

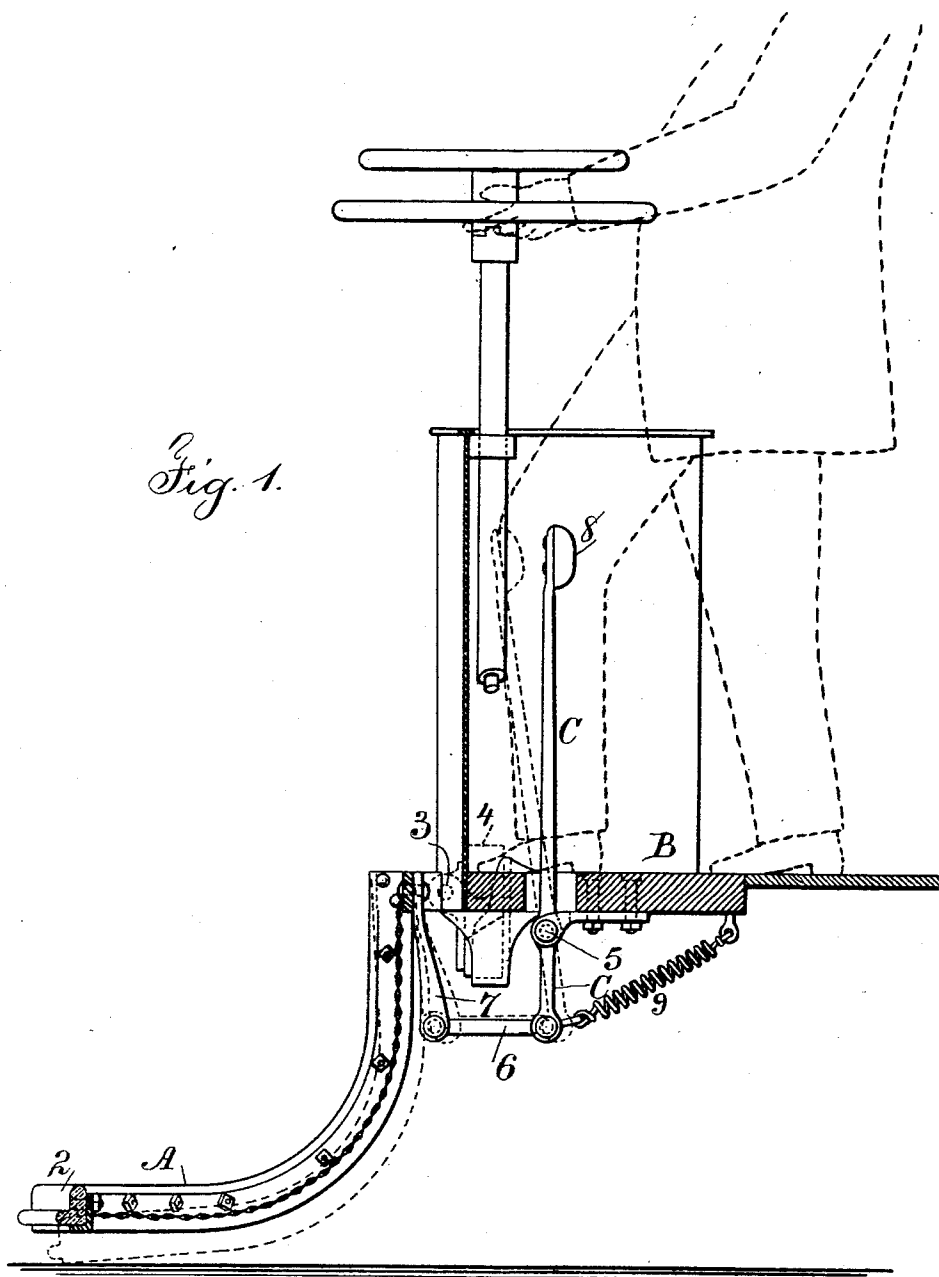
(No Model.)

2 Sheets—Sheet 1.

H. A. HOWE.
SAFETY ATTACHMENT FOR STREET CARS.

No. 520,233.

Patented May 22, 1894.



Witnesses

Chas. H. Smith
J. Fraib

Inventor

Henry A. Howe
per Lemuel W. Serrell
Atty

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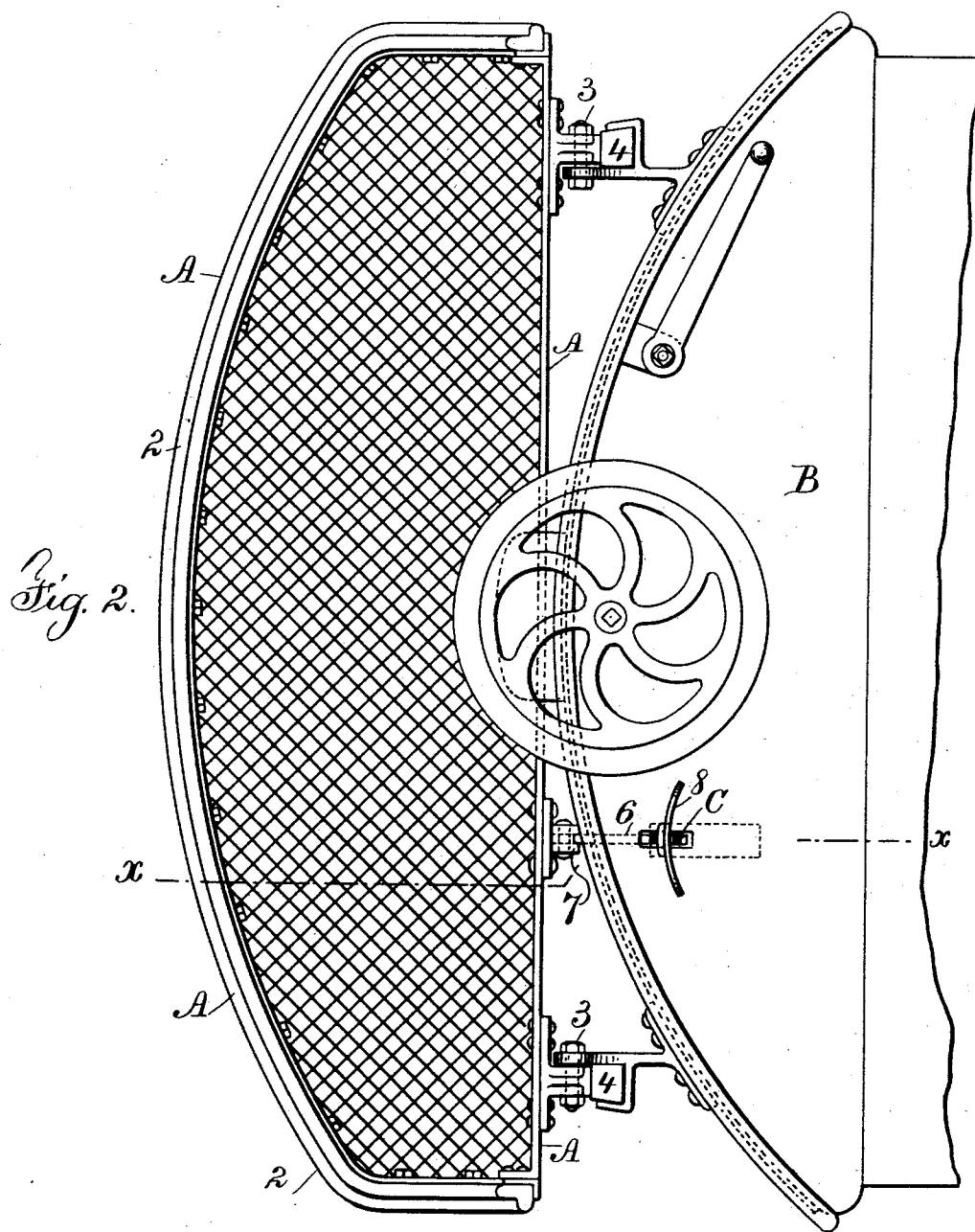
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UNITED STATES PATENT OFFICE.

HENRY A. HOWE, OF ALBION, ASSIGNOR TO HIMSELF, AND JOSEPH NORWOOD,
OF BROOKLYN, NEW YORK.

SAFETY ATTACHMENT FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 520,233, dated May 22, 1894.

Application filed September 21, 1893. Serial No. 486,098. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. HOWE, a citizen of the United States, residing at Albion, in the county of Orleans and State of New York, have invented an Improvement in Safety Attachments for Street-Cars, of which the following is a specification.

In my application, Serial No. 484,089, filed August 26, 1893, and patented February 27, 1894, No. 515,588, a guard is represented to project in front of the wheels and held by spring pressure so that the same is above the roadway and the track, but the front edge of the guard is closely adjacent to such pavement and track, and provision is made for turning the guard up out of the way when not required, and the front and lower edge of the guard is fitted with a cushion of rubber or similar material to lessen the risk of injury should the guard come in contact with a person that may have fallen upon the pavement.

In consequence of the inequality of the pavement it is necessary that the front edge of the guard in its normal position should be at some little distance above the upper surfaces of the tracks or rails, and the object of the present invention is to provide an instantaneous means for depressing the outer edge of the guard so that the same will pass beneath a person or an obstruction in front of the car, thereby raising such person upon the guard instead of running over such person.

In cities where cars are propelled either by electricity or by a cable, the motorman or gripman is often taxed to his utmost ability in managing the car; both hands are usually employed in applying or releasing the brakes and in either gripping the cable or in controlling the electric current, and usually one foot is employed in operating the signal bell to give warning of the approach of the car, and in cases of sudden emergency the brakes have to be applied and the grip disconnected or the current thrown off and the bell sounded, and to simultaneously actuate a guard in front of a car is very difficult.

My present invention relates to the combination with a pivoted or yielding guard, the front edge of which is normally at a sufficient distance above the track for clearing the

pavement, of mechanism actuated by a lateral movement of the body or the leg of the motorman or gripman, so as to throw down the guard into contact with the pavement, or nearly so, for underrunning a person that may be in the way of the car, so as to pick up such person upon the guard and prevent him being run over, and by a similar movement in the reverse direction the front edge of the guard may be elevated to prevent injury to the guard by contact with any rigid substance, such as a paving block or other obstruction that may accidentally be in the road in front of the car.

In the drawings, Figure 1 is an elevation partially in section (the section being at about the line *x.x.* of Fig. 2) representing my guard as applied to the front of a car with the connections therefor and mechanism operated by the driver for giving motion to the guard. Fig. 2 is a plan view illustrative of the relative positions of the respective parts.

The guard A is to be of any desired character; it is advantageously made with a convex front edge having a fender or cushion of rubber fastened to the frame of the guard, and within the frame of the guard is a suitable netting preferably of wire-work, and such guard might be provided with metallic strips or plates adapted to receive and support a human body or other substance to be caught up by the guard and prevent the car passing over the same, and this guard is connected to the platform B either by hinges 3 or yielding connections such as springs to form a permanent connection with the platform but to allow the front edge of the guard to be raised or lowered.

Where hinges are provided with blocks of rubber behind the flanges of the hinges, as in my aforesaid patent, the rubber springs hold the front edge of the guard in its normal position at a proper distance above the roadway or track. Springs of any suitable character may be employed; I have represented blocks of rubber at 4 to form said springs.

Connected with the guard A is a suitable mechanism to be operated upon by a lateral movement of the body or leg of the motorman or gripman for throwing the front edge of the guard downwardly when required for use, or

for throwing such front edge upwardly to clear an obstruction. With this object in view I prefer to use a lever C pivoted at 5 and connected by a link 6 with an arm 7 extending down from the top of the guard A, or such link 6 may be connected directly with any suitable portion of the guard, and at the upper end of the lever C is a shield-piece 8, preferably in the form of an arc of a circle and adapted to be pressed upon by the leg of a driver or by any other part of the body, so that the driver is able to act upon the lever C without loosening his hands from the brake mechanism, the grip mechanism, or the device for controlling the electric current, according to the character of motor made use of in propelling the car; and at the same time one of the feet is free for acting upon the alarm or signal bell, so that the additional duty of raising or lowering the guard A can be performed by a lateral motion of the driver without interfering with the other duties which he necessarily has to perform.

The location of the lever C is to be such that the driver can easily operate upon the same without having to change his usual position, and it is advantageous to employ a contractile spring 9 to hold the parts in their normal position and prevent any looseness, so that the guard can be thrown instantly up or down, according to the direction of motion given to the upper end of the lever C.

As it is usually only necessary to throw the guard down, the shield 8 may be adapted to pressure by the lateral movement of the body in one direction only; but it will be apparent that the objects sought by the present invention can be effected by lever mechanism constructed differently from that herein described and shown, as I do not limit myself in these particulars.

This invention is to be distinguished from devices that have heretofore been made in which a guard has been held by a latch mechanism and allowed to drop when the latch is disconnected, because with this device the

amount of depression of the forward end of the guard cannot easily be regulated, but by my present improvement the forward end of the guard can be pressed down upon the pavement if necessary, and the extent of movement accommodates variations in the position of the car platform to the rails and to the pavement, and as soon as the pressure that forces the forward end of the guard down is relieved, the spring raises the forward end of the guard for clearing obstructions, and where the lever C is pressed in the opposite direction the forward end of the guard can be raised above its normal position.

The driver can hold down the guard as long as desired by simply holding his leg against the lever.

I claim as my invention—

1. The combination with the car platform, of a guard extending forward of the car, pivotal connections on which the guard is free to be swung up or down, springs for holding the guard against rising or falling from a normal position, a connection to the guard and a lever extending above the platform and adapted to being acted upon by the leg of the driver in opposite directions from either raising the guard or for depressing the front edge against the action of the springs, substantially as specified.

2. The combination with the car platform, of a guard, a pivotal connection between the guard and the platform, a rubber spring acting to hold the guard in its normal position, a lever pivoted upon the platform and extending upwardly and provided with a shield that is adapted to being acted upon by a lateral movement of the driver or motorman, and a connection from the lever to the guard, substantially as set forth.

Signed by me this 18th day of September, 1893.

HENRY A. HOWE.

Witnesses:

GEO. T. PINCKNEY,
A. M. OLIVER.