

(No Model.)

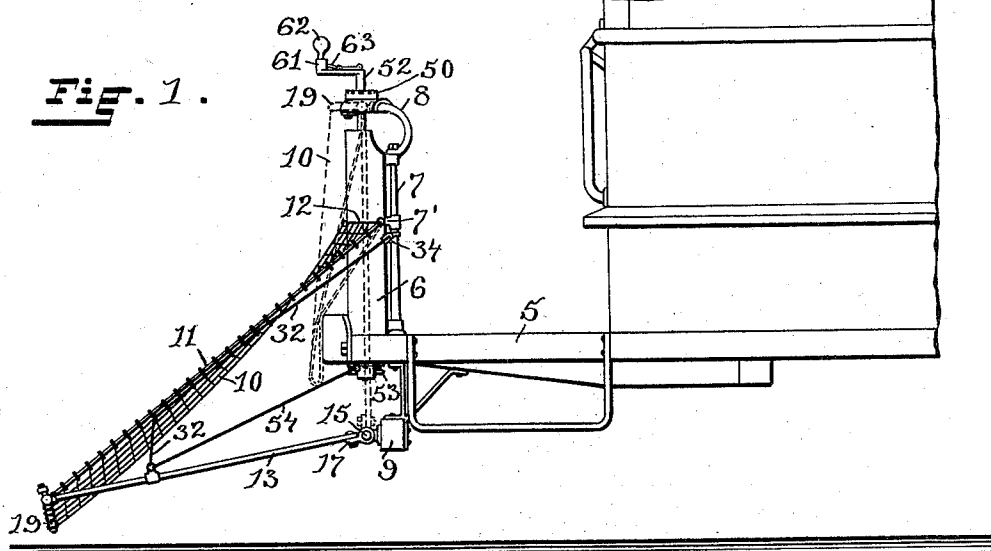
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H. PHINNEY.  
CAR FENDER.

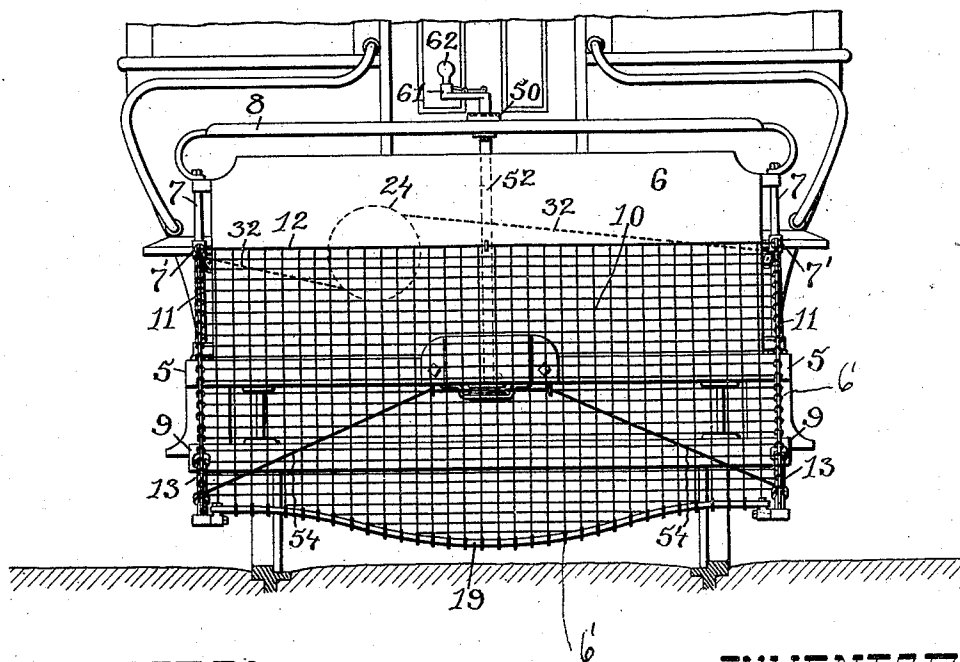
No. 534,913.

Patented Feb. 26, 1895.

**Fig. 1.**



**Fig. 2.**



**WITNESSES:**

*M. F. D. High.*  
*Chas. H. Luther Jr.*

**INVENTOR:**

*Horatio Phinney,*  
*by Joseph A. Miller & Co.*  
*Attys.*

(No Model.)

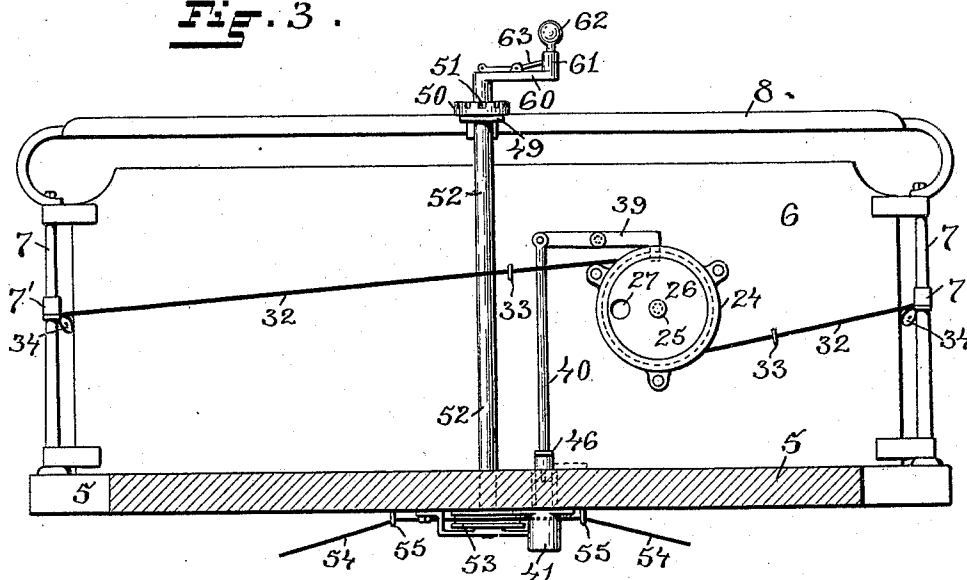
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H. PHINNEY.  
CAR FENDER.

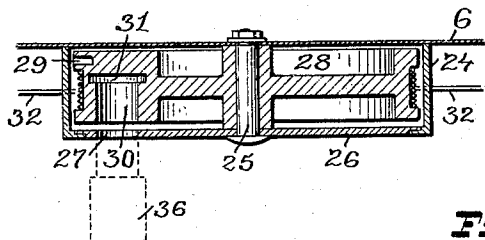
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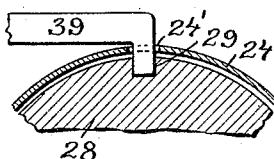
**Fig. 3.**



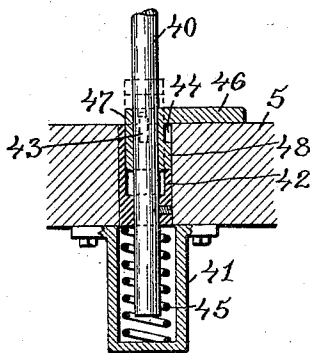
**Fig. 4.**



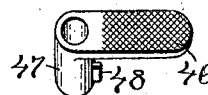
**Fig. 5.**



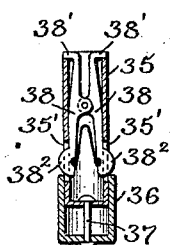
**Fig. 7.**



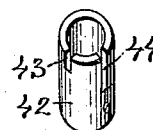
**Fig. 8.**



**Fig. 6.**



**Fig. 9.**



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(No Model.)

3 Sheets—Sheet 3.

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Fig. 10.

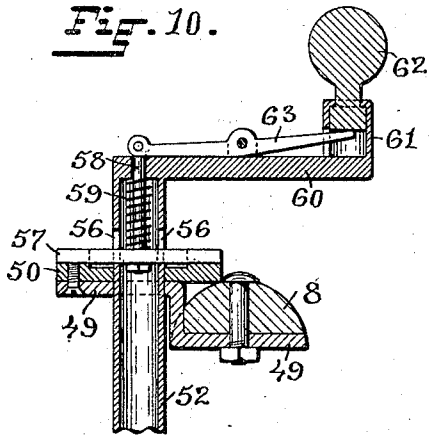


Fig. 13.

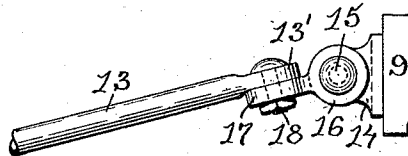


Fig. 14.

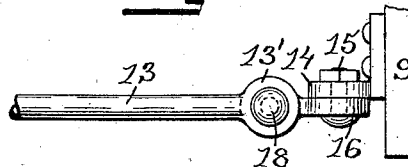


Fig. 11.

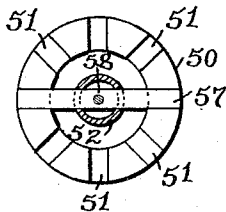


Fig. 15.

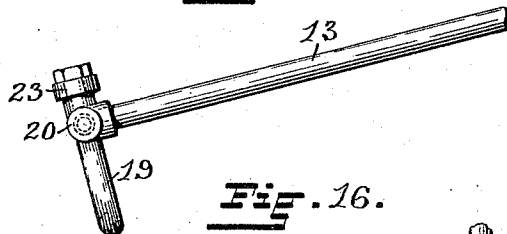


Fig. 16.

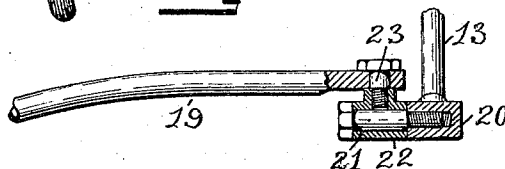
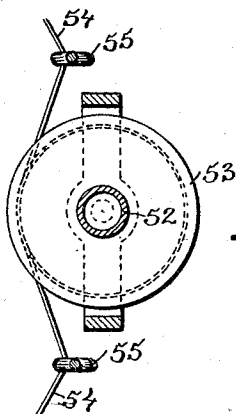


Fig. 12.



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# UNITED STATES PATENT OFFICE.

HORATIO PHINNEY, OF PROVIDENCE, RHODE ISLAND.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 534,913, dated February 26, 1895.

Application filed November 21, 1894. Serial No. 529,449. (No model.)

*To all whom it may concern:*

Be it known that I, HORATIO PHINNEY, of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Car-Fenders; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to improvements in car-fenders which are particularly adapted for use on street cars.

The object of the invention is to so construct a car-fender that it will be fully under control of the operator.

Another object of the invention is to so construct a car-fender that it may be more readily dropped from its normal position than those heretofore constructed.

Still another object is to provide a car-fender which can be swung from side to side to cover a space at either side of the car tracks greater than would be feasible by increasing the width of the fender.

The invention consists in the peculiar construction of the fender, its combination with a car, together with the tackle and devices for supporting the forward end in the normal position or for elevating the same when not in use.

The invention also consists in constructing a car-fender having a supporting-frame mounted to swing from side to side, together with mechanism to effect this swinging and to hold the fender in the position to which it is swung.

The invention also consists in the combination with a flexible fender and a guard-rod at its forward end shaped to fit the car-dasher, of bracing-rods universally pivoted to the guard-rod and to portions of the car.

The invention still further consists in the peculiar arrangement of tackle for supporting and elevating the fender and the take-up mechanism therefor.

The invention also consists in the novel device for operating the swinging-tackle for swinging the forward end of the fender and for holding the same in position.

The invention likewise consists in such other novel features of construction and com-

bination of parts as may hereinafter be more fully described and pointed out in the claims.

Figure 1 represents a side elevation of portions of a car with the improved fender attached. Fig. 2 represents an end view of the same. Fig. 3 represents a view looking at the inner surface of the dasher with a cross-section of the platform showing the cable-drums and their operating-devices. Fig. 4 is a cross-sectional view of a portion of the dasher and the drum for operating the supporting cable, the handle for rotating the drum being indicated. Fig. 5 is a detail view of a portion of this drum with its locking-pawl. Fig. 6 is a sectional view of the removable handle for this drum showing the construction of the same. Fig. 7 represents a sectional view of the car-platform with portions of the drum-releasing mechanism. Fig. 8 represents a perspective view of the foot-piece for operating the drum-releasing mechanism, Fig. 9 being a similar view of the sleeve with which the foot-piece is engaged. Fig. 10 represents a vertical sectional view of the device for operating the drum, carrying the swinging-tackle and the locking-device therefor. Fig. 11 represents a plan view of this locking-device. Fig. 12 is a plan view of the drum for operating and carrying the swinging-cable, the cable-guides and cable being shown. Figs. 13 and 14 are detail side and plan views of the connections between the car and the bracing-rods, Figs. 15 and 16 being similar views of the connections between the forward ends of the bracing-rods and the fender guard-rod, the joint in Fig. 16 being in section.

Similar numbers of reference designate corresponding parts throughout.

In the drawings 5 represents the platform of a car having the dasher 6 furnished with the side-standards 7—7 and the rail 8. Below the platform is the usual transverse rail 9 to which the bearing for the lower end of the brake-shaft is sometimes secured.

On the standards 7—7 are fastened eyes 7'—7' to which is fastened a flexible net-work 10 the side lines 11—11 of which, as well as the upper line 12, are formed of a flexible cable very strong and generally of metallic construction, these side lines passing through rings 6' of the netting.

The lower ends of the cable 11—11 at the

forward end of the fender are fastened to the outer ends of the bracing-rods 13—13 which are connected at their inner ends to the rail 9 by universal joints, as illustrated in Figs. 13 and 14 of the drawings. In these the vertical bracket-plates 14—14 have pivot-bolts 15 on which the vertically-disposed plates 16 are free to swing. Formed in part with the plates 16 are horizontally-disposed plates 17 which are pivotally connected with the flattened ends 31' of the bracing-rods 13 by the bolts 18.

The lower end of the fender is formed by the bowed-guard or pilot-rail 19 to which the netting 10 is secured by means of rings on the guard-rail, or in any other suitable manner, while the ends of the guard-rail are connected with the forward ends of the bracing-rod by universal joints of which one form is shown in Figs. 15 and 16 in which a transverse screw-socket 20 is secured to the end of the rod 13. In this socket is secured a pivot 21 carrying the sleeve 22 which in turn has a laterally-extending screw-socket into which the pivot 23 engages, the plain portion of this latter pivot extending through a perforation in the end of the guard-rail 19. By these connections the fender is free to be lifted or dropped at its forward end which may also be swung to either side as the bracing-rods readily follow its movements.

Mounted on the car-dasher on its inner side is a casing 24 having slots through which cables may enter the same and an opening 24'. Extending through this casing, being secured in the dasher, is a shaft 25 on the inner end of which is rotatably mounted the cover 26 having the opening 27 for the insertion of a handle. On the shaft 25 within the case is journaled the drum 28 adapted to receive cables on its periphery in which is formed one or more sockets 29, while in the side of the drum is formed a recess 30 having laterally-enlarged annular space 31. On this drum is wound the supporting and elevating cables 32—32 which pass in opposite directions out through the slots in the casing, then through the guide-eyes 33—33 on the dasher, to and through the pulley-blocks 34—34 secured to the standards 7—7. Then each of these cables passes through a number of the rings at the edges of the netting and located nearest to the center of the edge,—about one-third of the rings at each side being used, but I do not wish to confine myself to the use of any particular number. From these rings each of the cables extends downward and is secured to the corresponding bracing-rod.

For rotating the drum 28 to wind up the cables 32—32 thereon and raise the outer end of the fender against the car-dasher, or to its normal extended position, I use a handle formed from a tube 35 having openings 35'—35' near its closed end. On this closed end is reciprocally mounted the cap-piece 36 the removal of which is prevented by the bolt 37. Within the tube 35 are the pivoted arms

38—38 having laterally-extending fingers 38'—38' and rounded projections 38<sup>2</sup>—38<sup>2</sup> which are spread apart by the spring 39 between them. The open end of this tube is first inserted through the opening 27 in the case-cover 26 into the recess 30 of the drum 26 until it reaches the bottom of the recess. The cap-piece 36 of the handle is now pushed inward over the projections 38<sup>2</sup>—38<sup>2</sup> which are pushed inward while the fingers 38'—38' engage in the annular enlargement 31 of the recess and lock the handle from accidental withdrawal. In the rotation of the drum, by means of the handle, the cover 26 rotates at the same time. When the handle is withdrawn the cover may be rotated sufficiently to bring the opening 27 opposite a solid part of the drum.

When a single socket 29 is used in the cable-drum 28 I make the drum of such a diameter that the socket 29 will be in the position shown in Fig. 5 when the fender is raised against the dasher or when it rests in its normal position. This is arranged by gaging the diameter of the drum to the amount of cable to be taken up thereby in the different positions.

When the cables are wound on to the cable-drum 28 I lock the same from backward rotation by means of the pawl 39 pivoted to the dasher 6 and having a finger which extends through the opening 24' of the case 24 and engages with the socket 29. The opposite end of the pawl 39 is pivotally connected with a plunger-rod 40 the lower end of which extends through an opening in the car-platform and into the cup 41 secured beneath the platform. To the portion of this rod working through the platform is fastened the sleeve 42 the inner bore of which for the upper portion of its length is greater than the diameter of the rod. This sleeve has the vertical slots 43 and 44 in its upper end while its lower end serves as a bearing for the upper end of the spring 45 contained in the cup 41, the pressure exerted by the spring tending to raise the rod and to throw the pawl 39 constantly inward. The depressing of the rod 40 and the release of the drum from the pawl 39 in dropping the outer end of the fender are accomplished by the foot-piece 46 having the collar 47 with the lug 48. The collar of this foot-piece embraces the rod 40 being of a size to be contained within the upper part of the sleeve 42. When in use the foot-piece is raised and the lug 48 is entered in the slot 43, the foot-piece being then raised above the platform sufficiently to allow of depression. When the fender at this end is folded up against the dasher the foot-piece is raised to disengage the lug 48 from the slot 43 and is rotated on the rod 40 until the lug 48 enters the long slot 44 when the foot-piece will drop to the position shown in full lines in Fig. 7. It will thus be seen that provision is made for raising and lowering the outer end of the fender from its normal position. In addition it often becomes necessary to swing the forward end of the fender, either

to intercept an object at one side of the track to facilitate the passage of the car past an obstruction near the track, or to prevent damage to the fender. For this purpose I use the swinging-tackle and its operating-mechanism.

To the dasher-rail 8, extending either outward or inward, I secure a bearing 49 provided with a block 50 having radially-extending recesses 51—51 in its upper surface. In this bearing I journal the tubular shaft 52 the lower end of which is journaled in a bracket secured to the car-platform. To this lower end I fasten the drum 53 on which may be wound portions of the swinging-cables 54—54. These pass through guide-eyes 55—55 secured at short distances from the drum and thence diagonally to the bracing-rods 13—13 to which they are secured beyond the centers of the same.

The upper end of the tubular shaft 52 has side openings 56 through which the locking-bolt 57 extends. To this bolt is secured the supporting-rod 58 on which is a coiled-spring 59 which tends to press the bolt 57 downward to engage the recesses 51—51 in the block 50 and prevent the rotation of the shaft. Extending from the upper end of the tubular shaft is the crank-arm 60 having at its outer end the cup 61 in which the base of the knob 62 is journaled. On this arm 60 is pivoted the lever 63 one end of which is connected with the rod 58 while the other end extends within the cup 61 and bears on the lower surface of the knob base.

When it becomes necessary to swing the end of the fender in either direction the operator grasps the knob 62 and presses down on the same, thus depressing the outer end of the lever 63. The inner end of this lever being raised disengages the locking-bolt 57 from the depressions in the block 50. The shaft 52 is now rotated by the operator in the direction toward which the end of the fender is to be swung, the rotation of the drum 53 coincident therewith paying out one cable 54 while the other cable is taken in on the drum and draws the end of the fender laterally in the same direction. When the fender is adjusted to the desired position the knob 62 is released and the spring acting against the locking-bolt 57 tends to throw the same into engagement with two of the recesses in the block 50, thus locking the shaft 52 from rotation and holding the fender as adjusted.

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

1. In a car-fender, the combination with a car-dasher, a flexible fender attached thereto, bracing-rods pivotally mounted below the dasher, and a yoke-shaped guard-rail, forming the forward portion of the fender, pivoted to the outer ends of the bracing-rods, of a pair of cables connected with the bracing-rods, and means for taking up the cables to support the fender adjustably.

2. In a fender, the combination with a car-dasher, a flexible fender secured thereto, bracing-rods universally pivoted below the fender, and a guard-rail, forming the forward portion of the fender, universally pivoted to the bracing-rods, of means for supporting the bracing-rods at various inclinations, and mechanism for swinging these rods laterally, as described.

3. In a car-fender, the combination with a car-dasher, a fender formed of a netting secured thereto and furnished with rings at its sides, bracing-rods pivoted below the fender, and a guard-rail, forming the forward portion of the fender, pivoted to the outer ends of the bracing-rods, of a pair of cables secured to the bracing-rods extending through portions of the numbers of rings on the fender and through guides, a take-up mechanism to which the cables are attached, and a releasing device for said take-up mechanism.

4. In a car-fender, adapted to be supported by cables, the combination therewith and with a take-up mechanism consisting of the drums 28, journaled on the shaft 25, having the socket 29 and the recess 30 with the enlargement 31, the casing 24, surrounding the drum, having the opening 24', the rotatable cover 26 for the casing having the opening 27, and a handle consisting of the tube 35 having the openings 35', the arms 38 pivoted within the casing having the fingers 38' and projections 38<sup>2</sup>, and the cap 36 reciprocally mounted on the end of said tube, of a locking and releasing device consisting of the pawl 39 pivoted above said casing and having a portion adapted to extend through the opening 24' in the casing to engage the socket 29 of the drum, a spring-lifted plunger-rod pivotally connected with the pawl, the sleeve 42 secured to said rod and having the slots 43 and 44, and the foot-piece 46 having a collar 47 for embracing the rod, and a lug 48 adapted to engage in said slots, as described.

5. In a car-fender, the combination with a car-dasher, a flexible fender secured thereto, bracing-rods pivoted below the fender, and a guard-rail, forming the forward portion of the fender, pivoted to the bracing-rods, of cables secured to the bracing-rails and extending inwardly diagonally therewith, a drum to which these cables are secured, a shaft on which the drum is mounted, means for operating the shaft, and a device for locking the same against rotation.

6. In a car-fender, the combination with the dasher 6, the flexible netting 10 secured thereto and having rings at its edges, the cable 11 extending through said rings, the bracing-rods 13 pivoted below the netting to which the ends of the cable 11 are secured, and the guard-rail 19 pivoted to the bracing-rods, of the cables 32 secured to the bracing-rods each extending through a portion of the rings on the netting at its respective side thereof, and a take-up mechanism to which the cables are secured.

7. In a car-fender, the combination with a fender adapted to be swung laterally, and cables for operating the same, of the tubular-shaft 52 mounted in bearings, the cable-drum 5 53 on said shaft to which the cables are attached, the rigidly-fixed block 50 embracing the shaft and having the depressions 51, the locking-bolt 57 extending through openings in the shaft, the rod 58 secured to the bolt, a 10 spring for pressing the bolt downward, the crank-arm 60 extending from the upper part of the shaft and having the cup 61, the lever 63 pivoted to said crank-arm and having an end extending into the cup 61 the opposite end being pivoted to the rod 58, and the knob 15 62 the base of which is journaled in the cup 61 above the end of the lever 63, as and for the purpose described.

In witness whereof I have hereunto set my hand.

HORATIO PHINNEY.

Witnesses:

J. A. MILLER, Jr.,  
M. F. BLIGH.