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J. MITCHELL

DETACHABLE LADDER FOR RAILWAY CARS

Filed Dec. 10, 1926

Fig. 1.

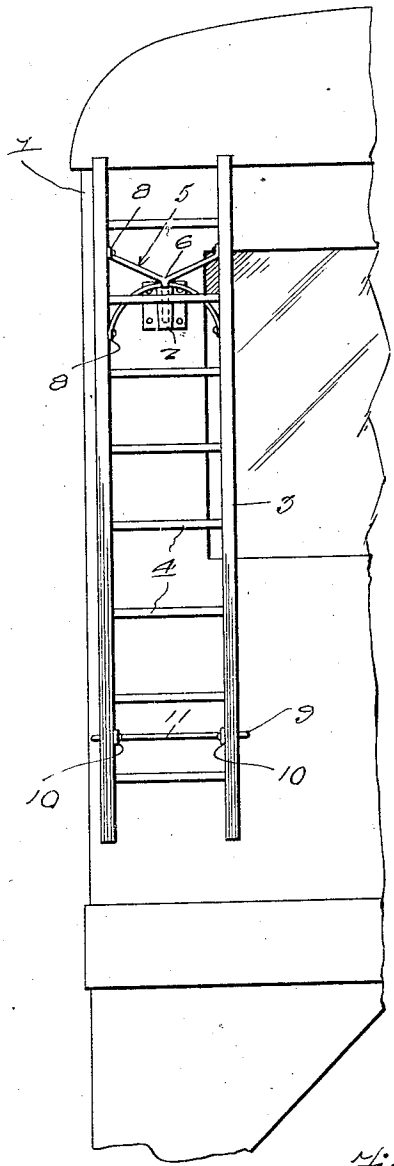


Fig. 2.

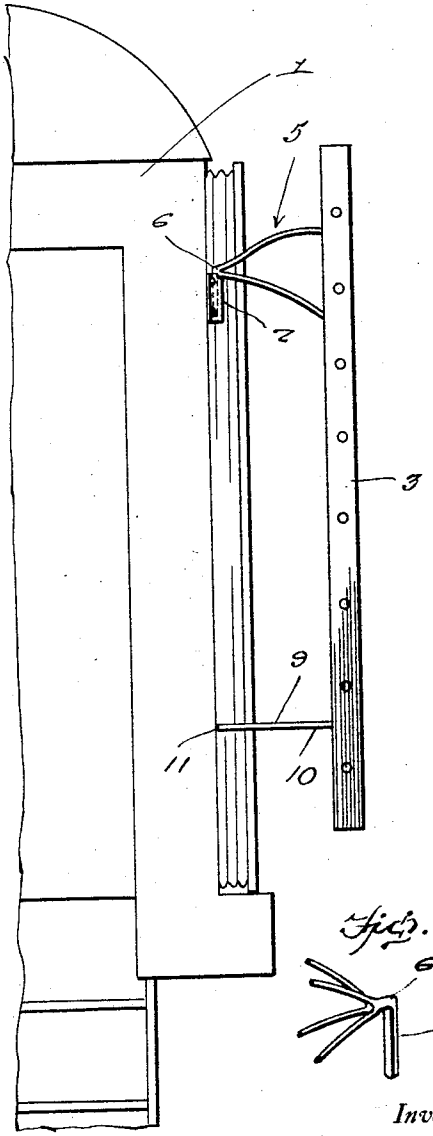
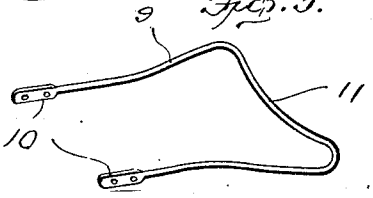


Fig. 4.

Fig. 3.



Inventor

Jonas Mitchell

By Clarence A. O'Brien

Attorney

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UNITED STATES PATENT OFFICE.

JONAS MITCHELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

DETACHABLE LADDER FOR RAILWAY CARS.

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This invention relates to a ladder construction, adapted for use on railway trains and the like, so that it may be detachably connected to the side of a car and provide convenient access to the roof of the car for desired purposes.

The object of the invention resides in providing a ladder construction, in which a pair of suitable bracket members formed in a predetermined manner, are attached to the opposite ends of the ladder, one of which is adapted for detachable connection with brackets carried by the side of a railway car for hanging the ladder or suitably supporting the same in position on the side of the car, while the other bracket is adapted to maintain a proper spacing of the ladder from the car, and cooperate with the first mentioned bracket in the support thereof.

The invention comprehends numerous other objects residing in the specific construction of the brackets attached to the ladder, which are more particularly pointed out in the following detailed description and claim directed to the preferred form of the invention, it being understood, however, that various changes in the size, shape and relation of the parts may be made without departing from the spirit and scope of the invention as herein set forth.

In the drawing forming part of this application:—

Figure 1 is an end elevation of one end portion of a railway car having the improved ladder construction of this invention applied thereto.

Fig. 2 is a side elevation of the railway car shown in Fig. 1, taken substantially at right angles to Fig. 1, showing the improved ladder construction in position on the car.

Fig. 3 is a perspective of the bottom supporting bracket, and

Fig. 4 is a fragmentary perspective of the portion of the upper hanger bracket formed for detachable engagement with a bracket member on the car.

1 indicates any suitable form of railway car particularly a passenger type of car, as distinguished from the usual freight car which is ordinarily provided on the end portion, with brackets 2 formed with sockets to receive the tangs which are usually carried on the signal light placed on the last car in the train.

As every car is provided with these brackets, it is obvious that advantage may be taken of them in connection with this invention, so that a ladder may be detachably associated therewith.

The ladder construction of this invention includes a usual form of ladder having side bars 3 connected by the rungs 4 of a suitable length for attachment to the side of the bar, so that the trainmen when the ladder is in position, may readily climb from the ground or trackway onto the top of the car.

This invention particularly includes the provision of a hanger bracket 5 having a head 6 provided with a laterally extending tang 7, which is formed and adapted to fit in the socket of the bracket 2 attached to the side of the car. This bracket is formed with two pair of arms extending in angular relation from the head 7 and diverging from one another, the arms of each pair diverging from the head 6 and terminating in securing eyes 8 as shown in Fig. 1.

Suitable bolts or screws extend through the securing eyes 8 which are formed so as to engage against the inside of the side bars 3 of the ladder, and to be suitably secured thereto as shown in Fig. 1, one pair being secured to each side bar. From this construction, it will be seen that the hanger bracket 5 is rigidly secured in position on the upper end of the ladder and forms an upper hanger and supporting bracket adapted when the tang 7 is inserted in the socket member 2, to support the ladder in spaced relation from the end of the car with the upper end in a position that a trainman may readily climb onto the top of the car.

A lower facing or supporting bracket member 9 as shown in Fig. 3 is formed substantially U-shaped, having the end portions formed to provide securing ears 10 which are suitably attached to the lower end portion of the side bars 3, as clearly shown in Figs. 1 and 2. This lower bracket member is formed of a suitable iron rod member, the central portion of which is provided with a concaved curved portion 11, the ends of which terminate in the leg portions, which, as shown in Fig. 3, converge for a portion of their length, while the terminals extend in parallel relation, terminating in the securing ears 10.

When this supporting bracket 9 is secured in position as shown in Figs. 1 and 2, the side bars of the ladder have the opposite end portions of the concave section 11 in position to engage the sides of the car to which the

latter is attached, so that the ladder will be supported against the side of the car in spaced relation, parallel to the side, and the special formation of the bracket member 9 will prevent a side swinging movement of the ladder in the brackets 2.

In this way, the hanger bracket 5 serves to support and detachably mount the ladder 3 in spaced relation to the end of the car when engaged in the bracket 2, while the supporting bracket 9 cooperates therewith to prevent pivotal movement of the bracket member 5 in the bracket 2 on the car and to steady the same in addition to maintaining the lower end in parallel relation with the portion of the car body.

As a result, a highly simple construction has been provided for detachably mounting the ladder in the side of a railway car to brackets already carried by the car, so that trainmen may have ready access when desired, to the top of the car, in which the two bracket members cooperate in a special manner to rigidly mount the ladder in a predetermined position when the tang 7 of the hanger bracket 5 is secured in the bracket member 2.

Having thus described my invention, what I claim as new is:—

A ladder of the class described, comprising side bars connected by a plurality of rungs, a hanger bracket formed with a head having a laterally extending tang on one end thereof, and a plurality of pairs of diverging arms on the opposite end thereof, said arms being formed for connection with the side bars of the ladder to mount the same thereon at one end, and a supporting bracket mounted on the side bars at the opposite end of the ladder and projecting laterally therefrom for cooperation with the hanger bracket to support the ladder in spaced parallel relation to the side of a railway car when the tang formed on said hanger bracket is secured in a bracket member attached to the side of the car.

In testimony whereof I affix my signature.

JONAS MITCHELL.