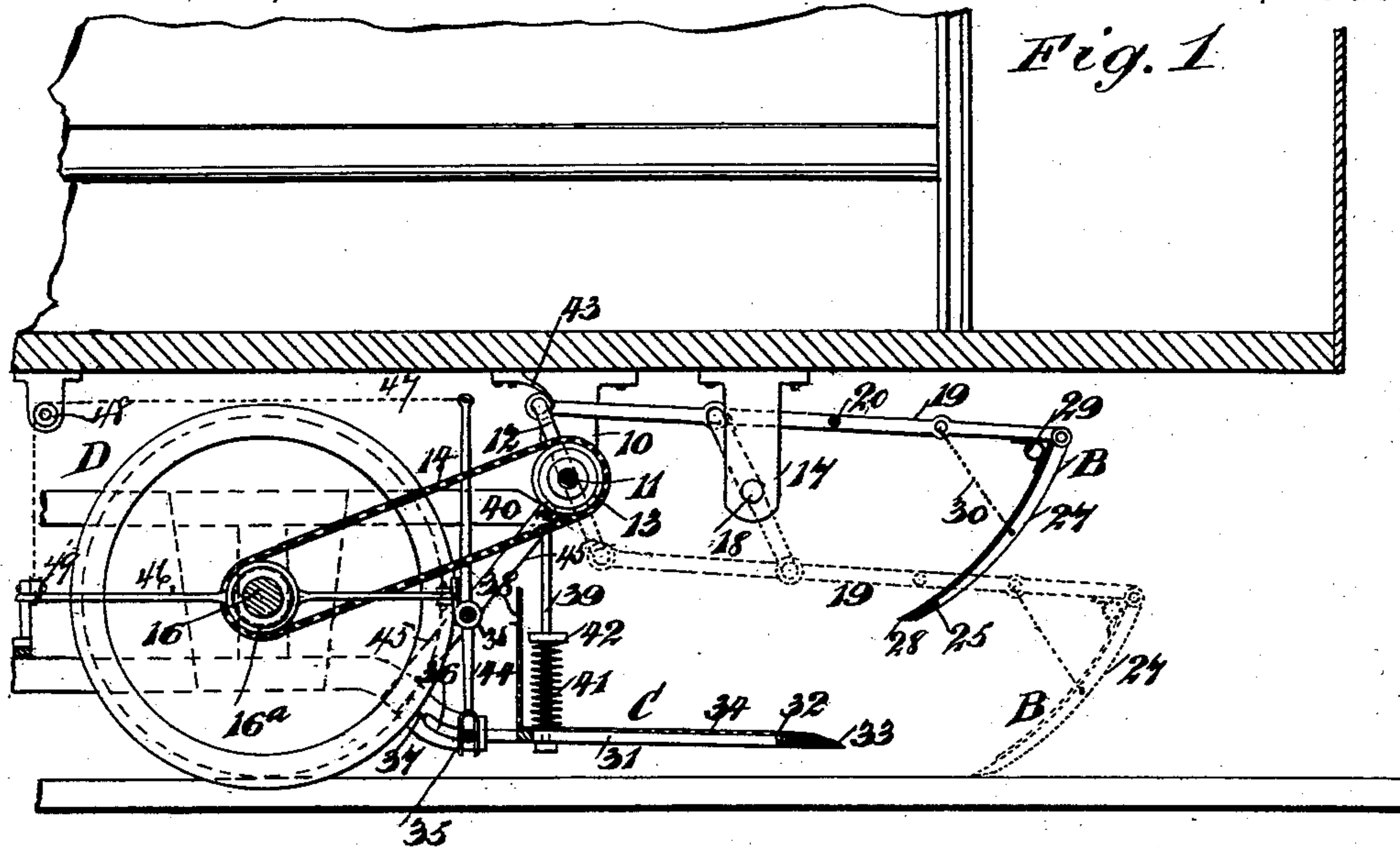


(No Model.)

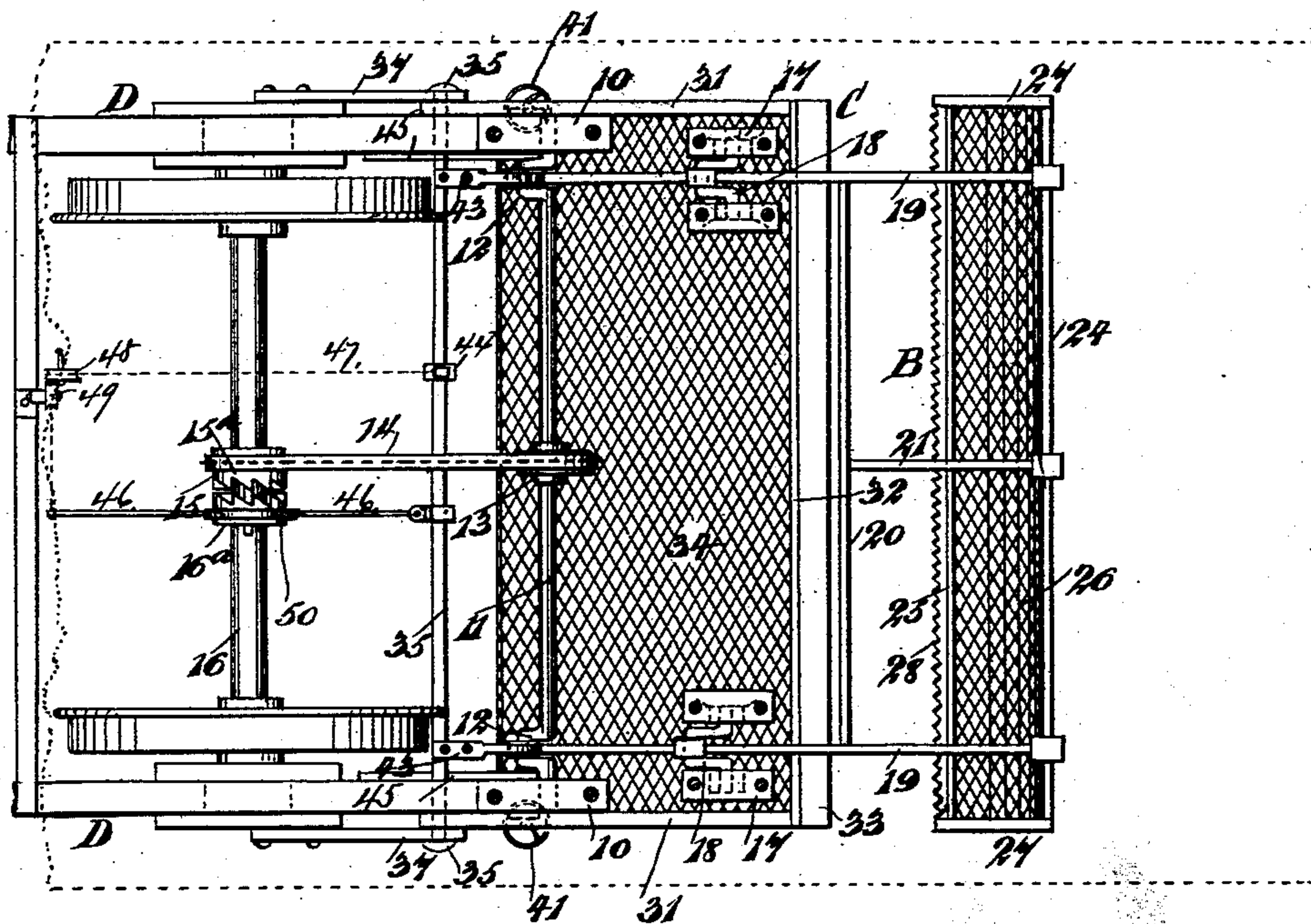
R. C. HOYER.  
CAR FENDER.

No. 570,758.

Patented Nov. 3, 1896.



*Fig. 2*



WITNESSES:

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*J. H. Acker*

INVENTOR

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BY

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ATTORNEYS.



# UNITED STATES PATENT OFFICE.

RUDOLPH C. HOYER, OF MEMPHIS, TENNESSEE.

## CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 570,758, dated November 3, 1896.

Application filed April 29, 1896. Serial No. 589,493. (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 Improved Car-Fender, of which the following is a full, clear, and exact description.

My invention relates particularly to an improvement on the car-fender for which an application for Letters Patent was filed by me November 9, 1895, and allowed January 21, 1896, Serial No. 568,435.

The object of the invention is to simplify the construction of the fender, and principally to provide a means whereby the under or receiving fender will have a rearward movement upon striking an obstacle, and will immediately set in operation the rocking or upper member, the latter being held stationary beneath the car when its services are not required.

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 both figures.

Figure 1 is a central vertical section through one end of the body portion of a car-body and through the running-gear beneath the same, the said section being likewise carried through the fender, which is shown in two positions; and Fig. 2 is a plan view of a portion of the running-gear and fender, the body of the car having been removed.

At each side of the bottom portion of the car a hanger 10 is secured, the said hanger being secured between the 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 or on one side of the shaft a sprocket-wheel 13 or its equivalent is secured, connected by a belt 14 with a similar wheel 15, loosely mounted upon the car-axle 16, the said wheel 15 having a clutch-face 15<sup>a</sup> to be engaged by a clutch 16<sup>a</sup>, mounted to slide on the axle or to revolve therewith, and the axle-clutch is preferably provided with any form of spring

placed so as to normally hold the two clutch-surfaces separated.

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 the crank-arms 18 are adapted to support an upper fender B and impart thereto a rotary reciprocating rake-like motion. This reciprocating or rake-like fender is connected with the crank-arms 18 and 12 through the medium of side bars 19, the side bars being connected by suitable cross-bars 20, and the side bars 19 at their forward ends, together with an intermediate longitudinal bar 21, have a knuckle or hinge connection with the upper portion of the frame of the body of the aforesaid fender, which body preferably comprises a lower longitudinal bar 25 and a body 26 of woven wire or a like material, together with downwardly and rearwardly curved stay or end bars 27, and a rubber or elastic cushion 28 is secured to the aforesaid lower frame-bar 25. The body of the upper or reciprocating fender has a tendency to move forwardly by reason of springs 29 being placed between the body and the arms connected therewith, as shown in Fig. 1, and the body is held at a predetermined angle to its supporting-arms through the medium of chains 30 or their equivalents, as is likewise shown in Fig. 1.

The second or receiving fender C preferably consists of two side bars 31, connected by a forward cross-bar 32, to which an elastic cushion 33 is secured in any suitable or approved manner, the upper face whereof is given ordinarily an inclination downwardly and forwardly, and a bed 34 is supported upon the frame thus constructed. The side bars 31 of the lower or receiving fender are carried rearward to a point in front of the forward truck, and are connected by a cross-bar 35, the said cross-bar being held to slide in upwardly-curved slots 36, produced in hangers 37, which ordinarily constitute downward and forward continuations of the lower portion of the aforesaid truck D.

A vertical shield 38 is secured transversely at the rear portion of the body of the lower or receiving fender C, and the fender is supported in a substantially horizontal position



by making the center of gravity in a vertical plane passing through the points of support and through the medium of rods 39, loosely passed through the side bars of the fender near the guard or shield 38, and the rods terminate at their lower ends in suitable heads, being pivoted at their upper ends to projections 40 from the upper outer portions of the truck D at its sides, or from any other convenient support. A spring 41 is made to surround each supporting-rod 39, and the said springs rest upon the bed of the fender and bear against collars 42, secured upon the aforesaid rods, so that in the event the lower fender should meet with a stone or any object calculated to lift it it may be pressed upward against the tension of the springs 41, the latter restoring the fender to its normal position after such obstruction has been passed. The fender C may be held in a horizontal position by springs secured to the hangers 37 at the slots 36, if it should be found necessary on account of steep grades and jerking motion of the car when suddenly stopped.

It will be understood that the lower or receiving fender C, by reason of its swinging support and its guided movement in the slots of the hangers 37, will be pressed rearward when struck by an object lying in its path, and that upon the rearward movement of this fender it will be given an inclined position, and the inclination will be to such an extent as to practically bring its cushion 33 upon the road-bed or quite near thereto.

The upper or reciprocating fender B, when not required, is carried to its upper position quite close to the bottom of the car, as shown in positive lines in Fig. 1, the crank-arms supporting the fender being given a decided rearward inclination at that time, and latches 43 are attached to the bottom of the car or to any adjacent support, which latches preferably consist of strips of spring metal so arranged and of such dimensions as to engage with the rear crank-arms 12 and hold the fender in its upper or inoperative position.

The upper or reciprocating fender is adapted to be set in motion immediately upon the lower or receiving fender C being brought into action, and this is accomplished, preferably, by connecting the lower end of a lever 44 with the connecting-bar 35 at the rear of the receiving-fender, and the said lever 44 is fulcrumed upon a shaft extending from side to side of the truck and journaled in brackets 45, located at the forward side portions of the truck.

The lever 46 extends forward and rearward from the clutch 16<sup>a</sup>, and the forward end of this lever has a hinged connection with the shaft 35 or other convenient support, the lever being capable of lateral movement sufficient to carry the clutch 16<sup>a</sup> in or out of contact with the clutch-face of the wheel 15. A chain or cable 47 is attached to the upper end of the shifting-lever 44 and is carried rearward over a pulley 48, secured beneath the

car-body, and from thence over a second and lower pulley 49 to a connection with the rear end of the clutch-lever 46. Therefore when the receiving-fender C is carried rearward and placed in position to take up an object on the track the shifting-lever will have been operated in a manner to bring the clutch-lever in such action as to carry the clutch 16<sup>a</sup> in engagement with the clutch-surface of the wheel 15 on the axle, rotating the crank-shaft 11, connected with the upper fender, whereupon the upper fender will travel forwardly and downwardly until its cushioned edge will strike the ground, as shown in dotted lines in Fig. 1, and at the rearward and upward movement of the raking-fender the object between it and the receiving-fender will be carried positively and quickly upward upon the receiving-fender, assisted by the momentum of the car. The inclination of the body portion of the reciprocating or rake-like fender is such that it will strike the ground quite close to the body and yet in such a manner as not to injure the same by a quick contact.

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

1. In a fender attachment for cars, a lower fender having pivotal movement, and a second fender mounted to reciprocate to and from the lower fender, one fender being set in operation by the other, as and for the purpose specified.

2. In a fender attachment for cars, a lower pivotal fender, an upper fender mounted to have rotary reciprocating movement to and from the lower pivoted fender, driving mechanism for the upper fender, and means for setting the said driving mechanism in operation by the movement of the lower fender, as and for the purpose specified.

3. In a fender attachment for cars, a lower fender, a spring-support for the same, an upper fender mounted to rotarily reciprocate to and from the lower fender, a driving mechanism connecting the axle of the car with the upper fender, and a shifting device controlled by the movement of the lower fender and controlling the driving mechanism for the upper fender, as and for the purpose specified.

4. In a fender attachment for cars, a lower fender adapted to receive an object, an upper fender mounted to reciprocate to and from the lower fender, latches arranged to hold the upper fender in an upper inactive position, a driving device for the upper fender, and a trip mechanism operated from the lower fender and operating the aforesaid driving mechanism, as and for the purpose specified.

5. In a fender attachment for cars, the combination, with a fixed portion of the running-gear extending forwardly of the wheels of the truck, a receiving-fender having sliding movement in the projection of the running-gear, hangers pivoted to a support and connected with the aforesaid fender, a second fender lo-



cated above the lower or sliding fender, the  
upper fender comprising arms mounted to  
laterally reciprocate, and a body portion car-  
ried by the arms and curved rearwardly and  
5 downwardly in direction of the receiving-  
fender, the upper fender having a rake-like  
action, substantially as described, a latch de-  
vice for the said upper fender, a driving con-  
nection between the upper fender and an

axle of the car, and a shifting device oper- 10  
ated by the movement of the lower or receiv-  
ing fender and operating to place the driving  
mechanism in operation, as and for the pur-  
pose specified.

RUDOLPH C. HOYER.

Witnesses:

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