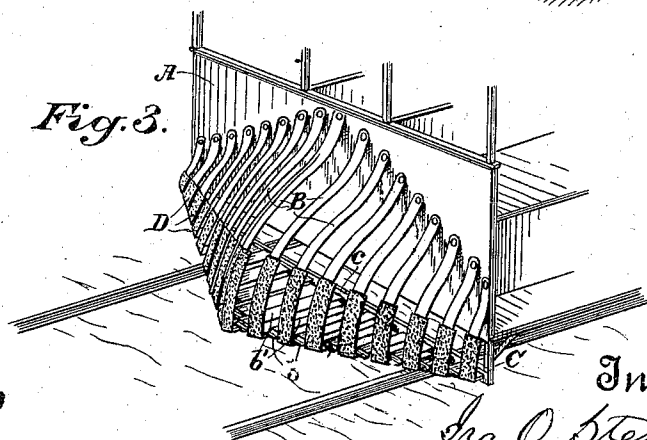
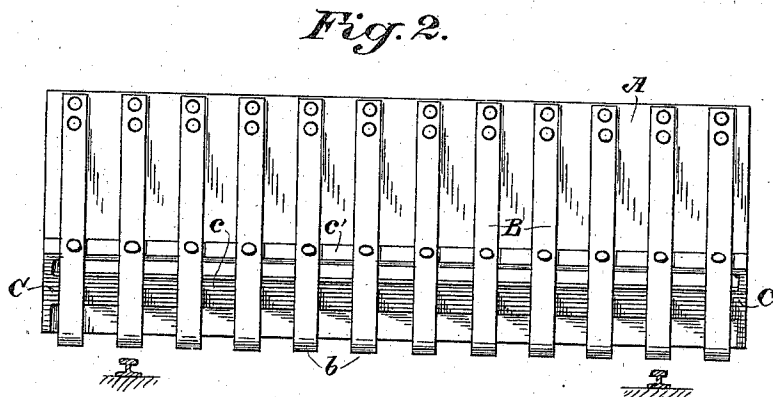
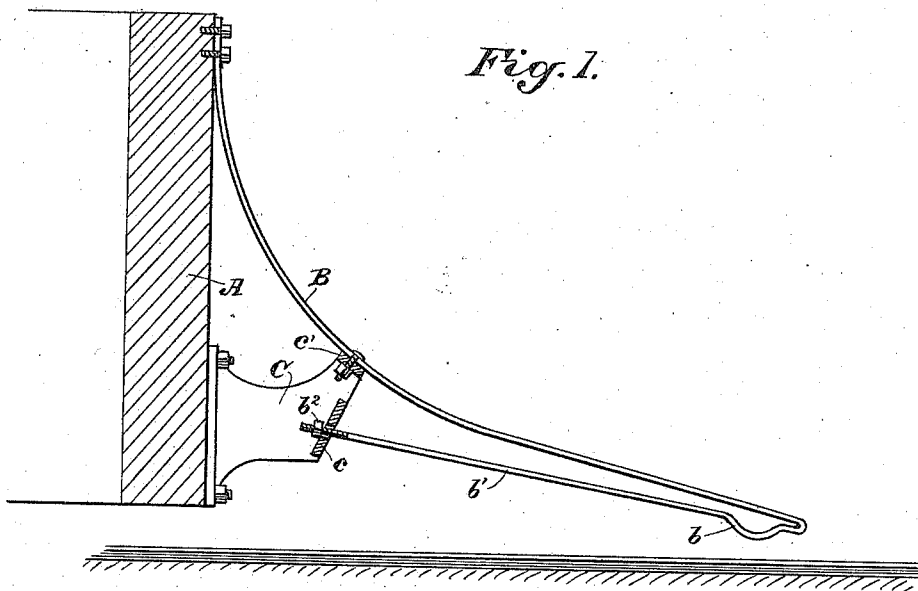


(No Model.)

I. O. STEPHENS.
CAR FENDER.

No. 576,283.

Patented Feb. 2, 1897.



Witnesses,
R. H. Moore
J. F. Aschbeck

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UNITED STATES PATENT OFFICE.

IRA O. STEPHENS, OF OAKLAND, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
CHARLES L. CLOUGH, OF SAN FRANCISCO, CALIFORNIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 576,283, dated February 2, 1897.

Application filed October 29, 1896. Serial No. 610,415. (No model.)

To all whom it may concern:

Be it known that I, IRA O. STEPHENS, a citizen of the United States, residing at Oakland, county of Alameda, State of California, have
5 invented an Improvement in Car-Fenders; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of car-fenders in which independently-acting spring
10 or yielding bars are employed.

My invention consists in a car-fender composed of a series or plurality of independent spring or yielding bars extending downwardly and forwardly into proper proximity with the
15 road-bed, and thence curved or bent under and extending rearwardly, the extremities of their rear extensions being slidably connected with a suitable guide.

The object of my invention is to provide a
20 car-fender of this general class in which the independently-acting bars shall tend under contact with an obstructing body to positively move downwardly to the road-bed, which result is obtained by means of their rear
25 extensions, the connections for which are of such a character as to cause them to control their bars in a proper direction and prevent them from rising when struck.

Referring to the accompanying drawings,
30 Figure 1 is a side elevation of my fender. Fig. 2 is a front view. Fig. 3 is a perspective view of my fender in another shape.

In the drawings I have shown my fender in different general shapes, according as it is desired to employ the basket or scoop idea of
35 picking the body up or receiving it in the fender, or the buffer idea of breaking the force of the blow and pushing the body off the track.

In Figs. 1 and 2, A represents a frame-bar which may be a part of the truck or of the car-body, as the case may be. B are spring
40 or yielding bars, which project forwardly and downwardly in a suitable concave curve into proper proximity with the road-bed. These bars are practically independent of each other, as they project so far beyond their last line of connection that they act separately. Each
45 bar at its forward extremity is bent under itself and thence extends backwardly, being

formed, if desired, into a shoe *b* for striking the road-bed when the bar is forced down. Thence the bar is formed or provided with a rear extension *b'*, extending rearwardly and having its extremity forming some kind of a
55 slidable connection with a fixed guide. This connection may be variously formed, but in its best form it consists of a fixed bracket C, having a front bar *c*, provided with holes through which the extremity of the rear ex-
60 tension *b'* plays slidably and freely, and in which said extremity is limited and held by nuts *b²*. The bracket has also a top bar *c'*, to which the bars B are secured above. When an obstructing body is encountered, the tend-
65 ency of the blow is to force the forward ends of bars B down rather than up, for the reason that they can freely move down, because their rear extensions *b'* will slide freely back in
70 their guide-bar *c*, but they cannot move up with any freedom at all, being held by said extensions, which, on account of their stop-nuts *b²*, cannot pull forwardly. Thus the bars B are controlled in the right direction.

In Fig. 3 I have shown the bars B as ar-
75 ranged in the general shape of the ordinary pilot for pushing the obstructing body away. In this case said bars have similar rear extensions and similarly guided and connected, and in addition there may be added to the
80 bars cushions D. In this form, as in the other, the tendency of the bars is down and not up, and for the same reason—namely, the rear extensions *b'*.

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

1. A car-fender composed of independent spring or yielding bars, the forward ends of
90 which extend to within proper proximity with the road-bed, rearwardly-extending pieces from the forward ends of said bars, and slidable connections at the rear ends of said pieces for permitting the forward ends of the bars to
95 move down, but holding them from rising.

2. A car-fender composed of independent spring or yielding bars, the forward ends of which are bent under and thence pass back-
wardly as rear extensions, and a slidable con-
100 nection at the rear ends of said rear exten-

sions for permitting the forward ends of the bars to move down, but holding them from rising.

3. A car-fender composed of independent
5 spring or yielding bars, the forward ends of which extend to within proper proximity with the road-bed, rearwardly-extending pieces from the forward ends of said bars, and a fixed guide-bar through which the rear ex-
10 tremities of said pieces pass and are slidingly connected, permitting lineal movement.

4. A car-fender composed of independent spring or yielding bars, the forward ends of which are bent under and thence pass back-
15 wardly as rear extensions, and a fixed guide-bar through which the rear extremities of said rear extensions pass and are slidingly connected, to permit lineal movement.

5. A car-fender composed of independent
20 spring or yielding bars having the underlying rear extensions slidably connected at their

rear extremities and formed with bearing-shoes near their forward ends.

6. A car-fender composed of independent spring or yielding bars having the underlying
25 rear extensions, and the fixed bracket having the front bar with holes in which the rear extremities of said rear extensions play lineally and are limited by stops.

7. A car-fender composed of independent
30 spring or yielding bars having the underlying rear extensions, and the fixed bracket having the front bar with holes in which the rear extremities of said rear extensions play lineally and are limited by stops, said bracket having
35 a top bar to which the bars are secured above.

In witness whereof I have hereunto set my hand.

IRA O. STEPHENS.

Witnesses:

SAMUEL STEPHENS,
ELBERT PINNEY, Jr.