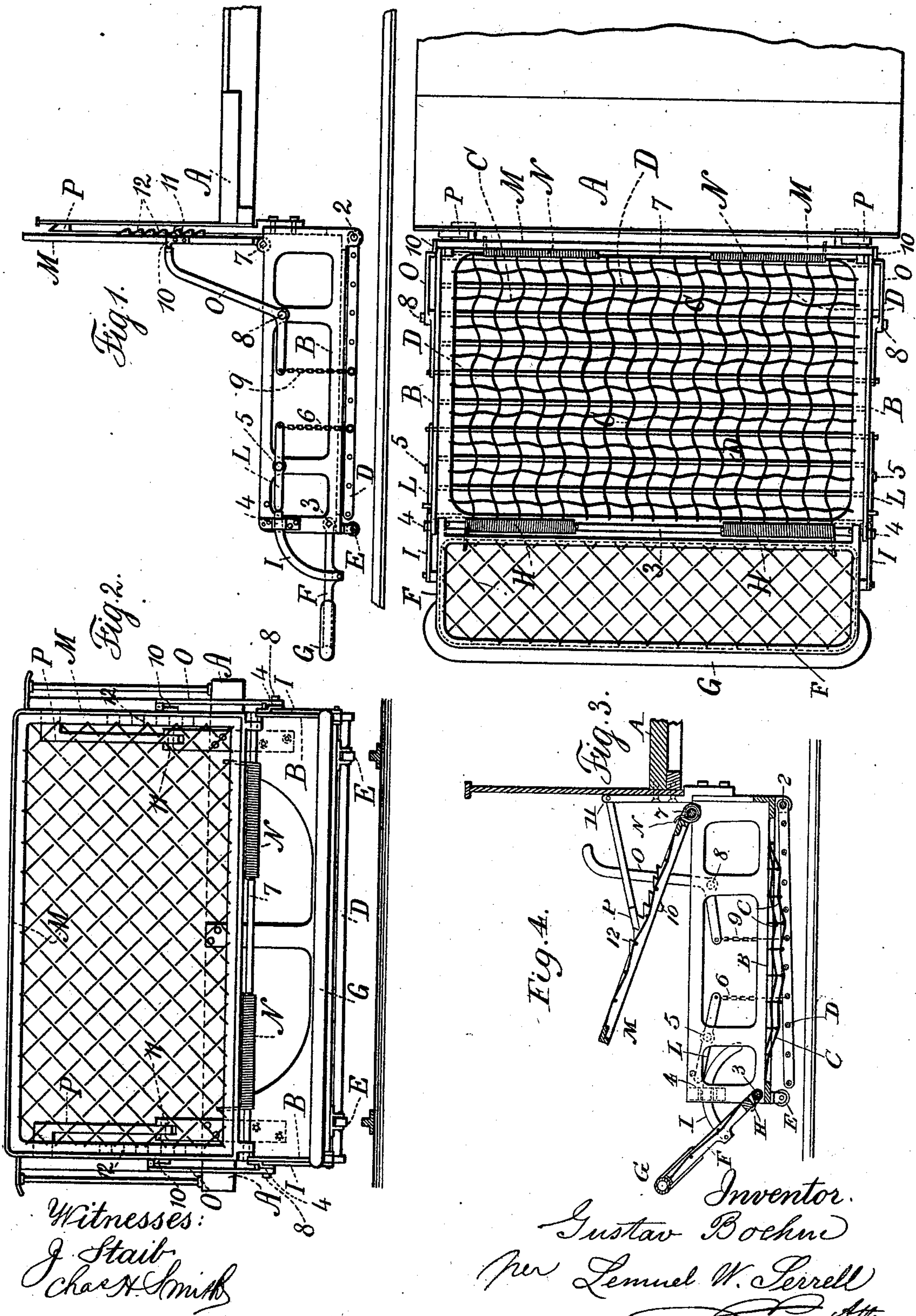


(No Model.)

G. BOEHM.  
GUARD FOR CARS.

No. 522,003.

Patented June 26, 1894.





# UNITED STATES PATENT OFFICE.

GUSTAV BOEHM, OF LONG ISLAND CITY, NEW YORK.

## GUARD FOR CARS.

SPECIFICATION forming part of Letters Patent No. 522,003, dated June 26, 1894.

Application filed February 12, 1894. Serial No. 499,872. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAV BOEHM, a citizen of the United States, residing at Long Island City, in the county of Queens and State of New York, have invented an Improvement in Guards for Railway-Cars, of which the following is a specification.

In street railways, especially those propelled by electricity or by cable, the risk of personal injury is great, and in the guards that have heretofore been provided in front of the car a risk exists that if a person is knocked down and falls upon the guard, injury may result from an effort to get off the guard and escape from the car before the car can be stopped.

The object of the present invention is twofold; first, to prevent injury by the concussion of the guard against a person that may be upon the track, and second, to prevent the person rolling off the guard or getting off before the car can be stopped, thereby insuring the safety of the individual.

In carrying out this invention, I provide a guard in front of the car platform upon which a person will fall if struck by the guard, and an automatic apron at the front edge of the guard is swung up, thereby preventing a person, especially a child, from rolling off the guard; and I provide a detainer in the form of a light frame that automatically drops over the person to retain him until the car can be stopped and assistance offered.

In the drawings, Figure 1 is a side view representing the improvement. Fig. 2 is a front view, and Fig. 3 a plan view, and Fig. 4 is a section after the parts have been acted upon by a body falling upon the guard.

The front portion of the car platform is represented at A, and to this are securely bolted the side pieces B of the guard, and these side pieces are usually at a slight distance above the roadway and provided with right angle extensions at the back ends through which the bolts pass for fastening the side pieces to the platform of the car, and the guard is composed of wire-work C, the wires being crinkled or laid up sufficiently loosely to yield slightly to the weight of a person falling upon the guard, and beneath the guard is the hinged frame D composed of rigid bars with side pieces that are pivoted

at 2 to the under edges of the side pieces B, and this hinged frame has a limited downward movement, not sufficient however for the frame to come into contact with the pavement, and it is generally advantageous to provide rollers or wheels E held by brackets beneath the outer ends of the side pieces B which may come into contact with the track in case of a heavy weight falling upon the guard, but usually these wheels E are a slight distance above and clear of the car track.

The apron is formed of a frame F pivoted at 3 to the front ends of the side pieces B and around the outer edges of the apron frame F, especially at the front thereof, there is an inflated rubber tube G closed sufficiently airtight at the ends to form an air cushion, and this rubber tube is securely connected with the apron frame F and hence forms a cushion or fender to prevent personal injury by the contact of the apron frame with the person that may be upon the track; and the apron is preferably made of interlaced wires rigidly connected at their ends to the frame F, and there are springs H preferably in the form of coils connected at one end to the frame F and to the other end to the cross-bar forming the pivots 3, and these springs tend to throw up the front edge of the apron, and I provide a sector I connected at one end to the apron frame and passing through a guide loop 4, and the end is adjacent to a blocking lever L pivoted at 5 upon the side frame B, and the back end of the blocking lever is connected by a chain 6 to the hinged frame D, so that the moment a weight falls upon the guard and the hinged frame D is depressed by that weight, the chain 6 moves the blocking lever L away from the end of the sector I, and the springs H throw the apron F up so as to prevent a child or person that may have fallen upon the guard rolling off the front thereof upon the pavement.

This device alone may be used in connection with my improved guard for street railway cars or in addition thereto the device next described may be employed.

The detainer is made of a light frame M pivoted at 7 to the side pieces B, and there are interlaced cords extending from one side of the light frame M to the other, and the springs at N tend to throw down this light



frame whenever the pawl O is liberated, such pawl O being pivoted at 8 and provided with a chain 9 to the hinged frame D, so that whenever this hinged frame D is depressed by the weight falling upon the guard, the pawl O is moved out of the way of the stop 10 on the detainer frame M, so that the springs N throw such detainer frame down over the person that may have fallen upon the guard. This detainer frame and the springs thereof will usually be sufficient for preventing a person slipping off the platform before the car can be stopped, and in addition to the same I provide a holding pawl P pivoted at 11 and having an end which engages the teeth 12 upon the frame M of the detainer, thereby preventing the frame of the detainer being lifted until the pawl is removed from the teeth 12 upon the detainer frame. If desired, the wheels E may run upon the track, in which case it will only be necessary to connect the back end of the guard frame B to the platform of the car by a central attachment instead of by bolts.

I claim as my invention—

1. The combination with a guard connected with the car platform, of an apron at the front end of the guard, springs for throwing up the apron, a sector and blocking lever for holding the apron in position, and means for disconnecting the blocking lever by the weight of the person upon the guard, substantially as set forth.

2. The combination with a guard connected

with the car platform, of an apron at the front end of the guard, springs for throwing up the apron, a sector and blocking lever for holding the apron in position, a hinged frame below the guard, and a connection from the hinged frame to the blocking lever, substantially as set forth.

3. The combination with the guard having side pieces and yielding interlaced wires, of a rigid frame beneath the guard, pivots for connecting the frame to the guard, an apron and pivotal connections therefor at the front edge of the guard, a spring for swinging the apron upwardly upon its pivots, a blocking lever for holding the apron in a nearly horizontal position, and a connection from the blocking lever to the hinged frame for liberating the apron and allowing the same to be thrown up, substantially as set forth.

4. The combination with a guard connected to the car platform, of a detainer pivoted to the guard, means for holding up the detainer, a spring for throwing down the detainer when liberated by the weight of a person upon the guard, and a holding pawl acting against the detainer for holding the same down, substantially as set forth.

Signed by me this 6th day of February, 1894.

GUSTAV BOEHM.

Witnesses:

GEO. T. PINCKNEY,  
WILLIAM G. MOTT.