(No Model.)

E. THOMAS.

CAR FENDER OR GUARD.

No. 538,631. Patented Apr. 30, 1895.

Fig. 1.

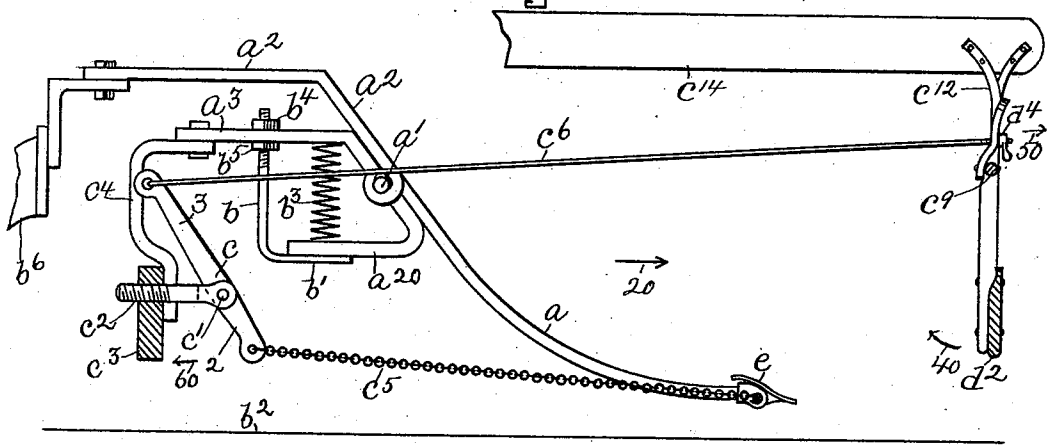
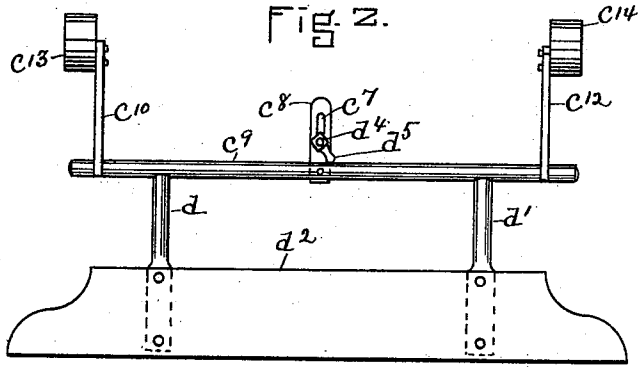


Fig. 2.



WITNESSES.
Matthew M. Blunt.
J. Murphy.

INVENTOR.
Edgar Thomas
by Jas. F. Churchill
ATT'Y.

UNITED STATES PATENT OFFICE.

EDGAR THOMAS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO MARION P. HATCH, OF BUFFALO, NEW YORK.

CAR FENDER OR GUARD.

SPECIFICATION forming part of Letters Patent No. 538,631, dated April 30, 1895.

Application filed December 5, 1894. Serial No. 530,891. (No model.)

To all whom it may concern:

Be it known that I, EDGAR THOMAS, of Pittsburg, county of Allegheny, and State of Pennsylvania, have invented an Improvement in Car Fenders or Guards, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention relates to safety guards or fenders for street railway cars, of that class having a movable member normally elevated above the rails of the track but adapted to be moved toward the same.

My present invention is herein shown as applied to a car fender substantially such as shown and described in United States Patent No. 523,693, granted to me July 31, 1894, and the object of this invention is to cause the movable member of the car fender to be positively brought into its lowered position in contact with or substantially in contact with the rails of the track by the object to be protected, before the latter strikes the movable member of the guard. To accomplish this result, the movable member of the guard is connected by a suitable mechanism as will be described, to what I prefer to designate as the guard actuating device, which is suspended preferably from the sills of the car body in front of the movable member of the guard, and in a position to be struck by the object on the track before the latter comes in contact with the guard proper. The actuating device referred to, is movable so as to permit the passage under it of the object on the track, and the said device is connected to the movable member of the guard proper, so that as it is moved by the object, the movable member of the guard will be positively brought toward the rails of the track. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 represents, in side elevation, a sufficient portion of a street-railway car provided with a guard or fender and an actuating device therefor to enable this invention to be understood; and Fig. 2, a detail, in front elevation, of the form of actuating device preferred by me.

In the present instance, I have chosen to illustrate this invention with a car fender or guard substantially such as shown and described in United States Patent No. 523,693, granted to me July 31, 1894, to which reference may be had. The guard or fender proper consists of a movable member composed of two side bars a suitably connected together as in the patent referred to, and pivoted as at a' to the side bars a^2 of the fixed or stationary member, which may be of the construction shown in the patent referred to, and which construction is not herein specifically shown, as the same is used merely to illustrate the main feature of this invention. Each side bar a of the movable member is provided with a rearwardly extended arm a^{20}, shown in the present instance as integral with the bar a, and each side bar a' of the fixed member is provided with a rearwardly extended arm a^3 also shown as integral with the side bar a'. The arm a^2 carries a dependent hanger arm or angle bar b, having a horizontally disposed member b' co-operating with the arm a^2 to form a stop for the upward movement of the movable member of the guard proper away from the rails of the track, represented by the heavy black line b^3; and the arm a^2 supports a spring b^3 interposed between it and the arm a^3 to cushion the blow inflicted upon the object struck by the movable member of the guard. The hanger arm b may be adjusted by means of the nuts b^4, b^5. The fixed member of the guard is designed in practice to be secured to the truck frame, and is represented as secured to the side bar b^6, of the said frame.

The guard or fender herein represented and described may be taken as typical of the class of guards or fenders to which this improvement is applicable.

The object of this invention is to render it substantially possible for an object, such for instance as a human body, to be picked up by the guard, and this is accomplished by providing means actuated by the object, to positively bring the movable member of the guard close to the rails of the track before the said member reaches the body or other object. In the present instance, I have shown one form of mechanism by which this result may be accomplished.

The mechanism herein shown consists essentially of a lever c pivoted at c' to a screw

bolt c^2, secured to the bar c^3, which may be the usual wooden guard bar now commonly used on railway cars. The guard bar c^3 is represented as supported by a hanger c^4 secured to the arm a^3. The lever c has a short arm 2 joined to the front end of the movable guard proper, preferably by a chain or other flexible connection c^5, and the long arm 3 of the said lever has connected to it one end of a rod c^6, having its other end loosely connected to an actuating device located in front of the movable member of the guard. In the present instance, the rod c^6, is represented as extended through a longitudinal slot c^7, preferably about two inches long, in a plate, bar or arm c^8, fastened to a rock shaft c^9, supported in hangers c^{10}, c^{12} secured to the sills c^{13}, c^{14} at opposite sides of the car body, and preferably at or near the front end of the platform of the car.

The rock shaft c^9 has depending from it, preferably two arms d d', to the lower end of which is secured a cross plank, bar or piece d^2, preferably of wood, which is substantially the width of the car body and preferably about six feet long.

The lower edge of the wooden cross bar d^2 may be located above the track any desired distance, but in practice, I have found that about five inches is a convenient distance for effective work. The rod b^6 is inserted loosely through the slot c^7 in the plate, bar or arm c^8 and is provided on the front side thereof, with a suitable device to afford a bearing for the said plate or bar to act against. In the present instance, this bearing is shown as a nut d^4 provided with a handle d^5, but a nut alone or a transverse pin might be used.

The operation of the apparatus may be briefly described as follows: Let it be supposed, that the car is traveling in the direction indicated by arrow 20, Fig. 1, and that a body or other object is lying upon the track. When the car reaches the body, the latter will be first struck by the wooden cross bar d^2, and will cause the said bar to move backward under the platform or in the direction indicated by arrow 40. As the bar d^2 moves backward, the shaft c^9 is rocked, and the slotted bar or arm c^8 is moved forward in the direction indicated by arrow 50, the same slotted bar acting against the nut d^4 and carrying with it the rod c^6. As the rod c^6 is moved forward, it turns the lever c on its pivot c', and moves its short arm 2 in the direction of arrow 60, and the said short arm by means of the chain or connection c^5, draws the front end of the movable member of the guard backward and downward, until the said movable member strikes the rails or the road bed, in which position it is held while the body or object is in contact with the cross bar or piece d^2, and the front end of the movable member of the guard proper, is preferably located sufficiently near the dasher attachment or actuating device to engage the body or object before the latter clears the bar or rod d^2. It will be seen that it would be impossible for an object to get under the movable member of the guard proper, and consequently impossible to come in contact with the wheels. When the body or object has been picked up by the guard and has cleared the dasher attachment, the latter is free to return to its normal position, as the weight of the body or object will hold the movable member of the guard down on the rails. The front of the movable member of the guard proper may be provided with a strip c^{20} of rubber or other cushioning material. I have herein shown what I regard as a simple actuating device for positively lowering the movable member of the guard toward the rails, but I do not desire to limit myself to the precise mechanical construction shown.

I may prefer to locate the movable member of the guard and its actuating device at such a distance apart that the body or object shall be struck and picked up by the guard, while the body still makes contact with the actuating device, but I do not desire to limit my invention in this respect, as it is evident that provision may be made for automatically locking the rod c^6 when moved forward by the arm c^8, in which case, the movable member of the guard may be separated from its actuating device, a distance sufficiently great to enable the cross board to clear the body before the latter is picked up by the guard.

I claim—

1. The combination with a guard or fender for railway cars provided with a movable member normally elevated from the track or road bed, of a lever pivotally supported at the rear of said movable member and having one arm connected to said member, a movable actuating device suspended from the car in front of the movable member, and means to connect the said actuating device with the other arm of the said lever, for the purpose specified.

2. The combination with a guard or fender for railway cars provided with a movable member normally elevated from the track or road bed, of an actuating device for the said movable member consisting of a rock shaft, a cross piece or bar suspended therefrom, and an arm extended upward toward the car body and provided with a slot or opening c^7, a lever pivotally supported at the rear of the said movable member and having one arm connected to the movable member of the guard and a rod connected to the other arm of the said lever and extended loosely through the slot or opening c^7, and means carried by the said rod to afford a bearing for the said arm to act against, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDGAR THOMAS.

Witnesses:
JOHN RODGERS,
WILLIAM DETTE.