K. J. EKLUND.

METHOD OF SHIPPING RAILWAY MOTOR CARS AND MEANS THEREFOR.

APPLICATION FILED MAR. 24, 1919.

1,325,009.

Patented Dec. 16, 1919.

2 SHEETS—SHEET 1.

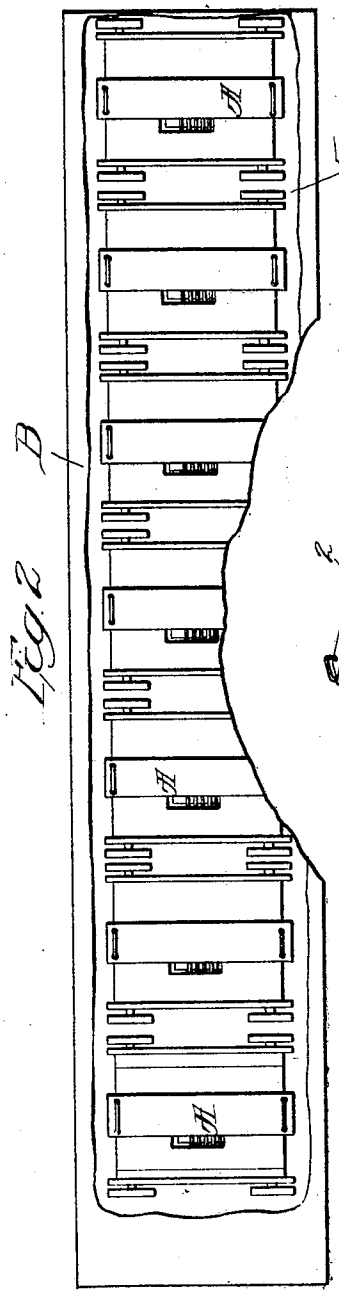

Fig. 2

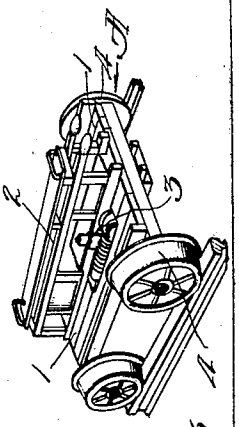

Fig. 1

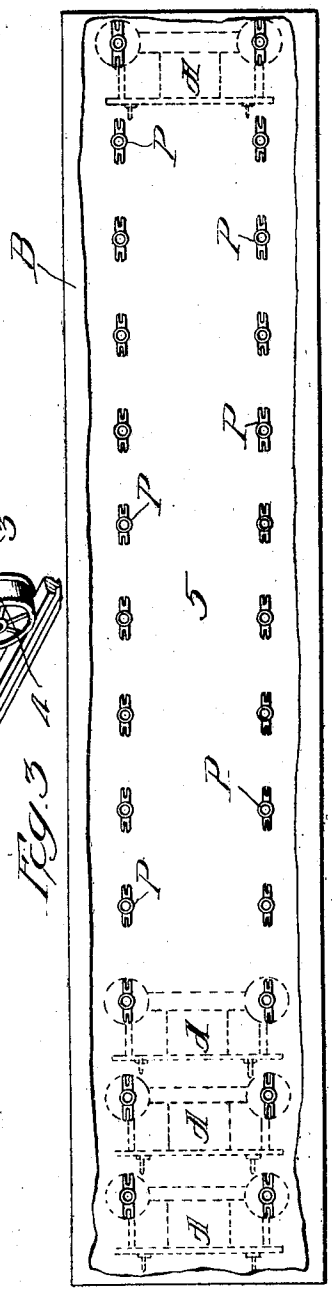

Fig. 3

Witness:
Harry S. Gauthier

Inventor:
Karl J. Eklund
by Taylor & Browne Attys

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Fig. 4

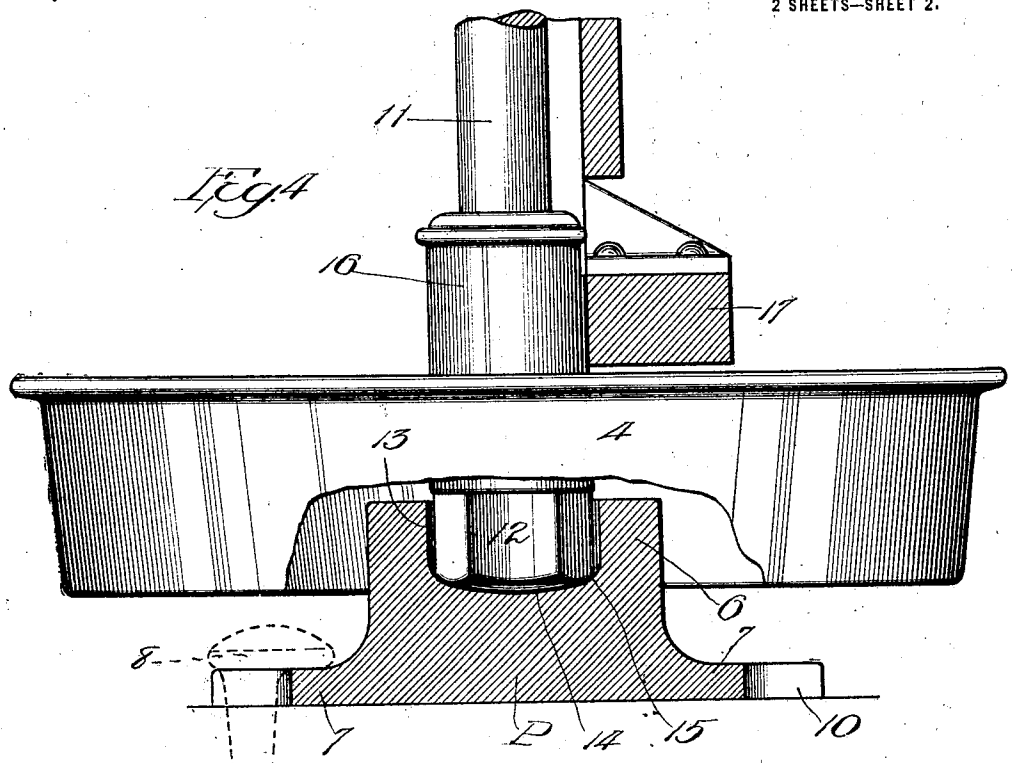
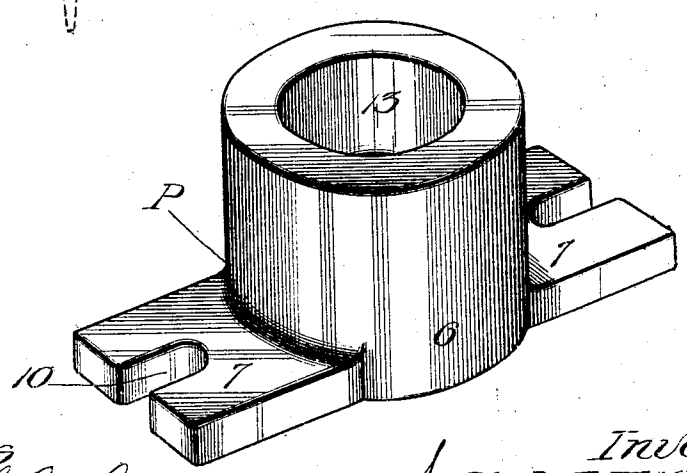


Fig. 5



Witness
Harry S. Gaither

Inventor
Karl J. E. Klund
by Taylor & Brown Its Attys

UNITED STATES PATENT OFFICE.

KARL J. EKLUND, OF CHICAGO, ILLINOIS, ASSIGNOR TO MUDGE & COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

METHOD OF SHIPPING RAILWAY MOTOR-CARS AND MEANS THEREFOR.

1,325,009. Specification of Letters Patent. **Patented Dec. 16, 1919.**

Application filed March 24, 1919. Serial No. 284,640.

To all whom it may concern:

Be it known that I, KARL J. EKLUND, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Methods of Shipping Railway Motor-Cars and Means Therefor; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a method of packing railway motor cars into freight cars for shipping purposes and to means for accomplishing it.

The ordinary railway inspection or section motor car comprises a platform mounted upon four and sometimes only three wheels, and is usually provided, in addition to its motor and other appliances, with a superstructure raised up above the platform. Sometimes this superstructure is located centrally of the platform and sometimes, located over the two wheels which track on the same rail. These cars may run six to seven feet in length, five or more feet in width and over three feet in height. Their shape precludes close packing or "nesting" and usually requires that they be placed side by side on the freight car floor, the wheels resting on the floor; or stood upon end. In the former case, but a comparatively few motor cars may be packed in a freight car, and great loss of space and increased cost of shipping charges occur. When stood on end, more cars may be placed in a freight car, but inasmuch as the wooden parts of the motor car, for example, the handle ends or rail ends, usually project beyond the normal frame of the motor car, the latter will rest practically its entire weight upon the wooden parts of the structure. The result is that the heavier engine parts and metal wheels act like so many hammer blows as the vibrations of the freight car in transit occur, and cause bending of the wheel axles, breakage of the parts and generally such a jarring and loosening up of connections as to cause shippers to abandon the "on end" method of packing and resort to the more costly method of resting the motor cars directly on the wheels upon the freight car floor and shipping fewer motor cars in a single freight car.

My invention is designed to overcome this trouble and consists in placing certain sustaining devices removably in freight cars and then packing motor cars on edge in the freight car with the car axles resting in said devices.

The invention and its advantages will be more readily understood as I proceed with my specification.

In the drawings:

Figure 1 illustrates in a perspective view a typical railroad motor car to which my improved method of shipping relates.

Fig. 2 illustrates a top or plan view of a freight car, partly broken away, with some railway motor cars packed therein for shipment, by the old method.

Fig. 3 shows a similar view of the same freight car showing my floor plates positioned on the car floor and showing in dotted lines the relatively small space which three railway motor cars will occupy when packed in the freight car by my invention.

Fig. 4 is a central, vertical, sectional view of my improved floor plate showing how the wheel and axle of the motor car are applied in shipping.

Fig. 5 is a perspective view of the floor plate.

Referring now to the drawings, A represents as a whole any well known form or type of railway motor car, having a platform 1, superstructure 2, engine 3, and track bearing wheels 4. B is an ordinary freight car as a whole. In Fig. 2, I have illustrated seven motor cars placed on the floor 5 of the freight car, as closely together as possible, and thus completely filling the freight car. It will be understood, of course, that proper cleats or blocks are used on the floor 5 to hold the wheels 4 in place, and that brace bars and cleats are usually required to prevent the motor cars from shifting positions in transit. Such cleats and bracings are not shown in the illustrative drawings.

The floor plate P as a whole comprises a bearing or support 6, adapted to rest on end upon a freight car floor. It has one or more, preferably two, laterally projecting bearing lugs 7, 7, the under surface of the lug being in the plane of the under face of

the support 6. Any suitable means may be employed to fasten the support 6 to the freight car floor, but I prefer to use a screw, spike or bolt 8 (indicated in dotted lines in Fig. 4) passing through a recess, slot or aperture 10 in the lug 7, the head of the spike or bolt resting upon the upper face of the lug 7.

The support 6 is sufficiently strong and high to engage the end of a motor car axle 11 (or preferably the nut 12 thereon) and to support the motor car structure with the face of the car wheels quite off the freight car floor. To this end, I prefer to make the support 6 circular in contour and to sink in its upper face a circular recess 13 terminating in a concave wall 14 joined to the walls of the recess 13 by a curved fillet 15. The circular recess 13 may be made to fit standard axle ends or standard sized axle nuts 12, if desired.

The wheel 4 of the motor car is, of course, mounted upon the axle 11, the latter being in a suitable journal box bearing 16 on the frame 17 of the platform 1.

I place the supports P in the freight car in pairs, from one end of the car B to the other, each pair being in alinement transversely of the car, as clearly shown in Fig. 3. I removably secure the plates P to the car floor. I then turn the motor car, to be shipped, on its edge, with the two wheels on the same side of the motor car down. I then enter the motor car, thus on edge, so to speak, into the freight car door, and move it toward the pair of plates P farthest away (in the first instance toward the pair at one end of the freight car) and then place the motor car in final shipping position with the axle nuts 12 resting in the recesses 13 of the supports 6, as shown in Fig. 4. I then similarly place a second motor car on edge upon the next adjacent pair of plates P in the freight car, and so on until the freight car is filled up.

By reference to Fig. 3, it will be noticed, by the dotted lines, that three motor cars A, packed in the manner indicated and each resting upon a pair of my floor plates, P, P, will rest quite closely together, and that two of the cars thus packed will occupy a space lengthwise of the freight car approximately equal to the space occupied by a single motor car A when placed with its four wheels on the freight car floor, with the result that by my method, I save practically one-half of the space in a freight car. That is to say, that where in a freight car of a given interior length, I can pack only six or seven railway motor cars of a given type and size,—with my improved method and my floor plates, I can pack in the same freight car, thirteen or fourteen railway motor cars of the same type and size.

Not only do I thus secure a substantial saving in freight rates, but I relieve the railway congestion by using fewer freight cars in shipping a given number of motor cars.

Furthermore, it has been determined by practical demonstration, in use, that motor cars shipped by my method are not liable to damage, rocking, strain and breakage in transit. The lighter frame parts are easily supported from the two "on end" axles and not only do the axles come through without bending or breaking, but the entire motor car is free from injury.

Moreover, at the end of a shipment, after the motor cars have been removed from the freight cars, the plates P may be easily removed from the freight car floor and shipped back to the motor car factory or shipping point to be again used. The awkward shape of the motor car making it inconvenient for handling for ordinary shipping, is negligible when turned upon edge for shipping according to my invention.

Of course, it will be understood that while I prefer to make the recess 13 of a suitable contour to fit the nut 12 on the axle end, said recess may be made to fit the end of the axle or other projecting metal part to conform to the particular construction of railway motor car that is required to be shipped. It will also be noticed that the bottom wall 14 of the recess 13 is raised appreciably above the lower or supporting surface of the plate P.

It will also be understood that when the railway motor car A is placed on end upon a pair of plates P, P, the upper ends should be properly braced by cleats or other convenient means (unnecessary to illustrate in the drawing because well understood) in order to prevent the up-ended motor car from swaying or moving in transit.

It will be understood that when the motor cars are packed on end according to my method, though cleated and braced at their upper ends, each motor car may with the stopping and starting of the train, and switching in transit, sway or rock more or less without the slightest injury to the motor cars. It is for this reason that I prefer to make the bottom of the recess 14 concave and for this reason, also, that I prefer to make the bottom 14 appreciably above the bottom of the car floor, thus preventing the rim of the car wheel, in any rocking movement in transit, from striking the car floor.

I claim as my invention:

1. The method of loading railway motor cars in freight cars, which consists in placing a plurality of alined supports lengthwise of the freight car floor and in pairs, in upending the motor car on its wheels and inserting it within the freight car, in resting each motor car on its side upon a pair of said alined supports with the lower ends of

the axles or the nuts thereon resting one in each of said supports, each pair of supports being in alinement transversely of the car length.

2. A floor plate for freight cars comprising a support provided with a surface adapted to rest upon the freight car floor and a top surface, a recess in the top surface adapted to receive a metal part of a railway motor car, the bottom of the recess being appreciably above the bottom of the support and means for securing the floor plate to the freight car floor.

3. A floor plate for freight cars comprising a support provided with a surface adapted to rest upon the freight car floor and a top surface, a recess in the top surface adapted to receive a metal part of a railway motor car, the bottom of the recess being appreciably above the bottom of the support and means for removably securing the floor plate to the freight car floor.

4. A floor plate for freight cars comprising a support provided with a surface adapted to rest upon the freight car floor and a top surface, a recess in the top surface adapted to receive a metal part of a railway motor car, the bottom of the recess being appreciably above the bottom of the support and means for removably securing the floor plate to the freight car floor, said means comprising a laterally projecting bearing lug, the bottom surface of which is in line with the bottom of the plate and a vertical aperture through said lug.

5. A floor plate for freight cars comprising a support provided with a surface adapted to rest upon the freight car floor, and with a top surface, a recess in the top surface adapted to receive a metal part of a railway motor car, the bottom of the recess being concave and appreciably above the bottom of the support, and means for securing the floor plate to the freight car floor.

In testimony that I claim the foregoing as my invention I affix my signature, in the presence of two witnesses, this 21st day of March, A. D. 1919.

KARL J. EKLUND.

Witnesses:
TAYLOR E. BROWN,
B. L. MACGREGOR.