

No. 815,919.

PATENTED MAR. 20, 1906.

B. LEV.
FENDER FOR MOTOR CARS.
APPLICATION FILED JULY 15, 1904.

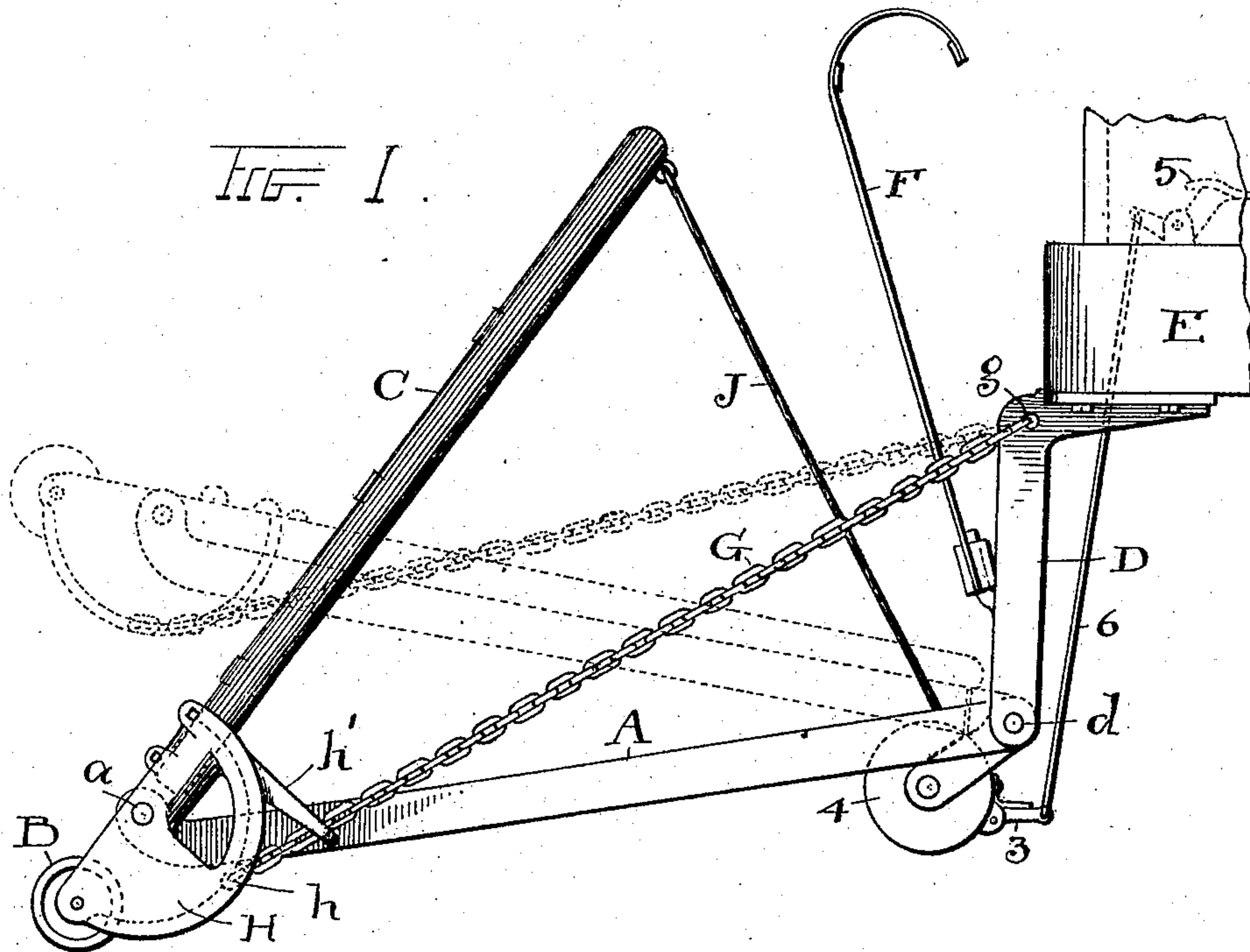


FIG. 2.

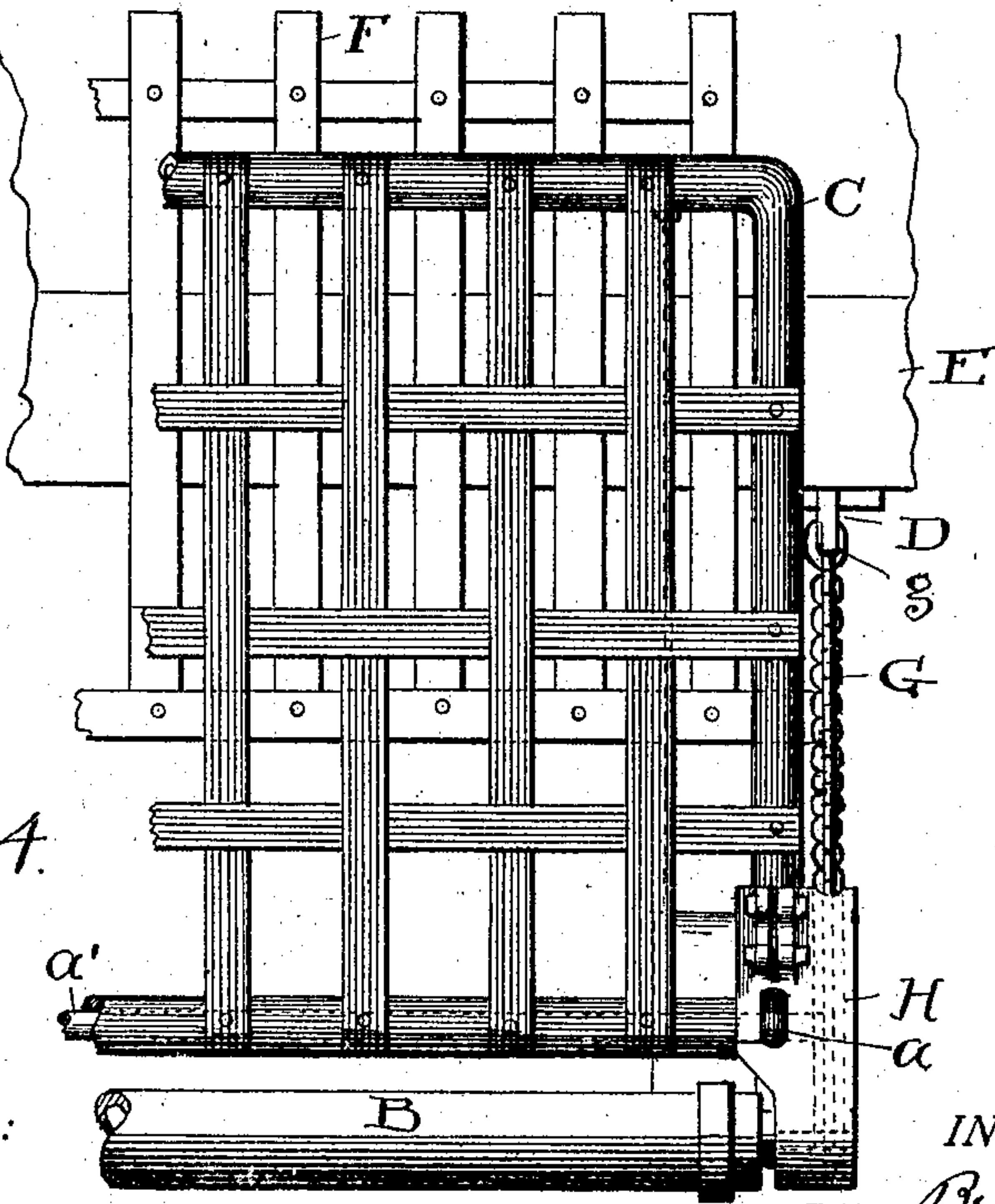


FIG. 3.

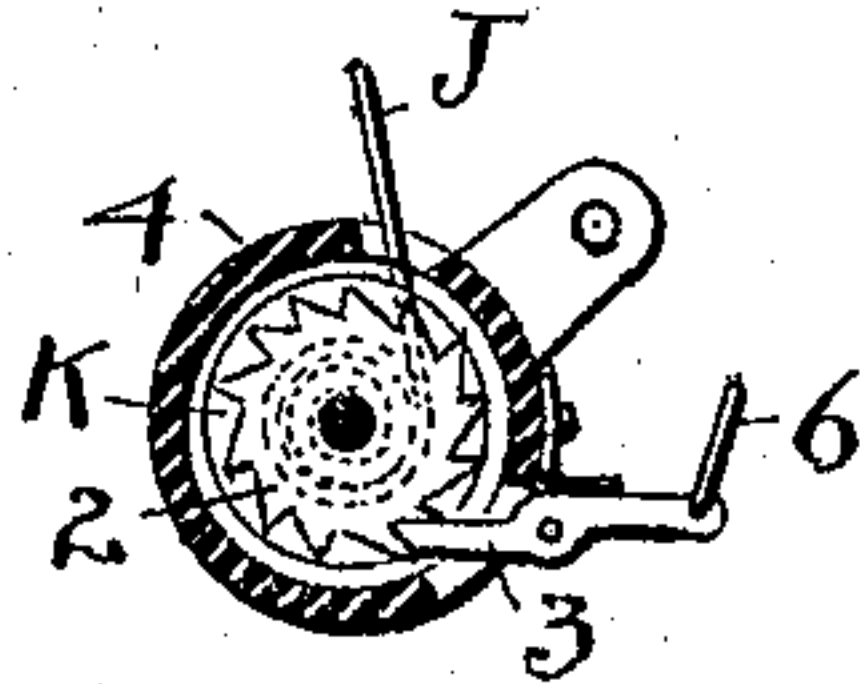
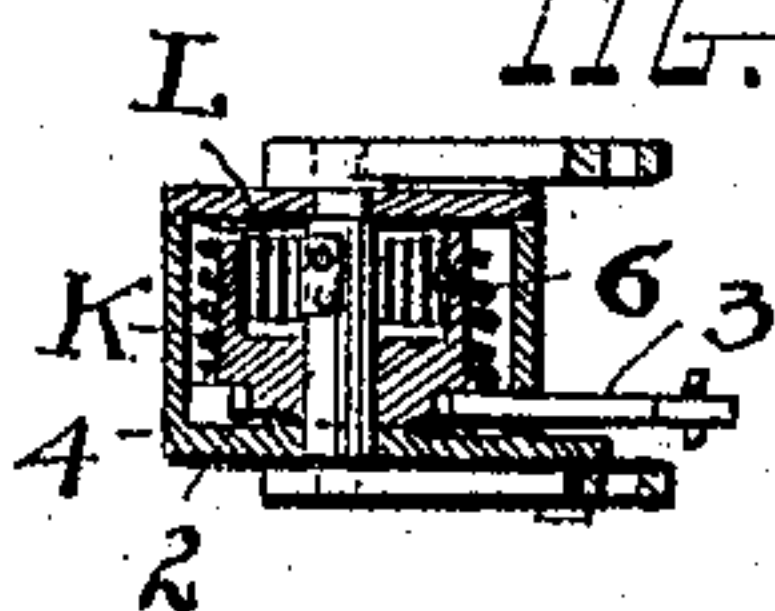


FIG. 4.



WITNESSES:

R. B. Moser
A. M. Moser

INVENTOR.

Bruno Lev
H. J. Fisher
ATTORNEY.

UNITED STATES PATENT OFFICE.

BENJAMIN LEV, OF CLEVELAND, OHIO, ASSIGNOR TO ECLIPSE RAILWAY SUPPLY CO., OF KANSAS CITY, MISSOURI, A CORPORATION OF DELAWARE.

FENDER FOR MOTOR-CARS.

No. 815,919.

Specification of Letters Patent.

Patented March 20, 1906.

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To all whom it may concern:

Be it known that I, BENJAMIN LEV, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Fenders for Motor-Cars; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in fenders for motor-cars; and the invention consists in a fender having a carrier adapted to be tilted, and thereby bodily and automatically raise the fender mechanism, at the front to a detaining elevation when an object of sufficient weight to actuate the same has been struck, all substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved fender construction, showing the parts in full lines as they are held normally and in dotted lines as they appear when the object has fallen thereon, and thereby raises the fender to saving position. Fig. 2 is a front elevation of a portion of the fender as seen in Fig. 1, and the other portion is the same as that here shown. Figs. 3 and 4 are sectional views of a spring-actuated drum mechanism for holding the fender in its reversed or carrying position, as seen in dotted lines in Fig. 1 and as hereinafter fully described.

The invention thus shown appertains to the class of fenders which has now become well known and in which there is a tilting carrier adapted to change its relation to the other mechanism when an object of sufficient weight falls thereon to depress the carrier at its rear and whereby persons who are struck by the fender are safely carried along until the car is stopped and they are rescued.

To these ends the present fender is especially designed for effective and sensitive operation, so that a comparatively small object, such as a small child or a dog, will cause it to operate and save the life. Having this object in view, the fender mechanism comprises a brace frame or bar A and a carrier-frame C, pivoted upon the front or lower slightly-upturned ends of frame A at *a* and

supporting a cushioning or striking roller B at its extremity outside of and beneath its pivot *a*.

The supporting frame or portion A may be comprised merely of side bars of sufficient strength to serve as braces for the carrier and take the thrust when an object is struck and a cross-connecting rod *a'* at the front between said side bars or the sides of said frame, and rigid supporting-hangers D at the rear are fixed on the car-body E and are of such strength as to provide the necessary back support for said parts.

It will be observed that the hangers D extend downward such distance from the car-body E as to get nearly a horizontal elevation for the frame A, and the said frame or bars A are pivoted thereon at *d*. If necessary, there might be rearward braces from the lower portion of said hangers to the car-body to give additional strength, and, indeed, any suitable mechanism for supporting the frame A from the body E may be employed and serve my purpose. I may also construct this mechanism so as to removably support the fender, whereby the fender may be bodily lifted off and carried to the other end of the car and used alternately at one end and the other when the car itself does not turn around in making its trips. These are details which I may employ, but are not developed herein and are not essential to the present invention, especially since such interchangeable mechanism may be used with other carriers differently constructed from this. To this end also the back or buffer springs F are shown as carried by or from the hangers D, so that the springs F may be borne away with the other parts of the fender, if deemed desirable.

Now, having reference more especially to the particular and peculiar construction of the present fender mechanism as compared with others, it will be observed that the fender or carrier is adapted to run higher or lower at its front relatively to the track according as the supporting-chains G are longer or shorter, and these chains are attached at one end to the upper corner or portion of the hangers D at *g* and at their other ends to the segment-bracket H on the lower portion of carrier C at *h* beneath the pivot of the carrier *a* and rearward thereof somewhat, relatively as shown. A suitable chain, cable, or

cord J, fixed to the top of carrier C, runs down to a drum K at the rear and bottom of the fender and in which is a convolute winding-spring L of the clock type adapted to take up the cable or cord J instantly as the carrier C is depressed at its top, and a ratchet-wheel 2 and pawl 3 serve to hold whatever is thus taken up by the drum, so as not to let the carrier fly back. Any suitable support for the said drum may be employed, and there may be one or more such drums with each fender, as may be deemed necessary. A suitable casing 4 incloses the drum and protects it from undue exposure, and a pivoted hand or foot controlled trip 5, within reach of the motorman, is connected by a cord 6 with pawl 3 and adapted to release the said pawl and allow the carrier to tilt back into its normal position, as seen in full lines, Fig. 1. Obviously the fact that practically the entire weight of the fender mechanism is carried by the chains *g* from the brackets H beneath the pivot-points *a* causes a forward or opening tilting tendency in the carrier, and this serves to more than counterbalance the action of the take-up springs L and to restore the carrier and mechanism to normal position, as shown. A short arm *h'* from the bracket H engages over the chain G and prevents the carrier from tilting forward at its top beyond a certain predetermined inclination. I have found that a good working inclination for the carrier is about forty-five degrees; but it may be more or less inclined and serve my purpose.

The outer frame itself of carrier C is preferably of tubular construction to promote lightness, and it is socketed and fastened in the segmental brackets H at each side. These brackets extend laterally and downwardly in respect to frame C, so as to bring the chains outside said frame. Any suitable wicker-work or basket construction can be used to fill in the body of the carrier.

In operation when an object is thrown on or against the carrier which has sufficient weight to tilt the same the carrier is depressed at its rear, the cord or cable J is instantly wound up, and the carrier is locked in its reversely-tilted position. I have planned in this construction to produce the most sensitive organization practicable for the tilting of the carrier, and hence have brought the two points *a* and *h* as near together as the operation will allow and so that a maximum leverage of the carrier may be obtained in respect to its fulcrum *h*. It follows that as an object strikes the carrier above its pivot the carrier is instantly thrown down at its rear and up at its front. This occurs by reason of the long leverage of the carrier and the short distance between pivot-point *a* and the fulcrum-point *h* beneath, and since the carrier is braced by the frame or bars A beneath and the chains G hang from points *g*

considerably above it must occur as the segments H are rotated and the point *h* is carried forward in relation to pivot *a* that the apparent shortening of the pull of the chains will bodily lift the front of the carrier. This actually occurs, and by the time the rear of the carriage is down the front thereof is up, as seen in dotted lines, Fig. 1, and with the front on a higher level than the rear and serving to hold or confine a person therein.

The mechanism as a whole is referred to as a "fender," and the immediate saving member is the tilting carrier C. The special novelty of this member or part is its relation to the brace-frame A and the supporting-chains G, whereby when the carrier tilts not only is this member brought into a reverse or rearward inclination, but the supports and braces are lifted bodily up with it at the front. Heretofore the carrier has tilted, but the position of the supports remained unchanged. This accounts for the low point at which the brace frame or bars A are pivoted at the rear and the high engagement of chains G in respect to such pivot-point at their rear. The segmental brackets H are specifically referred to herein, but are regarded as a part of the carrier, and any suitable construction of said brackets may be adopted. Chains G or equivalent flexible connection may be used. A comparatively short portion of the carrier extends forward of or below its pivot-points, and in this portion the cushioning-roller is supported at its ends. By having the brackets H extend outside of carriers C the chains G can be engaged therewith and leave the carrier free to play up and down said chains.

What I claim is—

1. In car-fenders, a carrier and side braces on which said carrier is pivoted, and flexible supports for both carrier and braces connected with the carrier, whereby the carrier and associated parts are bodily raised to a higher level when the carrier is tilted.

2. In car-fenders, a mechanism having side braces and hangers on which said braces are pivoted, a carrier pivoted at its lower portion on the outer ends of said side braces, and flexible supports engaged with said carrier on a plane beneath its pivots and fixed at their opposite ends on a plane above the pivots for said side braces.

3. In car-fenders, a fender comprising a tilting carrier, a brace-frame on the front of which said carrier is pivoted, hangers supporting said brace-frame and flexible supports for the said parts engaged approximately at the top of said hangers and at the other end with the said carrier beneath its pivots.

4. The fender comprising the carrier having side extensions at its lower portion and brace-bars on which said extensions are pivoted, and supporting-chains for said parts engaged with said extensions and hangers to

which said brace-bars and said flexible supports are connected in different planes one above the other.

5 5. In car-fenders, a carrier having later-ally and downwardly extending brackets at its front, supporting-chains engaged with said brackets outside said carrier-frame, a set of hangers from the car-body and brace-bars from the lower portion of said hangers on
10 which said carrier is pivoted.

6. In car-fenders, suitable forwardly-projecting braces and a carrier pivoted on the front portion of said braces, supporting-

chains engaged with said carrier at its sides beneath its pivots on said braces, means to 15 limit the forward tilting of the carrier, and means to hold said carrier in a reversed position and with its front in a plane above its rear portion.

In testimony whereof I sign this specifica- 20 tion in the presence of two witnesses.

BENJAMIN LEV.

Witnesses:

R. B. MOSER,
C. A. SELL.