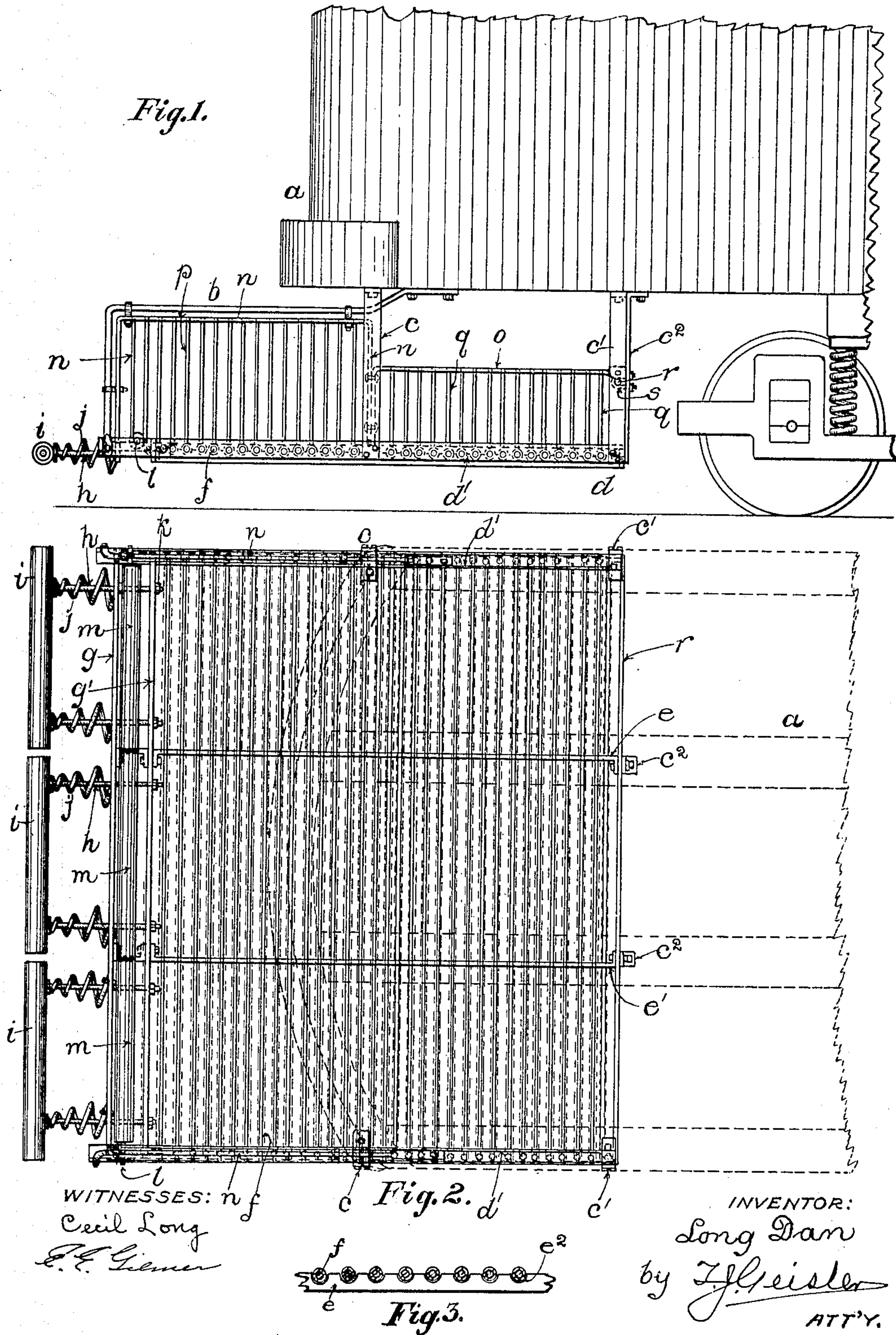


No. 885,325.

PATENTED APR. 21, 1908.

L. DAN.
CAR FENDER:
APPLICATION FILED AUG. 3, 1907.



UNITED STATES PATENT OFFICE.

LONG DAN, OF PORTLAND, OREGON.

CAR-FENDER.

No. 885,325.

Specification of Letters Patent.

Patented April 21, 1908.

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To all whom it may concern:

Be it known that I, LONG DAN, a subject of the Emperor of China, residing at Portland, Multnomah county, State of Oregon, have invented a certain new and useful Improvement in Car-Fenders, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

My invention relates to car fenders, and has for its object to combine with the car a basket-like fender, inclosed at the bottom and the sides, and suitably suspended from the car, and having an open front end, at which end are provided devices adapted to minimize the force of the blow struck against the person being run down, and also to provide devices which shall facilitate the picking up of the person run down.

To this end my invention comprises the combination of parts, and is adapted to operate as hereinafter fully described.

In the drawings, Figure 1 is a side elevation of a car, having my device attached thereto; Fig. 2 is a plan of my invention, the superimposed car-end being indicated merely in dotted outline; and Fig. 3 is a detail of construction.

Referring now to the letters as designating the parts described: To the under side of the body *a* of the car, at the ends are rigidly affixed arms *b*, *c*, *c'*, *c''*, the latter being preferably an angle-iron. By said arms is suspended the frame *d* of my fender, which frame is conveniently constructed of longitudinally extending sides *d'* and intermediate angle-bars *e*, *e'*. Extending transversely between the side-bars *d'* and over the intermediate angle-bars *e*, *e'* is a plurality of rods *f*, each of which is preferably covered by some soft or resilient material, the latter being conveniently obtained by using hose of a suitable size. The intermediate angle-bars *c''* are preferably made with a series of equi-distant notches *e''*, in which to receive the transverse rod *f*, constituting the floor of my fender. By the last described arrangement, the center portions of the transverse bars *f* are prevented from spreading apart, and are thus permanently held in place. At the front end of the floor of my fender are rigidly secured transverse bars *g*, *g'*, in which are held longitudinally slidable rods *h*. The latter are arranged in pairs, as shown in the plan Fig. 2, and carry on their outward ends one of the sections of a buffer-bar *i*. On the rods *h* are placed coil-springs *j*

of sufficient tension to maintain the buffer-bars *h* in projected position. The tension of the coil-springs *j* must, however, not exceed the power required to just break the force of the blow delivered by the front end of my fender, when striking a person on the track-way. The outward movement of the rods *h* is limited by nuts *k*, affixed to their inner ends, back of the bars *g'*. Between the bars *g*, *g'* is rigidly secured a transverse axle *l*, the ends of which are fastened in the side bars or frame-members *d'*. On said axle *l* are rotatably mounted the sections of a roller *m*.

My object in making the buffer-bars *i* in section, and correspondingly arranging the projecting means thereof, is to enable me to make said buffer-bar of less rigidity than required if the same were made of a single piece; and also to enable me to use weaker coil-springs, as *j*; because, if the buffer-bar were made of a single piece it would require coil-springs of greater power, for a single-piece buffer-bar, to have proper rigidity, would be considerably heavier than the material required to use the three short sections of the buffer-bar *i*. Furthermore, there would be a tendency of the telescoping devices, holding the buffer-bar projected, operating imperfectly, by reason of binding, should the person be struck nearer one side of my fender than the other, and thus cause the buffer bar to assume more or less of an angular position. To adapt the roller *m* to the same circumstances, I prefer to make the same in sections; thus when a person is thrown into the fender, on either one of the sections of said roller *m*, such section would have greater freedom of rotation, than if the roller were made of one piece; for there would be less friction thereof on its axle.

The sides of my fender comprise frame-members *n* and *o*, which frame-members are provided with a closure made of vertical bars *p*, *q*, and said frames are rigidly secured in place by the arms *b* and the supporting members *c*, *c'*, by any convenient means, as for example shown in Fig. 1. The parts shown in the latter figure are duplicated at both sides of my fender. The sides at the forward end of my fender are made of sufficient height to come close under the car-body, as shown, but since at the under end such height of the sides is not required, the same are there preferably made lower by me, as shown in Fig. 1, for the purpose of reducing weight. At the inner end of my fender, I provide a closure con-

sisting of a series of transversely arranged bars r secured at their ends in the supporting-members c' , and supported in their central parts by being rigidly fastened to the supporting-members c^2 , by means of U-bolts or clips s , as shown in Fig. 1.

It is now apparent that my fender, as a whole, constitutes a basket-like arrangement provided at its front end with means for reducing the force of the blow struck, and also having at its front ends further means, like the sectional-roller m , having a tendency to carry the person run down back onto the floor of the fender, and there supported until the car can be brought to a standstill.

I claim:

1. The combination with a car, of a rectangular frame supported under and projecting from the front end of the car, comprising side members and a closure for the bottom thereof, bars affixed transversely, spaced apart, at the front end of the frame, an axle affixed transversely between said bars, a plurality of rollers mounted on such axle, horizontally projecting rods arranged in pairs

and slidable in said bars at the front end of the frame, means limiting the outward movement of said slidable rods, transverse buffer-bars affixed to the outer ends of said rods, and coil-springs on the rods arranged to normally hold the said buffer-bars projected.

2. A fender, comprising in combination with a car, a basket-like frame supported under and projecting from the front end of a car, bars affixed transversely, spaced apart, at the front end of the frame, an axle affixed transversely between said bars, a plurality of rollers mounted on such axle, horizontal projecting rods arranged in pairs and longitudinally slidable in said bars at the front end of the frame, means limiting the outward movement of said slidable rods transverse buffer-bars affixed to the outer ends of said rods, and coil-springs on the said rods arranged to normally hold the buffer-bars projected.

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Witnesses:

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