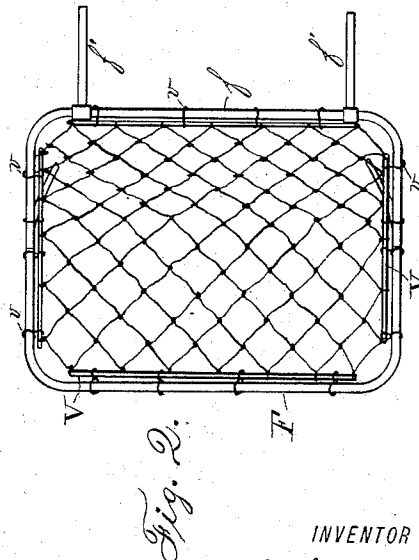


2 Sheets—Sheet 1.

Patented Aug. 11, 1896.



J. B. Peters

BY *Chas. O. Sweet.*
ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

N. J. BISHOPRICK.
CAR FENDER.

No. 565,595.

Patented Aug. 11, 1896.

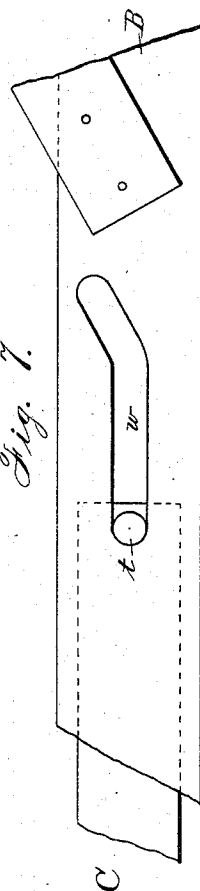
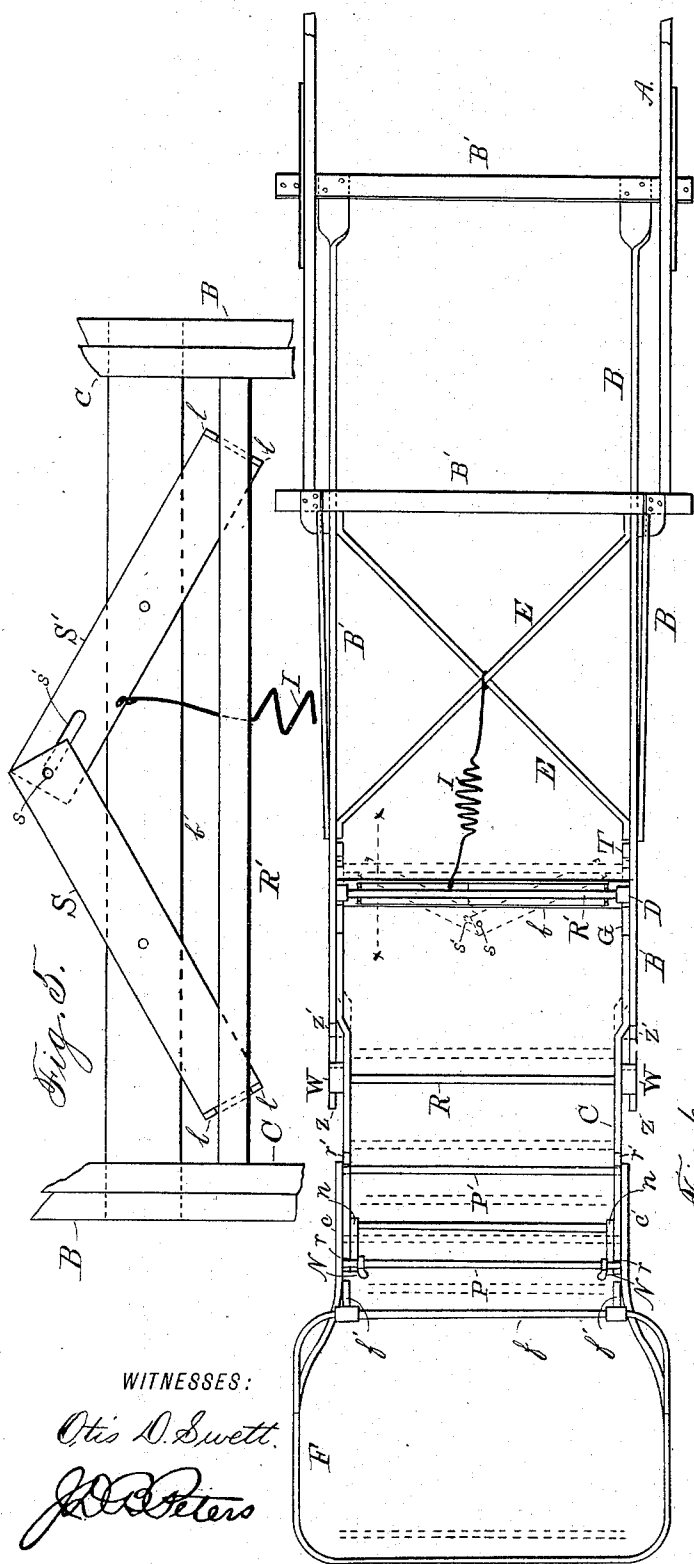


Fig. 7.

WITNESSES:

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UNITED STATES PATENT OFFICE.

NICHOLAS J. BISHOPRICK, OF BROOKLYN, NEW YORK.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 565,595, dated August 11, 1896.

Application filed March 31, 1896. Serial No. 585,540. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS J. BISHOPRICK, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Car-Fenders; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This life-saving invention relates to car-fenders to be used more especially on surface street-cars, and is of the kind which, on striking an obstacle on the track, will recede and the front edge of the scoop will fall to the ground, pass under, and take up the person or object struck. In these respects it acts automatically, but the tripping and dropping device is also controlled by mechanism operated from the car-platform. An equalizer for
20 distributing the force of the impact, and thus securing uniformity and certainty of action, and a detachable netting for the scoop also form parts of the invention.

This fender may be attached either to the truck or body of the car, or to both body and truck; but I prefer to connect it to the car-truck only, as shown in the drawings, in order to secure a more even movement and closer to the ground than the unsteady motion of
35 the car-body would allow if attached thereto.

Referring to the drawings, in which like letters denote corresponding parts in the different views, Figure 1 is a side elevation of the invention and adjacent portions of a car.
40 The dotted lines indicate the position of the fender after dropping. Fig. 2 is a plan of a scoop having my improved netting. Fig. 3 is an enlarged vertical section of part of the equalizer, taken on the dotted line xx of Fig. 6. Fig. 4 is an enlarged end view of a slide with adjacent parts of the frames in section.
45 Fig. 5 is an enlarged plan of the equalizer after operation. Fig. 6 is a plan of the invention, the car-body being removed. The position

of the fender after operation is shown in dotted lines; and Fig. 7 is a modification of the tilting mechanism enlarged.

The letter A indicates the car-truck, and B the permanent frame of the fender, fixed to the truck and provided with suitable cross-bars $B' B'$ and braces E E.

C is a tiltable frame or cradle having cross-bars R R' and is connected to the frame B, but having limited horizontal motion thereon by means of slides W W, pivoted to the cradle and movable on the sides of frame B, between the stops $z z'$ on said frame.

A shoulder D on frame B projects over the edge of frame C to hold the latter in horizontal position, and a recess G in frame C forward of said shoulder receives the shoulder when the cradle is pushed back, and allows the cradle to tip upward at the rear end and downward at the front edge by gravity.

T is a wedge-shaped inward projection on frame B, upon which the rear end of the cradle C rests when forced back and keeps the front edge of the frame depressed.

F is a scoop having the inclined rear elevation f and braces f' . It is removably attached to the intermediate tilting frame C. It is of any preferred form and covered with suitable netting, and has cross-rods P P' and rear extension-bars $c c'$. The rods P P' engage recesses sunk in the upper edges of the cradle C. Recess r' , inclining forward and downward, receives rod P', and recess r , at right angles to the cradle, receives rod P. A plate or block n , fixed to the frame C and extending below it, supplies a pivotal bearing for the catch N, which is drawn over the rod P to hold the scoop securely until purposely released. The scoop thus being firmly locked to the cradle partakes of its motion, and when striking an obstacle recedes and its front edge falls to the ground by gravity as the cradle recedes and tilts. By releasing the catch N the scoop may be lifted from the cradle and transferred to the other end of the car for connection with another cradle provided for it there.

When a heavy impediment is struck by a scoop near its corner, the force of the impact

tends to compress the fender diagonally, and to twist and bend the scoop without forcing it back. In order to secure a certain and uniform rearward movement of the fender at all times when striking an obstacle, I have provided a pair of coacting levers $S S'$, upon a cross-bar b of the frame B. The adjacent ends of these levers overlap, and are connected by a pin s on one and a slot s' in the other lever, in which the pin s moves. At about one-third of their length from their outer ends the levers are pivoted to the bar b , and they both engage the overlying bar R' by the vertical lugs ll at their outer ends.

One end of a spring I is secured to a cross-bar E on the frame B and has its other end fastened to the lever S' , between its pivotal points. The spring holds the two levers in alinement and consequently the scoop forward in operative position, and when one corner of the scoop feels the force of a blow its motion is immediately communicated to the other side of the cradle through the mutually-operating levers $S S'$ and both sides recede equally.

When by a collision or other accident the scoop is twisted or broken, the netting is usually either abandoned or removed only with considerable labor. In my improvement the netting n , when of rope or like material, is secured to an unjointed frame with sides $V V$ adjustable within and removably attached to the scoop-frame. The sides $V V$ may be made of wood or metal, or, when the netting is of cloth or similar material, the sides may be formed by folding or otherwise reinforcing the edges of the netting to a sufficient rigidity.

To connect the sides $V V$ to the scoop-frame, I use stout double spring-hooks $v v$, one end fixed on the netting-frame V and the other loosely clasping the scoop-frame, but any preferred fastening can be used.

In some cases it is an advantage when an obstacle is observed upon the track to be able to drop the scoop before striking it. To render this possible, I hang a bell-crank K beneath the car-platform, whose forward arm i is pivoted to a vertical rod i' , passing through the platform, and provided with a pedal-key i'' . The lower end of the other arm j of the bell-crank hangs immediately in front of the rod R on the cradle. Pressure on the key i'' forces back the cradle and the scoop drops. A spring m restores the bell-crank to normal position when the pressure is removed from the key.

I do not confine myself to the particular construction described above, as equivalent devices may be employed to effect the result attained. A different method may be used to attach the scoop to the tilting frame, and the mechanism controlling the rear end of this frame may be varied. I have found that the construction shown in Fig. 5, in which a pin t in the tilting cradle moves in an up-

wardly and rearwardly curved slot w in the frame B, will effect the desired purpose and obviate the use of stops $z z'$, recess G, shoulder D, and projection T. Some other device also may be substituted for the slide W, but having a similar function. The construction shown is preferred, however.

What I claim, and desire to secure, is—

1. A life-saving device for surface-cars, consisting in a scoop having braces across its rear end and removably attached to a tilting frame having brace-rods across each end, and being pivotally attached to, and movable upon a permanent frame fixed to the car; said tilting frame having rearward recesses to receive supporting-shoulders on the permanent frame when the tilting frame is forced back, and a locking device to receive and hold the removable scoop; coacting levers on the permanent frame to equalize the motion of the scoop and tilting frame, and a spring to hold the two latter in operative position, substantially as described.

2. A life-saving device for surface-cars, consisting in a scoop having braces across its rear end and removably attached to a tiltable frame having brace-rods across each end, and being pivotally attached to and movable upon a permanent frame fixed to the car, said tilting frame having rearward recesses to receive supporting-shoulders on the permanent frame when the tilting frame is forced back, a locking device to receive and hold the removable scoop; coacting levers on the permanent frame to equalize the motion of the scoop and tilting frame, a spring to hold the said scoop and tilting frame in operative position and a bell-crank hung beneath the car whose forward arm is operated through the car-platform by a pedal-key and connecting-rod, and its lower arm adapted to force back the tilting frame and scoop when the key is depressed as herein described.

3. In a car-fender, a removable scoop whose rearwardly-extended sides have cross-braces $P P'$, recesses $r r'$ in the tilting frame to receive the said cross-braces, a catch N to lock the scoop on the tilting frame and slides to which said tilting frame is pivoted, said slides being horizontally movable on a permanent frame secured to the car-truck.

4. In a car-fender whose rear end is fixed to the car and its front end provided with a scoop, an intermediate tilting frame pivoted to slides movable between stops on a permanent frame a shoulder on the latter adapted to engage a recess in the tilting frame when the latter is forced back, and an inner projection on said permanent frame to support the end of the tilted frame as described.

5. In a car-fender a permanent frame attached to the truck one of its cross-bars bearing two mutually-operating spring-actuated levers provided with terminal vertical lugs engaging a cross-rod on a tilting cradle to maintain the cradle and scoop in operative

position and to insure their uniformity of action as described.

6. In a car-fender scoop, a frame having unjointed sides V V adjustable within the scoop-frame, a netting *n* on the inner frame and spring-hooks to connect the latter to the scoop-frame as herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

NICHOLAS J. BISHOPRICK.

Witnesses:

JOHN F. BRENNAN,
ALVIN THOMAS.