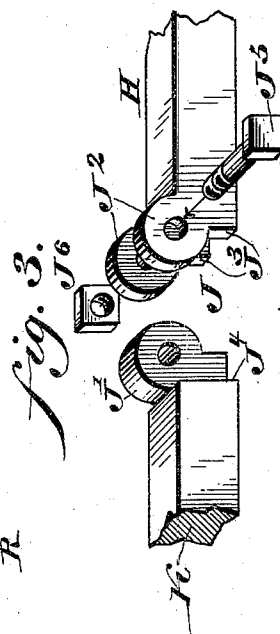
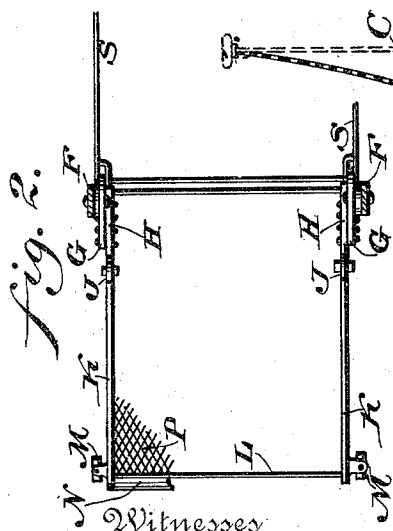
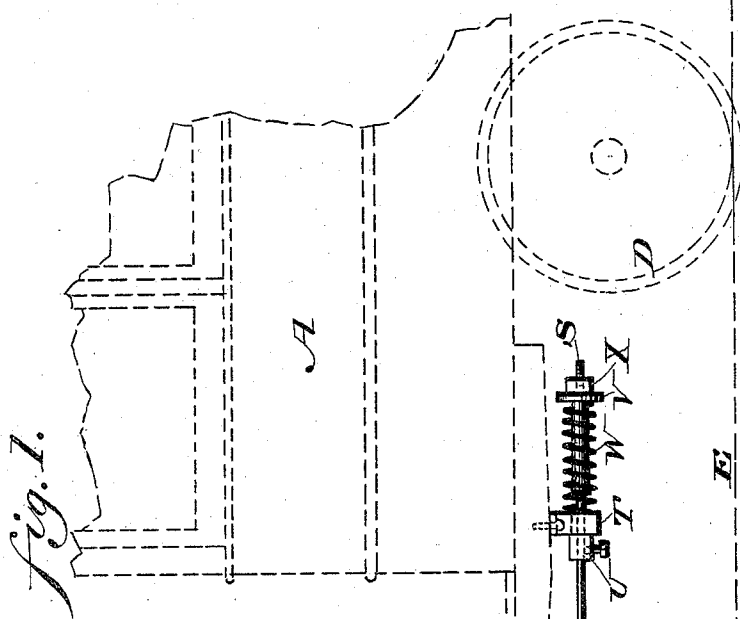


(No Model.)

J. BOWEN.
CAR FENDER.

No. 545,872.

Patented Sept. 10, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES BOWEN, OF PHILADELPHIA, PENNSYLVANIA.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 545,872, dated September 10, 1895.

Application filed June 22, 1895. Serial No. 553,633. (No model.)

To all whom it may concern:

Be it known that I, JAMES BOWEN, a subject of the Queen of Great Britain, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Car-Fenders, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a novel construction of car-fender, which can be readily applied to existing cars without necessitating any change of the same and which is normally raised above the track, provision being made for allowing the same to pass over small obstructions without injury to any of its parts, while means are provided for holding the parts in their proper position before and after an object is struck.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figure 1 represents a side elevation of a car-fender embodying my invention and a portion of a car to which the same is applicable. Fig. 2 represents a section on line *xx*, Fig. 1. Fig. 3 represents a detail view, on an enlarged scale, of the joint shown in Figs. 1 and 2.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates the body of a car, the same being provided with a platform B, dashboard C, and the wheels D, which run on the track E, all of the above parts being of the usual construction.

F designates suitable hangers which are attached to the body of the car and have pivotally mounted therein the frames G on either side, from the lower portion of which extend forwardly the arms H, to which are pivotally attached or hinged at J the forwardly-projecting arms K, whose forward extremities are supported and braced by means of the cross-rod L, adjacent to which is suitably secured the buffer N, which may be of rubber hose or tubing or other similar yielding material.

M designates rollers which are journaled upon the arms K and are adapted to contact with the track when an object is struck so as to be thrown into the fender.

P designates a suitable netting which extends from the buffer N to the top of the dashboard C.

Q designates springs which are located be-

low the arms K and H, and which have their ends attached to the pins R, attached to said arms, as will be understood from Fig. 2, whereby the same are normally always kept in the position seen in full lines in Fig. 1. The preferred construction of the joint J employed is seen in Fig. 3, the same consisting of the tongue J', which is adapted to pass between the ears J², below which latter are the shoulders J³, which are adapted to be in contact with the shoulder J⁴, the parts when in assembled position being held together by means of the bolt J⁵ and the nut J⁶, whereby it will be seen that any tendency to a downward movement of the arms K relative to the arms H will be prevented by reason of the contact of the shoulders J³ and J⁴; but if a small obstacle strikes the buffer N a slight upward movement will be permitted to the arms K and cross-bar L, the parts afterward being restored to their normal position, as seen in Fig. 1, by means of the springs Q.

The upper extremities of the frames G have connected thereto an end of the rods S, which extend rearwardly and are each supported and guided in the ears T, which are secured to the under side of the car, said rods S being provided with collars U, which are adapted to contact with one side of said ears T while the opposite side of the latter is in contact with the end of the spring W, the other end of the latter being in contact with a washer V, which is held in its proper place upon the rod S by means of the nut X, whereby it will be seen that by manipulating said nut, or moving said collar as desired, the tension of the spring W can be varied according to requirements.

The operation is as follows: The contact of the buffer N with a small object will simply cause the arms K and cross-bar L to swing upwardly a slight distance, and after the obstruction has been passed the springs Q will cause said arms to be restored to their normal and proper positions, their downward movement relative to each other being limited by the shoulders J³ and J⁴ of the joint J, as has been stated. Should, however, the fender strike the body of a person, the same will fall into the net P and the forward portion of the fender will descend sufficiently to cause the rollers M to contact with the track, while any

serious or violent shock or concussion will be prevented by means of the spring W, which normally holds the parts in the position seen in Fig. 1, the rollers M being normally above the track, it being evident that the rollers M may be mounted so as to follow the curvature of the track, and that when the weight in the fender is removed the springs W will cause the parts to assume their normal positions, as seen in Fig. 1. When economy of space is desired, it is only necessary to turn the arms K upwardly into the position seen dotted in Fig. 1, it being noted that the netting is normally in advance of the draw-bar, as seen dotted in Fig. 1, so that the latter will not hit any person caught in said netting.

In the preferred embodiment of my invention, I insert a tube between the ears T and washers V, upon which the spring W is supported, said tube thus limiting the movement of said washer relative to said ear, as is evident.

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

1. A car fender consisting of frames mounted in suitable hangers on a car, arms pivotally attached to and extending forward from the lower part of said frames, springs connected to said arms and frame, and a spring controlled rod connected with the upper portion of said frames, said parts being combined substantially as described.

2. In a car fender, frames suitably supported in hangers attached to the car, arms extending forwardly from said hangers, other arms pivoted thereto, also extending forwardly, means for limiting the downward

movement of said arms, rollers mounted thereon, a buffer, a netting, a rod extending rearwardly from the upper portion of said frames, said rod being suitably supported and guided, and having a projection on the end thereof, a spring intermediate the support of said rod and projection, and a collar attached to said rod and located on the other side of said support, substantially as described.

3. In a car fender, frames mounted in suitable supports, arms extending forwardly therefrom, other arms pivoted thereto, and having rollers journaled on the forward portion thereof, a buffer, netting, a spring adjacent the pivotal point of said arms, a rearwardly extending rod attached to said frames, a collar on said rod, a guide for the latter, a washer on said rod and a spring intermediate said washer and guide, substantially as described.

4. A car fender having depending frames, each of said frames having the ears J² and the shoulders J³ thereon, the arms K with tongues J' and shoulders J⁴, bolts connecting said tongues and ears, and springs connected with said frames and arms, said parts being combined substantially as described.

5. A car fender having frames pivoted to suitable hangers, arms extending forwardly from said frames and pivotally connected therewith, springs connecting said arms and frames, and shoulders on said frames forming stops for said arms, said parts being combined substantially as described.

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Witnesses:

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