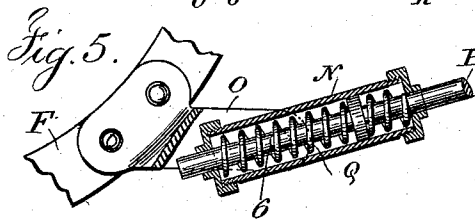
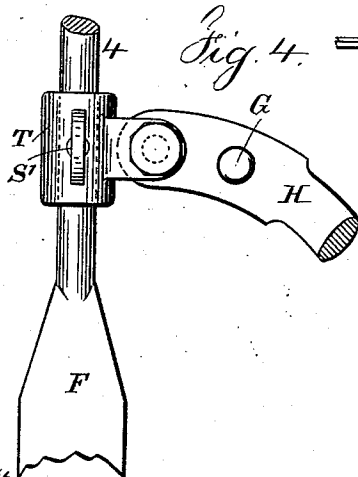
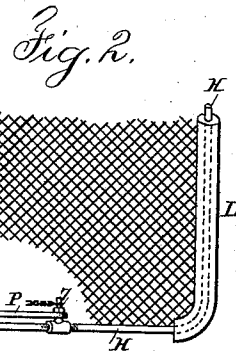
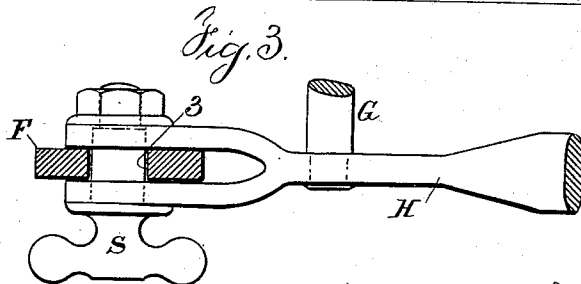
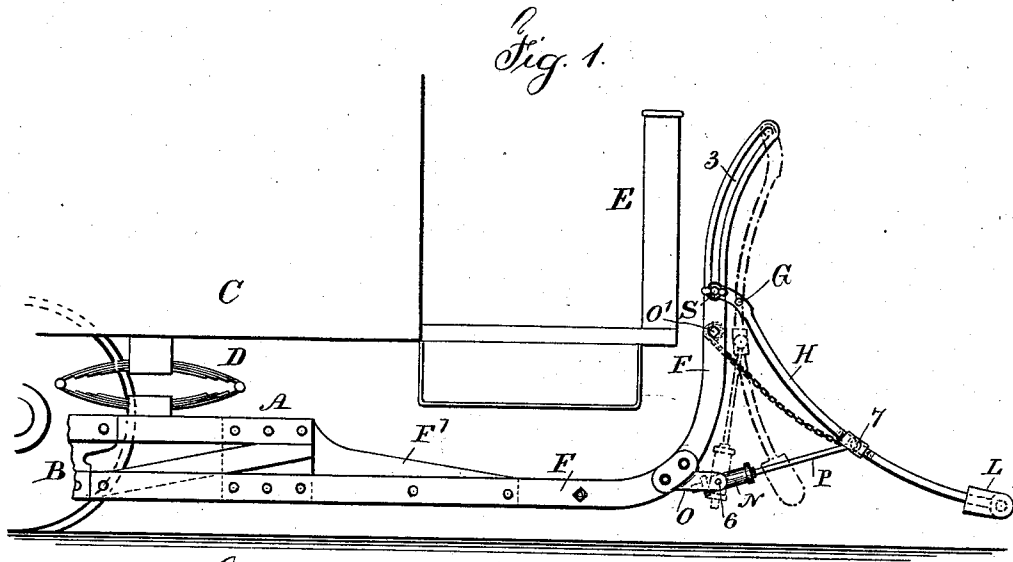


(No Model.)

I. N. STANLEY.
CAR FENDER.

No. 571,175.

Patented Nov. 10, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

IRA N. STANLEY, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF,
EDWARD D. WHITE, AND JULIA E. BRICK, OF SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 571,175, dated November 10, 1896.

Application filed May 29, 1896. Serial No. 593,532. (No model.)

To all whom it may concern:

Be it known that I, IRA N. STANLEY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Fenders and Guards for Railway-Cars, of which the following is a specification.

Cars for city railways have been fitted with fenders or guards in front supported at their upper ends and held forward by the action of metallic springs or by confined air within a cylinder, but difficulty has been experienced in supporting the guard in such a manner as to be free from the motion of the car as it may rise or fall upon its springs, and the fender or guard has also occupied considerable space when swung up out of use, or such fender has required to be disconnected and removed.

In my present invention a frame is extended forward from the wheel-truck and rises in front of the dashboard or railing and receives the movable upper edge of the fender, so that this can be raised or lowered upon the frame, and the fender when in use is held forward by the joint action of a metal spring and an air-cylinder, the confined air in the cylinder being allowed to escape gradually and by the pressure preventing the sudden movement of the guard to its extreme rear point, and the air-cylinder is provided with trunnions upon which it can swing, so that the fender can be drawn up and the air-cylinder and piston-rod will swing with the fender and support the fender when out of use, and when in position for use the fender will yield to an obstruction and at the same time receive and remove the obstruction by the force exerted by the spring and the confined air.

In the drawings, Figure 1 is a side view, partially in section, representing the present improvement. Fig. 2 is a diagrammatic plan showing one side of the frame and guard. Fig. 3 represents the joint at one side of the guard. Fig. 4 is a side view of a modification of the joint, and Fig. 5 is a section of the spring-cylinder.

A portion of the truck-frame is represented at A with the wheels B, and the car-body C is supported by any suitable springs. Elliptical springs are illustrated at D, and the dashboard or front railing is indicated at E.

The frame F extends forward from the

truck-frame A and it is turned up at each side in front of the dashboard, and the upper ends of this frame are either slotted, as shown at 3, or formed as slide rods 4, as shown in Fig. 4, and the cross-bar G is received and supported by the upper ends of the guard-frame H. This guard H may be of any desired character, but I prefer to make the same with side bars and a cross-bar at the front, with rollers or a thick tube L of rubber upon said front cross-bar, and there may be any suitable netting or supporting springs or strips within the frame of the guard to support a person or article that may fall upon this guard.

The cylinders N are provided with trunnions 6, that are supported in the jaws O, that project forward from the frame F, and the piston within each cylinder is provided with a rod P, that extends forward and is hinged at 7 to the side bars of the guard H, and within each cylinder N is a piston that fits substantially air-tight, and an expansive or helical spring Q behind the piston, so as to move the same forward and properly support the guard by the piston-rod. By this construction the truck and wheels will support the guard or fender entirely independent of the car-body, so that the car-body can raise or lower upon the truck-frame and intervening springs.

If the forward end of the guard comes into contact with a person or article, the tendency is to bring the front edge of the guard nearer to the roadway, and at the same time the spring Q is compressed and the sustaining force is increased in consequence of the air confined in the cylinder and acting in aid of the springs, and there should be a small hole or air-escape, so that the air may act as a buffer to prevent concussion and at the same time aid in sustaining the guard and the person or object that may fall upon the same.

The piston-rod should pass through both heads of the cylinder so as to be guided by such heads, and at the same time the piston-rod acts as a lever for turning the cylinder upon its trunnions. It is generally advantageous to place the cross-bar G a little in front of the frame F, and to allow the upper ends of the guard H, where they unite with the frame F, to slide upon such frame. With this object in view I have shown in Figs. 1

and 3 the upper ends of the frame H as forked to pass at opposite sides of the frame F, and a screw S as passing through the jaws and through a slot in the frame F into a nut at the opposite side of the fork on the frame, so that by loosening this screw S the parts are free to slide, and when such screw is tightened the upper end of the guard will be held in position, but it can turn upon the screw S in case the forward end of the guard meets with an obstruction.

When it is more convenient to make the upper ends of the frame F as tubes or rods, as shown in Fig. 4, then the upper ends of the guard-frame H will be received into jaws upon a sliding thimble T, through which passes a clamping-screw S' for holding the thimble in any position to which it may be raised or lowered to adjust the height from the road of the front of the guard or fender.

When the guard is to be swung up out of use, the screws S or S' are to be loosened, so as to allow the upper end of the guard-frame H to slide upward as the lower end of such guard-frame is swung inward toward the dashboard, and the piston-rods and cylinders swing up vertically.

To facilitate the application of the rollers or rubber tube L upon the front of the guard-frame, it is advantageous to make the guard-frame separable at the pivots or hinges 7. This may be accomplished by making couplings with projecting pivot-pins, the two parts of the frame H being screwed into these couplings. Hence the rubber tube or rollers can be threaded upon the front crossing portion of the guard-frame when either of the couplings at the side pivots 7 has been separated.

When the guard or fender is to be put out of use, it is only necessary to seize the cross-bar G and draw the same up, and in this movement the piston-rods turn the cylinders upon their trunnions until the pivots or joints 7 pass by a straight line between the cross-bar G and the trunnions 6, and hence the guard will be held up in position by the springs and trunnions, and to restore the guard or fender to its normal position for use it is only necessary to draw the front portion of the guard-frame forward, and the piston-rods will swing down and the cross-bar G descends until it is supported by the frame F and the parts resume their normal positions for use.

The frame F has an offset or bend in front of the truck, as seen in Fig. 4, so as to bring the parts of the frame into the proper position for connection to the guard and to be out of the way of the car-steps, and the plate F' from the truck-frame acts to strengthen and support the frame F, and also acts as a fender in front of the wheels.

If desired, a cross-shaft O' may be provided on the frame F with chains to the pivots 7 or other convenient places of attachment, so that by applying a key to the squared projecting end of such shaft O' the same may be rotated and the chains wound upon the cross-shaft to

draw up the guard near the front of the dashboard when such guard is out of use.

I claim as my invention—

1. The combination with the truck-frame and wheels in a car, of a frame extending forward and rising vertical, or nearly so, in front of the dashboard or car-platform, a guard or fender having near its upper edge a cross-bar, and means for connecting the guard to the vertical portion of the frame that extends out from the truck, and allowing such guard-frame to be moved up or down on such frame, cylinders having trunnions and supporting-jaws on the frame for holding the cylinders, pistons in the cylinders and piston-rods connected with the guard-frame, and springs in the cylinders that yield when the guard encounters an obstruction, substantially as set forth.

2. The combination with the truck-frame and wheels in a car, of a frame extending forward and rising vertical, or nearly so, in front of the dashboard or car-platform, a guard or fender having near its upper edge a cross-bar, and means for connecting the guard to the vertical portion of the frame that extends out from the truck, and allowing such guard-frame to be moved up or down on such frame, cylinders having trunnions and supporting-jaws on the frame for holding the cylinders, pistons in the cylinders and piston-rods connected with the guard-frame, and springs in the cylinders that yield when the guard encounters an obstruction, the trunnions and their jaws being located so as to support the guard when the same is drawn up substantially vertical, substantially as set forth.

3. The combination with the truck-frame and wheels in a car, of a frame extending forward and rising vertical, or nearly so, in front of the dashboard or car-platform, a guard or fender having near its upper edge a cross-bar, and means for connecting the guard to the vertical portion of the frame that extends out from the truck, and allowing such guard-frame to be moved up or down on such frame, cylinders having trunnions and supporting-jaws on the frame for holding the cylinders, pistons in the cylinders and piston-rods connected with the guard-frame, and springs in the cylinders that yield when the guard encounters an obstruction, the cylinders confining the air so that the same acts upon the pistons in aid of the springs, substantially as set forth.

4. The combination with the guard having a front cross-bar and side frames, of pivotal connections at the upper ends of the side frames, and a sliding support for such pivotal connections, and the piston-rods and pistons in the cylinders, and pivotal connections at the front ends of the piston-rods to the side portions of the guard-frame, frames and trunnions for supporting the cylinders, and upon which they can be swung in drawing up the guard closely adjacent to the end of

the car when the same is out of use, substantially as set forth.

5 5. The combination with the guard having a cross-bar at the front edge and side bars, of a yielding tube or rollers upon the front cross-bar, sliding pivotal connections for the upper ends of the side frames, rods jointed at their front ends to the side bars of the guard, springs acting upon these rods, trunnions and jaws for supporting the rods and springs and sustaining the guard when drawn up substantially vertical and out of use, substantially as set forth.

6. The combination with the guard H and the frame F and sliding connection between the frame and guard, of the rods P, pivoted to the guard and the frame respectively, and a cross-shaft O' on the frame and chains from the shaft to the guard, so as to draw the guard up by rotating the shaft and winding the chains on the same, substantially as specified.

Signed by me this 26th day of May, 1896.

IRA N. STANLEY.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.