

W. H. MARTIN.

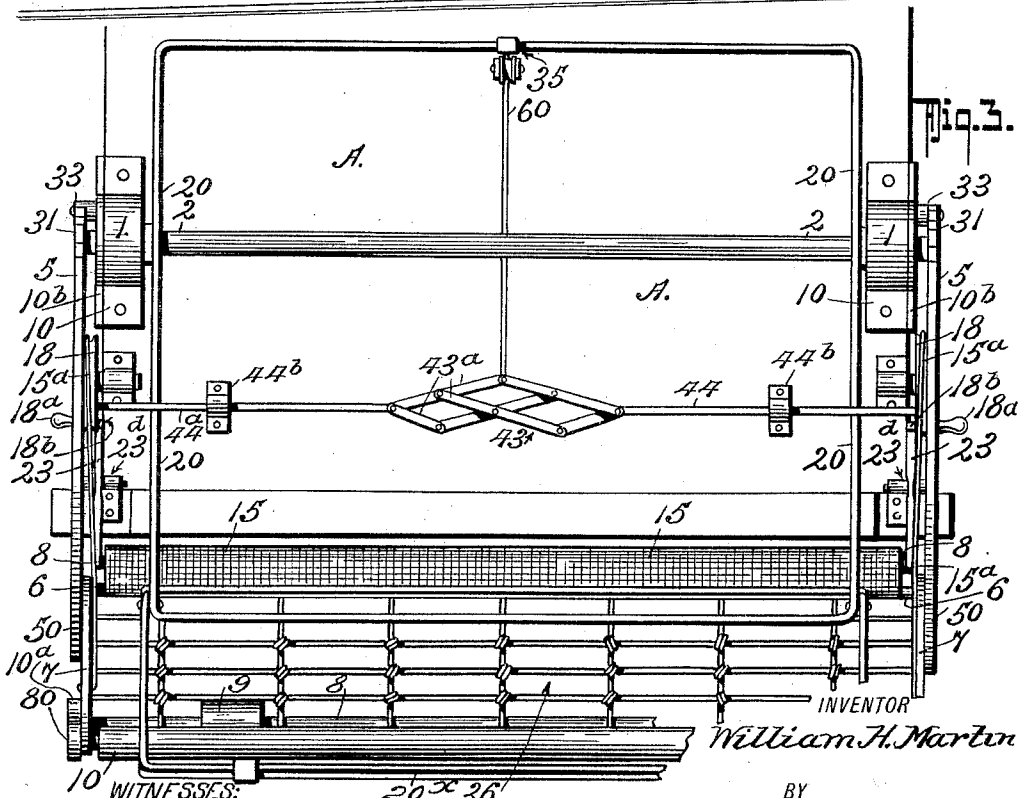
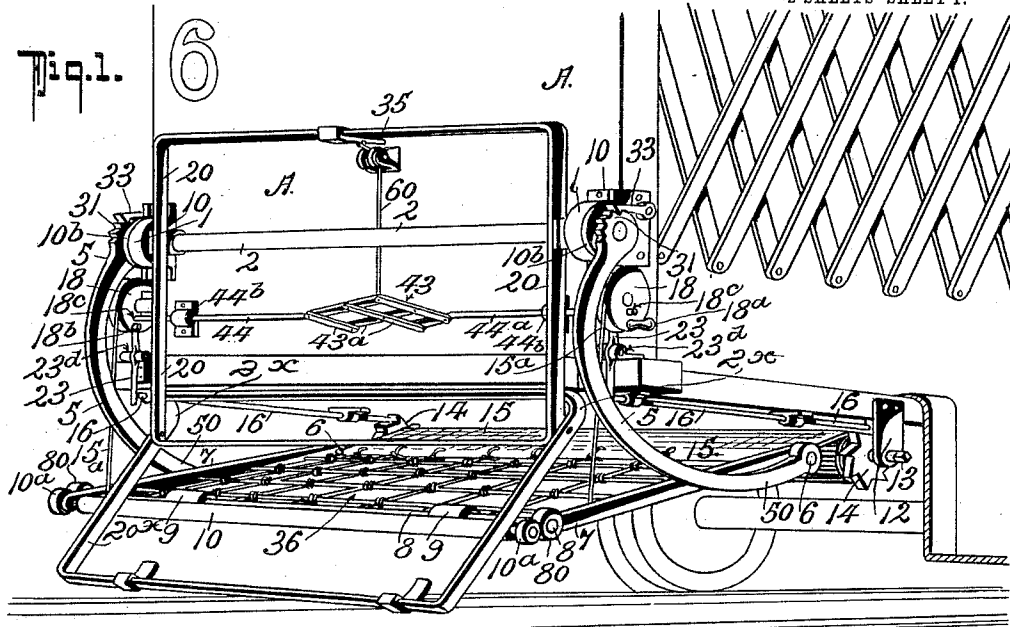
CAR FENDER.

APPLICATION FILED SEPT. 21, 1911.

Patented Nov. 12, 1912.

2 SHEETS-SHEET 1.

1,044,464.



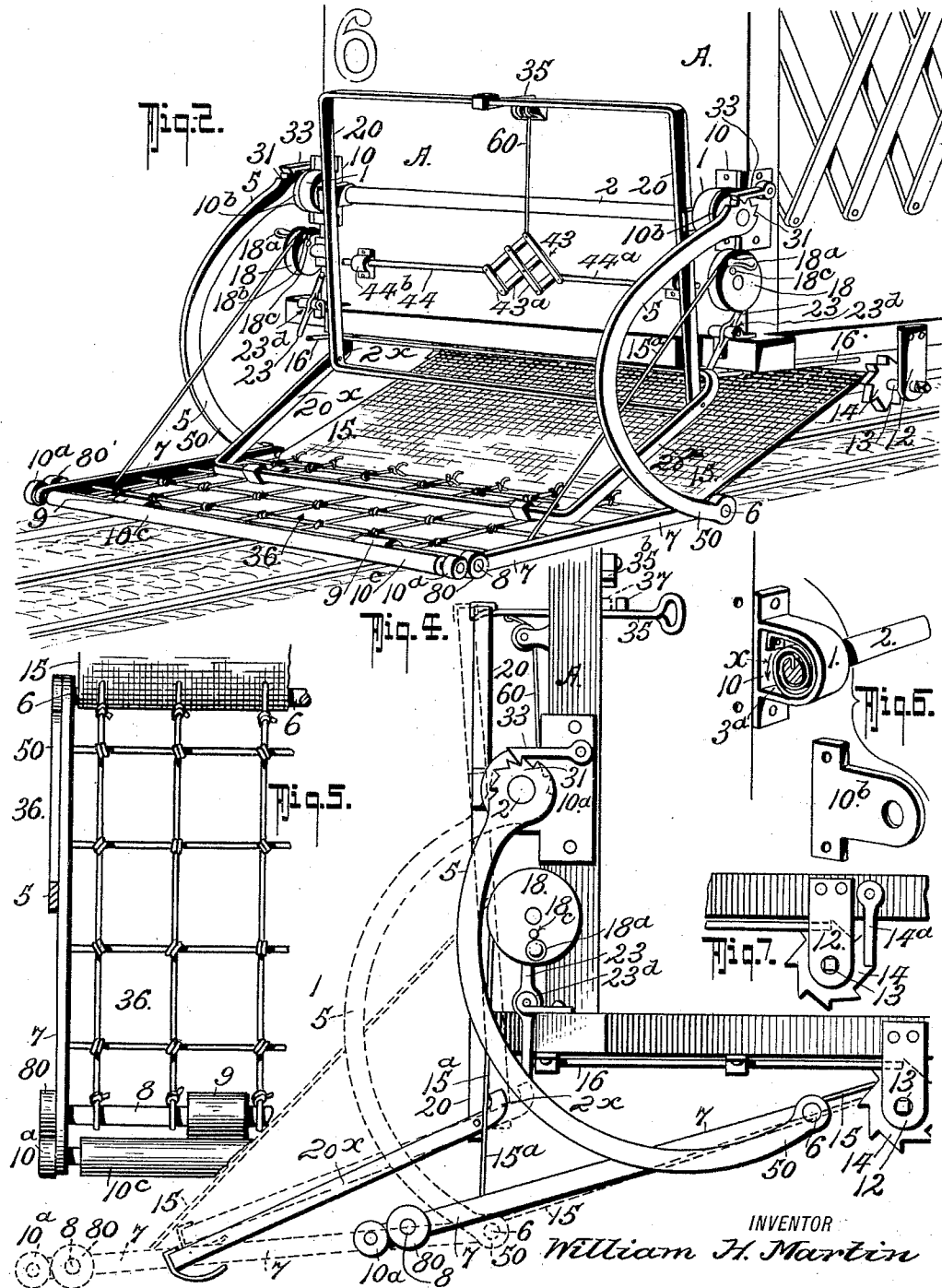
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CAR-FENDER.

1,044,464.

Specification of Letters Patent.

Patented Nov. 12, 1912.

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To all whom it may concern:

Be it known that I, WILLIAM H. MARTIN, residing at Geyserville, in the county of Sonoma and State of California, have invented a new and Improved Car-Fender, of which the following is a specification.

This invention is an improved construction of fender for street cars and more particularly refers to that type of fenders that are manually set in an operative position during the running of the car and adapted, when contacting with an object in advance of the car, to automatically move to a safety or object catching position.

In its more specific nature, my present invention embodies certain improvements in the construction of the parts disclosed in my Patent No. 993,609, dated May 30th, 1911, and it has for its object to simplify the said patented construction of fender and to particularly provide means whereby the tripping of the manually set fender devices can be readily effected by the motorman or by the object struck by the fender.

With other objects in view that will hereinafter appear, my present invention embodies certain details of construction and novel arrangement of parts, all of which will be hereinafter fully described, specifically pointed out in the appended claims and which are illustrated in the accompanying drawings, in which,—

Figure 1, is a perspective view of my present construction of fender, the same being in the normal or set position. Fig. 2, is a similar view, the fender devices being at the life saving position. Fig. 3, is a front elevation of the fender as on the end of a car, the parts being in the position shown in full lines on Fig. 4. Fig. 4, is a side elevation of the end of a car with my fender mechanism applied, the latter being shown in the normal position in full lines, and to its tripped position in dotted lines. Fig. 5, is a plan view of the projectable fender member hereinafter referred to. Fig. 6, is a detail perspective view of one of the lugs. Fig. 7 is a detail view of the windlass ratchet showing its locking dog.

Referring now to the details of construction, 2 designates a rock shaft that is transversely mounted on the front end of the car dash A, the opposite ends thereof being journaled in bearing lugs 1, secured to the said dash. The bearing lugs that carry the rock shaft 2 include an innermost or base por-

tion 10 that is bolted to the corner post of the car dash, and a side portion 10^b apertured for the shaft. The shaft 2 is normally rocked in the direction indicated by the arrow X through the coiled springs 3 that are secured to the said shaft, and to the car dash A, and held within the casings 3^a, as is clearly shown in Fig. 6.

5 designates curved thrust arms, fixedly mounted, one on each end of the shaft 2, to rock therewith, and the said arms have their lower ends 50 curved backwardly, so as to swing close to the ground when they are at the released or forward position, shown in dotted lines in Fig. 4. The head portions of the arms 5 have ratchet portions 31 for engaging the pawls 33 that drop into engagement with the ratchets 31 when the arms 5 are thrust outwardly for holding the said arms to that position. A cross bar 6 connects the lower ends of the arms 5 and to the said rod 6 connects one end of a canvas apron 15, the other end of which apron is connected to a windlass shaft 13 journaled in brackets 12 on the car bottom, the opposite ends of which each have a ratchet 14 that coact with the lock dogs 14^a for locking the windlass from turning back during winding.

So far as described, it is obvious the windlass can be readily wound up from both sides of the car and the canvas 15 wound up and the arms 5 swung backwardly and held under tension of the springs 3.

36 designates the saving member which is in the nature of a rectangular frame, that includes the side bars 7 which are pivotally joined with the cross bar 6 and carry ground wheels 9 on a shaft 8 journaled in the outer ends of the side bars 7 and which has frictionally mesh with smaller gears 10^a on a friction roller 10^c that is mounted in the front end of the bars 7 and just in advance of the ground rollers 9. Roller 10^c, in practice, is a yielding body, so as to not bruise, or otherwise injure the limbs of the person struck thereby.

In my present invention, the frame 36 is held close up under the car bottom when the parts are in their normal position and to provide for holding the said frame up, as stated, and for instantly releasing the said frame so its front end drops to engage the trackway when an object is struck or the fender devices are released by the motor-

man, as will be hereinafter more fully explained, I have provided the special means best shown in Figs. 1, 2 and 3, by reference to which it will be seen I use a two-part shaft formed of the longitudinally alining sections 44—44^a, each of which is longitudinally slidable in the bearings 44^b on the car dash and whose outer ends coöperate with winding pulleys 18 mounted on each end of the car dash and each of which has a handle 18^a and a stud 18^b, the purpose of which will presently appear.

The two shaft sections 44—44^a are joined by a lock device 43 that consists of a number of toggle links 43^a that are relatively so connected with each other and to the shaft sections 44—44^a, that when extended to the locking position they force outwardly the sections 44—44^a to cause their outer ends to engage the inner faces of apertures 18^c in the winding pulleys 18 to act as brakes for holding them to the wound-up position, and the frame 36 to its extended position, under the car bottom.

16 designates the locking detents or rods, slidably mounted in bearings on the car bottom, see Fig. 4, and whose inner ends engage with the ratchets 14 to hold the windlass from unwinding while the fender mechanism is in the normal position. In my present constructions the outer end of each rod 16 normally engages a locking detent or lever 23, and the said levers are pivoted as at 23^a to swing in the vertical plane, their upper ends extending up and in the path of the studs 18^b on the winding pulleys 18, which as before stated, are held to their wound up position by the locking or brake rods 44—44^a. In my present constructions of car fender devices, the buffer member is a rectangular frame, the side arms 20 of which are directly mounted to rock on the rock shaft 2.

35 designates a push rod that passes through the upper end of the car dash A to be conveniently worked by the motorman and whose outer end is connected with the upper cross rod of the buffer frame, and the said rod 35 is also provided with a stud 37^a, as shown, and for the purpose presently described.

By reason of the peculiar construction and arrangement of the parts, as shown and described, to set the fender devices the dogs for the ratchets 14 are swung out as the said ratchets are crank-wound and the windlasses 14 are then wound until the frame 36 is drawn back under the car dash platform. The pulleys 18 are then turned to wind up the cords 15^a that are connected to the front end of the catcher frame 36, until the said frame reaches the position shown in full lines in Fig. 4, after which the toggle lock 43 is pulled down straight to cause the ends of the rods 44—44^a to engage hard with and

lock in the apertures 18^c in the pulleys 18 to their adjusted position, and to sustain the frame 36 in the elevated position, as stated, it being understood that when the parts are adjusted, as stated, the locking detents 23 have their upper ends against the studs 18^b and the lower ends against the outer ends of the locking rods 16, which now engage and lock the ratchets 14.

When in the position stated, the operation of shooting out the catcher frame 36 is automatically effected, in case an object is struck, since the upper end of the buffer frame 20 when the latter hits an object will swing outwardly and in so doing the rod 35 will be pulled outwardly, it being manifest that since the frame 20 is joined to the shaft 2 and to the dash A by hinged connections the said frame as it is pressed back by the object struck will pull on the cords 60, which break the toggle lock connection 43, that holds the pulleys 18 and as the latter are thus freed the spring tension on the thrust arms 5 will pull out the canvas apron and carry the same together with the frame 36 forwardly, it being understood that in freeing the winding pulleys 18, the front end of the frame 36 drops and the cords 15 fastened to the pulleys 18 turns them forwardly.

The same operation of the parts mentioned occurs when the motorman pushes the rod 35 outwardly.

The buffer or striking portion of my present construction of fender consists of an upper upright section, that is pivotally mounted on the rock shaft 2 and a lower section 20^x that is pendent from and is hingedly secured to the lower end of the upper section so as to have free upward movement independent of the upper portion of the buffer, and is provided with a heel portion 2^x for engaging the back of the lower edge of the upper frame 20, as best shown in Fig. 4.

The rod 35 in my present construction and arrangement of parts has a stud 37 for co-acting with a hinged dog 35^b which when dropped down in front of the said stud locks the buffer against swinging outwardly and releasing the shooting or catcher frame 36.

There are several reasons for locking the buffer against releasing the catcher frame, first, it prevents the accidental operating of my fender mechanism when the buffer hits a steep grade when in action, this being made possible when the rod 35 is held locked by reason of the bottom portion of the buffer being hingedly connected so it will ride freely up grade, before the car tracks reach the grade, it being understood that the pivotal mounting of the bottom part of the buffer enables the said part to take care of itself in coming down or ascending steep grades.

What I claim is:

1. A car fender including a catcher frame, a holding means therefor, a buffer frame including a main section coöperatively connected with said holding means for effecting the release of the latter, said buffer frame also including a second section carried by said main section to yield in one direction without effecting the operation of said main section, and means for holding said second section from yielding in the opposite direction.

2. In a car fender, a catcher frame, means for projecting the frame forwardly, other means restraining the action of the projecting means, a buffer frame pivotally supported on the car dash to rock in a vertical plane, connections between the upper end of the buffer and the catcher frame, means for releasing the said restraining means when the buffer frame is engaged by an obstruction on the right of way, said buffer frame including a hingedly mounted lower end adapted to ride over a ground obstruction and projecting forwardly and downwardly from the upper portion of the buffer frame substantially as described.

3. A car fender comprising a catcher frame, means for holding the said frame retracted, means continuously tending to move said frame forwardly, a swingable buffer frame on the front of the car dash, connections between the said buffer frame and the means for holding the catcher frame

retracted and adapted to release the said catcher frame when the buffer frame is swung by contact with an obstruction on the right of way, and a manually controlled means for swinging the said buffer frame.

4. In a car fender, a substantially horizontally movable catcher frame, means for projecting said frame forwardly, a detent for restraining the action of the said means, a buffer frame, operative connections between the said buffer frame and the said detent for releasing the same, and manual means for operatively moving the buffer frame, and a detent for locking the said buffer to prevent the release of the catcher frame when said buffer frame is engaging a ground obstruction.

5. In a car fender, a substantially horizontally movable catcher frame, means for projecting the same forwardly, means for restraining the forward action of the said catcher frame, a buffer frame, operative connections between the said buffer frame and the catcher frame, restraining means for releasing the said restraining means when the buffer frame is engaged by an obstruction on the right of way, and manual means for operatively moving the buffer frame, the latter including a member freely movable over a ground obstruction.

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