

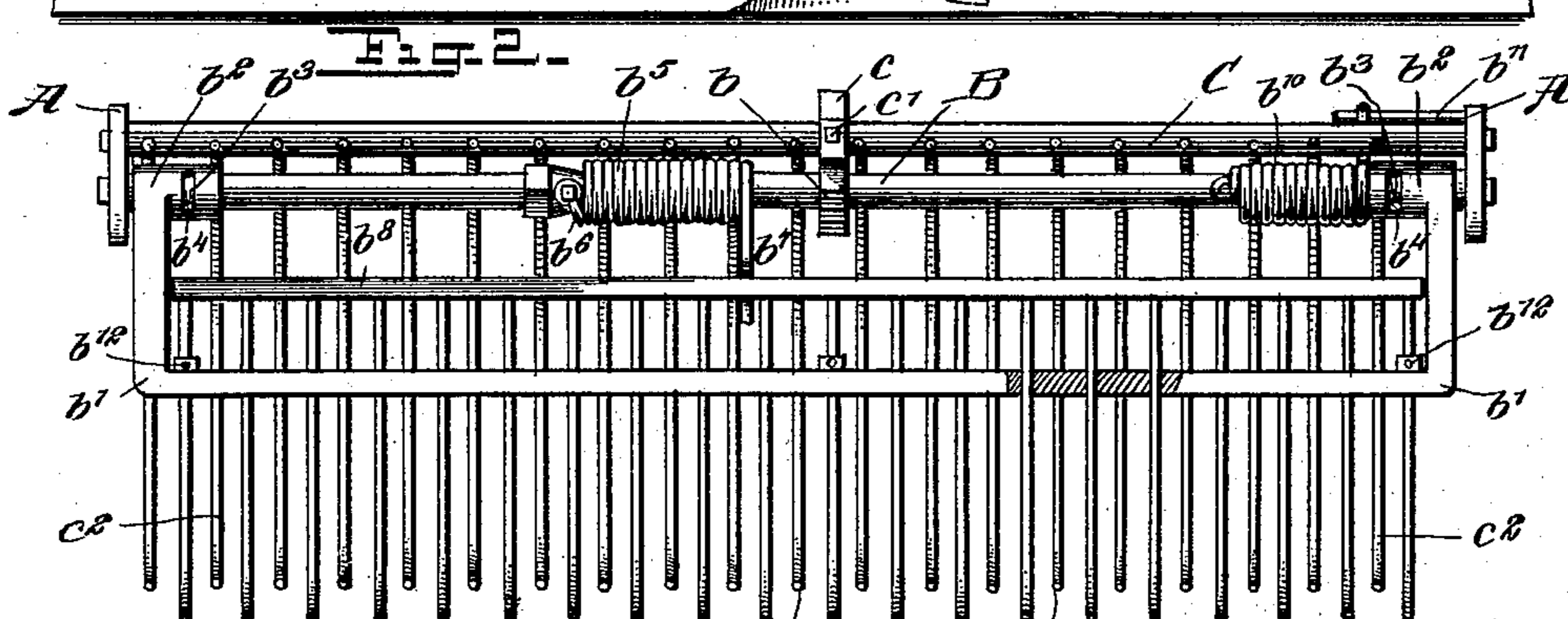
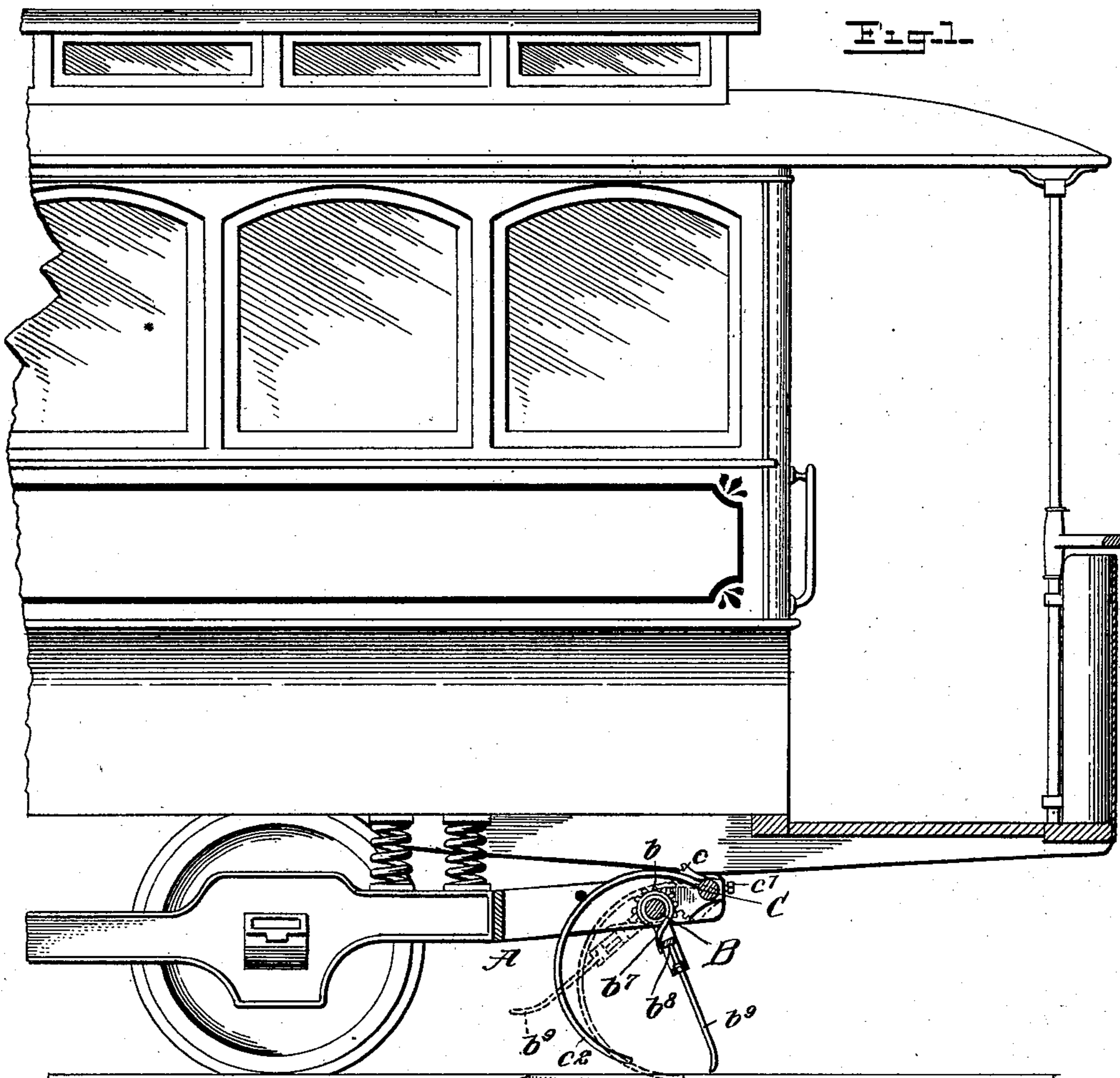
No. 692,691.

Patented Feb. 4, 1902.

C. M. MOORE.
CAR FENDER.

(Application filed June 7, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

CLIFTON M. MOORE, OF MONROE, MAINE.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 692,691, dated February 4, 1902.

Application filed June 7, 1901. Serial No. 63,553. (No model.)

To all whom it may concern:

Be it known that I, CLIFTON M. MOORE, a citizen of the United States, and a resident of Monroe, in the county of Waldo and State of Maine, have invented a new and useful Car-Fender, of which the following is a full, clear, and exact description.

My invention seeks to provide street-cars, automobiles, and similar vehicles with a new and improved fender which is simple in construction, efficient in operation, and easily placed in position.

The fender consists, essentially, of two shafts geared together to rock in opposite directions, one of the shafts carrying short teeth and the other long curved teeth. The obstacle on the road as it strikes the teeth of the first-named shaft causes the said shaft to rock, so that the teeth of the second-named shaft are thrown down to receive the obstacle. Devices are also provided whereby the teeth of the first-named shaft can be adjusted to conform with the varying load on the car and the inequalities of the road.

The invention consists, further, of novel features and parts and combinations of the same, as will fully appear hereinafter and will be pointed out in the claims.

A practical embodiment of my invention is shown in the accompanying drawings, forming a part of this specification, similar characters of reference indicating corresponding parts in both the figures.

Figure 1 is a side elevation of a car, showing the fender in section; and Fig. 2 is an end elevation of the fender with portions broken away.

The fender consists of a frame, the side arms A of which are secured to the truck-frame of the car or in any other convenient position. In these arms A two rock-shafts B and C are journaled. On the rock-shaft B a pinion b is rigidly secured, which pinion meshes with a segment-gear c , adjustably held on the rock-shaft C by a set-screw c' . If it be so desired, however, the pinion may be adjustably held on its shaft and the segment-gear rigidly fastened, or both segment-gear and pinion may be adjustably secured on their respective shafts. By reason of this gearing the one shaft when turned will rock the other shaft in the opposite direction.

On the shaft B a frame b' is hung by means of loose sleeves b^2 , formed with slots b^3 , which receive pins b^4 , projecting from the shaft B. By reason of this construction the frame b' has a limited independent swinging movement. The frame is constantly acted upon by a spring b^5 , coiled about the shaft B, one end b^6 of said spring being fastened to the shaft B and the other end b^7 pressing against a bar b^8 , extending across the frame b' . The spring b^5 serves the purpose of restoring the frame b' to normal position after it has moved back.

The shaft B is provided with a second coil-spring b^{10} , one end of which is secured to the shaft B and the other end to the adjacent arm A either directly or by means of a pin b^{11} . The spring b^{10} serves the purpose of restoring the parts of the fender to normal position after operation. To the bar b^8 spring teeth or prongs b^9 are secured, which teeth or prongs pass downwardly through the bottom cross-bar of the frame b' and are inwardly curved at their lower ends, as clearly shown in Fig. 1. These lower ends of the spring teeth or prongs b^9 are normally immediately above the road. The teeth b^9 may be adjusted vertically, if it be so desired, by providing the end teeth b^9 with adjusting-collars b^{12} and set-screws. Any approved adjusting means may be used.

The rock-shaft C is provided with long outwardly-curved spring teeth or prongs c^2 , which are designed to receive an object encountered on the road and are so arranged as to pass between the teeth b^9 when the shafts B and C are rocked. An obstacle encountered on the road will first strike the teeth of the shaft B. Yielding before the obstacle as the car moves on, the teeth b^9 will be moved backwardly and upwardly, as shown by dotted lines in Fig. 1, thereby rocking the shaft B. Through the medium of the gearing the rock-shaft C will be turned in the opposite direction, so as to throw the teeth c^2 down between the teeth b^9 to receive the object, as clearly shown in Fig. 1. The rotation of the shafts tightens the coiled spring b^{10} . When the object caught by the fender is removed, the spring b^{10} relaxes and returns both shafts to their normal positions. It is a distinctive feature of my fender that one of

its elements yields before the object to break the force of the impact and that the other element receives the object.

Should inequalities or an obstruction in the road prevent the teeth c^2 from describing their full arc, the teeth b^9 will still move backwardly between the teeth c^2 by reason of the limited movement of the frame b' . The spring b^5 will restore the teeth b^9 and the frame b' to normal position.

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

1. A fender comprising two members mounted to move toward each other, the one member being adapted to yield on impact with an object, and the other member being adapted to receive the object.

2. A fender comprising two members mounted to move toward each other, and means for returning the two members to their initial positions, the one member being adapted to yield on impact with the object, and the other member being adapted to receive the object.

3. In a car-fender, a rock-shaft provided with curved, resilient teeth; and a second rock-shaft provided with depending teeth; the teeth of the first shaft being adapted to move between the teeth of the second shaft.

4. In a car-fender, the combination of two rock-shafts geared together so as to move in opposite directions, each of the rock-shafts being provided with teeth, the teeth of the one rock-shaft being adapted to move between the teeth of the other rock-shaft to make way for an object.

5. In a car-fender, the combination of two resilient rakes oppositely curved and mounted to move toward each other, one of the rakes being adapted to yield before an object and the other rake being adapted to receive the object, the teeth of the one rake being received between the teeth of the other rake.

6. A car-fender consisting of two rock-shafts mounted to turn in opposite directions; a yielding member depending from one rock-shaft; and a curved, resilient member projecting from the other rock-shaft, the yield-

ing member being swung upwardly by an object, and the curved, resilient member being simultaneously moved downward to receive the object.

7. A fender comprising two rock-shafts adapted to turn in opposite directions; inwardly-curved teeth secured to the one rock-shaft and arranged to yield upon impact with an object; outwardly-curved resilient teeth secured to the other rock-shaft and arranged to receive the object; and means for returning the parts to their normal positions.

8. A car-fender comprising a frame; two rock-shafts journaled in the frame; gears connecting the rock-shafts, one of the gears being adjustable; curved spring-teeth on one of the shafts; teeth on the other rock-shaft adapted to be received between the curved spring-teeth on the other shaft; and a spring on one of the shafts whereby the said shafts are returned to their normal positions.

9. A car-fender comprising two members arranged to swing toward and from each other, the one member, in addition to its swinging movement, having an independent limited yielding movement.

10. A car-fender comprising two members arranged to swing toward and from each other, the one member, in addition to its swinging movement, being adapted to yield independently and being adjustable relatively to the road.

11. In the herein-described car-fender, the combination of a rock-shaft, a frame yieldingly mounted on the rock-shaft by means of a slotted sleeve and a spring; a pin projecting from the rock-shaft through the slot of the sleeve and serving the purpose of limiting the independent movement of the frame; and a tooth-bar extending across the frame and having means whereby it may be adjusted relatively to the ground.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLIFTON M. MOORE.

Witnesses:

EDWIN P. TREAT,
BERNARD J. HOLMES.