(No Model.)

L. ROETH.

CAR PLATFORM ATTACHMENT.

No. 417,395. Patented Dec. 17, 1889.

Fig. 1.

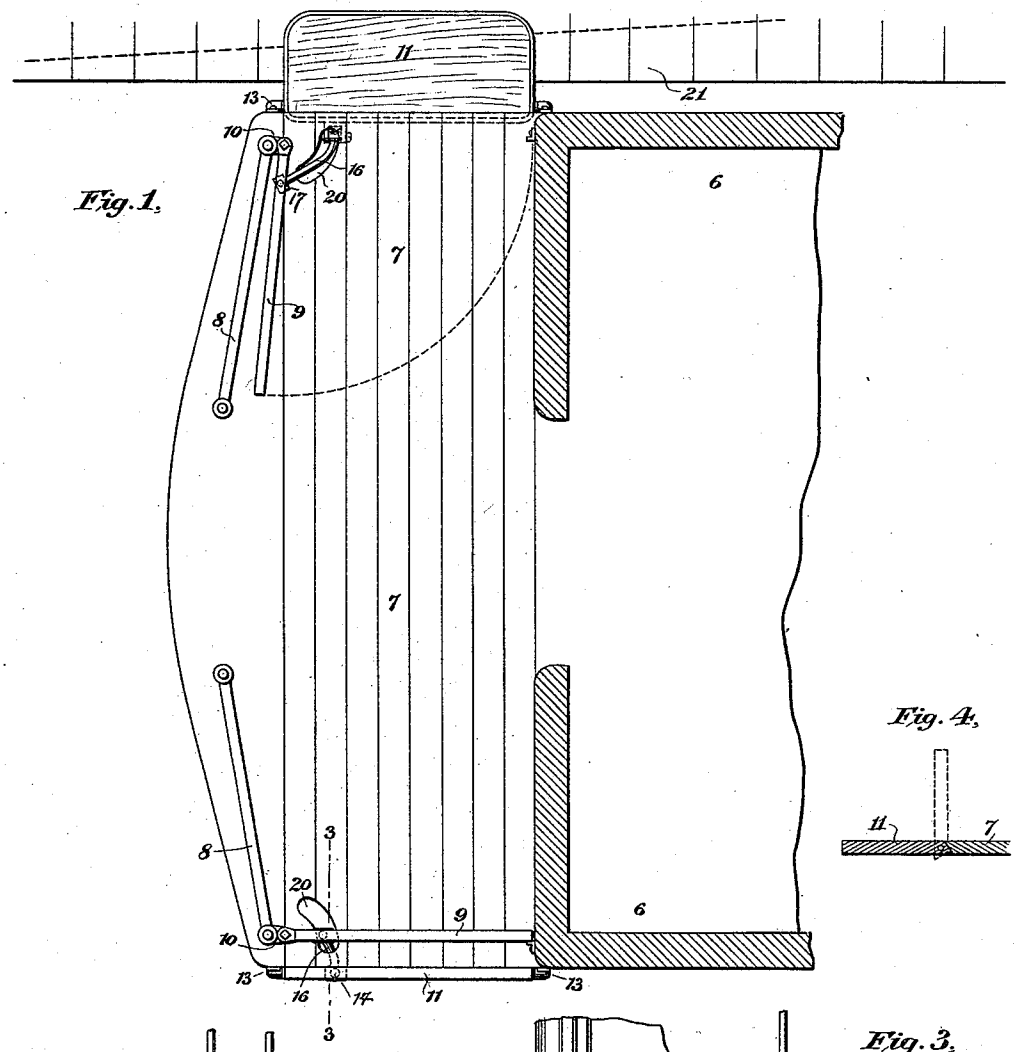


Fig. 4.

Fig. 2.

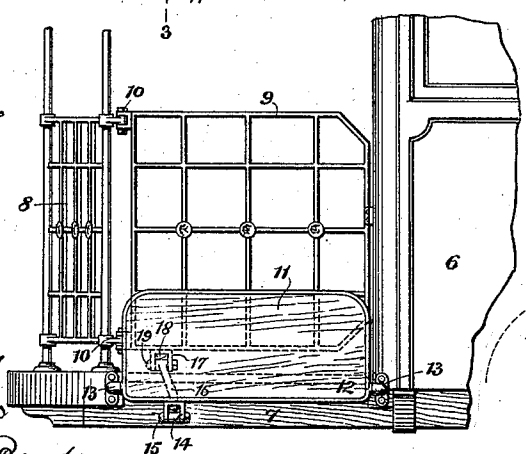
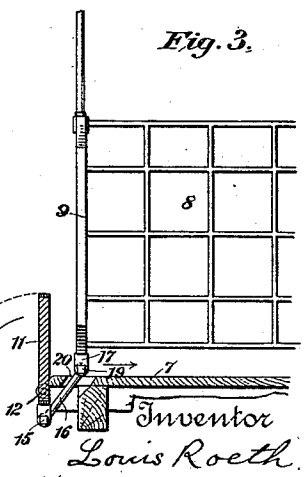


Fig. 3.



Witnesses
Geo. W. Breck.
Paul F. C. Tucker.

Inventor
Louis Roeth.
By his Attorneys
Fowler & Fowler.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

LOUIS ROETH, OF NEW YORK, N. Y.

CAR-PLATFORM ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 417,395, dated December 17, 1889.

Application filed October 21, 1889. Serial No. 327,666. (No model.).

To all whom it may concern:

Be it known that I, LOUIS ROETH, a citizen of the United States, residing at New York, county and State of New York, have invented certain new and useful Improvements in Railway-Car-Platform Attachments, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a movable bridge or gangway which is attached to the car and is connected with and automatically operated by the guard or gate of the entrance to the car, and is designed to bridge over or cover the space between the car and a station-platform for the safety of the passengers in leaving or entering the car.

In the accompanying drawings, illustrating an application of my invention, Figure 1 is a top plan view of part of the end of an ordinary railway-car with a portion of a station-platform shown adjacent thereto. In this view one of my improved attachments is shown as mounted at each of the side entrances of the car-platform, one in extended position of use, and the other in folded position of disuse. Fig. 2 is a side view of Fig. 1. Fig. 3 is a sectional view taken on a plane indicated by line 3 3 in Fig. 1. Fig. 4 shows a modified form of construction of a folding bridge, which lies flush with the surface of the platform when unfolded for use.

In the said drawings like numbers of reference designate like and corresponding parts throughout.

Referring to the drawings, 6 designates the body of an ordinary railway-car having the usual platform 7, the side edges of which extend out to a point about flush with the sides of the body of the car, as in an ordinary elevated-railway car. The platform is provided with the usual guard-railings 8 8, and 9 are swinging guards or gates hinged at 10 and swinging inwardly and serving to close the side entrances of the platform.

The parts just described are of a well-known construction, and the operations will be readily understood, the gates 9 usually being provided with levers and cranks for controlling the movements of the same from a point toward the center of length of the platform. These referred-to connections for operating the gates have been here omitted in order to avoid confusion, and, moreover, because they are not an absolutely essential adjunct to my invention, which I will now proceed to describe.

11 is a movable or folding bridge, which is mounted upon the car at the extreme side thereof, and is connected with a swinging gate 9 in such a manner that as the gate is swung open when the car comes to rest at a station the bridge may be unfolded or extended into a position suitable to cover the space between the car flooring or platform 7 and the station-platform, (indicated by 21,) and as the gate is swung to into closed position the bridge may be retracted or folded, so as practically not to extend beyond the sides of the car. There are various ways in which this movable or folding bridge 11 may be constructed and connected with the swinging gate so as to be automatically operated thereby. In the present construction the bridge, which consists in a flat body or platform, is hinged at the side edge of the platform 7 by means of suitable pintles 12, which extend laterally therefrom near its inner edge and work in suitable bearings 13, which are secured in proper position upon the car. In this construction the bridge is so hinged that when it is thrown down or unfolded its inner edge may take under the platform, with which it comes in contact, so as to stoutly sustain the bridge in position when it comes to the horizontal, as will be clearly understood especially from Figs. 1 and 3. This will support any ordinary weight upon the bridge when the same is in position for use, so that its outer or free end need not necessarily rest upon the station-platform.

Upon the inner edge of the bridge 11 is mounted a bracket or forked lug 14, in which is set a bolt 15, which pierces an eye in the end of the connecting-link 16, which by this means is swiveled to the bridge. The other end of the connecting-link 16 is swiveled to the base of the gate 9, so as to admit of the

link being swung about a vertical axis as well as a horizontal axis relative to the gate, as will be understood by the comparison of these parts when in the open and closed position, respectively, as shown in Fig. 1. The swiveling of the connecting-link 16 to the base of the gate is accomplished in the same way as the swiveling of its other end to the bridge, a bracket 17 being pivoted to the base of the gate by a vertical pin 18, and the end of the connecting-link 16 being hinged to a horizontal stud or pin 19, carried by the bracket. As the fulcrum-point of the bridge is at or below the level of the platform of a car and the gate is above the platform and to the rear of the bridge, the connecting-link 16 is passed through a suitably-shaped opening 20, formed in the platform 7. In order to secure the proper leverage in operating the attachment, the connecting-link 16 is slightly curved, as shown in Fig. 1, and the attaching points of the respective ends of the connecting-link are slightly out of the vertical.

In the construction of the bridge or gangway 11, as above described, the same will lie in a plane below the platform when extended. However, if it be preferred to have the bridge disposed in the same plane with the platform when the bridge is lowered, this may be accomplished in various simple ways, one of which is shown in Fig. 4, wherein the bridge is pivoted in the plane of the platform, the inner beveled edge of which is adapted to meet with the undercut edge of the platform to sustain the bridge horizontally.

The operation of the attachment will be readily understood. When the gate or guard 9 is in closed position, the connected bridge 11 will be folded up into about a vertical position, so as to lie out of the way, practically flush with the side of the car. As the gate is opened and swung in the direction of the right-hand arrow in Fig. 3, upon the car coming to rest at a station the bridge is swung outwardly and downwardly per the left-hand arrow of such figure, and when the gate reaches its inner limit of movement the bridge is brought to a horizontal position, so as to project laterally from the car and overlap the station-platform—such as 21—and cover completely the space between the latter and the car-platform. As the gate is closed the bridge is folded up into position of disuse, so as to be out of the way when the car is in motion.

It is to be understood that I do not limit myself to the herein specific construction of a folding gangway or bridge automatically operated by the car gate or guard and adapted, when unfolded, to cover the space between the car-platform and a station-platform, since the scope of my invention obviously contemplates modifications of such construction.

In the use of my improved attachment all liability of a person stepping into the space between the car and the station-platform on entering or leaving the car is prevented.

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

1. A railway-car having a side entrance thereof provided with a gate and a movable or folding bridge or gangway mounted on the car flooring or platform and adapted to be moved or adjusted to cover the space between such flooring or platform and a station-platform, the said bridge, connected with and automatically operated by the gate, being placed in operative position thereby when the gate is open and being folded or retracted when the gate is closed.

2. A railway-car having a side entrance of the end platform 7 thereof, provided with a gate—such as a gate 9—a folding bridge or gangway—such as 11—hinged to the outer edge of the said platform and adapted to be folded up and extended out beyond the side of the car and to cover the space between the car-platform and the station-platform, the said bridge connected with and automatically operated by the said gate, and being folded up against the gate to the outside thereof when the latter is closed and being extended out from the platform when the gate is open, substantially as and for the purpose set forth.

3. A railway-car having a platform 7, extending out to about the sides of the car and provided with a swinging gate 9, hinged at or about the edge of the said platform and swinging inwardly, a hinged bridge 11, mounted upon the said edge of the platform 7 and lying to the outside of the gate and adapted to be swung into horizontal position to cover the space between the car-platform and the station-platform when in use and into vertical position when in disuse, a connecting-link 16, swiveled by one end to the bridge 11, and by the other end to the gate 9, whereby upon swinging open the gate the bridge 11 may be extended into horizontal position and upon closing the gate such bridge may be folded up into vertical position, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand and seal, this 19th day of October, 1889, in the presence of two subscribing witnesses.

LOUIS ROETH. [L. S.]

Witnesses:
CHAS. D. FOWLER,
M. A. PALMER.