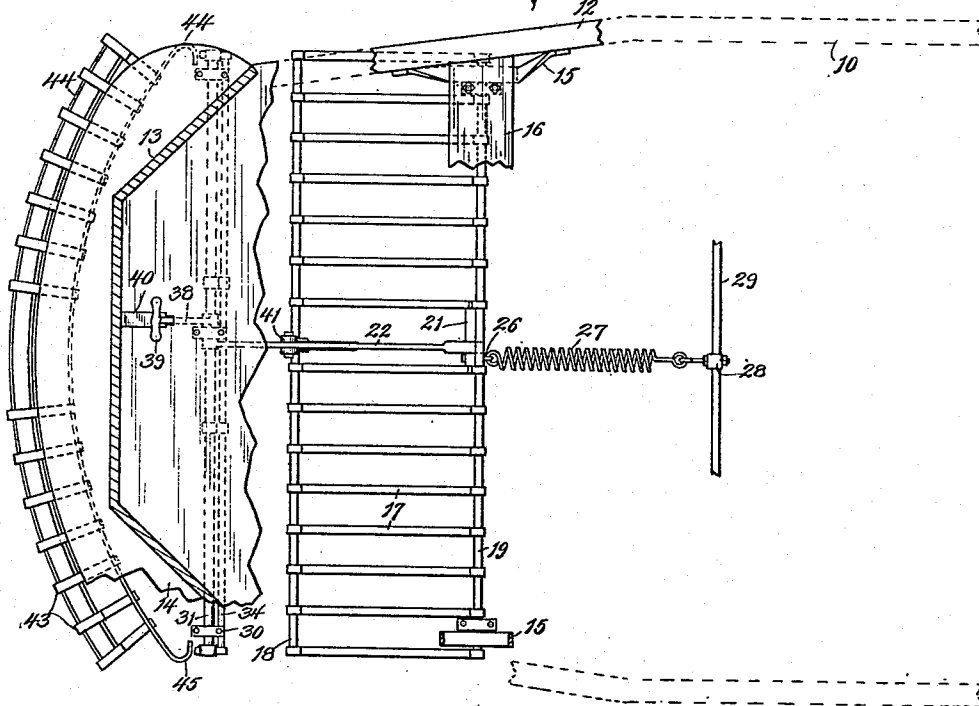


14

1

Fig. 1.

2 SHEETS—SHEET 1.



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No. 833,946.

PATENTED OCT. 23, 1906.

H. THIELE.
CAR FENDER.

APPLICATION FILED FEB. 23, 1906.

2 SHEETS—SHEET 2.

Fig. 3.

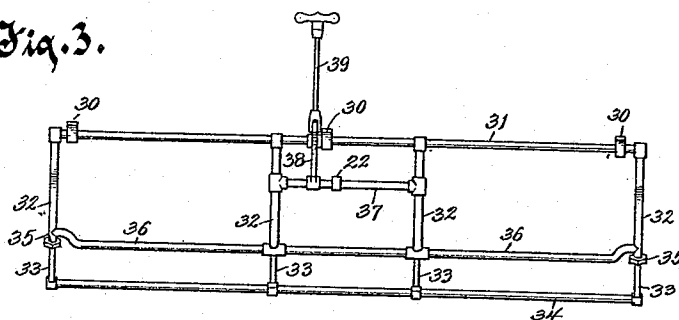


Fig. 4.

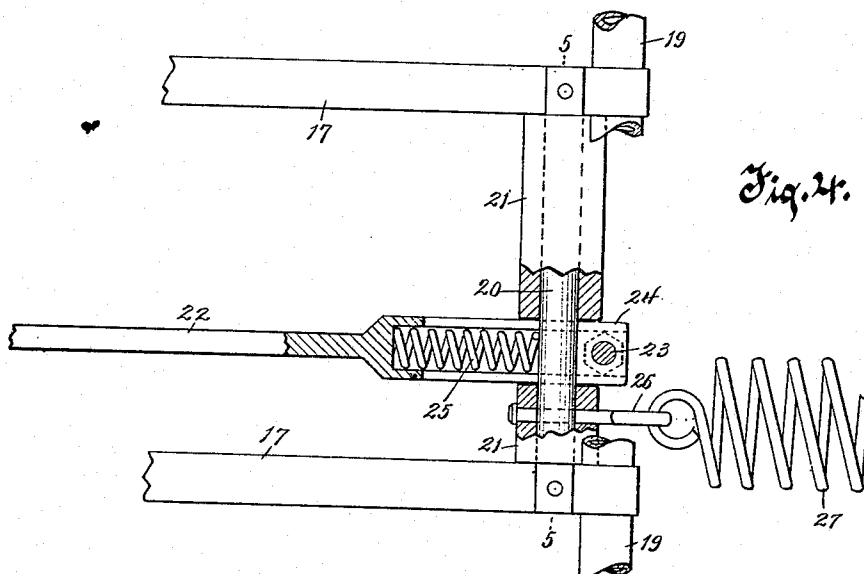


Fig. 5.

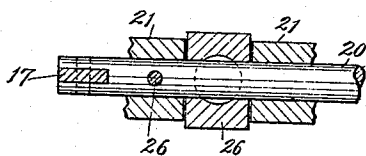
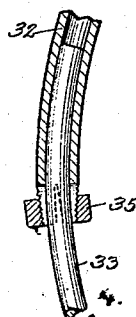


Fig. 6.



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UNITED STATES PATENT OFFICE.

HERMAN THIELE, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE TWENTIETH CENTURY LIFE SAVING AUTOMATIC FENDER COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

CAR-FENDER.

No. 833,946.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed February 23, 1906. Serial No. 302,465.

To all whom it may concern:

Be it known that I, HERMAN THIELE, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Car-Fenders, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention relates to car-fenders, and has for its object to provide means for preventing persons being run over by street-railway cars.

The invention has for its object to provide a car-fender which may normally be held up from the road-bed to avoid obstructions, but which may be quickly and easily released either by the motorman or by the impact of the person or other object struck by the spring-buffer or the depending guard, so that the fender will drop into position to receive and hold the person or other object in advance of the car-wheels until the car may be stopped and the danger avoided.

Another object of this invention is to improve upon details of construction and the arrangement of parts of car-fenders of this type.

With the above and other objects in view the invention consists in the car-fender herein claimed, its parts and combinations of parts, and all equivalents thereof.

Referring to the accompanying drawings, in which like characters of reference indicate the same parts in the several views, Figure 1 is a sectional elevation of a car-fender constructed in accordance with this invention and applied to the front end of a street-railway car. Fig. 2 is a plan view thereof, parts being broken away. Fig. 3 is a front elevation of the fender-guard. Fig. 4 is an enlarged detail view, partly in section, of the connection between the operating-bar and the fender member. Fig. 5 is a sectional view of said connection, taken on the plane of line 5 5 of Fig. 4; and Fig. 6 is a detail view of the adjustment connection of the fender-guard.

In the drawings, 10 represents a car-body mounted upon the wheels 11, and 12 is its front platform, with the vestibule-front 13 and the rounded projecting buffer 14, all of

usual construction in the ordinary type of street-railway cars.

Stirrup-brackets 15 are secured to and depend from the side sills of the front platform 12 and support a cross-beam 16, to the under side of which is hinged a curved fender or basket which is made up of parallel curved metal strips 17, with their ends bent around rods or tubes 18 and 19, forming the front and rear edges of the fender, respectively. At the middle portion of the fender and a short distance below the rod 19 a pin 20 extends between two of the metal strips 17 and is secured thereto, preferably by having its ends split to receive the metal strips, with rivets or other securing means passing through them, as clearly shown in Figs. 4 and 5. A pair of spacing tubes or sleeves 21 are mounted on the pin 20 between the metal strips 17 and serve as guides for an operating-rod 22, whose enlarged rear end is split to slidably fit on the pin 20 between the spacing-sleeves. A bolt 23, passing through the ends of the slotted or split portion of the operating-rod, holds a stop-block 24 at the end of the slot to limit the movement of the pin 20, and a coil-spring 25, housed within a bore of the operating-rod, presses upon the pin 20 to keep it normally seated against the stop-block 24. Thus the operating-rod 22 is capable of positively engaging the pin 20 of the fender when it is moved forwardly and is capable of a limited sliding movement on the pin against the pressure of spring 25 when it is moved rearwardly. An eye-pin 26 is passed through one of the spacing-sleeves 21 and the pin 20 and is headed on its end to constitute a secure attaching means on the fender below the line of pivotal connection thereof for a coil-spring 27, which extends rearwardly and is secured, by means of a hook-clip 28, to a cross-bar 29, forming a part of the car-body or truck-frame, so that the spring 27 constantly tends to swing the fender 17 downwardly onto the road-bed.

Suitable bearings 30 are secured to the under side of the sills of the car-platform in advance of the fender and have journaled in them a rod 31, which forms the upper part of a fender-guard frame. At the ends and at intermediate points of the rod 31 there are downwardly-extending tubes 32, curved

rearwardly at their lower ends and receiving similarly-curved stems 33 on a bottom rod 34, which forms the lower portion of the fender-guard. The curved stems 33 telescope within the tubes 32, so as to permit of the adjustment of the bottom rod 34 toward or away from the top rod 31 to lengthen or shorten the fender-guard vertically, and thus lower or raise its bottom rod to secure the proper distance between it and the road-bed. The lower rod 34 is locked in its adjusted position by having the end rods 33 clamped within the end tubes 32, said tubes being split at their lower ends, as shown in Fig. 6, and provided with a tapering thread on which is turned a nut 35 to clamp the tongues formed by the split ends inwardly against the rods 33. The tubes 32 are connected at their lower ends by means of a horizontal rod 36, which is bent slightly at its ends to avoid the nuts 35. The top rod 31 and the rod 36, with the tubes 32, constitute a strong main guard-frame well braced by the intermediate tubes 32, and the bottom rod 34, with the curved stems 33, constitutes an extension guard-frame which is adjustable with relation to the main guard-frame, and the two combined form a swinging fender-guard in advance of the fender proper. The intermediate tubes 32 are connected between the top rod 31 and the rod 36 by means of a cross-rod 37, to which is pivotally connected the front end of the operating-rod 22, and a bell-crank lever 38 has its angle portion mounted on the top rod 31 close to one of the bearings 30 and one arm connected to the cross-rod 37, while the other arm extends forwardly and has pivotally connected to its end a handle-stem 39, which passes through an opening in the platform of the car and is adapted to have its handled upper end removably engaged in a hook 40 above the platform.

The operating-rod 22 at its intermediate portion has pivotally mounted thereon a swinging engaging hook 41, which is pressed downwardly and forwardly by means of a leaf-spring 42 on the operating-rod. The engaging hook is so located as to be in the path of the lower rod 18 of the fender when the fender is swung upwardly and is adapted to engage said rod to hold the fender in its elevated position, as shown by full lines in Fig. 1. The engaging hook 41 is limited in its forward swing, so that should the motorman release the handle-stem 39 from the hook 40 and push downwardly thereon to swing the bell-crank lever 38 the fender-guard will be swung rearwardly, pushing the operating-rod 22 rearwardly, with its rear end sliding on the pin 20 and carrying the engaging hook 41 out of engagement with the front rod 18 of the fender, thereby releasing the fender and permitting the spring 27 to forcibly throw it downwardly onto the road-bed

in the position shown by dotted lines in Fig. 1. The fender in its thrown position is adapted to receive and hold a person or other object lying across the tracks and carry it until the car may be stopped.

When it is desired to reset the fender, it is only necessary for the motorman to pull upwardly on the handle-stem 39, which will swing the fender-guard forwardly by means of the bell-crank lever and also pull the fender upwardly against the tension of spring 27 by means of the operating-rod connecting the fender with the guard, the front bar 18 of the fender striking against the rounded nose of the engaging hook 41 and pressing it rearwardly against the spring 42 until said engaging hook springs into engagement with the said rod and again holds the fender in its elevated position.

Obviously the fender may be dropped automatically by a person or other object being struck by the fender-guard when the handle-stem 39 is out of engagement with the hook 40, which is the normal running condition, the fender-guard then swinging upwardly to pass over the body, and so pushing the operating-rod 22 rearwardly to release the fender and allow it to drop, as before. A further automatic operation of the fender is desired to take place in event of the car striking a person in a standing position. To this end the projecting rounded buffer 14 of the car-platform is provided with a series of C-shaped strips of spring metal 43, which are united at their ends and their intermediate portions by curved strips 44 in horizontal planes, the lowermost strip 44 having its ends bent rearwardly at 45 to engage the end tubes 32 of the fender-guard frame, so that when the spring-buffer formed by these spring-strips is pressed rearwardly, as upon striking a standing person, these bent ends 45 will press the fender-guard rearwardly and release the fender that it may drop into position ready to receive the person.

It will be understood that the hook 40 for holding the handle-stem 39 in its upper position is only intended for use when it is desired to lock the fender against operation, as during heavy snowstorms, where the snow on the road-bed would otherwise repeatedly trip the fender-guard and release the fender. During normal conditions the handle-stem is out of engagement with the hook 40, so that the fender may be either thrown automatically in the different ways above mentioned or it may be thrown by the motorman pressing downwardly on the handle-stem with his foot.

The adjustability of the fender-guard enables the device to be carefully adjusted for the requirements of the particular road-bed with which it is used, and the guard-frame is curved rearwardly, so that it may freely pass over the body without injuring it.

The means by which the fender may be reset after its operation is simple in its construction and sure in its operation, enabling the motorman to quickly restore the fender to its elevated position without stopping the car or leaving the platform.

What I claim as my invention is—

1. In a car-fender, a fender member mounted to move toward or away from the road-bed, a pivoted guard in advance thereof, an operating-rod connecting the guard with the fender member, means for holding the fender member in an elevated position adapted to be released by the movements of the guard, and means for swinging the guard to return the fender member to its elevated position.

2. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, a guard pivotally mounted in front of the fender member, an operating-rod connecting the guard with the fender member, and a catch on the operating-rod for engaging the fender member and holding it in an elevated position, said catch being adapted to release the fender member when the guard is swung by engaging an obstruction on the road-bed.

3. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, a guard pivotally mounted in front of the fender member, an operating-rod connecting the guard with the fender member, a catch on the operating-rod for engaging the fender member and holding it in an elevated position, said catch being adapted to release the fender member when the guard is swung by engaging an obstruction on the road-bed, and hand-operated means for swinging the guard to restore the fender member to its elevated position in engagement with the catch.

4. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, an automatic guard pivotally mounted in front of the fender member, an operating-rod connecting the guard with the fender member and having a sliding connection with the fender member, a catch carried by the operating-rod for engaging and holding the fender member in an elevated position and adapted to be released therefrom by the movement of the operating-rod when the guard is swung, and hand-operated means for swinging the guard to cause the release of the fender member and to restore it to its elevated position in engagement with the catch.

5. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, an automatic guard pivotally mounted in front of the fender member, an operating-rod connecting the guard with the fender member and having a spring-pressed sliding connection with the fender member, a catch carried by the operat-

ing-rod for engaging and holding the fender member in an elevated position and adapted to be released therefrom by the movement of the operating-rod when the guard is swung, and hand-operated means for swinging the guard to cause the release of the fender member and to restore it to its elevated position in engagement with the catch.

6. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, an automatic guard pivotally mounted in front of the fender member, an operating-rod connecting the guard with the fender member having a slotted end riding on a pin of the fender member, a spring seated within a bore in the end of the operating-rod and against which the pin bears, said pin having a positive engagement with the operating-rod at the end of the slot, a catch carried by the operating-rod for engaging and holding the fender member in an elevated position and adapted to be released therefrom by the movement of the operating-rod when the guard is swung, and hand-operated means for swinging the guard to cause the release of the fender member and to restore it to its elevated position in engagement with the catch.

7. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, an automatic guard pivotally mounted in front of the fender member, an operating-rod connecting the guard with the fender member and having a sliding connection with the fender member, a catch carried by the operating-rod for engaging and holding the fender member in an elevated position and adapted to be released therefrom by the movement of the operating-rod when the guard is swung, hand-operated means for swinging the guard to cause the release of the fender member and to restore it to its elevated position in engagement with the catch, and a spring connected to the fender member for forcibly swinging it toward the road-bed when it is released by the catch.

8. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, said fender member comprising parallel metal strips connected to top and bottom rods, an automatic guard pivotally mounted in advance of the fender member, an operating-rod connected to the guard and having a slotted rear end, a pin with slotted ends embracing strips of the fender member and secured thereto, spacing-sleeves on the pin, said operating-rod slidably mounted on the pin between the spacing-sleeves, a coil-spring seated in a bore in the end of the operating-rod and bearing on the pin, a block secured in the slot of the operating-rod for engagement with the pin, a catch carried by the operating-rod for engaging and holding the fender member in an elevated po-

sition and adapted to be released therefrom by the movement of the operating-rod when the guard is swung, and hand-operated means for swinging the guard to cause the release of the fender member and to restore it to its elevated position in engagement with the catch.

9. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, a guard pivotally mounted in advance of the fender member, an operating-rod connecting the guard with the fender member, a spring-pressed hook on the operating-rod adapted to engage and hold the fender member in an elevated position, and hand-operated means for swinging the guard to move the operating-rod and carry the hook out of engagement with the fender member and also to restore the fender member to its elevated position in engagement with the hook.

10. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, a guard pivotally mounted in advance of the fender member, and means dependent upon the guard for engaging and holding the fender member in an elevated position, said guard comprising a main frame and an extension-frame adjustable thereon to vary the distance between the guard and the road-bed.

11. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, a guard pivotally mounted in advance of the fender member, and means dependent upon the guard for engaging and holding the fender member in an elevated position, said guard comprising a frame having tubular members, an extension-frame having stems to telescope within the tubular members of the main frame and nuts threaded on tapering split ends of the tubular members to clamp the stems in their adjusted positions, whereby the extension-frame may be adjusted with relation to the main frame of the guard and the distance between the guard and the road-bed may be varied.

12. In a car-fender, a pivotally-mounted fender member capable of movement toward or away from the road-bed, a guard pivotally mounted in advance of the fender member,

means dependent upon the guard for engaging and holding the fender member in an elevated position, and a spring-buffer in advance of the guard and adapted to engage the guard for moving it to release the fender member.

13. In a car-fender, a cross-beam having stirrup-brackets to be secured to the sills beneath a car-platform, a fender member pivotally mounted to the cross-beam and comprising parallel strips of metal connected to rods at their upper and lower ends, a guard pivotally mounted from the platform-sills in advance of the fender member and comprising a main frame with curved tubular members and an extension-frame having curved stems slidable within the tubular members of the main frame and adjustably clamped therein by means of nuts threaded on tapering split ends of said tubular members, an operating-rod pivoted at its front end to the main frame of the guard and having a slot at its rear end, a pin connected between strips of the fender member, spacing-sleeves on the pin, the slotted end of the operating-rod being slidably mounted on the pin between the spacing-sleeves, a coil-spring seated in a bore of the operating-rod and bearing on the pin, a block held within the slot of the operating-rod and adapted to engage the pin, an eye-pin passing through one of the spacing-sleeves and the pin, a coil-spring connected with the eye-pin at one end and having connection with an unyielding support at the other end, a spring-pressed hook mounted on the operating-rod and adapted to engage and hold the fender member in an elevated position, a bell-crank lever connected with the guard, a handle-stem connected to the bell-crank lever and projecting through the platform, a hook on the platform with which the handle-stem is adapted to engage, and a spring-buffer secured to the front end of the platform and adapted to engage and move the guard on striking an obstruction.

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

HERMAN THIELE.

Witnesses:

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