

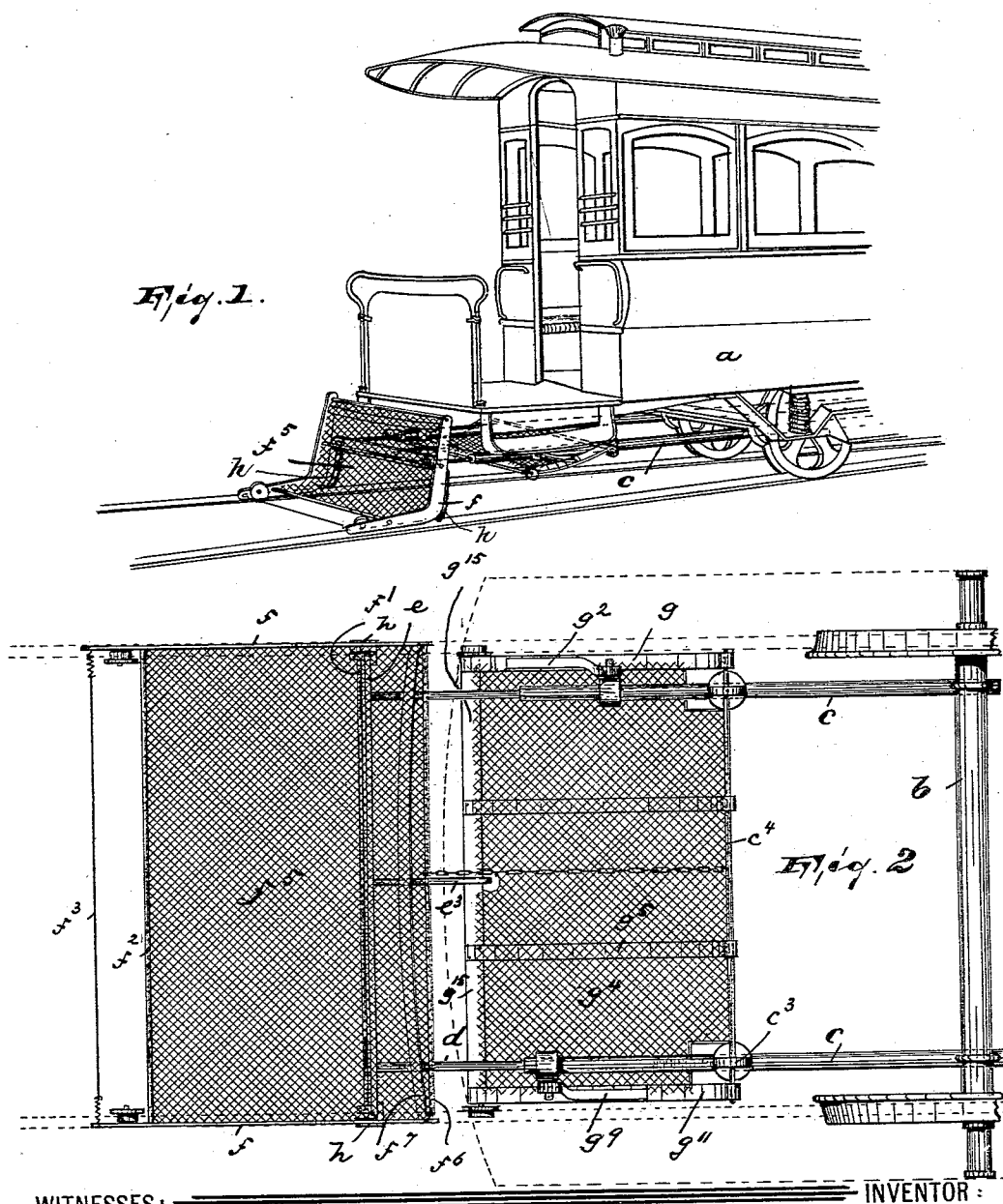
(No Model.)

3 Sheets—Sheet 1.

A. SCHEID.
CAR FENDER.

No. 557,897.

Patented Apr. 7, 1896.



WITNESSES:

Duncan W. Robertson,
Carl Scheid

Adam Scheid

BY

Partners & Co

INVENTOR:

ATTORNEYS

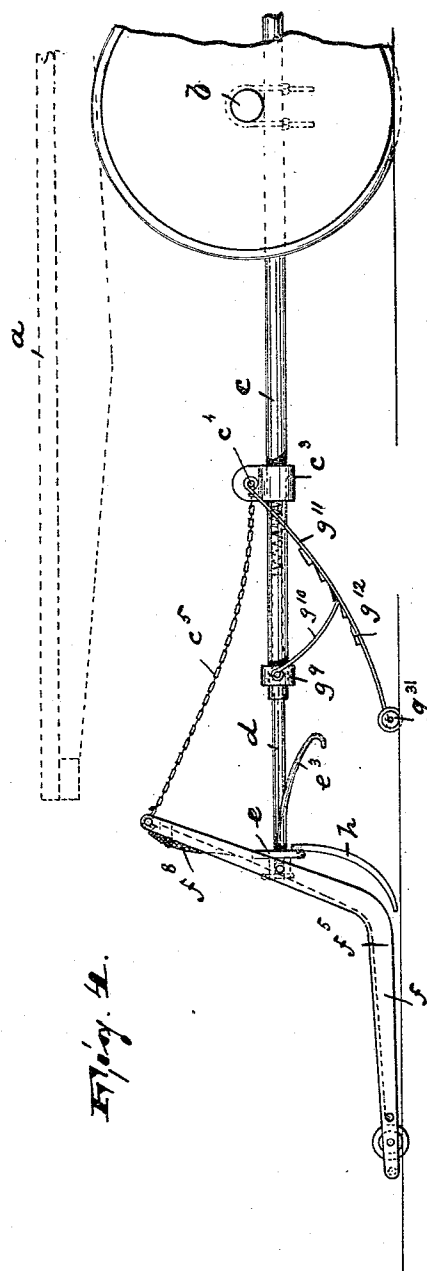
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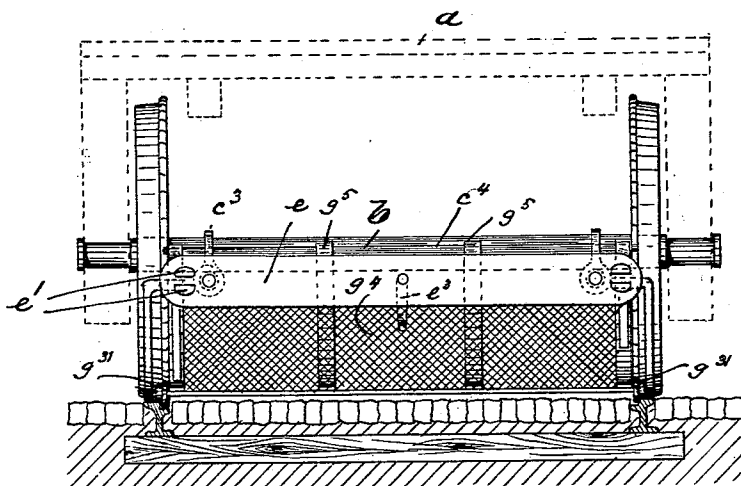


Fig. 4a

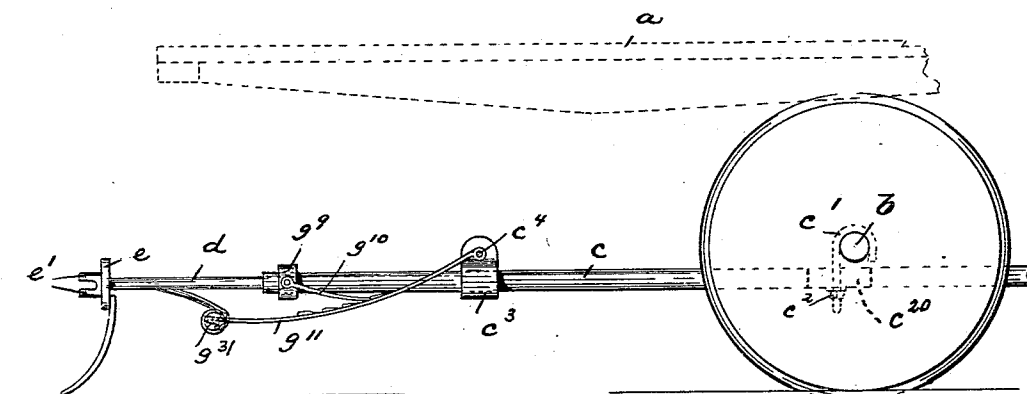


Fig. 5.

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UNITED STATES PATENT OFFICE.

ADAM SCHEID, OF HARRISON, NEW JERSEY.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 557,897, dated April 7, 1896.

Application filed November 13, 1895. Serial No. 568,799. (No model.)

To all whom it may concern:

Be it known that I, ADAM SCHEID, a citizen of the United States, residing in Harrison, Hudson county, and State of New Jersey, have
5 invented certain new and useful Improvements in Car-Fenders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a
15 fender for street or railway cars of simple, strong, and durable construction, automatical and reliable in operation, easily handled, and which fender will not be affected by the vibration or swinging of the car-body and thus,
20 when in normal position, will always remain a specified uniform distance from the level of the rails.

The invention consists in the improved car-fender, in the sliding and spring-controlled
25 adjustable front apron, the fulcrumed stationary or auxiliary apron, its locking mechanism, in the means for securing the stationary apron to the car-axle, (or truck,) and in the combination and arrangement of the various parts thereof, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a car
35 provided with my improved fender; Fig. 2, an enlarged top plan view of the same, the car-body being shown in dotted lines; Fig. 3, a central sectional view of Fig. 2; Fig. 4, a side elevation corresponding with Figs. 2 and
40 3; Fig. 4^a, a front elevation of Fig. 2, the adjustable apron being removed; and Fig. 5, a central sectional view of Fig. 4^a.

In said drawings, *a* represents the car-body, and *b* the axles. On each side of the car and
45 between the wheels is arranged a tube or rod *c*, extending horizontally from end to end of the car-body *a* and is suspended from the car-axles *b* by means of the hooks *c'* (passing around the axles and through the rod *c*) and
50 the nuts *c²*.

In Fig. 5 the rod *c* is provided with an elongated slot *c³*, through which the threaded end

of hook *c'* passes, thus rendering a loose or sliding connection between the said rod *c* and the axle *b*, which permits said rod to move in
55 the direction of the length of the car, as will be manifest.

The outer end of each rod *c* is hollow and contains a spiral spring *d'*, adapted to bear against the inner end of the rod *d*, which latter fits snugly in the said hollow portion and is adapted to slide therein.

The forward ends of the sliding rods *d* are connected by a cross-piece or bridge *e*, provided at or near its end with horizontally-
65 projecting lugs *e'*, forming the bearings for the cross-rod *f'* of the front apron, and also with curved arms or scoops *h*, projecting downward to about the top of the rail and adapted to remove stones or other small ob-
70 stacles from the said rails. Said cross-rod *f'* is kept in place by means of the locking-pins *e²*, as clearly shown in Figs. 3 and 4.

The front apron consists of the side frames *f*, (bent at a slightly-obtuse angle,) of the up-
75 per and lower connecting-rods *f⁶* and *f⁷*, respectively, and of the netting *f⁵*, extending from the lower to the upper connecting-rod. An auxiliary netting passes over the out-
80 wardly-curved spring *f⁷*, arranged below the upper rod *f⁶*, and forming with the curved spring a cushion *f⁸*, as clearly shown.

Near the outer end of each of the frames *f* is arranged a flanged wheel *f⁴*, adapted, when the fender is in operation, to travel on the
85 rails, and also a spiral spring, the inner ends of which are connected by a rope or wire *f³*, for a purpose hereinafter specified.

Secured to the center of the cross-piece or bridge *e* and projecting inwardly therefrom
90 is the hook *e³*, adapted to engage the connecting-bar *g¹⁵* of the auxiliary or rear apron *g⁴*, which latter is provided on each side with a curved frame *g*, (*g¹¹*), the upper ends of which
95 frames are connected by a cross-rod *c⁴*, fulcrumed in the brackets *c³*, secured to the rod *c*, as indicated in the drawings. The hook *e³* also serves to lock the cross-piece *e* and its front fender against the action of the spiral spring, which in normal position is depressed.
100 The bar *g¹⁵* and the cross-rod *c⁴* are connected by a series of braces *g⁵* for the mere purpose of strengthening the apron *g⁴*.

The curved frames *g* (*g¹¹*) are provided with

notches or teeth g' , (g^{12}), adapted to be engaged by the pawls g^2 , (g^{10}), pivoted to the sleeves g^3 , (g^9), which latter are secured at or near the forward ends of the rods c . Preferably the notches g' and g^{12} are arranged in opposite directions on their respective curved frames to insure firmer locking means when the apron g^4 is lowered or in operative position.

At each end of the connecting-bar g^{15} is arranged a flanged wheel g^{31} , for a purpose similar to that of the wheels f^2 on the front apron. The heights of the front apron with relation to the rails can be regulated by the chain c^5 , as will be manifest.

The operation of the fender is as follows: The car is supposed to travel in the direction of the arrow. When an obstacle is struck by the front fender or apron, the strength of the shock being reduced by means of the spring-controlled rope or wire f^3 , it is thrown onto the apron and carried along until the car is stopped. When the obstacle is struck, the said front apron is forced backward with its carrying-rods d against the action of the spiral springs d' , thus further reducing the shock and simultaneously releasing the rear apron or fender from the hook e^3 . The rear apron by its own weight drops down until the flanged wheels g^{31} rest on the rail, when the pawls g^2 and g^{10} will engage the teeth or notches on the respective curved frames g and g^{11} and thus lock the fender in operative position. It will be manifest that should the front apron fail in operation and pass over the person or obstacle the latter will be scooped on or caught by the rear apron and carried along by the same until removed.

When the car is to run in the opposite direction, the chain c^5 is unhooked, the locking-pins e^2 withdrawn, and the front apron removed and secured in the same manner to the cross-piece or bridge e on the other end of the car.

As can be seen from the foregoing description and also from the drawings, the front apron as well as the rear or stationary apron are secured to the horizontally-extending rods, (suspended from the axle,) and thus remain all the time at a uniform distance from the rail and are in no way affected by the vibration or swinging of the car-body.

I do not intend to limit myself to the precise construction shown and described, as various alterations can be made without changing the scope of my invention; but

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the car-axles, of a horizontally-arranged rod on each side of the car, adjustably suspended from the axles and having a sliding connection with the same permitting motion of said rods in the direction of the length of the car, and a fender supported by said rods, substantially as and for the purpose set forth.

2. The combination with the car-axles, of a horizontally-arranged rod on each side of the car and suspended from the axles, a fender movably secured to said rods, an auxiliary fender pivotally secured on said rods and in the rear of the front fender, and a retaining and releasing device operated by the front fender to release the auxiliary fender, substantially as and for the purpose specified.

3. The combination with the car-axles, of a horizontally-arranged rod on each side of the car and suspended from the axles, a fender connected with said rods to move inwardly and outwardly with respect to the same, an auxiliary fender pivotally secured on said rods and in the rear of the front fender, and a retaining device for said auxiliary fender adapted to release the latter by the inward motion of the front fender, substantially as and for the purpose set forth.

4. The combination with the car-axle, of a horizontally-arranged rod on each side of the car and adjustably suspended from the axle, and having a sliding connection with the same, permitting motion of said rods in the direction of the length of the car, a fender removably secured to the front portions of the rods, an auxiliary fender in rear of said front fender, and means for retaining and releasing said auxiliary fender, substantially as and for the purposes described.

5. The combination with the car-axles, of a substantially horizontal rod arranged on each side of the car and adjustably suspended from the axles and having a sliding connection with the same, permitting motion of said rods in the direction of the length of the car, a fender supported by said rods, and scoops in the rear of the fender carried by said rods and having their lower extremities in line with and adjacent to the rails, substantially as and for the purpose set forth.

6. The combination with the car-axles, of a horizontally-arranged rod on each side of the car and adjustably suspended from the axles, and having a sliding connection with the same, permitting motion of said rods in the direction of the length of the car, a fender removably secured to the front portions of the rods, an auxiliary fender in rear of said front fender, means for retaining and releasing said auxiliary fender, and means for locking the same in operative position, substantially as and for the purposes described.

7. The combination with the car-axles, of a horizontally-arranged rod on each side of the car and suspended from the axles, a fender supported by said rods, an auxiliary fender in rear of said front fender, and a series of scoops between the front fender and the auxiliary fender, substantially as and for the purposes described.

8. The combination with the car-axles, of a horizontally-arranged rod having hollow ends, on each side of the car and suspended from the axles, a spring-controlled rod in each hol-

low end and adapted to slide therein, a fender removably secured on said sliding rods and an auxiliary fender pivotally secured to the suspended rods and in rear of the front fender, substantially as and for the purposes described.

9. The combination with the car-axles, of a horizontally-arranged rod having hollow ends, on each side of the car and suspended from the axles, a spring-controlled rod in each hollow end and adapted to slide therein, a cross-piece connecting the sliding rods, a fender removably secured to said cross-piece and an auxiliary fender pivotally secured to the suspended rods and in rear of the front fender, substantially as and for the purposes described.

10. The combination with the car-axles, of a horizontally-arranged rod having hollow ends, on each side of the car and suspended from the axles, a spring-controlled rod in each hollow end and adapted to slide therein, a cross-piece connecting the sliding rods, a fender removably secured to said cross-piece, a series of scoops secured to said cross-piece and in rear of the fender, and an auxiliary fender in rear of said series of scoops and pivotally

secured on the suspended rods, substantially as and for the purposes described.

11. The combination with the car-axles, of a horizontally-arranged rod on each side of the car and adjustably suspended from the axles, and having a sliding connection with the same, permitting motion of said rods in the direction of the length of the car, a fender removably secured to the front portions of the rods, an auxiliary fender pivotally secured in rear of said front fender, a retaining and releasing device for the auxiliary fender operated by the inward movement of the front fender and adapted to release said auxiliary fender, notches or teeth formed on the face of the auxiliary fender, and pawls adapted to engage said notches or teeth when the said auxiliary fender is released, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of October, 1895.

ADAM SCHEID.

Witnesses:

ALFRED GARTNER,
WM. D. BELL.