

No. 607,977.

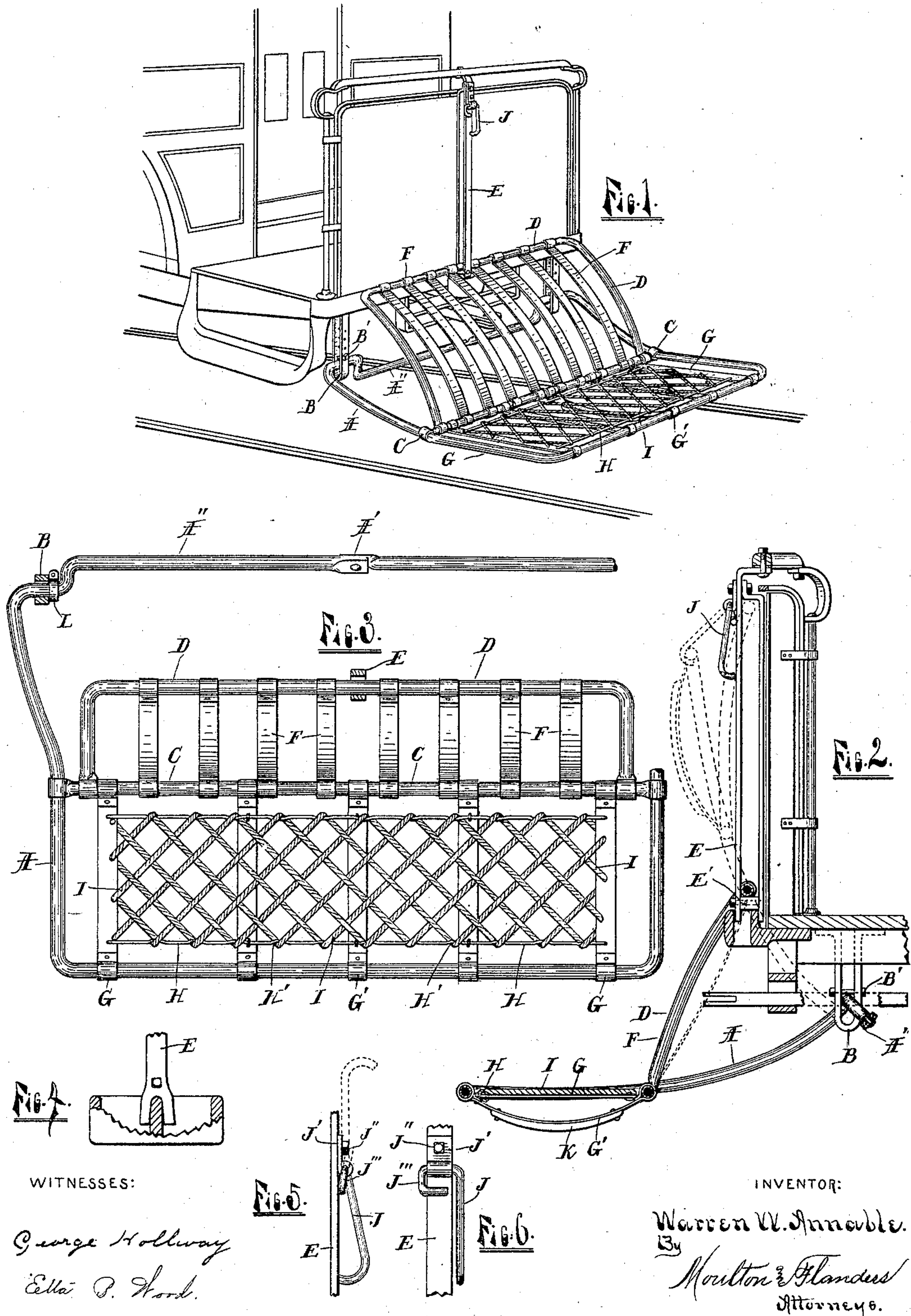
Patented July 26, 1898.

W. W. ANNABLE.

CAR FENDER.

(Application filed Jan. 10, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 607,977, dated July 26, 1898.

Application filed January 10, 1898. Serial No. 666,209. (No model.)

To all whom it may concern:

Be it known that I, WARREN W. ANNABLE, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, 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.

My invention relates to improvements in car-fenders; and its object is to provide the same with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a device embodying my invention attached to a car and in operative position; Fig. 2, a longitudinal vertical section of the same; Fig. 3, a plan view of the fender with parts broken away; Fig. 4, a detail of the lower end of the vertical guide; Fig. 5, a detail of the hook in side elevation, and Fig. 6 the same in front elevation.

Like letters refer to like parts in all of the figures.

A is a rectangular frame, preferably made of a continuous piece of iron pipe, the ends of which are secured together, as at A', and pivoted to the car by the U-shaped hangers B, which hangers are secured to the under side of the car and near its end and permit vertical movement of said pivots. Holes are provided in said hangers for the bolts B', which bolts are engaged by the frame A and limit the upward movement of the same in said hangers. Collars L are secured to the frame and in engagement with the hangers to prevent a lateral movement of the frame. An offset A'' in the frame A between said hangers allows the frame to pass beneath the draw-bar of the car.

Midway between the front and rear of the frame A is the cross-bar C, to which is pivotally attached the upwardly-extended frame D, consisting of a pipe bent twice at right angles and having its ends convex at the for-

ward side, which frame engages the vertical guide E, attached to the dashboard of the car. Flexible steel strips F are attached at short intervals to the upper side of the frame D and to the cross-bar C, on which they turn freely, and strips G, which are located at greater intervals, are also secured to said cross-bar and, extending forward, are secured to the front side of the frame A. Secured to the strips G are the rods H, which rods have lateral bends H', engaged by a rope I, woven across from one rod to the other and forming a bottom for the forward part of the frame A. The central strip G' is bent downward, and to its under side is secured a shoe K, adapted to engage the ground and prevent the frame A from striking.

The vertical way E is formed of two bars placed at such a distance apart as to allow the pipe forming the frame D to slide freely between the same and is secured at the top to the upper rail of the dashboard by a bolt, the lower ends of said bars being forked, as shown in Fig. 4, to engage the central rib of the car-bumper and secured together by the bolt and block E'. To the face of the forward bar forming the way E and near its upper end is secured a hook J by a plate J', folded to form a pivot for said hook and secured to the bar by a bolt J'', said hook having a long arm forming the hook proper extending at one side and parallel with the bar and a short arm J''' at the opposite side bent at right angles across the bar and forming a stop to engage the same and prevent the hook from swinging past the bar. When the said hook is turned up in the position shown in dotted lines in Fig. 5, the short arm J''' of the hook engages the bolt-head J'' and prevents the hook from swinging farther in that direction.

The front end of the frame A with its woven bottom serves to pick up and carry the objects with which it comes in contact and the frame D with its strips F prevents the object from passing over the bottom and beneath the car. The strips F being made of very thin flexible material and of such greater length than the distance across the frame to which they are attached and on which they turn

that they present a convex forward surface forming a cushion against which the objects picked up by the fender first strike, and striking with sufficient force, these strips will be forced or buckled through the plane of the frame to the position shown in dotted lines in Fig. 2, presenting a concave forward side, forming a sort of basket to catch the object.

I am aware that other devices are made having a buffer of spring-steel; but they do not present a yielding surface against which the object strikes and at the same time operate to catch the object, but when struck they yield and return to their former position, throwing the object off the fender or to the forward part of the same with great force.

The strips F in my device, while yielding to break the force of the blow, do not return to their convex position, but form a receptacle for the object and therefore assist in retaining the same upon the fender.

The distance between the woven bottom of the frame A and its pivot or the hangers B is such that when said frame is raised to the position shown in dotted lines in Fig. 2 said bottom and the cushion or frame D are raised above the draw-bar and bumper of the car, said frame D turning on the bar C as it slides up the way E, and thus lie closely against each other and against the dashboard of the car, thus taking but little space and permitting the coupling of two cars together.

When in operative position, the structure is wholly supported by the block E' in the lower end of the way E, the frame D engaging said block and supporting the frame A, to which it is pivoted. To adjust the height at which the forward end of the frame A shall run from the ground, the bolts B' are moved to higher or lower holes in the hangers, thus adjusting the front end of the frame A. Said frame being pivotally supported intermediate its ends, the weight of the front end thereof tends to hold the rear end in engagement with the bolts. It is not intended that the shoe K shall run upon the ground at all times, but said shoe is provided to prevent the frame from striking when the car bounds up and down or when passing over low obstructions, &c.

I use, preferably, iron pipe for the frames, the ends of said pipe being flattened and folded to form the connections; but other material may be used.

The construction and device shown are cheap, strong, and durable, easily attached to and detached from any car, require no attention by the operator, and are very effective in operation.

Having thus fully described my invention, what I claim is—

1. In a car-fender, the combination of a frame and flexible strips attached thereto, said strips being of such greater length than the distance across said frame that they will be normally convex at the forward side and adapted to yield and pass through the plane

of said frame and remain concave upon contact with an obstacle, substantially as described.

2. In a car-fender, a forwardly and downwardly extended pilot-frame pivoted at the rear to the car, an upwardly-extended frame pivoted to the middle of the said pilot-frame, and flexible convex strips on the latter frame, said strips being adapted to shift from convex to concave position, substantially as described.

3. In a car-fender, a pilot member consisting of a frame pivoted at the rear to the car, a cross-bar on said frame, strips connecting said cross-bar and the front bar of the frame, transverse rods having lateral bends, and a rope netting engaging the bends in said rods, substantially as described.

4. A car-fender consisting of a pilot-frame pivoted at the rear to the car, a cross-bar near the middle of said frame, strips connecting the said bar and the front of the frame, transverse rods having lateral bends and attached to said strips a rope netting attached to said rods, a frame pivoted to said cross-bar and extending upward, and convex flexible strips on said frame, said strips being adapted to change position from convex to concave, substantially as described.

5. In a car-fender, the combination of a pilot-frame pivoted to the car at the rear, a guard-frame pivoted to the middle of the pilot-frame and supporting the same, a way in which the upper bar of said guard-frame is vertically movable, and a hook to hold said frames in folded position, substantially as described.

6. In a car-fender, in combination with a forwardly-extended frame pivoted to the bottom of a car, an upwardly-extending frame pivoted to said first-named frame, forwardly-curved, flexible strips engaging the sides of said last-named frame and turning freely thereon, and a way engaging the upper side of said last-named frame near its middle, substantially as described.

7. In a car-fender, the combination of a downwardly and forwardly extended frame pivoted to the car, an upwardly-extending frame pivoted to said first-named frame, a way secured to the car and engaging said last-named frame, and flexible strips extending across said frames, substantially as described.

8. In a car-fender, in combination, hangers secured to the bottom of the car, a downwardly and forwardly extending frame engaging said hangers, a frame pivoted to said first-named frame intermediate its ends, flexible strips extending across said frames, and a way secured to the dashboard of the car and engaging said last-named frame, substantially as described.

9. In a car-fender, in combination, U-shaped hangers secured to the bottom of the car, a downwardly and forwardly extended frame pivoted in said hangers, a bar extending across said frame intermediate its ends, a frame pivoted to said bar and engaging near

its middle a vertical way secured to the dashboard of the car, flexible strips secured to said frames and bar, a shoe on one of said strips, and a hook on said way, substantially as described.

10. In a car-fender, in combination, a rectangular frame having a lateral bend at its rear end, U-shaped hangers secured to the car and embracing said frame at each side of said bend, a bar extending across said frame intermediate its ends, an upwardly-extended frame having flexible cross-strips of greater length than the distance across said frame, pivoted to said bar and engaged near its middle by a vertical way secured to the front of the car, strips secured to said bar and to the front of said first-named frame, transverse rods having lateral bends, secured to said strips and a rope engaging said bends, substantially as described.

11. In a car-fender, in combination, U-shaped hangers having a series of holes, bolts in said holes, a downwardly-curved and forwardly-extended frame engaging said hangers and bolts, a bar secured to said frame intermediate its ends, a bottom formed of rope, between said bar and front of said frame, a vertical way secured to the car, a forwardly-curved frame engaging said way and pivoted to said bar, and flexible strips having the same forward curvature as said frame, pivoted to the upper side of said frame and to said bar, substantially as described.

12. In a car-fender, in combination with a downwardly-curved and forwardly-extended frame pivoted to the bottom of a car, and having a cross-bar and bottom extending from said bar to its front and a frame having flexible cross-strips of greater length than the distance across said frame, pivoted to said bar; a vertical way engaging said last-named frame near its middle and formed of two bars

having their upper ends secured to the dashboard of the car and their lower ends forked and embracing the central rib of the car-bumper and secured together by a block and bolt, substantially as described.

13. In a car-fender in combination with a frame pivoted to the bottom of a car and adapted to be folded up against the dashboard of the same, and a frame pivoted to said first-named frame and adapted to slide in a way secured to said dashboard; a plate secured to said way by a bolt, a hook having a long arm lying parallel with and at the side of said way and pivoted thereto by said plate, and a short arm at the opposite side of said way and bent at right angles to engage the same and form a stop for said long arm, substantially as described.

14. In a car-fender in combination with a rectangular frame formed of one piece of iron pipe and having a lateral bend in its rear side, hangers having a series of holes, bolts to engage said holes, collars on said frame engaging said hangers, a cross-bar on said frame, strips connecting said bar and the front side of said frame, transverse rods having lateral bends, secured to said strips, a rope engaging said bends and interwoven between said rods, a shoe on one of said strips, parallel bars forked at their lower ends and forming a vertical way, a frame pivoted to said cross-bar, forwardly-curved flexible strips engaging said last-named frame and said bar and adapted to turn thereon, and a hook secured to said way and having a stop to engage the same, substantially as described.

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

WARREN W. ANNABLE.

Witnesses:

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LEWIS E. FLANDERS.