(No Model.)

2 Sheets—Sheet 1.

R. H. RAMSEY.

CAR AND FREIGHT TRANSFER APPARATUS.

No. 304,562. Patented Sept. 2, 1884.

Fig. 1.

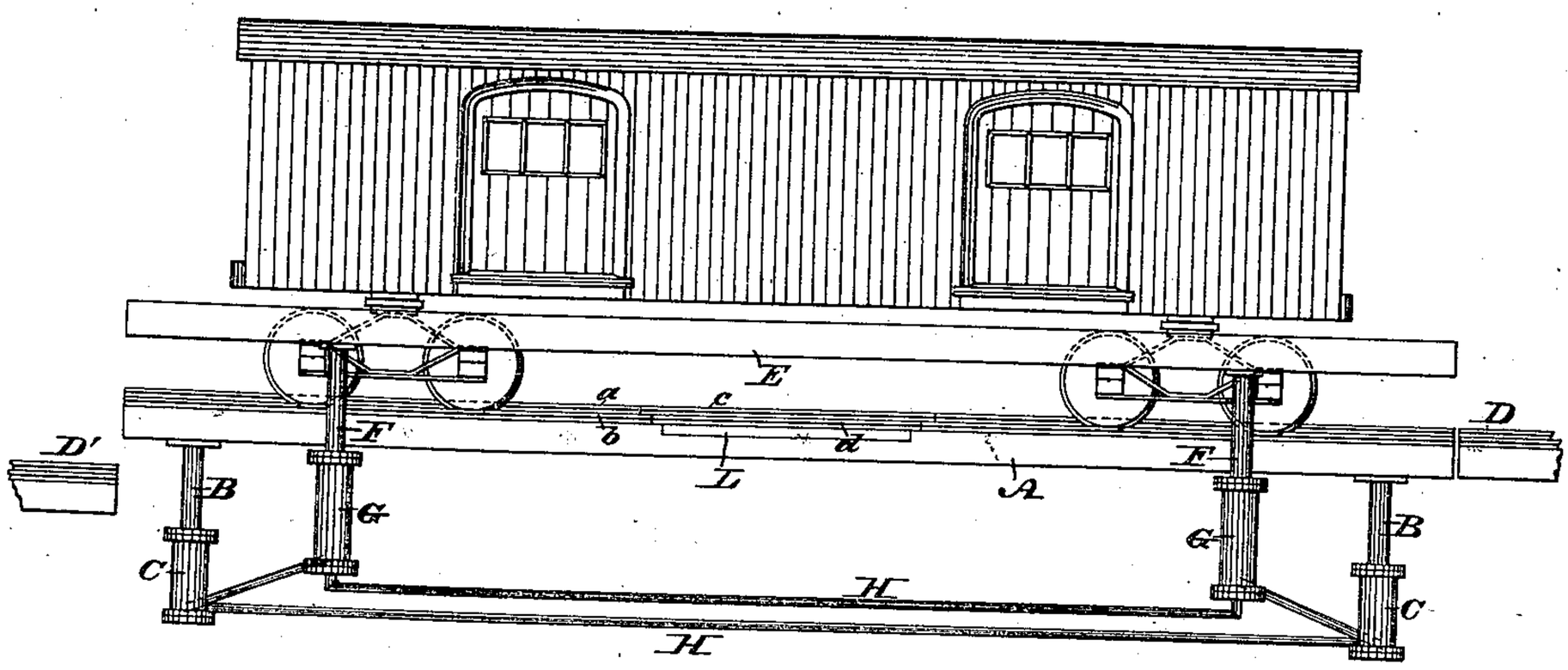
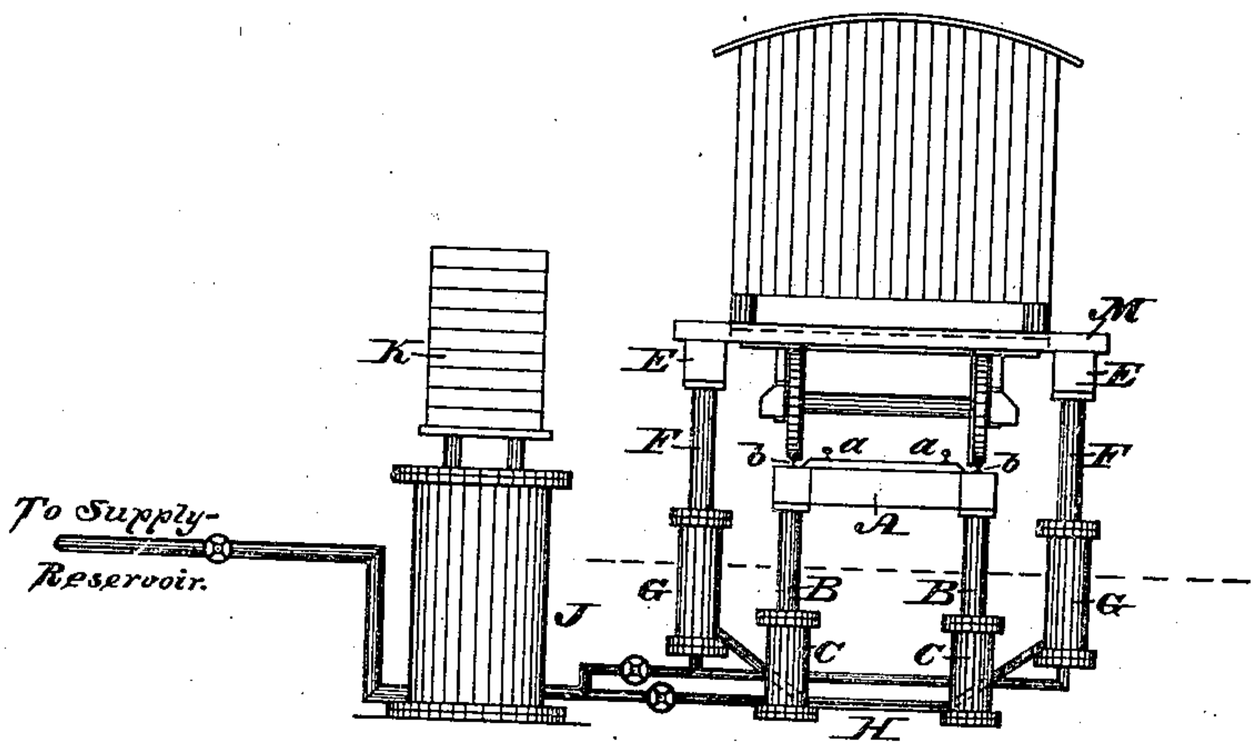


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

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CAR AND FREIGHT TRANSFER APPARATUS.

No. 304,562. Patented Sept. 2, 1884.

Fig. 4.

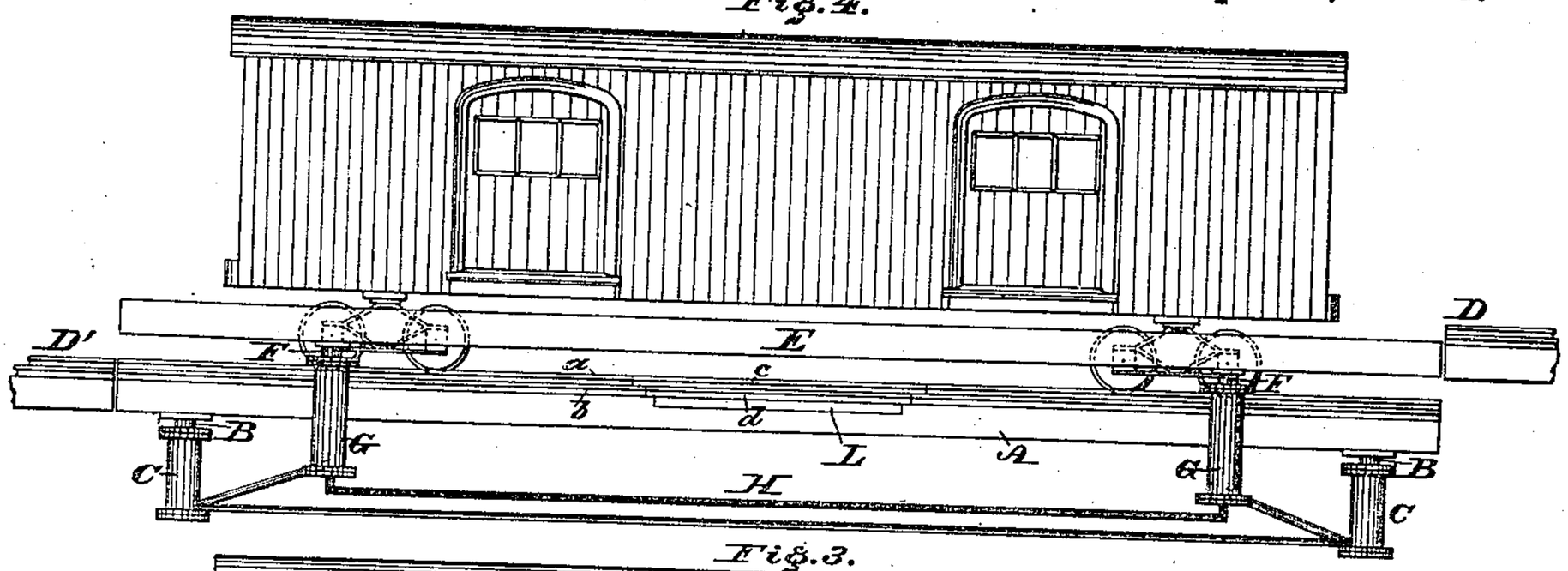


Fig. 3.

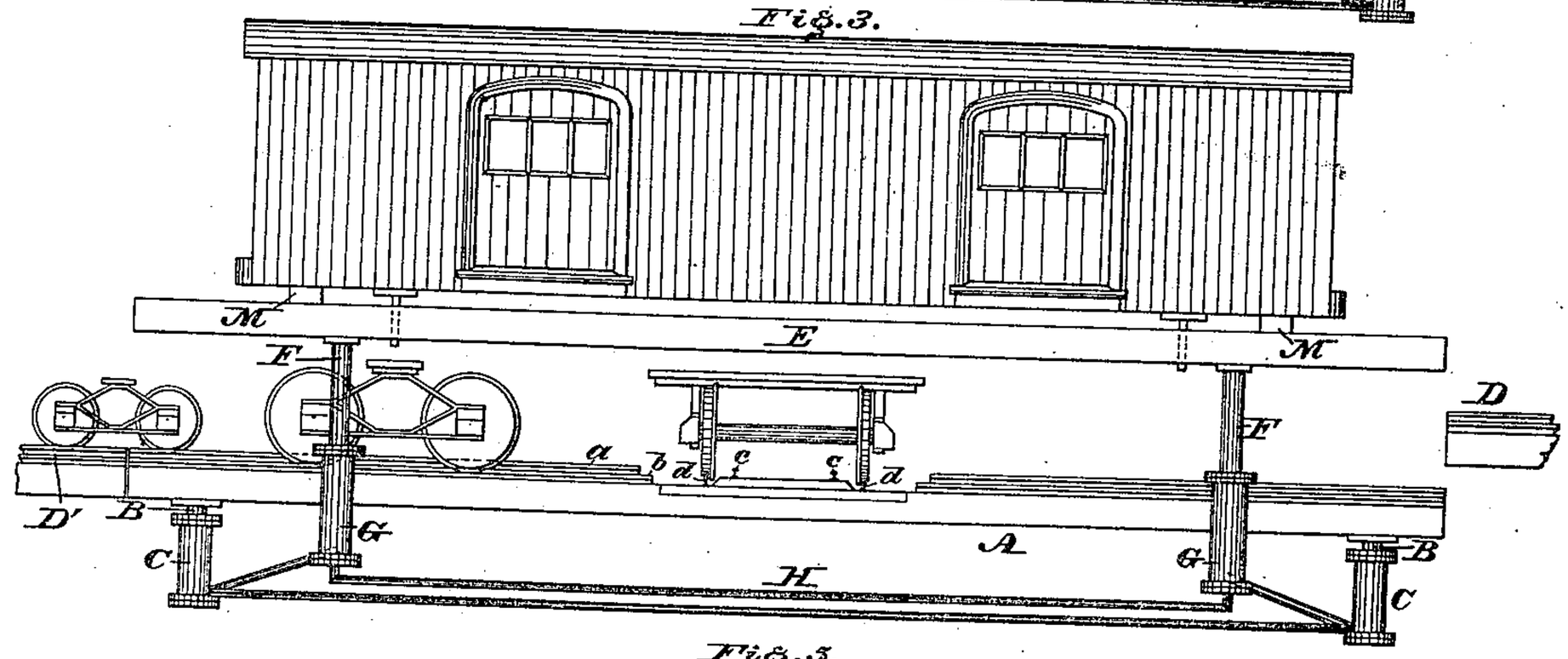


Fig. 5.

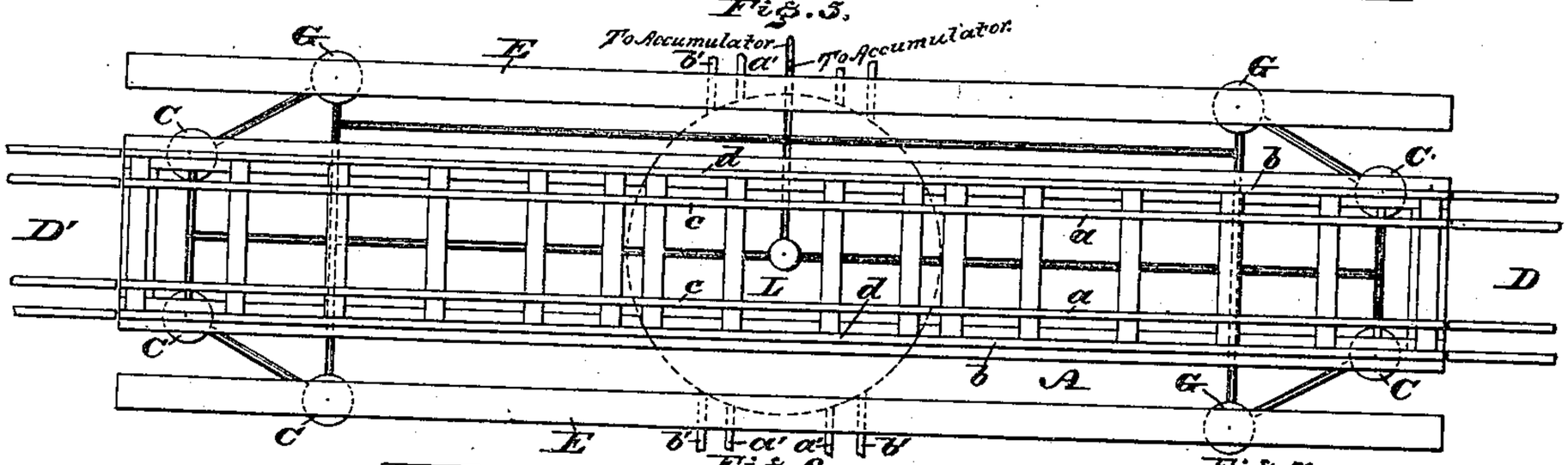


Fig. 6.

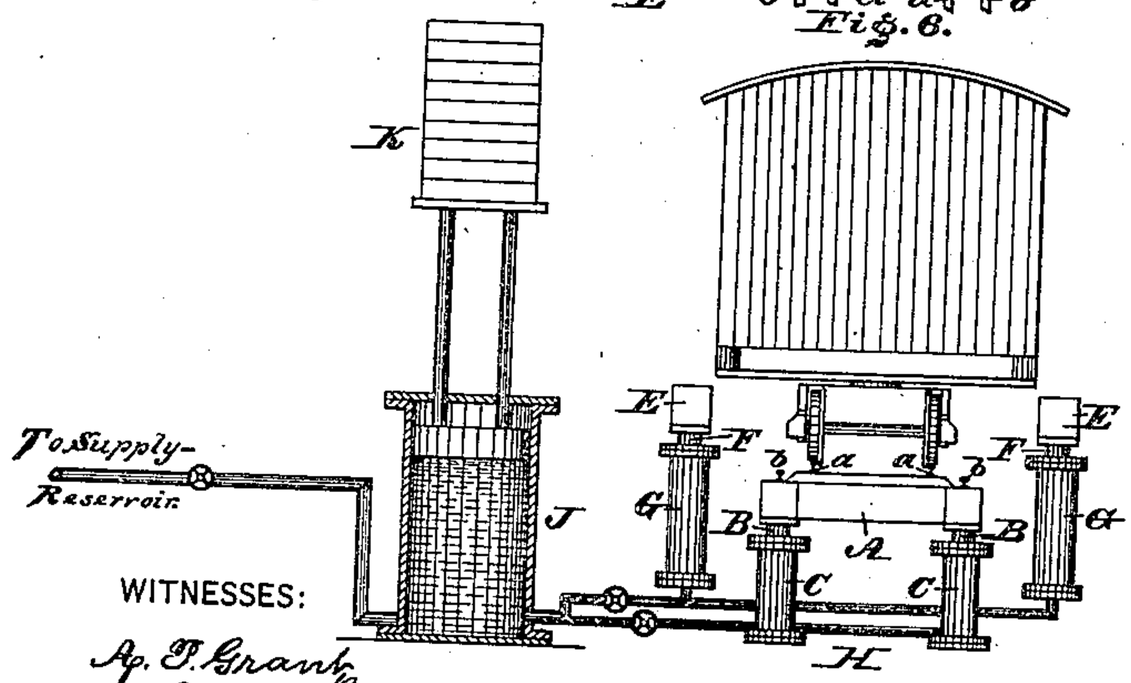
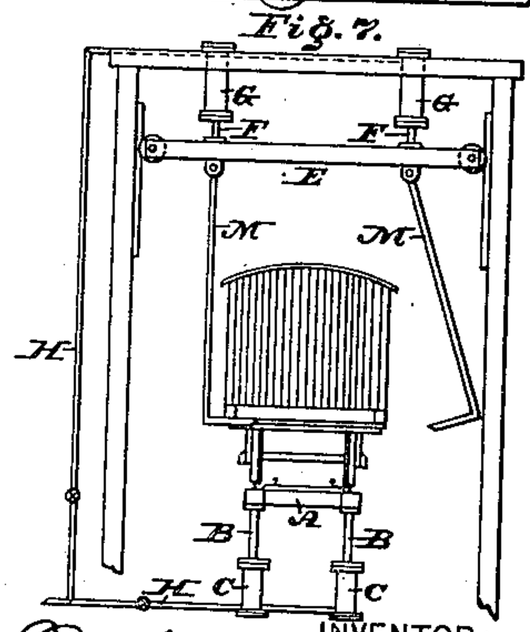


Fig. 7.



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CAR AND FREIGHT TRANSFER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 304,562, dated September 2, 1884.

Application filed February 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. RAMSEY, a subject of the Queen of Great Britain, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Transferring Cars, Freight, &c., which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figures 1, 3, and 4 are side elevations of apparatus for transferring cars, freight, &c., embodying my invention, the cars being shown in different positions. Fig. 2 is an end view of Fig. 1. Fig. 5 is a top or plan view. Fig. 6 is an end view of the apparatus when the car is in the position shown in Fig. 4. Fig. 7 is an end view of a modification on a reduced scale.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a method of and means for transferring cars to rails of either broad or narrow gage railroads, or furnishing car-bodies with different trucks for such railroads, by the employment of rails of different levels or steps with vertically-movable supports for the car-body, and trucks between said steps, so that the cars may descend from one step to the other and store or furnish power to restore the supports to their normal position.

Referring to the drawings, A represents a vertically-moving table, on which are laid rails *a b* for broad and narrow gage railroads, said table being mounted on pistons B of hydraulic cylinders C, which latter are sustained in a pit between rails D D′, which, arranged at different levels, are adapted for broad and narrow gage railroads, and properly laid on a road-bed, it being seen that when the table is in its highest position its rails are continuous of the rails D, and when in the lowest position its rails are continuous of the rails D′.

E represents vertically-moving beams which are arranged parallel with the sides of the table A, and mounted on the pistons F of hydraulic cylinders G, which are sustained in the pit in which the cylinders C are contained.

Connected with the cylinders C G are pipes H H, which are in communication with an accumulator, J, which is sustained in the aforementioned pit, or adjacent thereto. The stem of the piston of said accumulator projects through the upper head thereof, and has placed on it a weight, K.

On the table A, at the center thereof, is mounted a turn-table, L, which is provided with rails *c d*, of broad and narrow gage, which may be placed in communication with the rails *a b*, or rails *a′ b′*, mounted on the road-bed at a right angle to said rails *a b*.

The operation is as follows: When a car-body is to be transferred to trucks of different gage, the car is run on the table A from the rails or step D, as seen in Fig. 1. Cross-bars M are then placed transversely under the car-body and rested on the beams E. The valves of the cylinders C are now opened, whereby the weight of the trucks on the table A causes the latter to descend, forcing the water from said cylinders in the accumulator and raising the weight K, it being noticed that as the valves of the cylinders G are closed the car-body remains supported by the bars M on the beams E. The table A reaches the lower rails or step, D′, and the trucks are removed to the turn-table, whereby they may be run off to the siding. The valves of the cylinders C are meanwhile closed to prevent the water from returning to said cylinders, and the weight consequently from raising the empty table. Trucks of the different gage are then run on the table A, with their center plates placed directly under the king-bolts of the car-body. (See Fig. 3.) The valves of the cylinders G are now opened and the weight of the car-body depresses the beams E, forcing the water from said cylinders into the accumulator and raising the weight K to a greater extent, the car-body now resting on the trucks, as shown in Figs. 4 and 6. The valves of the cylinders G are now closed to prevent the water from re-entering the said cylinders, and the bars M are withdrawn, so that the car may be run from the table A to the rails or step D′, which connects with suitable sidings leading to the main track, it being evident that the upper rails or step, D′, also connects with suitable sidings leading to the main track. The table A and beams E are now empty and depressed to the

lowest point. This is an important feature, for the descent of the trucks and car-body has raised the weight K on the piston of the accumulator, and thus created a power which is availed of for subsequent service. The valves of all of the cylinders are now opened and the weight K is uncontrolled, and so descends, forcing the water from the accumulator into the several cylinders, thereby raising the table and beams until the table is again on a level with the upper rails or step D, so that another car may be placed on the table, the other operations being repeated, it being seen that each car that is transferred furnishes power to return the table and beam to their normal position, ready for the next car.

The cylinders G may be advantageously placed in a frame above the car, as shown in Fig. 7, and their piston-rods project downwardly therefrom and have connected with them the beams E. Depending from the beams are hooks M, which may be placed under the car-body to sustain the same, similar to the bars M. When the bars M are used, they may be held somewhat tightly on the beams E, when the car-body is lowered on the substitute trucks. To prevent this set-screws or eccentrics may be arranged on the beams and have the bars rest thereon, whereby by operating the screws or eccentrics the bars may be relieved. Another method of relieving the bars is by the employment of an auxiliary cylinder located aside of the accumulator, when by opening the valves of the pipes leading from the cylinders G to said auxiliary cylinder the weight of the beams E will force water into said auxiliary cylinder and raise the plungers thereof sufficiently to relieve the bars, said plungers being afterward depressed by the action of the weight K.

While I have described the cylinders as hydraulic, I do not limit myself to the use of water therein, as glycerine, oil, air, or other fluid may be employed in lieu thereof.

In lieu of cross-bars M, I may use arms which are pivoted, hinged, or otherwise attached to the beams E, or frames aside thereof, so as to be moved in and out of position and remain connected with the beams or frames, as desired.

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

1. A step in a track, vertically-movable supports for cars between the same, and devices whereby said supports may be automatically operated, and the transfer of trucks of broad and narrow gages may be accomplished by gravity, substantially as and for the purpose set forth.

2. A transfer apparatus consisting of steps, vertically-movable supports for cars between the same, and a weight connected with said supports, substantially as described, whereby cars may descend from one step to the other and furnish power to restore the supports to their normal position.

3. A step in a track, vertically-movable supports for cars between the same, fluid-cylinders with pistons on which said supports are rested, an accumulator, and a weight superimposed on the piston of the accumulator, substantially as and for the purpose set forth.

ROBERT H. RAMSEY.

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