

T. J. KILLEEN.
CAR FENDER.
APPLICATION FILED SEPT. 1, 1908.

940,464.

Patented Nov. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

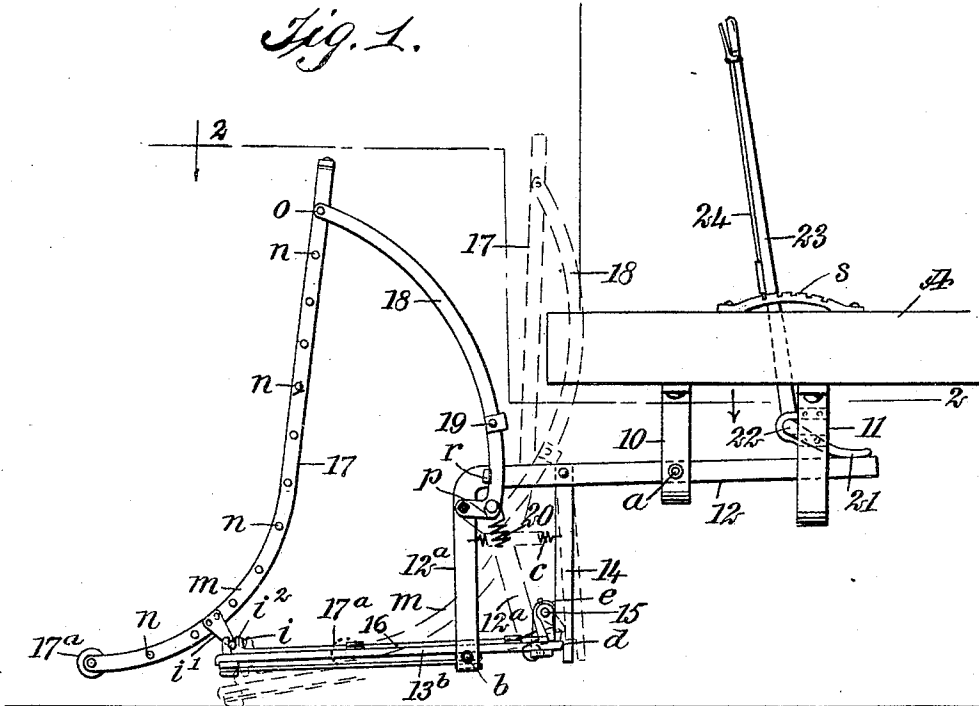
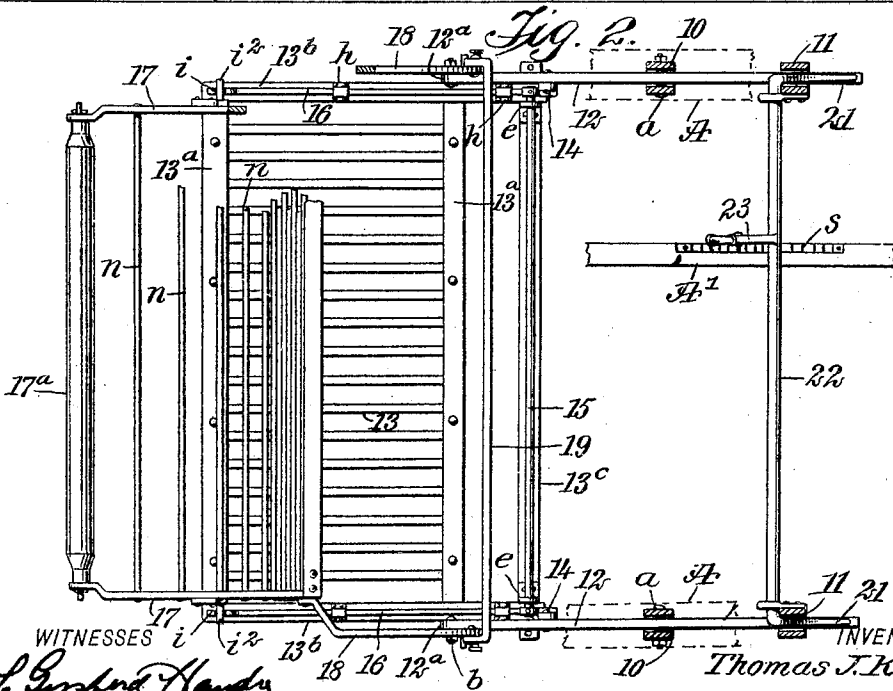


Fig. 2.



WITNESSES
L. Sanford Handy

Wm. P. Patton

INVENTOR
Thomas J. Killeen

BY *Munn & Co.*

ATTORNEYS

T. J. KILLEEN.

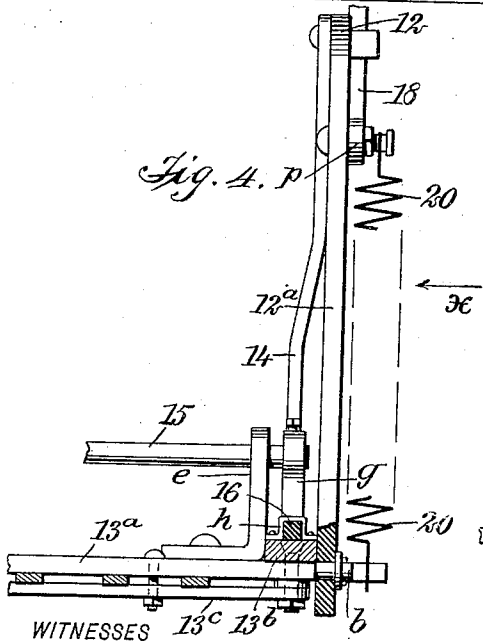
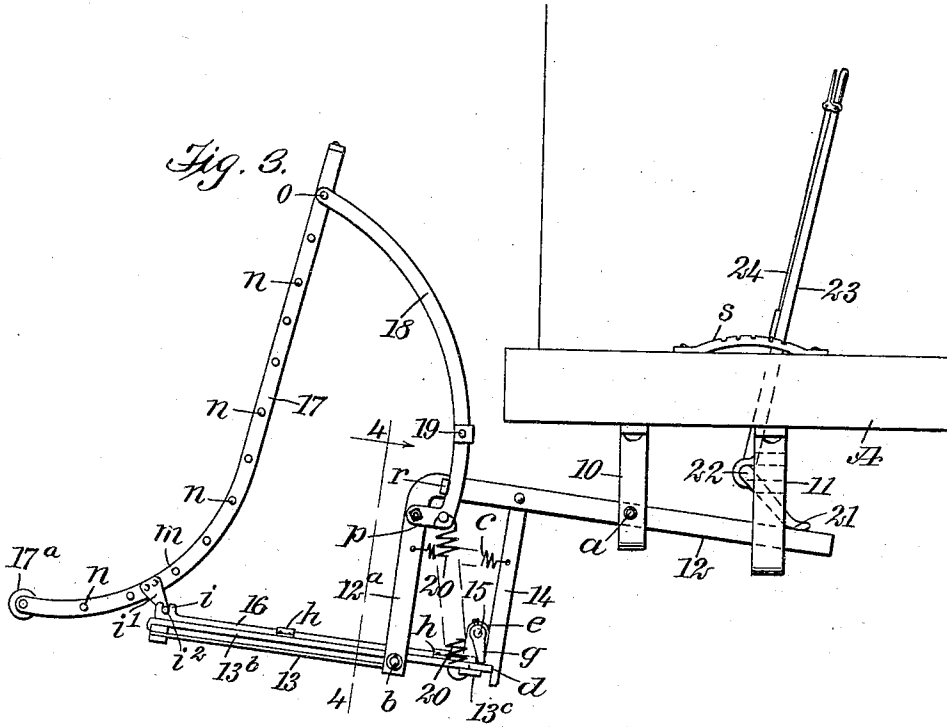
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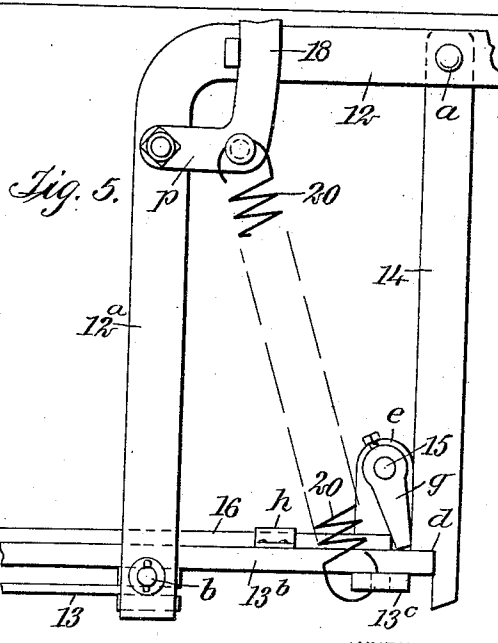
2 SHEETS—SHEET 2.



WITNESSES

L. J. Hand

Wm. Patton



INVENTOR
Thomas J. Killeen

BY *Mum Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

THOMAS JOSEPH KILLEEN, OF PORTLAND, OREGON.

CAR-FENDER.

940,464.

Specification of Letters Patent.

Patented Nov. 16, 1909.

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To all whom it may concern:

Be it known that I, THOMAS JOSEPH KILLEEN, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and Improved Car-Fender, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide novel details of construction for a car fender, particularly well adapted for use on a street car, and that afford a simple, strong, automatically-operating car fender, which when in position on a car, will positively pick up and support a person struck by the car, without doing serious injury thereto.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of the improved car fender mounted upon an end of a car and adjusted for service; Fig. 2 is a plan view of the fender, some parts being in section on the line 2—2 in Fig. 1 and others broken away; Fig. 3 represents a side view of the improved fender, adjusted to avoid contact with an obstacle on the railway track; Fig. 4 is an enlarged transverse sectional view of details, taken substantially on the line 4—4 in Fig. 3, and Fig. 5 is an enlarged side view of the parts, seen in direction of the arrow *x* in Fig. 4.

Two side sills A, indicated in full lines in Figs. 1 and 3 and in dotted lines in Fig. 2, are portions of the bottom frame for a passenger car. At an equal distance from the end of the car frame of which the sills A are members, two similar hanger-arms 10 are firmly secured on the lower sides of said sill timbers and depend therefrom, said hanger-arms each having therein a vertical slot, as shown in Fig. 2.

Upon the sill-timbers A, and equally spaced from the hanger-arms 10, two similar hanger-arms 11 are secured, the vertical slots therein being respectively disposed in the same plane with the slot in the arm 10 that depends from the same sill timber A. Two similar rock-arms 12 are respectively passed through the slotted hanger-arms 10,

11 at each side of the car-frame, and at an equal proper distance from the rear ends of the rock-arms which project from the hanger-arms 11, the rock-arms are respectively pivoted in the hanger-arms 10, as shown at *a* in Figs. 1, 2 and 3, a sufficient space intervening between the lower sides of the sill timbers A and said rock-arms to permit the location of other details therebetween.

At the forward end of each rock-arm 12 which extends beyond the front end of the car-frame, a depending member or limb 12^a is formed, which projects at a right angle therefrom, and upon the lower ends of said limbs the rear corners of a rectangular fender-frame 13 are pivoted, as shown at *b*, said frame consisting of a series of parallel bars that are spaced apart and secured at their ends on transverse bars, as is clearly shown in Fig. 2.

Between the hanger-arm 10 and the depending limb 12^a of each rock-arm 12, a keeper-bar 14 is pivoted at its upper end on said arm, and hangs therefrom normally parallel with a respective limb, to which it is connected by a contractible spring *c*.

Upon the transverse end bars 13^a that are portions of the rectangular fender-frame 13, side bars 13^b are secured, which project an equal distance rearward of the limbs 12^a in the path of the pendent keeper-bars 14. A notch *d* is formed in the forward edge and at the lower end of each keeper-bar 14, wherein the rear ends of the side bars 13^b are normally seated, this interlocking engagement being enforced by the springs *e* and, as shown in Figs. 1 and 5, the degree of rearward projection given to the side bars is such, that the fender-frame will be supported in a substantially level condition when said side bars have engagement with the lower ends of the keeper-bars, as explained.

The rear ends of the side bars 13^b are connected together by a cross-bar 13^c, whereon two knee-brackets *e* are secured respectively adjacent to the side bars 13^b, and in opposite perforations in said brackets a rock-shaft 15 is journaled. The ends of the shaft 15 receive two similar dogs *g*, *g*, that are thereon secured, and each projects at its free end toward a respective keeper-bar 14, with which said dogs have contact at the forward edges of the bars, near the side bars 13^b. Upon the side bars mentioned two similar tripping bars 16 are respectively mounted

and slidably secured by means of clip-bands *h*.

The rear ends of the tripping bars 16 have a loose contact upon the forward edges of the depending dogs *g*, said bars each having an open box bearing *i* formed on its front end.

A catcher-apron constitutes an important detail of the invention, and, as shown, consists of a pair of side bars 17, that are curved edgewise near their normally forward ends, as indicated at *m* in Figs. 1 and 3, their remaining portions being straight. The side bars 17 are spaced apart in parallel planes by a series of evenly-separated transverse bars *n*, that are secured at their ends therein. Upon or in the free ends of the curved portions of the side bars 17 which are disposed forwardly in service, a roller 17^a is journaled by its ends, and on the curved portions *m* of said side bars a lug *i'* is formed or secured, that terminates at its free end in a journal *i*², that may have a loose engagement within a respective box-bearing *i*, as represented in Figs. 1, 2 and 3, and thus support the apron upon the rockable fender-frame 13. Two similar braces 18 are provided for the support of the straight upper portions of the side bars 17, said braces being curved edgewise and lapped and pivoted thereupon, as shown at *o*. The concave edges of the braces 18 are disposed forwardly, and at their lower ends said braces are each bent forward, thus producing a short arm *p* thereon. Each arm *p* is lapped upon a respective limb 12^a near the junction of the latter with the rock-arm 12 of which it is a portion, and said arms are pivoted near their forward ends upon the limbs with which they have lapped engagement. The braces 18 are connected together and stiffened by a transverse stretcher-bar 19, which is secured by its ends thereto at a suitable distance from the arms *p*.

Upon the outer sides of the rock arms 12, near the limbs 12^a, short studs *r* are formed or secured, one on each rock arm; these studs being positioned forward of the braces 18 are adapted for the support of said braces and for preventing the imposition of the entire weight of the catcher-apron upon the fender-frame 13.

At or near the angular junction of each arm *p* with a respective brace 18, one end of a retractible spring 20 is secured, said springs in tant condition, having their bodies extended downward toward the rear ends of the side bars 13^b, whereon they are respectively secured, and it will be noted that the pull of said springs holds the upper portion of the catcher-apron rocked into the normal adjustment shown in Fig. 1.

In each pendent hanger 11, that serves as a guide for a respective rock-arm 12, a curved tappet-arm 21 is loosely inserted and

has contact with the arm 12 to which it is complementary. The tappet-arms 21 are formed or secured on a transverse rock-shaft 22, whereon a lever 23 is secured by its lower end, said lever having a longitudinally-slidable locking-bar 24 thereon.

A sector *s* is mounted upon a timber A' that is parallel with the side sills A, A, and adapted for an interlocked engagement of the lower end of the locking-bar therewith, as is clearly shown in Figs. 1 and 3.

The operation is as follows: Assuming that the details of the car-fender are arranged as shown in Fig. 1, it will be noted that the roller 17^a is positioned in advance of the fender-frame 13 and disposed a short distance above the railway-track over which the car having the improvement is to progressively move. Upon collision of the roller 17^a with an object on the track, say a person, the impact of the object thereon will cause the tripping-bars 16 to slide rearward, which will impinge their rear ends upon the dogs *g*, which in turn will rock the keeper-bars 14 rearward. The backward inclination of the keeper-bars 14 removes them from locked engagement with the side-bars 13^b, which will permit the forward edge of the fender-frame 13 to drop and ride upon the rails of the track, which movement will release the catcher-apron from the fender-frame at *i*.

It will be seen that the simultaneous release of the catcher-apron will permit it to slide rearward upon the fender-frame, due to the impact of the person upon the roller 17^a, the parts then assuming the positions shown by dotted lines in Fig. 1; and from the change in position had by the catcher-apron, ample space is afforded for the occupant of the improved fender. The rearward sliding movement of the catcher-apron on the fender-frame 13 is permitted by the folding of the curved braces 18 rearward and into contact with the catcher-apron, said braces then receiving support from the front end of the car-frame, thus insuring stability of the complete structure.

After the fender has been impinged at its front upon a person or other object on the track, and assumes the adjustment shown by dotted lines in Fig. 1, the parts composing it may be restored to normal condition by drawing the catcher-apron forward until the lugs *i'* on the side bars 17 engage with the boxes *i*, which will permit the apron and braces 18 to be rocked forward into the relative positions shown in Fig. 1 by full lines. The side bars 13^b are now engaged at their rear ends with the notched lower ends of the keeper-bars 14, and the relative adjustment of details as explained will be enforced by the contraction of the springs *c* and 20, thus adapting the complete fender for renewed service.

It is claimed for the improvement that as there is no positive resistance had by the apron to a rearward movement, when struck at the front by an object, and as the curvature of said apron at the front will prevent a hard fall thereupon, the improved fender or catcher will pick up a child or person that it has contact with, and support the same thereon without injury.

10 The provision of the lever 22, sector s, rock-shaft 22 and tappet-arms 21 together afford means for rocking the forward portion of the fender upward, as shown in Fig. 3, if this is necessary to avoid contact with an obstacle on the car-track that might destroy the device if struck by it.

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

20 1. A car fender, comprising a fender frame, means for holding the frame normally above the rails of a track, a sliding catcher apron above the fender frame and normally projecting beyond the same, and means, whereby when the apron meets an obstruction it will be moved rearwardly over the frame, and the said frame released and allowed to drop onto the rails.

2. The combination with a fender-frame supported rockably near its rear edge, of a catcher-apron, concaved near its front edge, said apron being carried by the fender-frame and slidable thereon.

3. The combination with supported rock-arms having forwardly-depending limbs thereon, of a fender-frame pivoted near its rear edge upon said limbs, and detachable means for holding the fender-frame level.

4. The combination with two supported rock-arms, a depending limb forwardly on each arm, and a keeper-bar pivoted at its upper end on each rock-arm rearward of the limb thereon, said keeper-bars each having a notch in the lower end thereof, of a fender-frame pivoted on the lower portions of the limbs, and having side members thereon that may interlock with the notched ends of the keeper-bars.

5. The combination with two supported rock-arms, a depending limb on the forward end of each rock-arm, a fender-frame pivoted near its edge and at each side on the lower portions of said limbs, and means for releasably holding the fender-frame level, of a catcher-apron having a curved forward

portion near the lower edge thereof, means for rockably supporting the apron on the front portion of the fender-frame, a roller journaled at its ends and supported transversely on the forward end of the catcher-apron, curved braces pivoted by one end of each on the side members of the apron near their upper ends, short arms on the lower ends of said braces lapped on respective limbs and pivoted thereon, and contractible springs connecting the arms with the side members of the fender-frame.

6. The combination with two rockably supported arms, and a car-fender carried on the forward ends of said arms, of a rock shaft having tappet arms engaging the rear ends of said arms to press the same downward and thus elevate the car-fender, and a lever for operating the rock shaft.

7. The combination with a car-fender, of a catcher apron normally extending in front of the fender, and means for mounting the catcher apron, whereby when it meets an obstruction it will be moved rearwardly beyond the front of the fender.

8. The combination with a car-fender, and means for locking the fender in operative position, of a catcher apron pivotally mounted upon the fender, and means for releasing the fender locking means and with which the catcher apron has a detachable interlocking engagement.

9. The combination with a car fender, and means for locking the fender in position, of a catcher apron pivotally mounted upon the fender, and tripping bars mounted to slide on the fender and with the front ends of which the catcher apron has a detachable interlocking engagement.

10. The combination with a car fender, and means for locking the fender in operative position, of a catcher apron pivotally mounted upon the fender and provided with journals adjacent to its lower portion, and tripping bars mounted to slide on the fender and provided at their front ends with open bearings receiving the journals of the catcher apron.

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

THOMAS JOSEPH KILLEEN.

Witnesses:

F. E. WATKINS,
C. P. KILLEEN.