

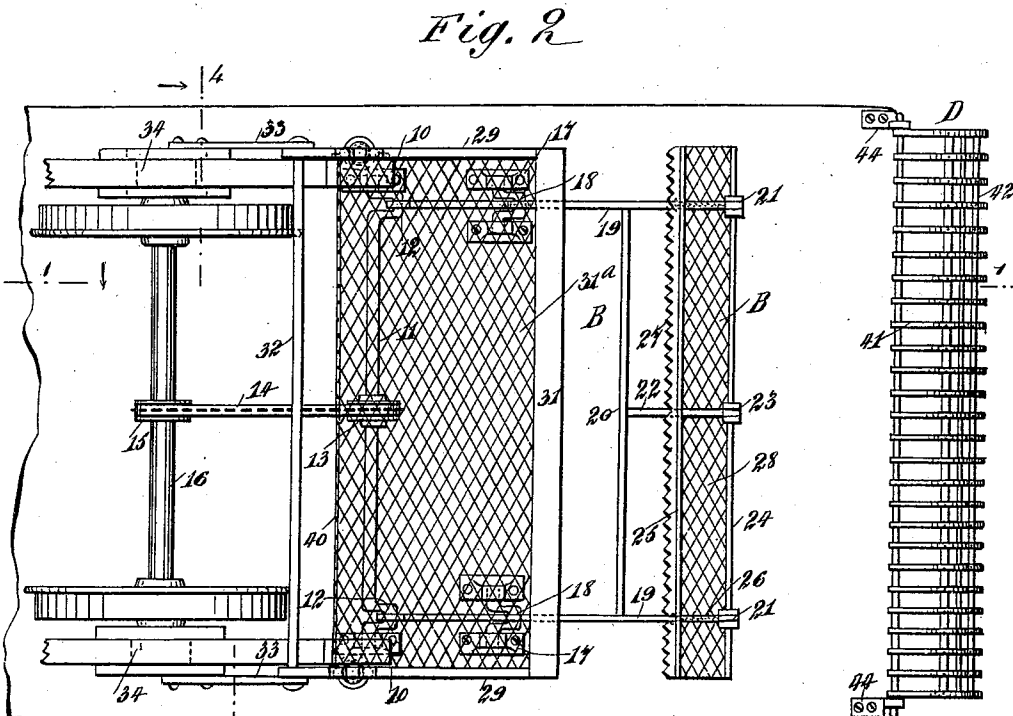
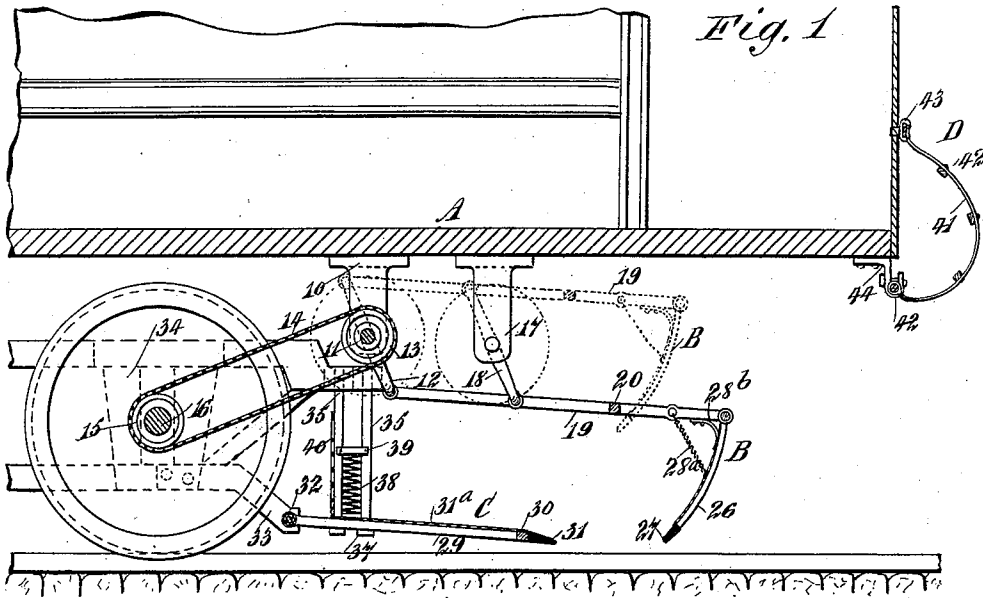
(No Model.)

2 Sheets—Sheet 1.

R. C. HOYER.
CAR FENDER.

No. 563,594.

Patented July 7, 1896.



WITNESSES: 4

C. Neveux
J. H. H. H.

INVENTOR

R. C. Hoyer.

BY Munn & Co

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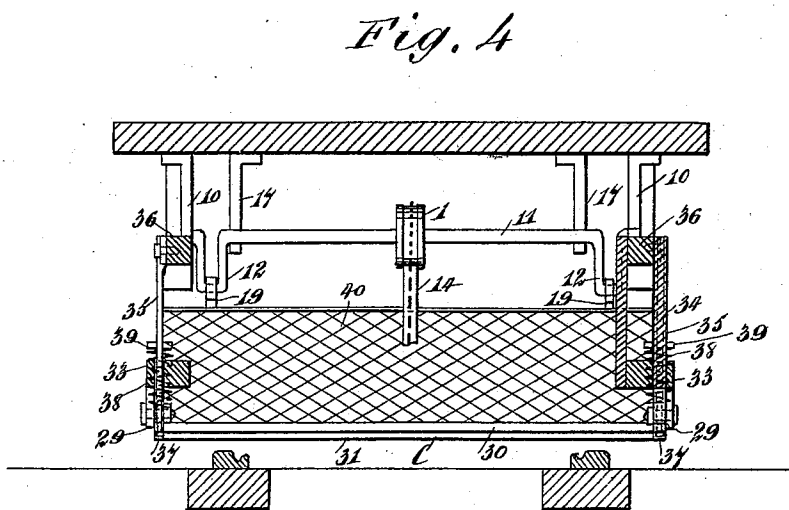
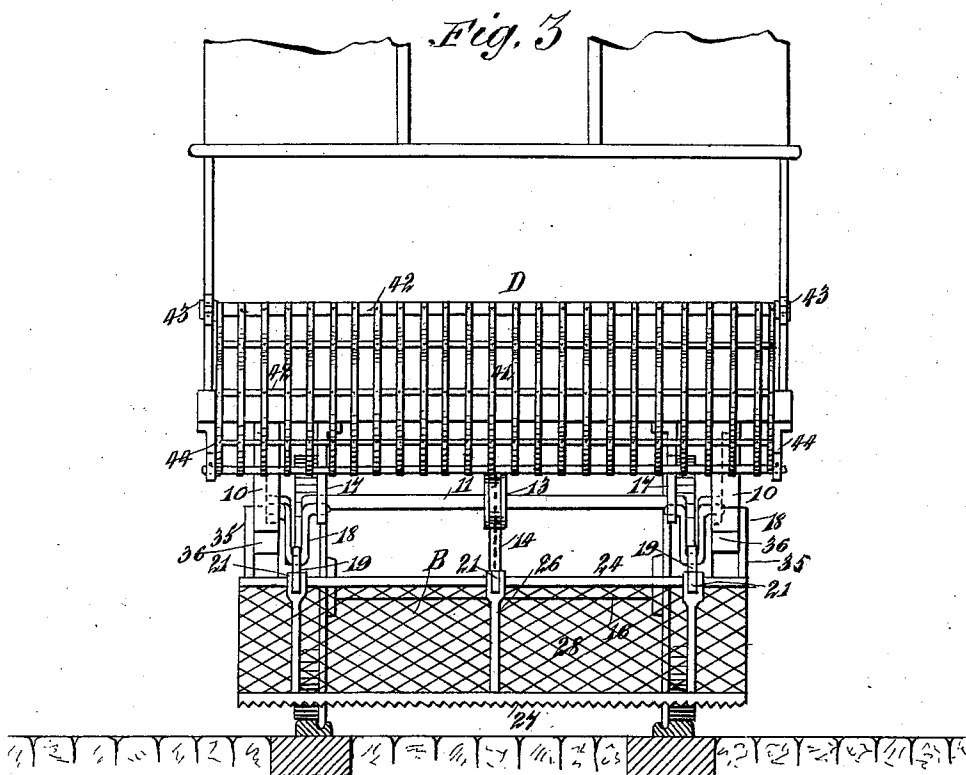
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2 Sheets—Sheet 2.

R. C. HOYER.
CAR FENDER.

No. 563,594.

Patented July 7, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

RUDOLPH C. HOYER, OF MEMPHIS, TENNESSEE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 563,594, dated July 7, 1896.

Application filed November 9, 1895. Serial No. 568,435. (No model.)

To all whom it may concern:

Be it known that I, RUDOLPH C. HOYER, of Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improvement in Car-Fenders, of which the following is a full, clear, and exact description.

My invention relates to an improvement in car-fenders, and the object of the invention is to provide a car with practically a double fender, the attachment comprising a fender which is practically stationary and is adapted to receive the object that may be in the path of the car and overtaken thereby, and a second fender which is given a rotary reciprocating movement and is intended to convey the object in the path of the car onto the receiving-fender, the latter being located beneath the body of the car, and provided with a shield which will prevent the object received thereon from being brought in engagement with the wheels.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the 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 figures.

Figure 1 is a longitudinal vertical section through a portion of the car-body, its running-gear, and the improved fender, the said section being taken practically on the line 1 1 of Fig. 2. Fig. 2 is a bottom plan view of the fender and that portion of the car to which it is attached. Fig. 3 is a front elevation of the lower portion of the car and the improved fender applied thereto, and Fig. 4 is a transverse section taken substantially on the line 4 4 of Fig. 2.

At each side of the bottom portion of the car a hanger 10 is secured, the said hanger being located between the forward outer end of the car-body and the wheels adjacent thereto. These hangers serve as bearings for a shaft 11, and the said shaft is provided near each end with a crank-arm 12, and at or near the center of the shaft a sprocket-wheel 13 is secured, connected by a link-belt 14 with a sprocket-wheel 15, located on the axle 16 of the car.

In advance of each of the hangers 10 a pair

of hangers 17 is secured to the bottom of the car, and in each pair of hangers a crank-arm 18 is journaled. The shaft 11 and crank-arms 18 are adapted to support an upper fender B and impart thereto a rotary reciprocating movement. This reciprocating fender is connected with the crank-arms 18 and 12 through the medium of side bars 19, the side bars being connected by a cross-bar 20 near their outer ends; and at the outer end of each side bar knuckles 21 are formed, and a short longitudinal bar 22 is projected outward from the transverse bar 20, terminating in a knuckle 23.

The upper fender B preferably comprises an upper bar 24, a lower bar 25, and a body 28, of woven wire or like material, together with downwardly and rearwardly curved vertical stay-bars 26; and a rubber or elastic cushion 27 is secured to the lower bar 25. Each of the vertical bars 26 of the fender is fitted to the knuckles 21 of the supporting-frame thereof, as shown in Fig. 3, so that the fender has a hinged connection with this frame. The fender is held at substantially a right angle to its supporting-frame by means of springs 28^b, (shown best in Fig. 1,) and the forward movement of the fender upon this frame is limited by chains 28^a, attached to the carrying or supporting frame, as is also shown in Fig. 1, or any equivalent of the chain may be employed.

The second or receiving fender C preferably consists of two side bars 29, connected by a forward cross-bar 30, to which bar an elastic cushion 31 is secured, and this cushion is preferably given an inclination upon its upper face, and a bed 31^a, of woven wire or an equivalent material, is secured to the aforesaid bars 29 and 30, and the side bars 29 extend rearward beyond the bed and are pivoted upon a rod 32, which extends transversely beneath the car in advance of the wheels and is supported by brackets 33, projected, preferably, from the truck 34, in which the wheels are journaled.

The fixed or lower fender C is some distance back of the reciprocating fender B, and the said fixed fender is held a predetermined distance from the ground through the medium of rods 35 or their equivalents, which are arranged in pairs at each side of the said

fender, being secured at their upper ends preferably to a portion of the framing 36 of the truck, as shown in Figs. 1 and 4. These rods pass loosely through the side bars of the fender and are provided with nuts 37 at their lower ends, whereby the downward movement of the said fender is limited, while the fender may have upward movement, controlled by means of springs 38, located between the rods 35 of each pair, the springs having bearing at the lower ends upon the upper surface of the fender and at their upper ends against caps 39, secured to the aforesaid bars, so that the springs 38 serve to return the fender to its lower position, which is at an outward and slightly downward inclination, in the event its forward or outer end should strike any obstacle or should be lifted upward. A screen 40 is secured to the back portion of the lower or stationary fender C, extending from side to side, so as to prevent persons or objects struck by or received on said fender from being brought in contact with the wheels of the car.

The car A is preferably provided with a buffer D at each of its ends, and each buffer consists of a series of arched and upright bars 41, connected by longitudinal bars 42. These longitudinal bars 42 are connected to the vertical bars 41 on the concave side, so as to present a smooth surface on the convex side. The buffer at its upper end is secured in clips 43, secured to the dashboard of the car at a suitable height from the bottom, while the lower end of the buffer is connected with brackets 44, secured to the bottom of the car.

If in practice it is found desirable, the buffers may be made removable from the front portion of the car, so that only one may be needed. The buffer can also be swung completely around on its lower edge and hung up underneath the car, to allow coupling, if necessary.

In the operation of the fender, while the car is in motion the upper fender B is given constantly a rotary reciprocating movement, as illustrated in dotted lines in Fig. 1, and will take up any object that may be in the path of the car and overtaken by it, delivering it in direction of the receiving-fender C, which fender will receive and will hold the object safely until the car may be stopped.

It will be understood that the body of the upper fender B acts in the capacity of a rake, and, owing to its yielding lower edge 27 and elastic covering to all outer protecting edges with which the prostrate body may come in contact, it will convey a person onto the receiving or substantially stationary fender without danger of material injury.

It is further evident that should the rake-like fender B strike any projection in the track it will yield in a rearwardly direction, so that the fender will not be in any wise injured.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. In a fender attachment for cars, a substantially fixed lower fender located beneath the car-body, a second fender mounted to have a rotary reciprocating movement, and means, substantially as shown and described, for operating the upper fender by the movement of the car, as and for the purpose specified.

2. In a fender attachment for cars, a fender adapted for pivotal support beneath the car, and devices for limiting its downward and upward movement, and a second fender adapted to be mounted beneath the car and to have rotary reciprocating movement, the upper fender being in advance of the lower fender, and a mechanism substantially as described, for imparting movement to the upper fender from the axle of the car, as and for the purpose set forth.

3. In a fender attachment to cars, the combination, with a car-body, cranks journaled beneath the car, a driving mechanism between said cranks and the axle of the car, a frame carried by the said cranks, and a fender projected downward from the said frame, of a second fender located beneath the frame of the upper one, being supported from the car in substantially a fixed position, the forward end of the lower fender being at the rear of the forward end of the said upper fender, as and for the purpose set forth.

4. In a fender attachment to cars, the combination, with the car-body and its running-gear, a crank-shaft journaled beneath the car in alinement with the crank-arms of the crank-shaft, and a driving connection, substantially as described, between the axle of the car and the said crank-shaft, of a fender provided with a frame connected with the aforesaid cranks, the fender having pivotal connection with its frame, being given a rearward inclination, and devices, substantially as described, for limiting the movement of the fender relative to the frame, and maintaining it normally in a predetermined position, of a second fender adapted to receive an object and supported in substantially a stationary manner below the frame of the upper fender, as and for the purpose set forth.

5. In a car-fender attachment, the combination, with the car-body and its running-gear, a crank-shaft journaled beneath the car and connected with the axle of its running-gear, and cranks journaled beneath the car in alinement with the crank-arms of the crank-shaft, of an outwardly-extending frame connected at its inner portions with the said cranks and crank-arms, a fender pivotally connected with the outer end of the said frame, extending downwardly therefrom, and limiting devices connected with the said fender, a second fender pivotally connected with the car and located below the aforesaid reciprocating frame, supports limiting the downward movement of the lower fender, and tension devices con-

trolling its upward movement, as and for the purpose set forth.

6. In a car-fender attachment, the combination, with the car-body and its running-gear, a crank-shaft journaled beneath the car and connected with the axle of the running-gear, and cranks journaled beneath the car in alignment with the crank-arms of the crank-shaft, of an outwardly-extending frame connected at its inner portions with the said cranks and crank-arms, a fender pivotally connected with the outer end of said frame, extending downwardly therefrom, and limiting devices connected with the said fender, a second fender pivotally connected with the car and located below the aforesaid reciprocating frame, supports limiting the downward movement of the lower fender, tension devices controlling its upward movement, a cushion of an elastic material secured upon the forward end of the lower fender, and a like cushion attached to the lower end of the reciprocating fender, the said reciprocating fender having a rearward curve, its concaved surface facing the outer end of the lower fender, as and for the purpose set forth.

7. In a fender attachment for cars, the combination, with a receiving-fender located beneath the car-body, of a reciprocating frame

located above the said fender, adapted to receive its motion from the axle of the car, a fender of a rake-like construction pivoted to the outer end of the frame, springs normally holding the rake-like fender at an angle to the said frame, and devices for limiting the outward movement of the fender and not interfering with its inward movement, as and for the purpose set forth.

8. A buffer, consisting of a series of horizontal slats and a series of vertical slats, the said vertical slats being curved in approximately a loop and connected to the horizontal slats, the vertical slats being provided with means for securing the buffer to a car, substantially as described.

9. In a car-fender, the combination of a main fender-section, a movable fender-section comprising an approximately horizontal portion and a downwardly-extending portion at the front end thereof, and means for imparting to the movable section a raking movement toward and from the main section, substantially as described.

RUDOLPH C. HOYER.

Witnesses:

G. M. PEOPLES,
J. R. PROTHRO.