

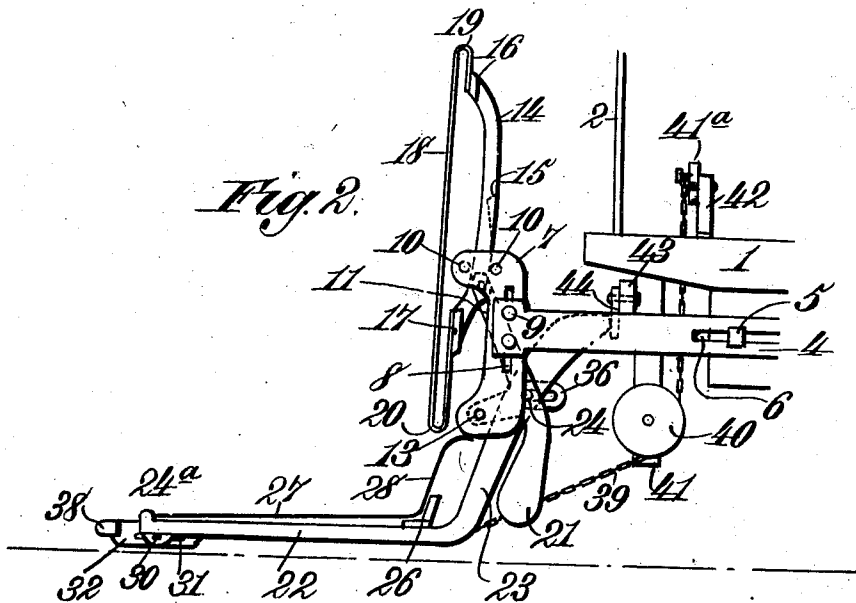
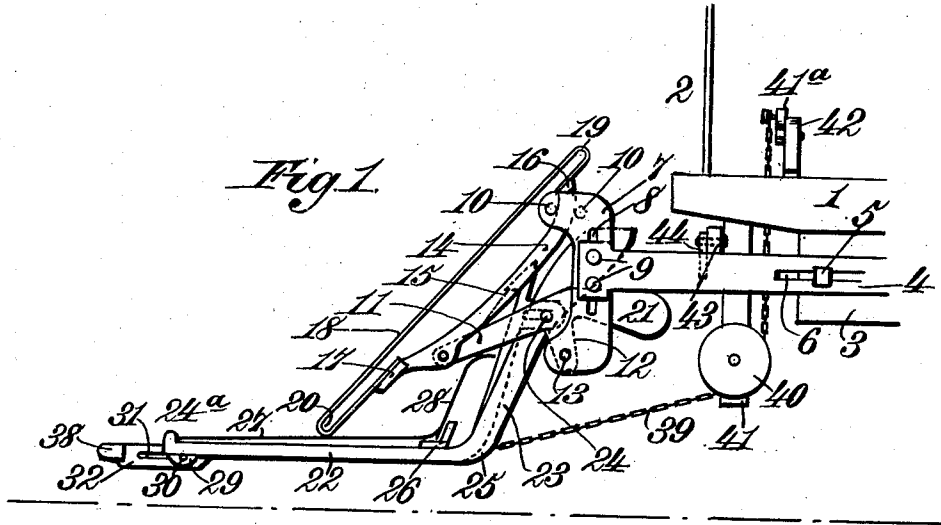
No. 833,621.

PATENTED OCT. 16, 1906.

J. O'LEARY.
CAR FENDER.

APPLICATION FILED JUNE 18. 1906.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

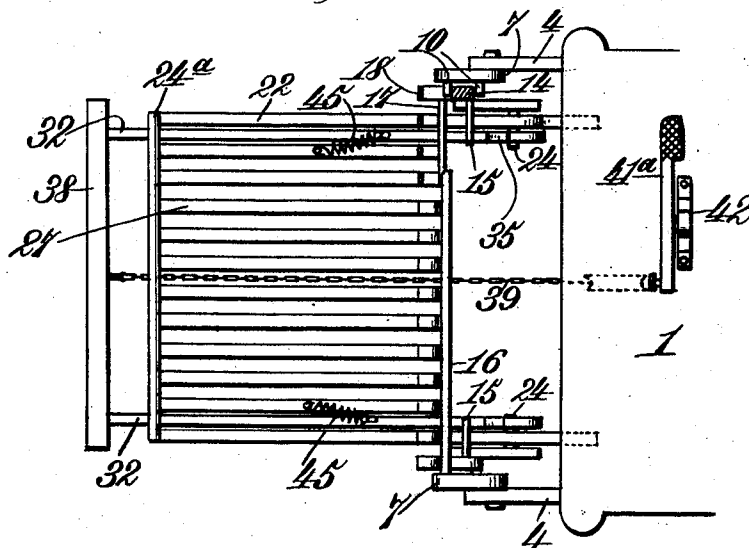


Fig. 4.

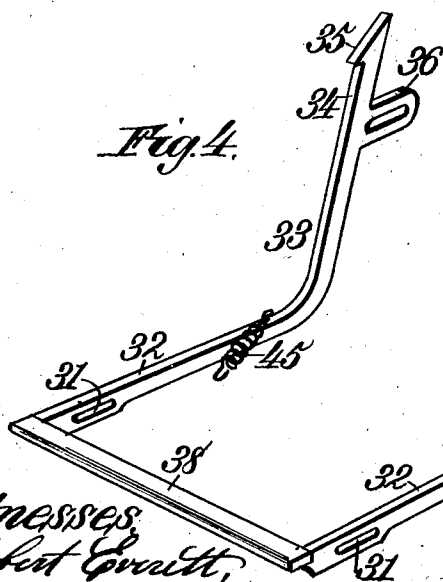
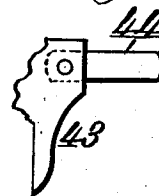


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN O'LEARY, OF COHOES, NEW YORK.

CAR-FENDER.

No. 833,621.

Specification of Letters Patent.

Patented Oct. 16, 1906.

Application filed June 18, 1906. Serial No. 322,278.

To all whom it may concern:

Be it known that I, JOHN O'LEARY, a citizen of the United States, residing at Cohoes, in the county of Albany and State of New York, have invented new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to car-fenders; and the object of the same is to improve the construction disclosed in my Patent No. 792,920, dated June 20, 1905. The improved construction renders this particular class of car-fenders more positive and effective in their operation and more readily sensitive to adjustment.

The invention consists in the construction and arrangement of the several parts which will be more fully hereinafter set forth.

In the drawings, Figure 1 is a side elevation of the improved fender in operative position. Fig. 2 is a similar view of the fender shown elevated or in position for traveling. Fig. 3 is a top plan view of the fender and a portion of the car to which it is attached. Fig. 4 is a detail perspective of a portion of the lower frame, particularly illustrating hook or catch devices in connection therewith. Fig. 5 is a detail elevation of a locking-latch cooperating with parts of the fender.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The improved fender structure may be supported in any desirable manner, and while it is shown applied to a car end it will be understood that it can be equally well used on an automobile or other like vehicle. For the purpose of illustration, however, the improved fender is shown applied to a car end, and, referring thereto, the numeral 1 designates the sills or floor structure and 2 the dash. Depending from the floor structure are apertured hangers 3, to which arms 4 are adjustably connected through the medium of bolts or other analogous devices 5, the arms 4 being slotted, as at 6, to permit them to be regulated as to their extent in advance of the front end of the car. The apertured brackets 3 also provide for elevating and lowering the arms 4, as desired, to accommodate the height of the bed or flooring of the car above the ground surface. The outer ends of the arms 4 are secured to vertical supports 7, having central vertical slots 8—one in each—to which the ends of the arms

are bolted, as at 9, the supports by this means being capable of vertical adjustment on the arms. At their upper extremities the arms are provided with spaced projections or guide-studs 10 for a purpose which will be more fully hereinafter specified.

To the lower ends of the supports 7 in advance of the vertical sections of the latter controlling-levers 11 are attached, each of said levers having a projection 12 fulcrumed to the support, as at 13, the forward extremities of the controlling-levers 11 being movably attached to a back frame consisting of side members or bars 14, provided with inwardly-projecting catch-shoulders 15 near their upper ends. These side bars or members 14 move between the projections or studs 10 on the upper extremities of the supports 7 and have opposite or front and rear concave and convex edges, which cause the said bars or members to move in curved planes and to project the back frame as an entirety over the rear part of the lower portion of the fender or to withdraw the back frame rearwardly. This back frame is withdrawn rearwardly when elevated and is projected forwardly when lowered. The side bars or members 14 of the back frame have cross-bars 16 and 17 secured to the upper and lower portions thereof, and terminally connected to the cross-bars are vertically-arranged cushion-springs 18, having upper and lower looped ends 19 and 20, the said looped ends being turned rearwardly to project the main body portions of the springs forwardly and the lower loops 20 extended a considerable distance below the lower cross-bar 17 to effectively provide a cushion in advance of the operating mechanism. These springs 18 are preferably of the form shown in Fig. 1 and may be constructed of suitable material adapted for the purpose, preferably metal, and arranged close enough to be effective in forming a back cushion, so that persons picked up or thrown into the improved fender will be handled with safety and without liability of breaking bones or receiving serious bruises or physical shocks. The extremities of the controlling-levers 11 opposite those attached to the side bars or members 14 are weighted or provided with an increased quantity of material or metal, as at 21, to form counterbalancing means of sufficient weight-power to hold the parts of the fender elevated under certain conditions. The projection 12 is also of such length with respect to the controlling-levers

11 that the latter are, in effect, bell-crank levers with the weight addition, and when the said controlling-levers move past the planes of the fulcrums of the projections 12, or rearwardly toward the car to which the fender is applied, the parts under control of the levers 11 will be maintained in elevated position, and in conjunction with this formation of the controlling-levers the weighted extremities 21 thereof cooperate to render the maintenance of portions of the fender in raised position more effective.

The lower portion of the fender has side arms 22, provided with rear upwardly-projected back extensions or members 23, which bear against the outer sides of the controlling-levers 11 and are pivotally connected to the latter by studs or pins 24, and secured to the forward extremities of the horizontal members of the said side arms 22 is an angular nose 24^a, preferably formed of wood, and at the rear portions of the horizontal members of these side arms or adjacent to the elbows 25 between the said horizontal members and the upward extensions 23 a heel-bar 26 is secured and constructed of angle-iron of L shape. Between the nose-bar 24^a and the heel-bar 26 flat springs 27 are secured and have their rear extremities 28 projected upwardly and curved with considerable rotundity to cause them to stand some distance in advance of the adjacent edges of the extensions 23 and to be effective in cushioning a person thrown or falling onto the lower part of the fender. The horizontal members of the side bars or arms 22 have depending ears 29, from which bolts or pins 30 extend inwardly through slots 31, formed in the forward extremities of horizontal members 32 of catch-arms 33, these catch-arms having rear upward extensions 34, terminating in hooks 35 to engage the shouldered catches 15 on the bars or members 14 of the back frame of the fender. Projecting from the rear of the extensions 34 of the catch-arms 33 are slotted guides 36 to receive the studs or pins 24, projecting inwardly from the upper extensions 23 of the side bars 22. The front extremities of the horizontal members 32 of the catch-arms are connected by a transverse nose-bar 38, and centrally attached to the rear edge of this nose-bar is a pull-chain or analogous device 39, which runs rearwardly in central relation to the fender and passes upwardly over a grooved pulley 40, held by a bracket or hanger 41, depending from the bed or platform of the car. The chain or analogous device 39 engages the lower portion of the pulley 40 and extends upwardly back of the latter vertically through the bed or platform of the car and is attached to one end of a foot-lever or treadle 41^a, intermediately fulcrumed on an upstanding bracket 42, disposed on the car-bed in rear of the dash 2, the opposite end of the foot-lever or treadle

41^a being adapted for engagement by the foot of the motorman. The object of this chain or analogous pull device 39 is to release the fender and cause it to assume a lowered position from the platform or bed of the car; but if the nose-bar 38 be struck or comes in contact with an object, such as a person crossing ahead of the car, it is thrown rearwardly, and the fender is by this movement automatically released and assumes a lowered position.

On the arms 4 brackets 43 are secured, and attached to the upper ends thereof are stop-latches 44, which are free to move and may be thrown inwardly out of operative position. When thrown into operative position, they are adapted to have the upper ends of the extensions 23 of the side bars or arms 22 contact therewith to restrict the rearward movement of the lower portion of the fender. When these stop-latches 44 are manually thrown inward out of operative position, the lower portion of the fender may move a greater distance to the rear.

The springs 27 form a yielding bed having a back cushion through the upwardly-projected portions 28 thereof, and the said springs 27 will be stiff enough to support a person falling onto the fender, and yet yield enough to prevent injury to such person.

From the foregoing description the operation of the fender will no doubt be understood, and it is as follows: When the car is traveling, the fender is elevated or in the position shown by Fig. 1, the hooks 35 when the parts are in elevated position being in engagement with the shouldered projections 15. If the nose-bar strikes against any object or person in advance of the fender, the arms 33 are pushed rearward and the hooks or catches 35 are released from the shoulders 15, and the back structure, including the side bars 14 and the springs 18, rises, and the controlling-levers 11 under such conditions assume the position shown by Fig. 2, so as to provide a horizontal and back spring-support, against which the person falling onto the fender comes in contact, and the parts of the fender will remain in lowered position by reason of the fact that the levers 21 counterbalance the weight of the lower frame, and, furthermore, the said levers being thrown over and their weighted ends depressed below the pivotal points thereof prevent the parts of the fender from moving out of the position shown by Fig. 2 until they are restored by depressing the treadle 41, which pulls rearwardly on the chain or other analogous device 39 and resets the fender in traveling position, thus permitting the improved fender to be controlled from the platform of the car without requiring direct manual engagement with parts thereof to restore the same to elevated position. During the rising and lowering movements of the catch-arms 33 the slotted guides 36, project-

ing rearwardly from the extensions 34 of said catch-arms, shift on the studs or pins 37, and likewise the pins 30 move to opposite positions in the slots 31. These guides 36 maintain the associated relation of the catch-arms 33 and the arms 22, so as to always hold the slides in place for positive engagement between the hooks 35 thereof and the shoulders 15. The inward movement of the nose-bar 38 is effected against the resistance of retractile springs 45, secured to the catch-arms 33 and adjacent portions of the lower or horizontal part of the fender. These springs always tend to force the nose-bar 38 into normal position when pressure is relieved from said bar. When the parts of the fender are lowered, as shown by Fig. 2, the controlling-levers 11 will be thrown into such position that the weight of the parts imposed on the forward extremities of said levers will overcome the opposite weighted extremities 21 of the same levers.

Having thus fully described the invention, what is claimed as new is—

1. In a car-fender, a lower frame, an automatically-movable upper or back frame, resilient means carried by portions of the two frames, counterbalancing members connected to the two frames, and a support for the counterbalancing members.

2. In a car-fender, an upper frame and a lower frame, the upper frame being adapted to be automatically moved to lowered position by the movement of the lower frame, and counterbalancing members movably connected to the two frames.

3. In a car-fender, an upper frame and a lower frame, counterbalancing-levers interposed between and pivotally connected to the two frames, and support means to which the counterbalancing-levers are movably attached.

4. In a car-fender, an upper frame, a lower frame having slide devices with upper hooks to engage portions of the upper frame, and counterbalancing controlling-levers interposed between and movably attached to the two frames.

5. In a car-fender, an upper frame, a lower frame, the two frames having resilient devices thereon, and counterbalancing controlling-levers interposed between and pivotally connected to the two frames.

6. In a car-fender, an upper frame, a lower frame provided with slide devices having hooks to engage portions of the upper frame, counterbalancing controlling-levers interposed between and movably connected to the two frames, and resilient means to return the slide devices to normal position.

7. In a car-fender, an upper frame, a lower frame provided with slide devices having hooks to engage portions of the upper frame, counterbalancing controlling-levers inter-

posed between and movably connected to the two frames, resilient means to return the slide devices to normal position, and a pull element connected to a portion of the lower frame and operative from the body of the car.

8. In a car-fender, an upper frame, a lower frame weighted to cause its automatic shifting motion from a set or normal position to an operative position, and simultaneously move the upper frame, and a support engaging portions of the upper frame to guide the latter in its movement.

9. In a car-fender, an upper frame, a lower frame mounted for swinging movement and weighted to cause its automatic shifting motion from a set or normal position to an operative position, said lower frame, on said shifting motion, serving to cause the upper frame to move downwardly, and means for manually controlling the operation of the fender.

10. In a car-fender, an upper frame, a lower frame, slide devices coöperating with the lower frame and connected to a nose forming the advance portion of the lower frame and also provided with hook devices to engage portions of the upper frame, counterbalancing controlling-levers movably attached to the two frames, and means for manually controlling the operation of the fender.

11. The combination of a car, and a fender adjustably held on the car and comprising upper and lower movable frames, and counterbalancing controlling-levers interposed between and movably connected to the frames.

12. In a car-fender, an upper frame embodying end bars with shoulders or catches on parts thereof and springs at the front depending below the end bars, a lower frame having cushioning-springs thereon, and sides provided with hooks to engage the shoulders or catches, and counterbalancing-levers interposed between and movably connected to the upper and lower frames.

13. In a car-fender, an upper frame and a lower frame, the lower frame being automatically shiftable from a set to an operative position and serving, on its shifting motion, to thrust the upper frame downwardly, the lower frame being provided with a nose-bar movable inwardly and outwardly and controlling the automatic operation of the fender when struck.

14. In a car-fender, the combination of a car having supports projecting therefrom, limiting-latches movably held by the supports, a lower frame having side members adapted to engage the said latches, the said lower frame being automatically shiftable from a set to an operative position, an upper frame which is thrust downwardly by the shifting motion of the lower frame, and means for manually controlling the fender.

15. In a car-fender, supporting means having heads with studs projecting outwardly therefrom, an upper frame having side bars movable between the said studs, a lower
5 frame, and counterbalancing-lever means interposed between and movably connected to the upper and lower frames.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN O'LEARY.

Witnesses:

JAMES BERNARD MOORE,
PETER MELVILLE STILES.