N. J. SPENCER.

CAR FENDER.

APPLICATION FILED MAR. 19, 1910.

1,001,472. Patented Aug. 22, 1911.

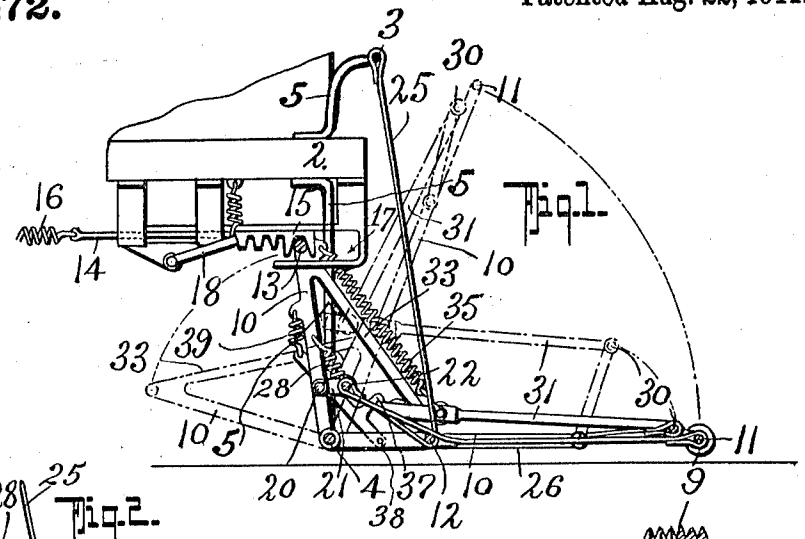

Fig. 1.

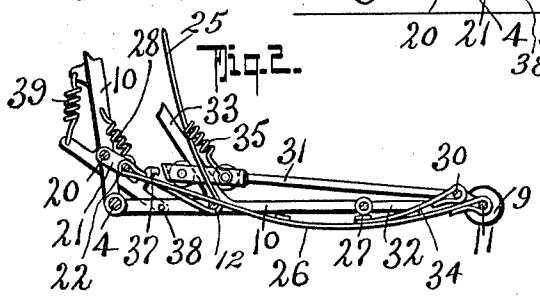

Fig. 2.

Fig. 4.

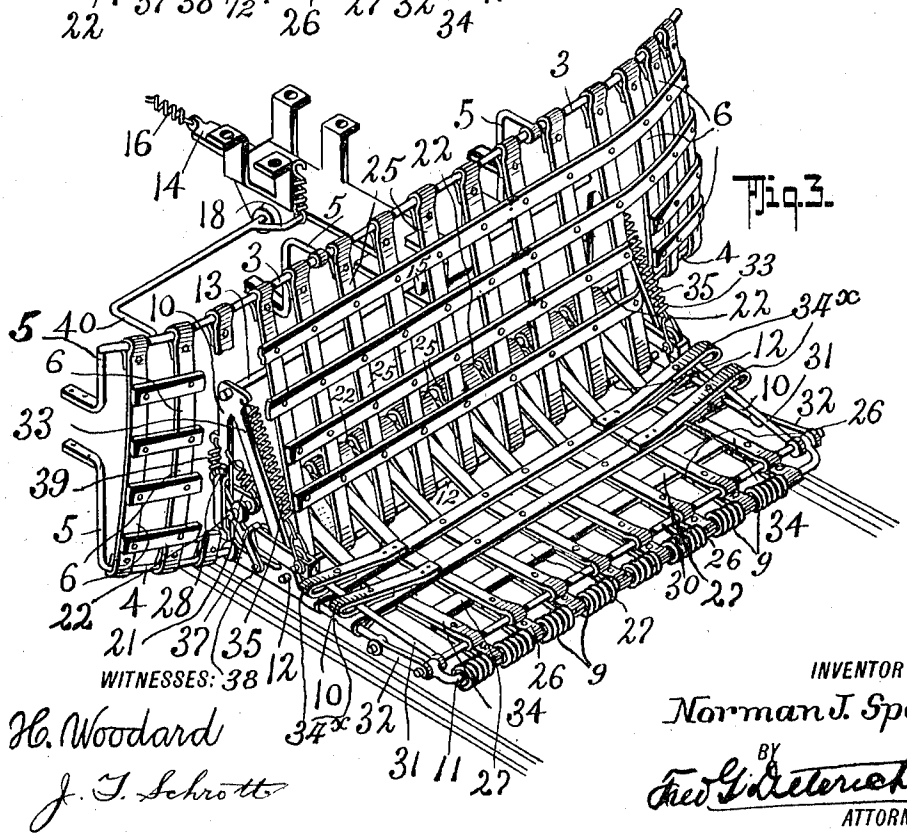

Fig. 3.

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CAR-FENDER.

1,001,472. Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed March 19, 1910. Serial No. 550,524.

To all whom it may concern:

Be it known that I, NORMAN J. SPENCER, citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Car-Fender, of which the following is a specification.

This invention relates to a car fender having certain novel features designed to render it more effective in saving life and limb than such devices usually are. As commonly constructed, although these fenders may break the fall of a person falling into them and may prevent the body from passing under the wheels, few, if any of them, are adapted to retain the body on the fender but will allow it to roll off or a limb to hang over the edge. If the car has not been stopped, this may result in severe injury if the limb is dragged under the fender itself.

My improvements have, therefore, been directed to the provision of a retaining member to the fender which will normally lie level with the fender but will automatically be raised when any body strikes against or falls into the fender. This raised retaining member will retain the body on the fender and will prevent any part of it from hanging over the edges.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Figure 1 is a vertical longitudinal section through the fender, the dot and dash lines showing the position of the fender frame when the retaining member is raised, and the dash and double dot lines the position of the fender when folded up; Fig. 2 shows the latch by which the retaining member is held down when released by a body in the net of the fender; Fig. 3 is a perspective view of the fender, parts being broken away and the car end being removed to show the parts of the mechanism of the fender, and Fig. 4 is an enlarged detail of one of the rubber cushions or sleeves of the front bar.

In Fig. 1 of the drawings 2 represents the front end of the car body to which the fender is secured. The fender comprises two main parts, a fixed end frame extending vertically across the whole width of the car and curved slightly backward at the two ends. This fixed frame is composed of upper and lower rails 3 and 4 secured by stanchions 5 to the car frame. Between these rails 3 and 4 beyond the width of the car truck are vertical members 6 of thin flat resilient material which may be curved slightly outward, as shown in Fig. 3, so as to oppose an elastic resistance to any object they may encounter. Pivotally mounted on the lower rail 4 of this fixed frame is the horizontal frame of the fender, which is designed to receive any obstruction that may be on the track and prevent it from passing under the car and which frame is designed to fold up against the front end of the car when not in use. The horizontal frame comprises two angular or knee-like side frames 10, connected together by a main front rail 11, a back rail 12 adjacent to the rail 4 on which the frame is mounted, and above these, near the under side of the car body, by a latch rail 13 by which the horizontal portion of the frame is maintained at the required height from the track and which when released, will enable the horizontal frame to be folded up against the front end of the car. This latch rail 13 is retained, when not in use, in a notch 15 in the front end of a bar 14 slidable outwardly against the resistance of a spring 16 into a keep or guide 17. The bar 14 is retained in any desired position of lengthwise adjustment by a spring pawl 18 which engages a notch of the bar and thereby affords a means whereby the height of the front rail of the fender from the track may be adjusted. This pawl 18 may be released from engagement with the bar 14, by a lever 40, extending to any convenient position at the outside of the car frame, when it is desired to fold the fender up out of use.

Pivotally mounted at 20, see Figs. 1 and 2, on the upright portion of each side frame 10 are short links 21, the free ends of which carry a cross bar 22. Straps 25 of flexible material pass from the top rail 3 of the fixed frame, around the bar 12 of the movable frame of the fender and are connected to the pivotally supported cross bar 22. Similarly from this same pivotally supported cross bar 22 straps 26 are carried forwardly and secured to the front rail 11 of the movable frame of the fender. These straps 25 and 26 are maintained at the required distance apart by cross straps 27, and are drawn sufficiently tight so that the links 21 on which the bar 22 is carried will be some-

what above the horizontal, the normal pull of the straps being counterbalanced by springs 28 between the bar 22 and any part of the rigid frame 10. Any body which may strike against the vertical straps 25 or which may fall upon the horizontal straps 26 will thus pull the horizontal bar 22 downwardly as represented in Fig. 2, against the resistance of the springs 28. This is an essential feature of the invention, as it effects the release of the latch members 37 and permits the elevation of the retaining member around the horizontal portion of the frame 10 of the fender, which is the object of the invention. The frame of this retaining member is made of a supplemental front rail 30 which is connected to the side frames 10 by links 32 pivoted to each side frame. Side rails 31 are connected to the supplemental front rail 30 and have their ends forked to slide vertically on an angular brace 33 of the movable frame of the fender. The supplemental front rail 30 and the side rails 31 are connected by short straps 34 and 34^{x} to the main and cross straps 26 and 27 of the fender.

The retaining member is maintained in its raised position, as shown by dot and dash lines in Fig. 1 by springs 35 and is held in its downward position by latches 37 pivoted at 38 to the side frames 10 which latches under the action of springs 39, hold the forked end of the rail 31 down. These latches are withdrawn from their position of engagement with the ends of rail 31 by the downward movement of the rail 22 which, as shown in Figs. 2 and 3, engages the projecting ends of the latch members. Thus when the fender is in use the parts lie as shown by full lines in Figs. 1 and 3, but when a body falls upon the fender or strikes against the straps 25 of it, the rail 22 is drawn down by the pull of the straps 25 or 26 and as shown in Fig. 2 of the drawing, releases the latch members by which the retaining member is held down and the supplemental front rail 30 is drawn up by the springs 35 to the position indicated by dot and dash lines in Fig. 1. A body which has fallen into the fender or which may have struck the front end of it will thus be retained on the horizontal portion of it and the retaining member will prevent a limb hanging over the edge being dragged under it. To lessen the possibility of injury by the front rail 11, rollers, ferrules or sleeves 9 of rubber or the like material may occupy the spaces on the rail between the straps 26. These rollers, see Fig. 4, should be formed with deep circumferential grooves so as to better cushion a blow.

Having now particularly described my invention and the manner of its use, I hereby declare that what I claim as new and desire to be protected in by Letters Patent, is:

1. In a car fender, a horizontal portion that includes a front and sides, a retaining member held around the front and sides of said horizontal portion, means whereby said retaining member may be folded down on said horizontal portion, a latch for normally holding said retaining member in the folded down position, means for releasing the latch when a body strikes against or falls into the fender, and means for raising said retaining member when said retaining member is released.

2. A car fender comprising a fixed vertical portion extending across the front of the car and including a lower rail and a horizontal portion hinged to said lower rail and susceptible of being folded up against the vertical portion or of being turned down to horizontally project forward therefrom, a retaining member comprising front and side rails mounted on the frame of said horizontal portion of the fender so as to be susceptible of elevation therefrom, means for elevating the retaining member, a latch normally holding it against elevation, a latch-releasing bar, and straps extending downward from the top rail of the vertical frame and backward from the front rail of the horizontal frame of the fender and connected to the latch-releasing bar.

3. A car fender comprising a fixed vertical frame extending across the end of the car and a horizontal frame hinged to the lower rail thereof, a rail extending across and pivotally mounted on said fixed frame, flexible straps extending downward from the top rail of said fixed frame around a cross rail of the movable frame and secured to the pivotally mounted rail, similar straps from the front rail of the horizontal frame and secured to the same pivotally mounted rail, and means whereby the movement of said pivotally mounted rail will permit the elevation of a retaining member around the horizontal frame of the fender.

4. In a car fender including a horizontal portion, a retaining member along the front and sides of the horizontal portion and means for elevating said retaining member, cushion rollers on the front rail of the horizontal portion, said rollers being of resilient material and provided with deep annular grooves.

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

NORMAN J. SPENCER.

Witnesses:
ROWLAND BRITTAIN,
ALEXANDER SMITH.