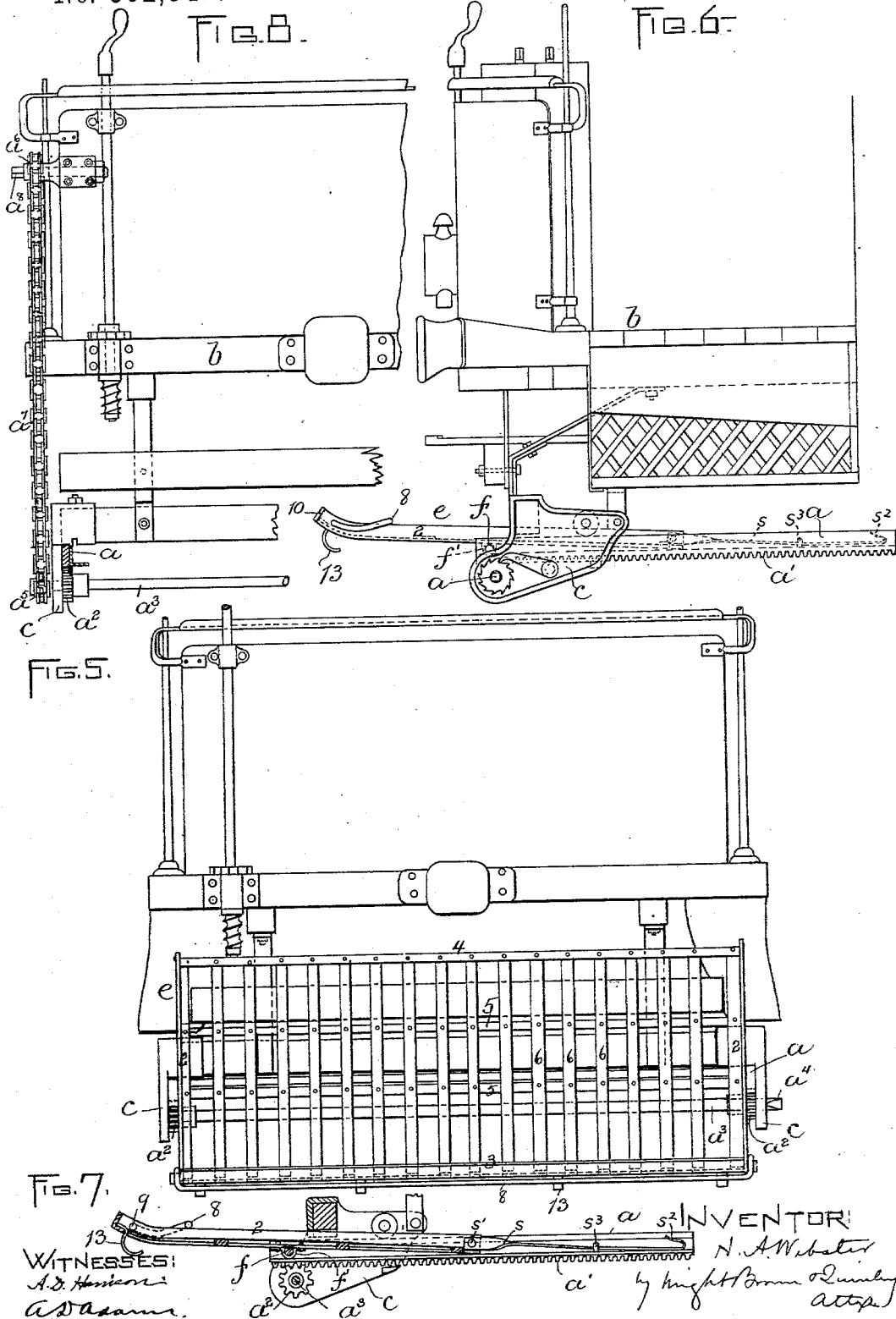


H. A. WEBSTER.
CAR FENDER.

No. 562,942.

Patented June 30, 1896.



WITNESSES:
A. D. Harrison
A. D. Adams.

INVENTOR:
H. A. Webster
by Knight, Brown & Quincy
attys.

UNITED STATES PATENT OFFICE.

HAROLD A. WEBSTER, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR TO
HERBERT B. NEWTON, OF SAME PLACE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 562,942, dated June 30, 1896.

Application filed March 30, 1896. Serial No. 585,310. (No model.)

To all whom it may concern:

Be it known that I, HAROLD A. WEBSTER, of Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention has for its object to provide a car-fender adapted to serve either to pick up a prostrate body or to insure the falling of a person, caught while standing, upon the fender without liability, in either case, of the car passing over the body.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side view of a fender embodying my invention in position upon the platform of a car. Fig. 2 represents a section on line 2 2 of Fig. 1 and a plan view of the parts below said line. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig. 4 represents a section on line 4 4 of Fig. 2. Fig. 5 represents a front elevation of the platform and fender, the latter being in the position shown in Fig. 1. Fig. 6 represents a view similar to Fig. 1, showing the fender moved back. Fig. 7 represents a sectional view, the fender being in the position shown in Fig. 6. Fig. 8 represents a front elevation of a portion of the fender and platform.

The same letters and figures of reference indicate the same parts in all the views.

In the drawings, *a* represents a substantially horizontal frame or support, which is located below and projects forward from the platform *b* of a car, said support being adapted to slide in guides *c*, affixed to the platform. The object of a sliding connection between the support *a* and the body of the car is to enable the fender to be retracted under the platform when not required for use. The side bars of the frame *a* are provided with rack-teeth *a'*, which are engaged with pinions *a''*, affixed to a shaft *a'''*, journaled in the guides *c*. The shaft may be rotated by means of a wrench or key applied to the squared end *a''''* or by any other suitable means, such as sprocket-wheels *a'''''* *a''''''* and a chain *a'''''''*, Fig. 8, the wheel *a''''''* being affixed

to the shaft *a'''*, while the wheel *a''''* is affixed to a short shaft *a'''''*, journaled in a bearing on the dasher, in position to be operated by the motorman while he is standing on the platform. The shaft *a'''*, pinions *a''*, and racks *a'* enable the fender to be moved easily in and out, without binding or sticking, both sides being moved alike.

When the support *a* is in position for use, its forward end projects considerably in advance of the platform and of the dasher *d*, as shown in Figs. 1 and 2, said support being preferably elevated a foot or thereabout above the track.

e represents the fender, which is composed of a frame suitably constructed to support a human body falling against it. The fender is here shown as composed of side pieces 2 2, a lower cross-piece 3, an upper cross-piece 4, intermediate cross-pieces 5 5, and transverse strips 6 6, all being combined to form a reticulated support, the openings in which are sufficiently small to prevent a person from falling through them. It is obvious, however, that this construction may be departed from or modified to any desired extent, and that the construction may include a suitable marginal frame, and netting secured to the frame and covering the space surrounded by it.

I prefer in all cases to curve or deflect the forward end of the fender from the plane in which its main portion stands, as shown at 7 in Fig. 1, to the end that the lower portion of the frame may act as a scoop to take from the ground a prostrate body which may be encountered by the fender. I also prefer to provide the forward end of the frame with a flexible extension, here shown as composed of a metal bar 8, the ends of which are bent inwardly to form hinge members 9 9, fitted to turn in sockets in the side pieces 2 2. The bent portions of the bar bear on lugs or stops 10 10 on the cross-piece 3. The bar 8 is flexible and serves as an elongated yielding buffer, which normally projects forward from the fender and is the first part of the fender to come in contact with an object encountered by it. The hinges 9 9 enable the bar 8 to swing upwardly and backwardly, so that if it encounters an object on the pavement, such as

the toe of a person's boot, it will rise and slide over the boot and strike the ankle or leg above the foot, thus causing the person to fall over upon the fender. If the bar 8 strikes a projecting paving-stone presenting an inclined surface, it will rise until it has passed over such stone, and will then descend to its normal position. The fender is provided at its forward end with a series of downwardly and rearwardly projecting elastic feet 13, which are arranged to strike the track or road-bed and serve as runners or buffers to prevent the forward portion of the fender from striking and being engaged by projections on the pavement when the forward portion of the fender is depressed by the weight thrown upon it or by the oscillating movements of the car. In either event the feet 13 support the forward end of the fender above the track, and in their effort to assume their normal position force the forward portion of the fender upwardly, the feet sliding over any projections on the pavement that would be likely to arrest the fender.

The fender is pivotally connected with the support *a* by means of a rod *f*, extending across the support, and sockets *f'* *f'*, arranged at or near the center of the length of the fender, the arrangement being such that the forward end of the fender, having the described elastic extension, is in advance of the hinges formed by the rod *f* and sockets *f'*, while the opposite end is at the rear of said hinges.

The fender normally stands in the inclined position shown in Fig. 1 and by full lines in Fig. 2, its forward end, which overbalances the rear end, being in close proximity to the track and its opposite end being considerably raised.

When the fender encounters a prostrate body on the track, its lower portion acts to pick up the body and carry it along without serious injury, such as would result from forcible propulsion of the body while resting on the pavement, the lower end of the fender being in such proximity to the pavement that it will find its way under rather than over a human body lying on the pavement. The flexible extension or buffer at the forward portion of the fender minimizes the injury to the body encountered, as will be readily seen, and projects downwardly in such position as to readily insert itself between the pavement and a body lying thereon. The elastic feet 13 prevent the body of the fender and the flexible buffer from rubbing against the pavement when the fender is caused to sag by the weight of a body supported upon its forward portion, said feet sliding along the pavement and tending to raise the forward portion of the fender from the pavement when the weight is removed from it.

When the fender encounters a standing person, the buffer first acts to trip the person and cause him to fall backwardly against the fender, which is proportioned so that the

main weight of the person will be at the rear of the hinges, thus causing the fender to swing to a substantially horizontal position, its forward portion being raised. The person thus caught is therefore prevented from injury and carried along in safety until the car can be stopped.

A stop is provided to limit the downward swinging motion of the fender on its pivots or hinges with relation to the support *a*, so that when the support is at its normal height from the track or pavement the lower end of the fender will be slightly separated from the pavement, but will be sufficiently low to enable it to pick up instead of passing over a prostrate body. The support is constructed to permit an upward-swinging movement of the lower end of the fender, so that it can yield or rebound if brought in contact with the pavement by an oscillating movement of the car, thus preventing the possibility of damage to the fender in case it is forced down against the track. The stop is here shown as a pair of rods *s s*, pivoted at *s'* to the side pieces of the fender and provided with open hooks or slots *s²* at their rear ends, which engage and are adapted to move upon eyes *s¹* affixed to the support *a*. When the support *a* is at its normal height above the track, the hooks *s²* bear against the eyes *s¹* and prevent the front end of the fender from swinging downwardly; but when the fender strikes the pavement the hooks slide back on the eyes *s¹* and permit the rebound or yielding movement of the lower end of the fender, this movement being facilitated by the elastic shoes.

It is obvious that any other suitable arrangement of stop devices may be provided for the purpose described, such as flexible straps connecting the fender with the support.

I claim—

1. The combination of a frame or support projecting forward from the car-platform and a fender pivotally connected to said support with its center of gravity forward of its pivotal point and adapted to swing from an inclined position with its forward end in close proximity to the track, to a substantially horizontal position with its forward end elevated, stop mechanism independent of the car-track and carried by the frame or support for limiting the downward movement of the forward end of the fender and having provision for permitting a rebounding or upward-yielding movement of said end, and means for retiring the fender and its frame or support and stop mechanism under the platform.

2. The combination of a frame or support projecting forward from the car-platform and a fender pivotally connected to said support with its center of gravity forward of its pivotal point and adapted to swing from an inclined position with its forward end in close proximity to the track, to a substantially horizontal position with its forward end elevated, stop mechanism independent of the car-track

and carried by the frame or support for limiting the downward movement of the forward end of the fender and having provision for permitting a rebounding or upward-yielding movement of said end, means for retiring the fender and its frame or support and stop mechanism under the platform and a series of resilient feet or runners projecting downwardly from the forward end of the fender.

10 3. A car-fender comprising a frame or support pivotally connected between its front and rear edges to a support on the car and having its forward portion curved or deflected from the plane of the body of the fender, and
15 a flexible extension or buffer projecting from said forward portion and comprising a bar ex-

tending across the forward portion of the fender, and arms projecting rearwardly from the ends of said bar and pivotally connected with the fender to permit an upward and rearward 20 swinging movement of the bar, the fender being provided with stops to limit the downward movement of said arms and bar.

In testimony whereof I have signed my name to this specification, in the presence of 25 two subscribing witnesses, this 28th day of March, A. D. 1896.

HAROLD A. WEBSTER.

Witnesses:

A. D. HARRISON,
A. D. ADAMS.