

F. E. HUTCHINGS.
FENDER OR WHEEL GUARD.
APPLICATION FILED JAN. 18, 1911.

1,018,563.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 1.

Fig. 1

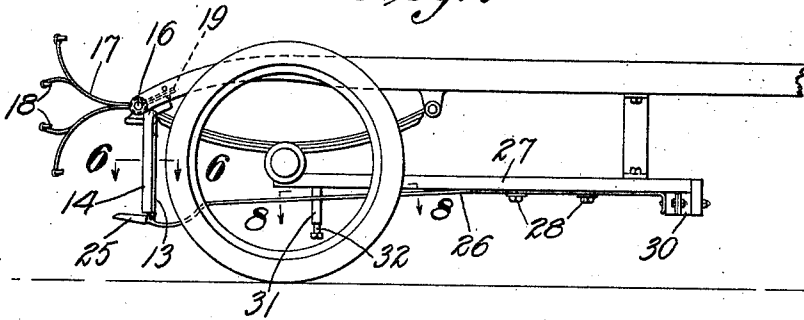


Fig. 2

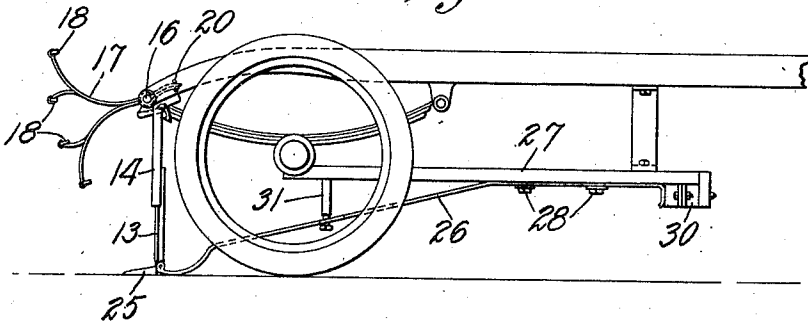
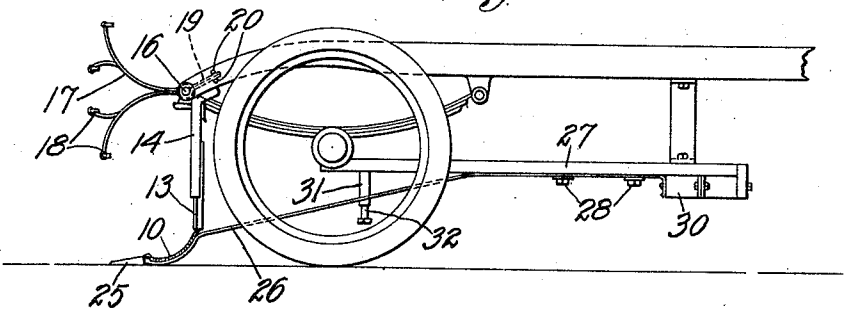


Fig. 3



Witnesses
Frank H. Vick Jr.
W C Campbell

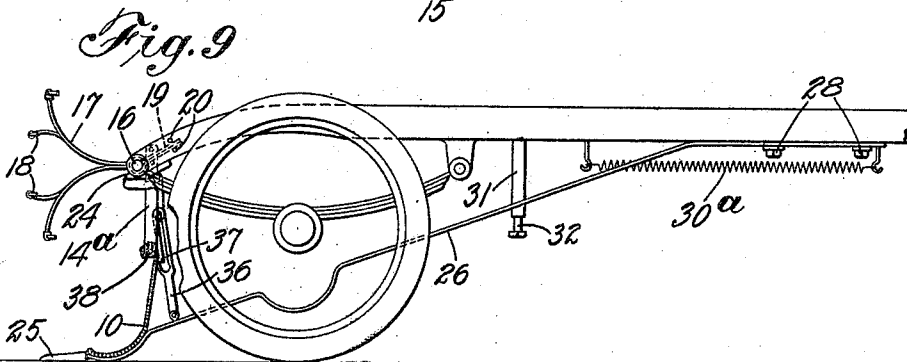
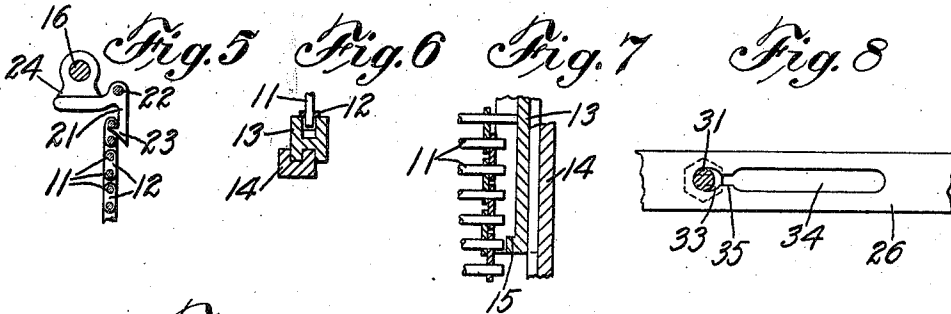
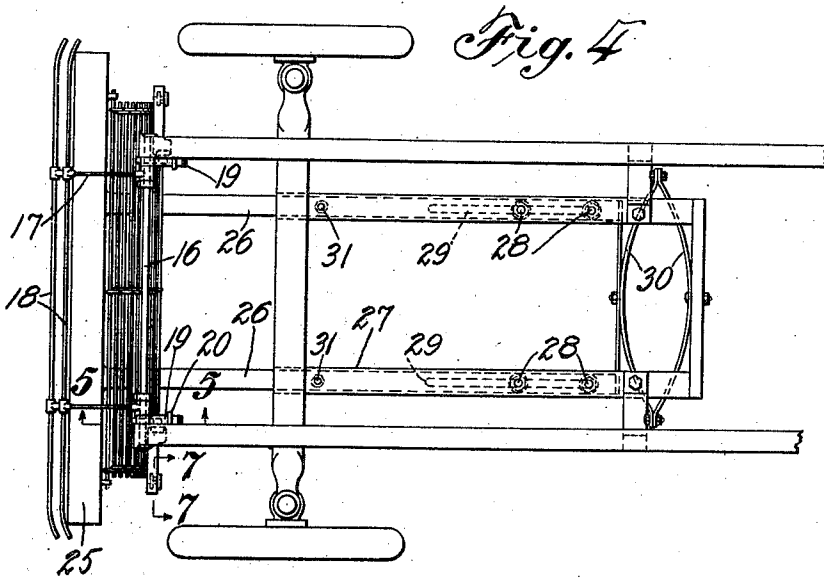
Inventor
Frederick E. Hutchings
by
Owen & Fairbank
Attys

F. E. HUTCHINGS.
FENDER OR WHEEL GUARD.
APPLICATION FILED JAN. 18, 1911.

1,018,563.

Patented Feb. 27, 1912.

2 SHEETS—SHEET 2.



Witnesses
Grant H. Vick Jr.
W. C. Campbell

Inventor
Frederick E. Hutchings
by
Owens & Fairbank
Attys

UNITED STATES PATENT OFFICE.

FREDERICK E. HUTCHINGS, OF NEW YORK, N. Y., ASSIGNOR TO AUTO LIFE SAVING FENDER CO., A CORPORATION OF NEW YORK.

FENDER OR WHEEL-GUARD.

1,018,563.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed January 18, 1911. Serial No. 603,255.

To all whom it may concern:

Be it known that I, FREDERICK E. HUTCHINGS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, county of Kings, State of New York, have invented a new and Improved Fender or Wheel-Guard, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in fenders or wheel guards adapted for use on the forward portion of street cars or motor vehicles, and relates more particularly to that type of construction in which there is a basket or other similar portion normally held in an inoperative position, but brought into operative position in case of emergency.

Although my invention is equally applicable to street cars and motor vehicles, yet certain features thereof are especially designed for use on the latter.

The main object of my invention is to provide a form of flexible curtain or sheet which is normally held in a raised or inoperative position but may be moved not only downwardly toward the ground, but also forwardly so as to form a basket operative to receive a person or other body colliding with the vehicle.

A further important feature of my invention is the provision of a hand rail of such a character that in case the vehicle runs into a person and the latter comes in contact with this rail, the movement of the rail upwardly or downwardly will serve equally well to release the fender, and bring it into operative position.

By the term "operative position", I mean in a position to operate as a fender, that is, to receive or to engage with the body or obstacle, while by "inoperative position" I mean in such a position that it will not receive or support a body with which the car may come into collision. The fender body is normally supported in inoperative position, which in the particular form illustrated is a raised position, and upon the operating of the releasing catch, the fender body is lowered and pushed forward to operative position.

Various other important features of my invention will be pointed out more particularly hereinafter.

The invention consists in the combina-

tions and arrangements of parts defined in the claims.

Reference is to be had to the accompanying drawing, forming a part of this specification, and in which the same reference characters indicate similar parts in the several views.

Figure 1 is a side elevation of a portion of a vehicle, showing my improved fender or wheel guard in inoperative position; Fig. 2 is a view similar to Fig. 1, showing the fender released and dropped to the ground; Fig. 3 is a similar view showing the fender pushed to its forwardmost position; Fig. 4 is a plan view of the parts shown in Fig. 3; Fig. 5 is a sectional detail on the line 5-5 of Fig. 4; Fig. 6 is a sectional detail on the line 6-6, of Fig. 1; Fig. 7 is a sectional detail on the line 7-7 of Fig. 4; Fig. 8 is a sectional detail on the line 8-8 of Fig. 1; and Fig. 9 is a side elevation somewhat similar to Fig. 3, but showing a somewhat modified construction.

In the specific form illustrated in Figs. 1 to 8 inclusive, I have illustrated one form which my invention may assume, but it is of course understood that various changes may be made in the details of construction within the scope of the appended claims without in any way departing from the spirit of my invention.

The drawing is to be considered in an illustrative sense rather than in a limiting one.

In the particular form illustrated, I employ a fender or wheel guard having a body portion, 10, in the form of a flexible curtain or sheet. This body may be made up of a plurality of separate parallel rods or rollers, 11, as illustrated particularly in Figs. 5 and 7, and these may be connected by a series of links, 12, so as to render the body free to bend or flex on any line transversely of the body. The rods or rollers are of such strength or rigidity that they will not bend to any material extent, but may give somewhat under the strain of a body striking them. The body is guided and supported at its end edges by a frame, each side portion of which is made up of two telescopic sections, 13 and 14. The outer sections, 14, are secured to the vehicle in any suitable manner so as to depend therefrom. In the specific form illustrated, these sections are

rigidly secured to the chassis at the front end. They may, if desired, be secured directly to the bolts which connect the springs to the chassis. The other sections, 13, are so connected to the sections, 14, that they may slide or telescope as the fender is raised or lowered.

As illustrated particularly in Fig. 6, the sections 14 are substantially channel-shaped, and the sections, 13, have a flange engaging within the channel and present a groove within which the ends of the rods, 11, are guided vertically. The rods forming the body may slide vertically in sections, 13, and the parts are so proportioned that when the fender is in its raised position, the upper end of the section, 13, will be adjacent to the upper end of section, 14, and the upper rod of the body will also come adjacent to the upper end of the section, 14. When the fender is in lowered position, the section, 13, will drop down so that its upper end is adjacent to the lower end of the section, 14, and the upper rod of the body will be adjacent to the lower end of the section, 13. Any suitable means may be provided for limiting the downward movement of the section, 13, and the body. As shown in Fig. 7, the upper rod of the body is slightly longer than the other rods and engages on a shoulder, 15, at the lower end of the frame section, 13.

For supporting the body in its raised position, I provide a suitable catch and a hand rail or guard, so constructed that when this hand rail or guard is either raised or lowered, the catch will be released and the fender permitted to drop. The details of construction of this catch are not important, as a different mechanism may be employed for accomplishing the same result. In the specific form illustrated, I connect together the front ends of the sides of the chassis by a rod, 16, mounted to rock or oscillate. Extending forwardly from this rod are arms, 17, at the front ends of which are one or more transversely extending hand rails or guards, 18. I have illustrated the arms, 17, as having diverging branches and have illustrated a plurality of the hand rails, but it is, of course, evident that only a single hand rail may be employed if desired. The rod, 16, is held in normal position by such a mechanism as will permit the rod to be rocked upon the raising or lowering of the hand rails. This mechanism may include a heavy spring, 19, connected to the rod and extending between two pins, 20, on the chassis. The rocking of the rod in either direction will compress the spring. As soon as the hand rail is released, the spring will bring the hand rail and rod, 16, back to normal position. Secured to the chassis, adjacent to this rod or rock-shaft, is an elbow lever, 21, pivoted on

a pin, 22. One end of the elbow lever terminates in a hook, 23, which may engage with the upper rod of the fender body, and the opposite end of the elbow lever terminates adjacent to the flat side of a cam, 24, rigid on the rock-shaft, 16. Upon rotating the rock-shaft and cam, 24, in either direction from the position indicated in Fig. 5, the outer end of the lever 21 will be depressed and the hook, 23, will be moved rearwardly so as to release the fender body and permit it to drop.

The lower end of the fender body, 10, is connected to a transversely extending plate or bar, 25, which is preferably thinner at its front edge than at its rear. This plate or bar may be formed of heavy metal, so as to give it considerable mass and cause it to descend rapidly under the action of gravity upon being released. It is also preferably covered with canvas, rubber or other suitable protecting means, so as to reduce the liability of injuring a person should this bar come violently into contact with one. The bar, 25, is connected to two or more rearwardly extending spring braces, 26, which serve to force the bar and body forwardly after the bar has been lowered to the ground, and also serve as springs for forcing the bar and body down to the ground. As shown, these braces are curved somewhat adjacent to their front ends, so as to support the lower portion of the body when the latter is advanced, and are rigidly connected to the bar, 25, so as to hold the latter at all times in approximately a horizontal position. The braces at their rear ends are connected to brackets, hangers or other portions, 27, of the chassis or body, and may be held in place by suitable bolts, 28, extending through slots, 29 in the braces 26, shown in dotted lines in Fig. 4. These slots permit the braces to slide forwardly and rearwardly, but prevent any other movement of them. The braces are preferably formed of spring steel and have a permanent set tending to throw their front ends outwardly. Any suitable means may be connected to the braces so as to normally tend to force them forwardly. As shown in Figs. 1 to 4 inclusive, I employ a double bow spring, 30. The opposite sides of this spring are but a short distance apart, as illustrated in Figs. 1 and 2, when the fender is in its raised position and when first dropped to the ground, but the sides separate to force the fender body forwardly as soon as the latter does reach the ground as is shown in Figs. 3 and 4.

Any suitable means may be employed for preventing the forward movement of the fender body when the latter is in any other than its lowered position. One means which may be employed is a bar or depending stud, 31, extending through a slot in its corresponding brace, 26. Each stud has a re-

duced portion, 32, adjacent to its lower end and just above the head on the lower end. Each slot in the brace has two separate portions, 33 and 34, connected by a portion of reduced width, 35, as illustrated in Fig. 8. The portion, 33, of the slot, is of substantially the same width as the diameter of the body of the stud, while the reduced portion, 35 of the slot, is of substantially the same width as the reduced portion, 32, of the stud. When the fender is in its raised position, the stud is within the slot portion, 33, and the reduced portion, 35, prevents the forward movement of the fender. After the fender has dropped from the position shown in Fig. 1 to the position shown in Fig. 2, the spring 30 forces the fender and braces forwardly and the reduced portion, 35, of the slot passes the reduced portion, 32, of the stud, and the stud will then be in the wider slot portion, 34. The fender may now slide forwardly and the brace may rise upwardly along the stud, if necessary, as illustrated in Fig. 3.

I do not wish to be limited to the details of construction above described, as various changes may be made. In Fig. 9, I have illustrated a somewhat different construction in which a coil spring, 30^a, is employed in place of the double bow spring, 30. The upper rod of the fender body is connected to a roller, 38, at the lower end of frame sections, 14^a. Instead of the fender body sliding upward and along the frame when said body is raised, it rolls up on the roller, 38. This roller may be made with a spring (not shown) similar to an ordinary shade roller. For holding the fender in raised position, links, 36, may be employed which have notches or shoulders, 37, for engagement with the catch, 23.

Other changes in the construction may be made if desired.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is:

1. A fender having a flexible body portion in the form of a substantially vertical curtain, means for normally supporting said curtain with the lower edge raised above the ground, means for lowering said lower edge and means for advancing said lower edge after the latter has been lowered.

2. A fender having a body in the form of a substantially vertical flexible curtain, means for normally supporting the lower edge in raised position, means for preventing the forward movement of said lower edge during the lowering of the latter, and means for advancing said lower edge after the same has been lowered.

3. A fender having a body portion free to bend along lines transversely thereof, a catch for holding a portion of said body in raised position, a transversely extending

hand rail, and operative connections between said rail and said catch, whereby a raising or lowering of said hand rail operates said catch to release the body.

4. A fender having a body portion and catch for holding the same in inoperative position, a hand rail and operative connections between said hand rail and said catch for releasing the body portion and permitting it to move to operative position upon the movement of the hand rail to any one of a plurality of positions.

5. A fender having a body normally held in inoperative position, a forwardly extending arm, a hand rail carried by said arm and connections between said arm and said fender body whereby a movement of the rail either upwardly or downwardly from a normal position will release said body and permit it to move to operative position.

6. A fender having a body formed of a plurality of transversely extending pivotally connected rods and braces secured to one of said rods and movable downwardly and forwardly to bring the fender into operative position.

7. A fender having a pair of braces supported adjacent to their rear ends, a spring normally forcing said braces forwardly, means for preventing said forward movement, a fender body including a curtain having one edge thereof secured to the front ends of said braces and means for supporting the opposite edge thereof.

8. A fender having a pair of braces supported adjacent to their rear ends, a spring normally forcing said braces forwardly, means for preventing said forward movement, a fender body, including a curtain having one edge secured to the front ends of said braces, a means for supporting the opposite edge of said curtain, and means disposed in advance of the fender for releasing said supporting means.

9. A fender having a transversely extending front bar and braces supported at their rear ends, and having their forward ends secured to said bar, said braces having a permanent set normally tending to force their forward ends downwardly, a fender body connected to said bar, adapted to be supported by said braces when the latter are in lowered positions, and means for normally supporting the forward ends of said braces to hold the body in raised position.

10. A fender having a transversely extending bar, downwardly and forwardly extending braces connected to said bar and supported at their rear ends, a spring for forcing said rear ends forwardly, means tending to force the forward ends downwardly and means preventing the forward movement of the braces while the latter are held in raised position.

11. A fender including a body portion

substantially in the form of a curtain, a frame including vertically movable sections for supporting and guiding the edges of said curtain, and means for advancing the lower edge of said curtain beyond the lower edge of said sections.

12. A fender having a receiving body, a catch for holding said body in raised position, and guides for the side edges of said body, said guides being movable and normally held in raised position by said body.

13. A fender having a body, a catch for holding said body in raised position, a transversely extending hand rail and operative connections between said hand rail and said catch, whereby a raising or lowering of said hand rail operates said catch to release the body.

14. A car fender having pairs of side guides, each guide including a substantially vertical stationary section supported at its upper end and a vertical section having sliding engagement therewith, a curtain having sliding engagement with said sliding section and means for normally holding said curtain in a substantially vertical plane in its upper limiting position and with said sliding sections in their upper limiting positions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK E. HUTCHINGS.

Witnesses:

C. W. FAIRBANK,
W. C. CAMPBELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."