may be passed when moving the same from one car to another.

The cylinder 12 of a straight-line reciprocating engine is rigidly secured to the mast  
100 6. The depending piston-stem 13 of said engine is equipped with a roller 14, and the



mast 6, below and in line with said roller 14, is provided with a guide roller or sheave 15.

The boom 7, near its pivoted end, is provided with a pair of cooperating rollers or sheaves 16, and at its free end it is provided with a single guide roller or sheave 17.

The hoisting-chain or connection 18 runs over the guide-sheave 17, between the guide-sheaves 16, under the guide-sheave 15, over the guide-sheave 14, and is anchored at 19 to the mast 6. At its depending free end said hoisting-chain 18 is provided with an ordinary nail-grapple 20. As is evident, when the piston of the engine, and consequently the guide-sheave 14, is raised, the grapple 20 will be raised at twice the rate of speed of the said piston and sheave. It will of course be lowered by a reverse action.

An air-supply pipe 21, shown as secured to the mast 6, leads to the cylinder 12 of the hoisting-engine. This pipe is shown as provided with a stop-cock 22, which serves as the throttle-valve for the engine. At the ends of the train-pipes 3 are flexible coupling-hose 23, and depending from the supply-pipe 21 is a similar coupling-hose 24. These hose-sections 23 and 24 are adapted to be readily connected and disconnected by an ordinary hose-coupling 25, such as used for similar purposes in air-brake systems.

The derrick-truck is adapted to be quickly and securely anchored to the body of any of the flat-cars by means of anchoring rods or brackets 26, having hooked lower ends which engage under the side beams of said car-bodies 1, preferably as shown in the drawings. The said anchoring-rods are further provided with turnbuckles 27, by means of which they may be tightened and loosened at will. Preferably the said rods 26 are detachable, being provided at their upper ends with hooks 26, which engage with the eyes of anchoring-plates 29, rigidly secured to the sides of the truck-frame 4.

The use of the device above described is probably obvious from the foregoing description.

It will of course be understood that the coupling-hose 24 is successively connected to the train-pipes of the cars which are next to be loaded and that the derrick is always anchored to the car just in advance. Of course where the cars are equipped with air-brakes the train-pipes of the several loaded cars must be connected in the ordinary way, or just as if the air-brakes were to be operated.

By the above manipulation it is evident

that one car after another of a long train may be loaded with the rails without requiring switching of the cars. By thus avoiding switching a very great saving of labor is effected.

Hitherto wherever rails have been loaded by a derrick carried by the train it has been necessary to cut out and side track or otherwise remove the cars as they were successively loaded. For this reason cars have more commonly been loaded by hand-labor or by the use of man-power alone. To thus load cars with heavy rails requires a crew of about twenty men, and even with this large crew the work is what is usually termed a "man-killing" job. By actual usage of the device herein disclosed and by thorough tests and comparisons thereof with work done by men crews we have found that four men manipulating the device can do more work and load a car more rapidly than a crew of twenty men. The enormous saving of time and money is made obvious by these facts.

It will of course be understood that the device above described is capable of many modifications as to its details of construction within the scope of our invention, as herein set forth and claimed.

What we claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a train of cars and sectional train-pipes, of a portable derrick having a truck which is movable over the said cars, a hoisting-engine carried by said truck and provided with a coupling connection for connecting the same successively with the train-pipes of the several cars, substantially as described.

2. The combination with a train of cars provided with train-pipes, of a portable derrick having a truck for moving it over the said cars, a hoisting-engine carried by the derrick, and provided with a coupling connection for connecting the same successively with the train-pipes of the several cars, and anchoring devices for anchoring the derrick-truck successively to the body of the said car, always just in advance of the car which is to be loaded, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE R. HUNTINGTON.  
THEODORE A. FOQUE.

Witnesses:

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F. D. MERCHANT.