

(No Model.)

H. W. LIBBEY.
RAILROAD CAR.

No. 523,435.

Patented July 24, 1894.

Fig. 1

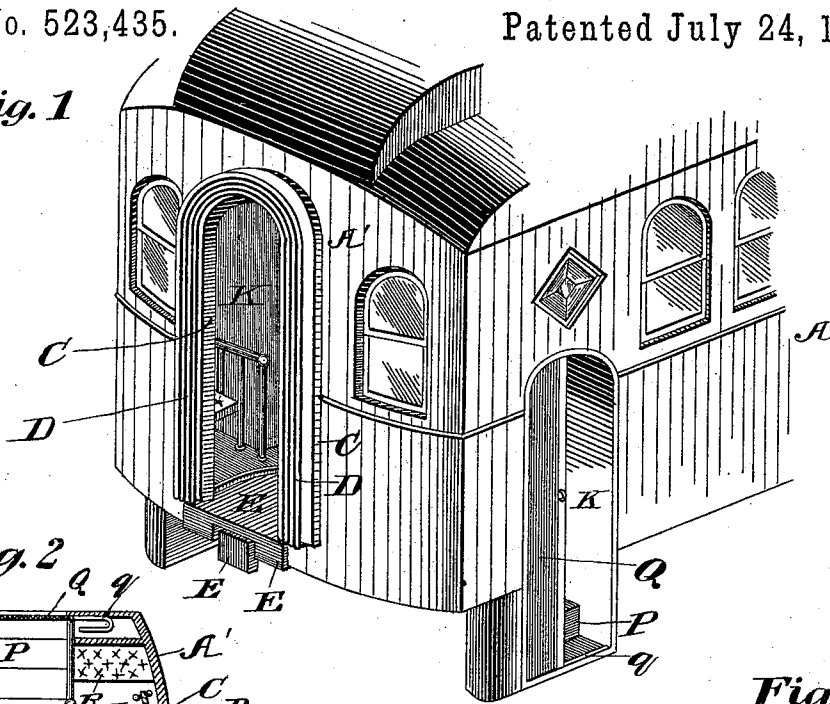


Fig. 2

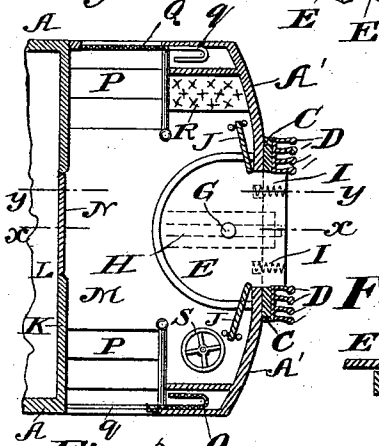


Fig. 7

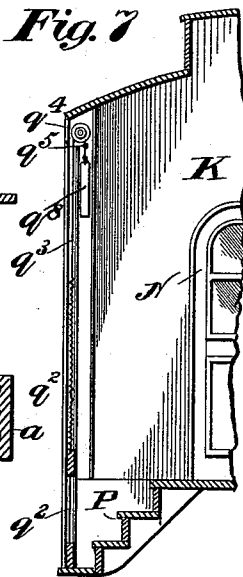


Fig. 6

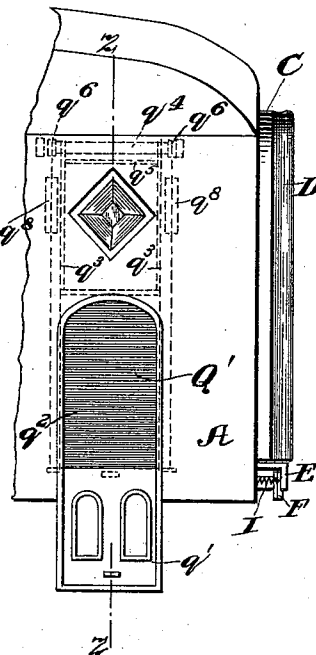


Fig. 3

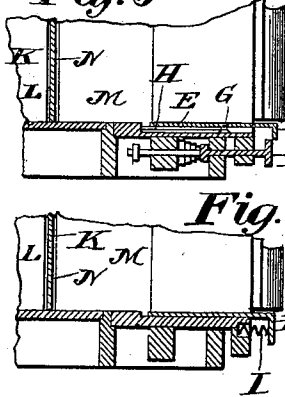


Fig. 8

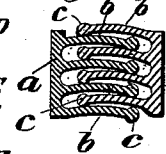


Fig. 4

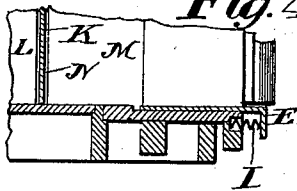
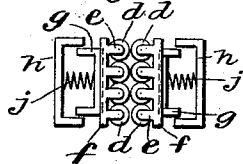


Fig. 9



WITNESSES:

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UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO GEORGE H. KIMBALL AND WILLIAM P. JOHNSON, OF CLEVELAND,
OHIO.

RAILROAD-CAR.

SPECIFICATION forming part of Letters Patent No. 523,435, dated July 24, 1894.

Application filed January 12, 1891. Serial No. 377,528. (No model.)

To all whom it may concern:

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Cars, of which the following, taken in connection with the accompanying drawings, is a specification.

My improvements in railroad cars relate particularly to the ends and the method of inclosing the same and making contact between two adjacent cars to exclude wind and rain, and it consists in certain details of construction as hereinafter fully described and pointed out in the claims.

Figure 1—represents a perspective view of one end of a railroad car embodying my invention. Fig. 2—is a sectional plan view of same. Fig. 3—is a vertical section taken on line *x, x*, of Fig. 2. Fig. 4—is a vertical section taken on line *y, y*, of Fig. 2. Fig. 5—is a detail view of the sliding plate. Fig. 6—is a side view of the end of a car showing a modified form of traveling curtain. Fig. 7—is a vertical section taken on line *z, z*, of Fig. 6. Fig. 8—is an enlarged sectional view of one form of the contact pieces between the cars and Fig. 9—shows another form.

In constructing rail road cars according to my invention I form the floor of the car from end to end on the same level thus dispensing with the platforms and steps in cars as now constructed, and the walls of the cars are built from end to end on each side and across each end.

A, represents the side walls of the car, and A' the end walls. In the center of each end wall A', is an opening B, around which on the outer side is a frame C, to which is secured the contact piece D, consisting of an india rubber plate or other yielding construction, the lower ends of these frames C, and contact pieces D, are on a line with the floor level.

When the contact pieces D are formed of rubber plates, as *a*, they are preferably provided with a number of fingers *b* which, when the cars are connected into a train, interlock with each other as shown in Fig. 8. The outer portions of the fingers may be provided with knots or projections *c*, which pass in between the fingers of the adjacent car.

At each end of the car is fitted a pivoted sliding plate E, bent down at its front end and cut out so as to fit over the buffer F, as shown (see Fig. 1), at or about the center of this plate is secured a bolt or rivet G, having a dove-tailed head that is free to slide in a dovetail groove formed in a bar H, secured to the frame of the car, the rear end of the plate E, is a true semicircle, struck from the center of the rivet G, the floor all around the plate is recessed, as shown, for a short distance, (say two inches) so as to allow the plate to work back and forth, the plate is kept extended to its normal position, viz: so as to be on a level with the face of the buffer, by two spiral springs I.

J, J, are doors hinged to the frame of the opening B, and which are closed when the car is the last one in the train.

K, is a partition about four feet from the end of the car and which divides the passenger's space L, from the hall or entry M, this partition is provided with a door N.

The steps P, are arranged on each side of the car next to the partition K, a space being left between the steps and the end of the car so as to leave sufficient space for the traveling curtain Q, that closes the entrance to the steps P. These curtains are preferably made of metal slats jointed together and travel in a groove *q*, which groove extends across the front of the lower steps and for about half the length of the curtain beyond the steps, and then returns in a semicircle as shown in Fig. 2. The space that is thus occupied by the curtains between the steps and the end of the car is utilized on one side as a seat R, for the porter, and on the other side by the brake rod and wheel S, which is always in position and ready to be operated when occasion requires, and of course the design of the interior finish would be carried to the extreme end of the car.

When two cars are coupled together, the rubber plate or contact piece D, on each car come into contact with each other and are compressed to a greater or less degree, the two sliding pivoted plates E, also come into contact and are slightly compressed, thus forming a tight joint between the two cars, at the same time the level of the floors of the cars

are maintained from end to end of the train, and it will be readily seen that the plate E, being free to slide and turn on its fulcrum, it will readily adjust itself to the various positions of the cars as they pass round curves, and the contact pieces D, being compressed when the cars are coupled will form a tight joint in whatever position the cars assume, for if going round a curve the pieces on the inner side of the curve will be more tightly compressed while those on the outer side of the curve will be free to expand.

In Figs. 6 and 7 I have shown a modified form of curtain, in this case the curtain Q', consists of a lower portion q', which may be of flat sheet metal, to the upper end of which is secured metal slats q², to the upper slat bands q³ are attached which bands pass over a roller q⁴, and their outer ends are attached to a bar q⁵, the roller q⁴ is at each end provided with grooved pulley q⁶ over which cords or chains q⁷ are passed, the lower ends of said cords or chains being connected to lugs on the upper portion of the piece q', and the other ends to counter balance weights q⁸. By this construction the curtain is practically counter-balanced, and can be readily raised and lowered as may be required.

The modification of the connecting pieces shown in Fig. 9, consists of a number of rollers d, mounted in bearings e, on a face piece f, secured to a box shaped piece g, so as to have a slight lateral movement, the ends of said box piece g, fit into another box shaped piece h, secured to the end wall of the car, and spiral springs j, are interposed between the two box shaped pieces g and h to keep the movable one g extended.

My invention may be applied to cars already built by removing the end wall and building out as shown, or the present platform might be extended, in both cases the platforms would preferably be built up so as to be on a level with the floor of the car so as to form a continuous level walk from one end of the train to the other.

What I claim as my invention is—

1. In combination with a car, a contact piece at the end thereof, said piece being provided

with a multiplicity of vertically arranged yielding contact points, substantially as and for the purpose set forth.

2. The combination with a rail road car, inclosed from end to end by side walls and provided with end walls, each of which end walls is provided with an opening, of an elastic piece of material around the opening, said piece of material being provided with a series of vertically arranged contact points, substantially as and for the purpose set forth.

3. In a railroad car, the pivoted sliding plate E, having its outer end turned down and cut out to fit over the buffer, and its rear end of semicircular form in combination with the dovetailed grooved bar H, and bolt or rivet G, having a dovetail head to fit and slide in said groove in the bar H, and springs I, for keeping the plate extended to its normal position substantially as set forth.

4. In a rail road car having walls extending from end to end of the same, openings through said walls and steps leading to a hall or entry, traveling curtains for closing said openings, said curtain being constructed with its outer end of solid material for about one third its length and the remainder or the other two thirds of slats jointed together and to the solid portion substantially as shown and described.

5. A rail road car having its floor on a level from end to end of the car and side walls extending from end to end of the car, the end of same being closed by end walls, partition for dividing the main portion of the car from the halls or entries, steps leading to said hall or entries, said steps being a sufficient distance from the end of the car to allow for a seat on one side, and the brake wheel on the other side, substantially as shown and described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 30th day of December, A. D. 1890.

HOSEA W. LIBBEY.

Witnesses:

CHAS. STEERE,
EDWIN PLANTA.