

T. LAMPUS.
CAR FENDER.

Patented Apr. 13, 1897.

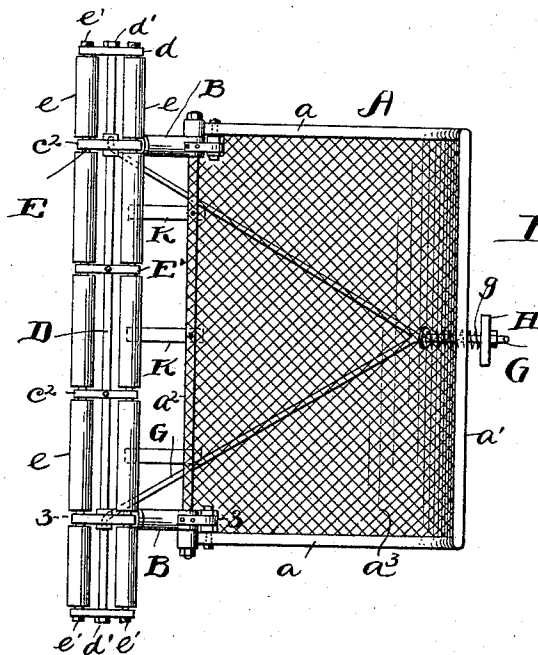
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Fig. 2,

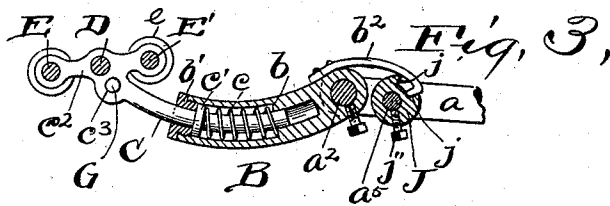


Fig. 3,

Witnessed,
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UNITED STATES PATENT OFFICE.

THEODORE LAMPUS, OF CLEVELAND, OHIO.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 580,618, dated April 13, 1897.

Application filed December 8, 1896. Serial No. 614,943. (No model.)

To all whom it may concern:

Be it known that I, THEODORE LAMPUS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Car-Fenders; and I do hereby 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.

The principal object of my invention is to provide a fender for street-cars which will certainly pick up any person who gets between the rails in the path of the car, and will do this with the minimum of personal injury to such person.

The invention relates particularly to the construction of the front end of the fender; and it consists in the construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of the improved fender. Fig. 2 is a plan view of the same, and Fig. 3 is a sectional view on line 3 3 of Fig. 2.

Referring to the parts by letters, A represents the fender-frame, which consists of the two stout bent side bars $a a$, a transverse rear bar a' , which connects them, and a front rod a^2 , which preferably is a rock-shaft journaled in the front ends of the side bars. This frame is covered by a netting a^3 , and the fender is fixed beneath the front end of the car by any suitable means.

B B represent two curved tubular arms which are pivotally connected to the front end of the fender-frame with their concave sides up, and from the said fender-frame these arms project forward and slightly downward. The pivotal connection between these arms and the fender-frame is effected by respectively securing them to the rock-shaft a^2 close to the two side bars $a a$.

C C represent two plungers curved upon the same radius as the arms B B, into which they telescope, as shown. In each arm B around the plunger is a coil-spring c , which thrusts against a collar c' upon the plunger and an internal shoulder b in the arm B, whereby said plunger is normally forced outward as far as it will go. This outward movement is limited by the engagement of

the collar c' with the cap b' , which embraces the plunger and screws into the end of the arm B. Secured to the front ends of these plungers by means which I will presently explain are the two rods E E', of which the rear bar is slightly higher than the front bar, and upon these two rods are mounted the sectional rollers e . The construction shown for connecting the two rods E E', as described, is the following:

An approximately horizontal plate c^2 is formed on the front end of each plunger, and it extends both behind and in front of said end. A transverse rod D extends from one plate c^2 to the other, passing through them at points about midway between their ends. On this rod the plates d are secured, which plates extend forward and rearward from said rod. The two rods E E' pass, respectively, through the front and rear ends of the plates c^2 and all of the plates d , the parts being held in the described relation to one another by the nuts $e' d'$, which are screwed onto the ends of the rods E, E', and D.

G represents a forked bar, the two front ends of which are bent outward and pass into holes c^3 in the front ends of the plungers C C. This bar passes beneath the fender-frame and through a fixed bracket H, which is secured to the under side of the car. A coil-spring g surrounds the rear end of bar G and thrusts against the front side of the bracket H and a collar g' on the bar, the result being that said bar is always pressed forward by the action of the spring. This spring supplements the action of the springs c in pushing the plungers C forward. In fact, the springs c might be omitted without seriously affecting the operation of the device. The spring g also acts, after the plungers have been moved outward as far as possible, to swing the ends of the arms B B forward and upward until such movement is stopped by the engagement of the curved arms b^2 , which are secured to arms B, with the shoulders j on collars J. These collars are adjustably secured by set-screws j' to studs a^5 , which project inward from bars a .

Because of the curved shape of the arms B and plungers C the forward movement of said plungers in said arms raises the two roller-bearing rods E E' above the ground. The

described movement of the arms B, produced by spring *g*, produces a similar result. The reverse movement of plungers and arms produces the contrary result—that is to say, causes said rods E E' to move toward the ground. The result of this mode of action is that when the front bar E strikes a person who is between the tracks said bar yields, that is to say, moves backward, whereby the blow is cushioned by the springs *c* and *g*. In its backward movement it moves nearer the ground, whereby when the plungers have been pushed as far as possible into the arms B a further pressure upon the bar E causes the arms B to swing down, which action is increased by the weight upon the bar E. The combined action of the plungers C and arms B has the result of moving bar E so near to the ground that it is sure to pass beneath and not over the person struck, whereby he is lifted onto the fender, the rollers *e* facilitating the said movement.

When the pressure upon the movable end of the fender is removed, the parts automatically resume their normal position, as shown.

K represents U-shaped spring-shoes, the upper legs of which are riveted or otherwise secured to the rock-shaft *a*², and they extend from the said shaft forward, downward, and rearward. They are not intended to touch the road-bed under normal conditions, but when the arms B B are swung downward, as described, they will interpose a spring-cushion between the fender and ground.

Having described my invention, I claim—

1. The combination of a fender-frame, with two curved tubular arms projecting forward from the front end thereof, correspondingly-

curved plungers which telescope said arms, a spring-actuated fork-bar G pivotally connected with said plungers, and one or more transverse bars connecting the front ends of said plungers, substantially as and for the purpose specified. 40

2. The combination of a fender-frame, and two curved tubular arms pivoted to and extending forward and downward from the front end of said fender-frame, stops to limit the upward movement of the front ends of said arms, correspondingly-curved plungers which telescope said arms, a spring-actuated forked bar pivotally connected with said plungers, a fixed bracket through which the rear end of said fork-bar passes, and one or more transverse bars secured to the front ends of said plungers, substantially as and for the purpose specified. 50 55

3. The combination of a fender-frame, the two curved tubular arms pivoted to and extending forward and downward from the front end of said frame, the stop-arms *b*² secured to the arms B, and the adjustable stops *j*, with the correspondingly-curved plungers which telescope the arms B, and have at their front ends forwardly and rearwardly extended plates, the bars E, E', and D, the plates *d*, sectional rollers *e*, the forked bar G, pivotally connected with the two plungers, the fixed brackets H and spring *g*, substantially as and for the purpose specified. 60 65 70

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

THEODORE LAMPUS.

Witnesses:

E. L. THURSTON,
E. B. GILCHRIST.