

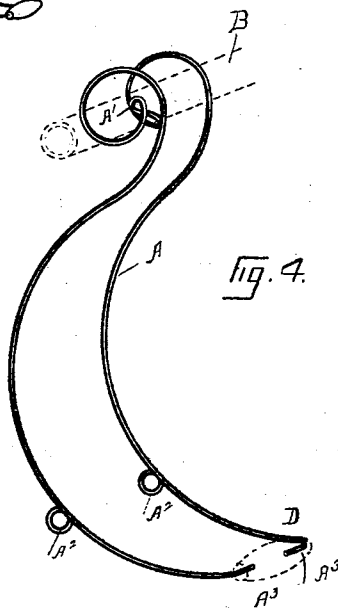
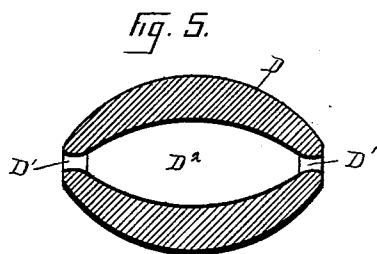
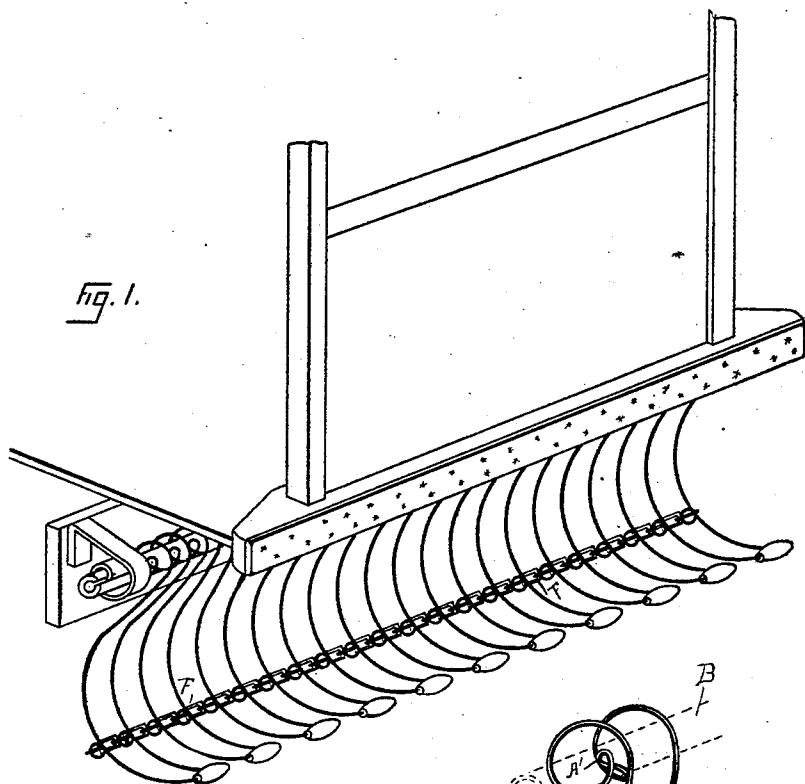
(No Model.)

2 Sheets—Sheet 1.

P. B. DONAHOO.
CAR FENDER.

No. 564,599.

Patented July 28, 1896.



WITNESSES:

Baldwin Vale
Chas. J. Ambruster

INVENTOR

Peter B. Donahoo

BY

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ATTORNEYS

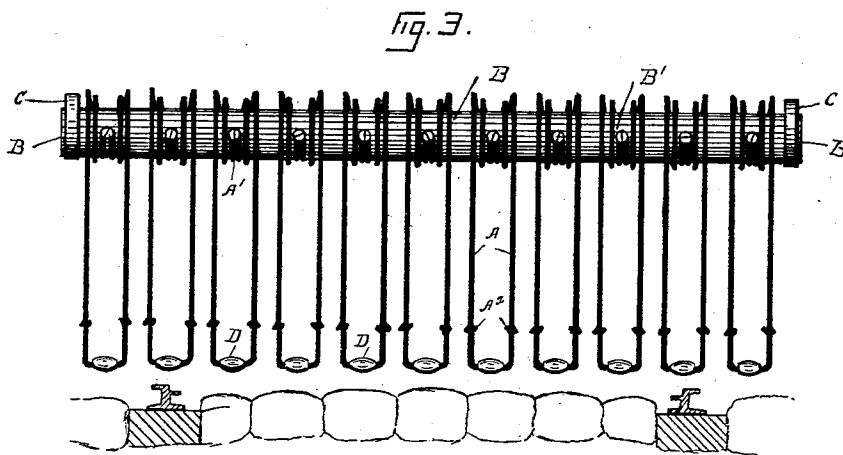
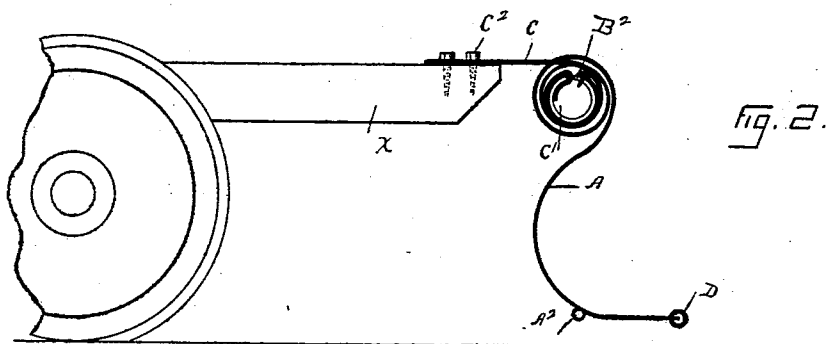
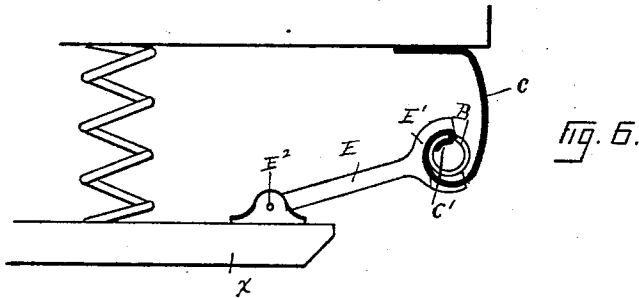
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UNITED STATES PATENT OFFICE.

PETER B. DONAHOO, OF SAN FRANCISCO, CALIFORNIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 564,599, dated July 28, 1896.

Application filed November 11, 1895. Serial No. 568,593. (No model.)

To all whom it may concern:

Be it known that I, PETER B. DONAHOO, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have 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 said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practise the same.

This invention relates to car-fenders, and has for its objects to strike the person to be raised with a resilient blow to prevent injury by reason of the impact, to overcome liability to breakage of the fender, to ride the grades on starting up a hill, and to prevent the person from being caught under the fender.

The invention consists in constructing a fender or guard to extend in the path of the car of a number of spring-arms to act independently; in providing the members with rollers at their forward end to prevent their being caught by the ground and forced back; and in binding the arms together by a flexible connection to cause them to act in unison for greater strength.

In the drawings, Figure 1 is a perspective view of the invention as applied to a car. Fig. 2 is a side elevation of the same, showing one manner of connecting the fender to the trucks. Fig. 3 is a front elevation of the same. Fig. 4 is a detail view in perspective of one of the arms bent in shape, the dotted line showing the mounting-bar and ground-roller. Fig. 5 is an enlarged detail in section of the ground-roll. Fig. 6 is a side elevation of the mounting-bar as applied to the body of the car instead of the trucks.

For purpose of description with reference to the drawings, we will let the letter A designate the spring-arms of which the fender is constructed. The arms are constructed of spring-wire to the form shown at Fig. 4 of the drawings, the upper end being twisted to form the loop A' to receive a bolt which holds the arm on the mounting-bar B. The arms are so formed as to hug the bar B one-half or three-quarters around it and sprung away on top and in front to give greater spring. At the lower and forward end the arms are bent to form the hooks A³, which extend into

the rollers D. These rollers are formed of cast metal and are cored out to form the hollow D², to obviate any tendency on the part of the hooks A³ to catch and jam. Intermediate the upper and lower ends of the arms the wire on either side is bent to form loops A² for the reception of the links of the chain F.

The mounting-bar is a hollow metal bar of suitable diameter and extends the full width of the car.

The arms A, when bent as shown and described, are mounted on the mounting-bar by the flat-headed screws B', which enter perforations prepared for them in the bar B. The rollers are then mounted on them by spreading the two arms of which they are composed and inserting the hooked ends A³ through the perforations D' in the ends of the roller D. The chain F is then attached, one link catching each of the loops A², under which it rests. The arms A are now bound securely together in such a manner as to permit a slight amount of movement in each arm independently of the other arm, while at the same time not permitting an entirely independent movement. In this manner I provide for a greater resiliency, by reason of the fact that some one part of the person is struck before the body is lifted. Thus, if the shoulder is struck, the initial strain is carried by one or two of the arms A, which give slightly before the strain is transmitted to all the arms by the chain F, and the full strength of the fender-arms is brought into play. When thus mounted, the bar B is suspended from either the car body or the truck by the heavy strap-springs C, which are secured to the body or truck by bolts C², and to the bar by being inserted and clamped in the slots B² in the ends of the bar. The springs C are bent around the bar in a coil, as shown.

By the use of the springs C any heavy shock on the fender which might endanger the light construction is relieved by the springs C, which give before a breaking strain is exerted on the arms of the fender.

In its operation, when the end of the fender strikes an object, the arms A give, and in so doing turn on the bar B as a center. The arch described by the forward ends carries them instantly down on the ground and con-

sequently in position to pass under the person. Further movement on the part of the car forces the ends of the arms under the person and causes him to roll up onto the fender, where the combined strength of the arms holds him suspended. By thus mounting the arms A to allow for a slight independent movement, any accident, such as a person getting an arm caught under the front of the fender and being jammed under to be broken or torn, is provided against. If in this fender the arm of the person passes under, the particular arm A, which it strikes, will give and spring to one side, allowing the arm of the person to pass between the fender arms, while the body is struck and lifted by the rest of the fender.

When it is desired to mount this fender on the body of the car, the yoked arm E, mounted on the truck, should be used. The necessity for its use exists in the rocking of the body of the car on the trucks. This would raise and lower the end of the fender, so that it would be at a dangerous height at one instant and striking the ground at the next. The arm E is pivotally mounted in the plate E², on the truck X. At the forward end it is provided with the yoke E', which engages the

bar B. In mounting the spring C on the body considerable tension in a backward direction is given to seat the bar in the yoke E'. It will be observed that with this construction the action of the arm E is to throw the bar B forward as the body of the car and the truck approach each other, and the spring C forces the bar back as the car body and truck separate. In this manner the forward end of the fender is maintained at a constant level, as the arc of its movement is from the center, where the springs C are attached to the car-body.

Having thus described this invention, what I claim is—

In a car-fender, the combination of a mounting-bar, with a series of double spring-arms extended forward and adapted to act independently the one of the other, rollers adapted to receive the ends of the double spring-arms and prevent the ends catching and binding in the track, substantially as described.

In testimony whereof I have hereunto set my hand this 22d day of October, 1895.

PETER B. DONAHOO.

Witnesses:

J. T. STONE,

E. F. MURDOCK.