

No. 778,198.

PATENTED DEC. 20, 1904.

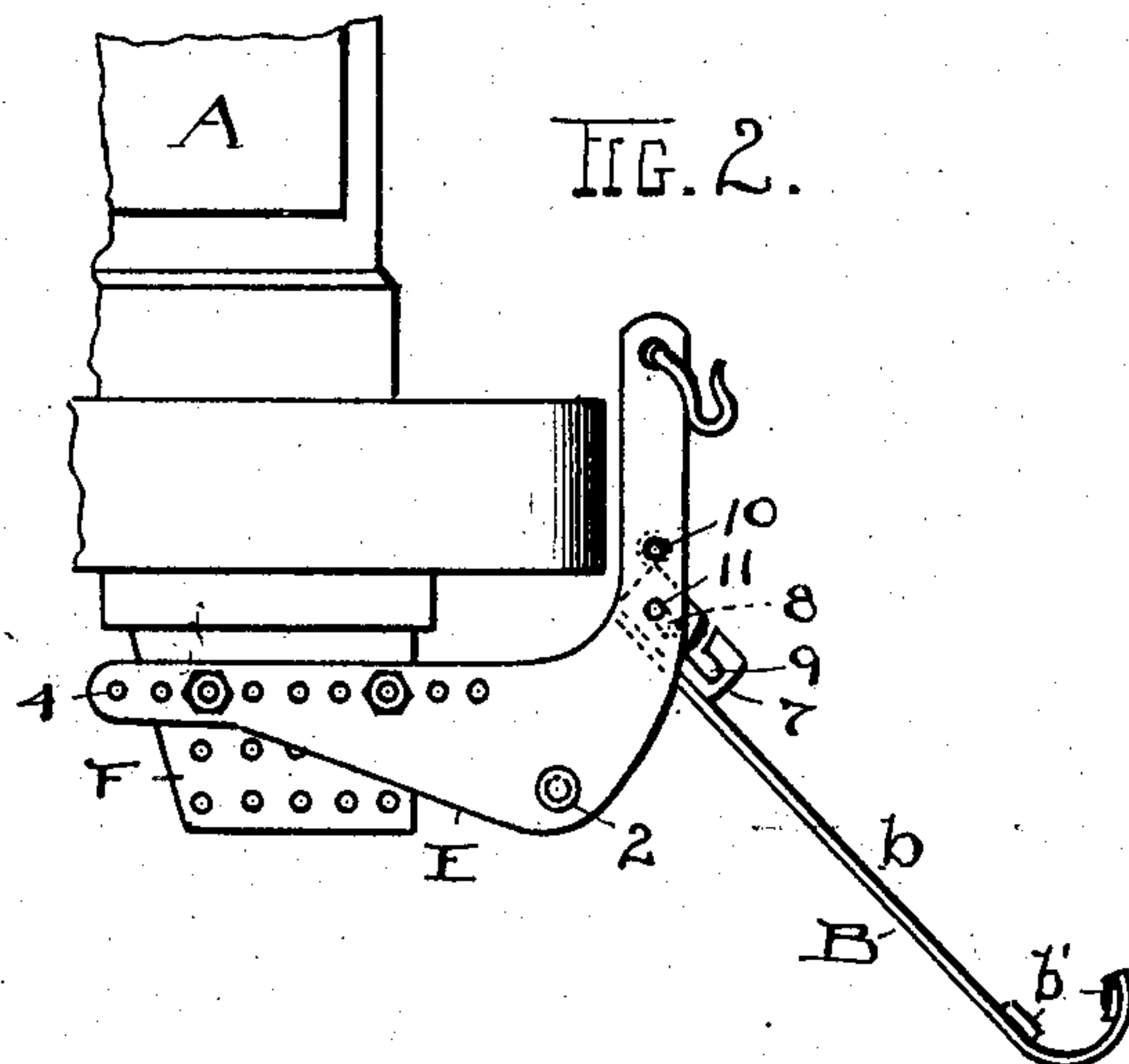
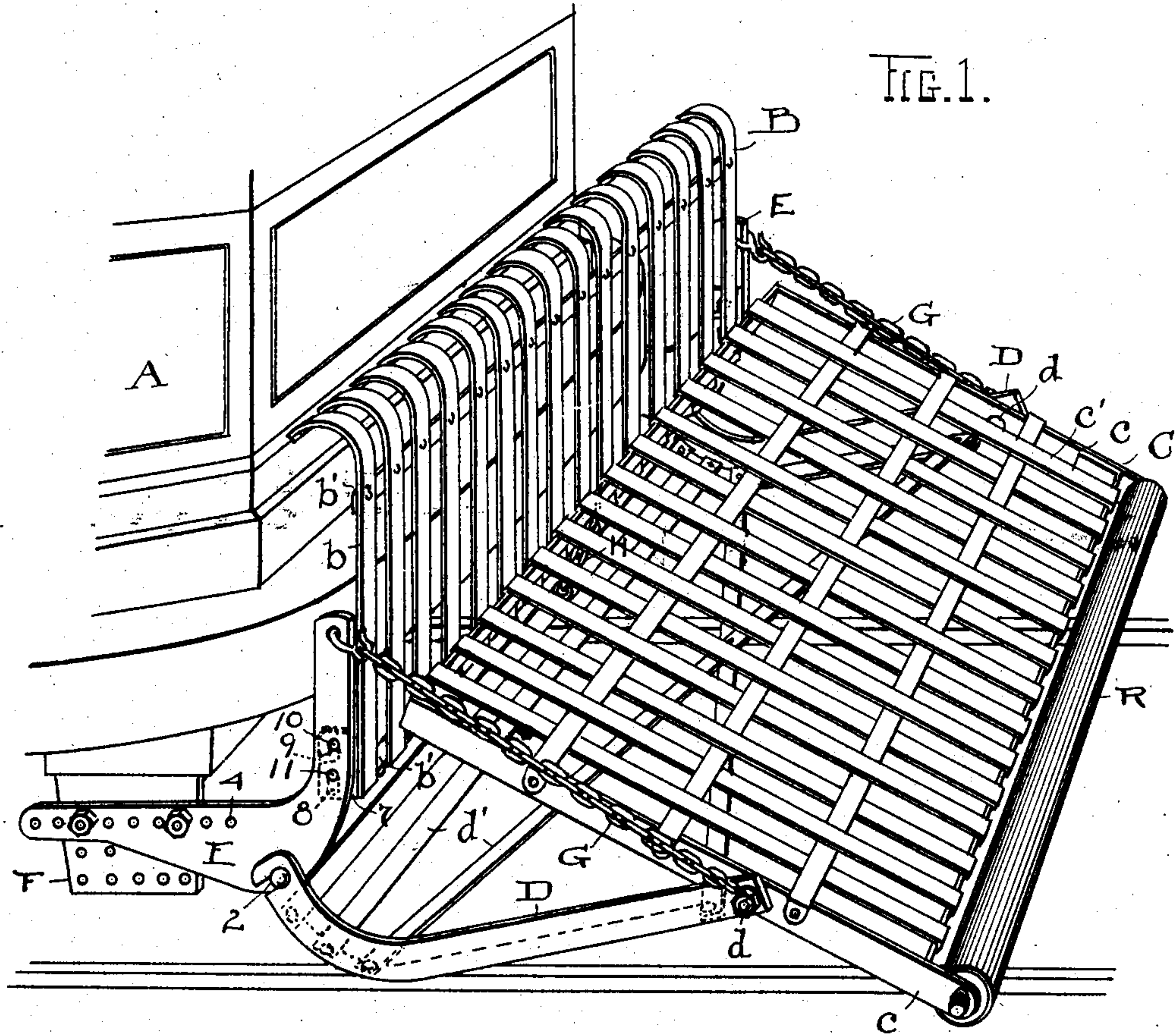
B. LEV.

LIFE SAVING ATTACHMENT FOR MOTOR CARS.

APPLICATION FILED MAR. 21, 1903. RENEWED MAY 6, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



ATTEST.

T. B. Moser
E. M. Fisher

INVENTOR.

Benjamin Lev

By *H. T. Fisher* ATTY.

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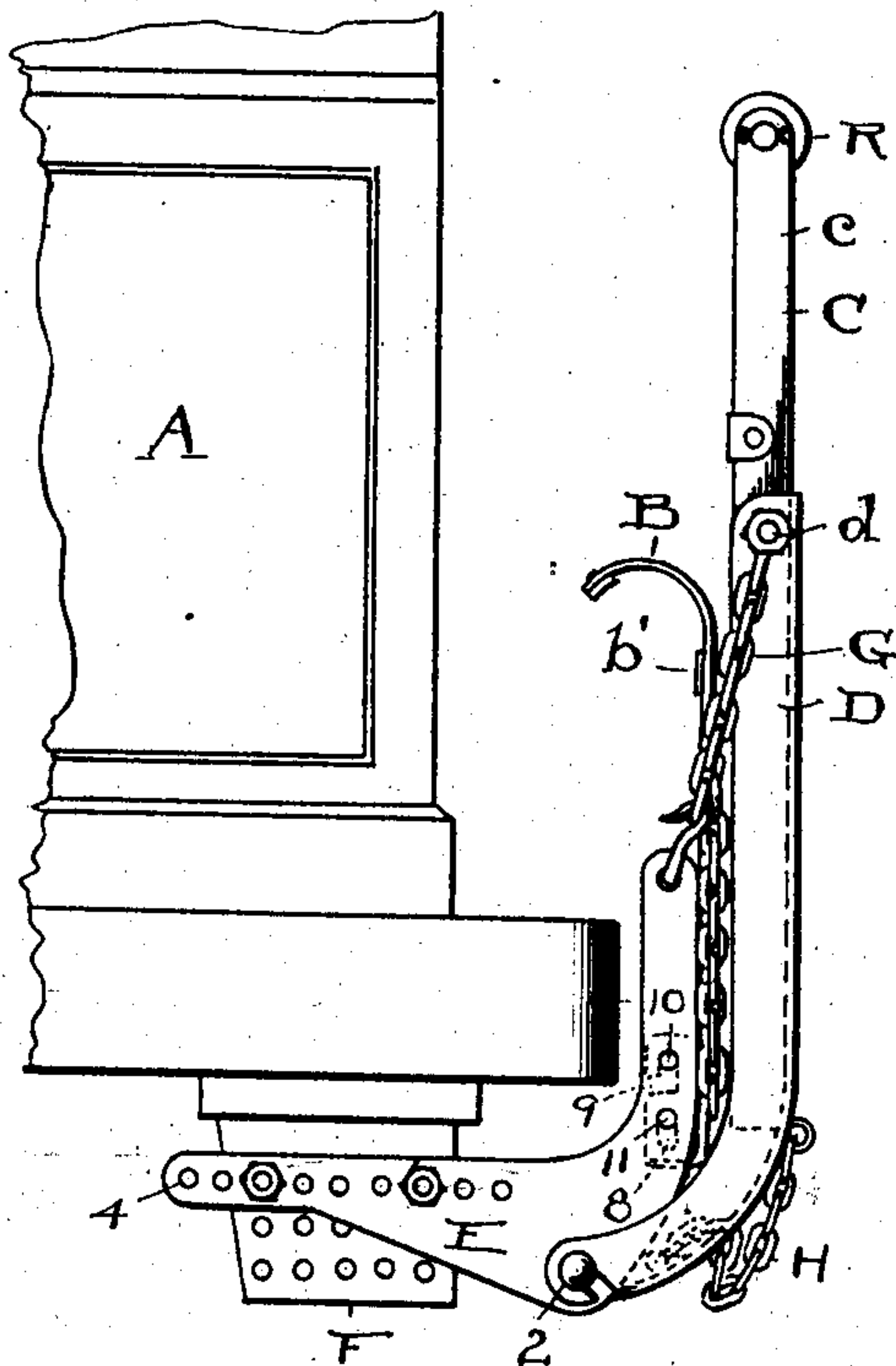
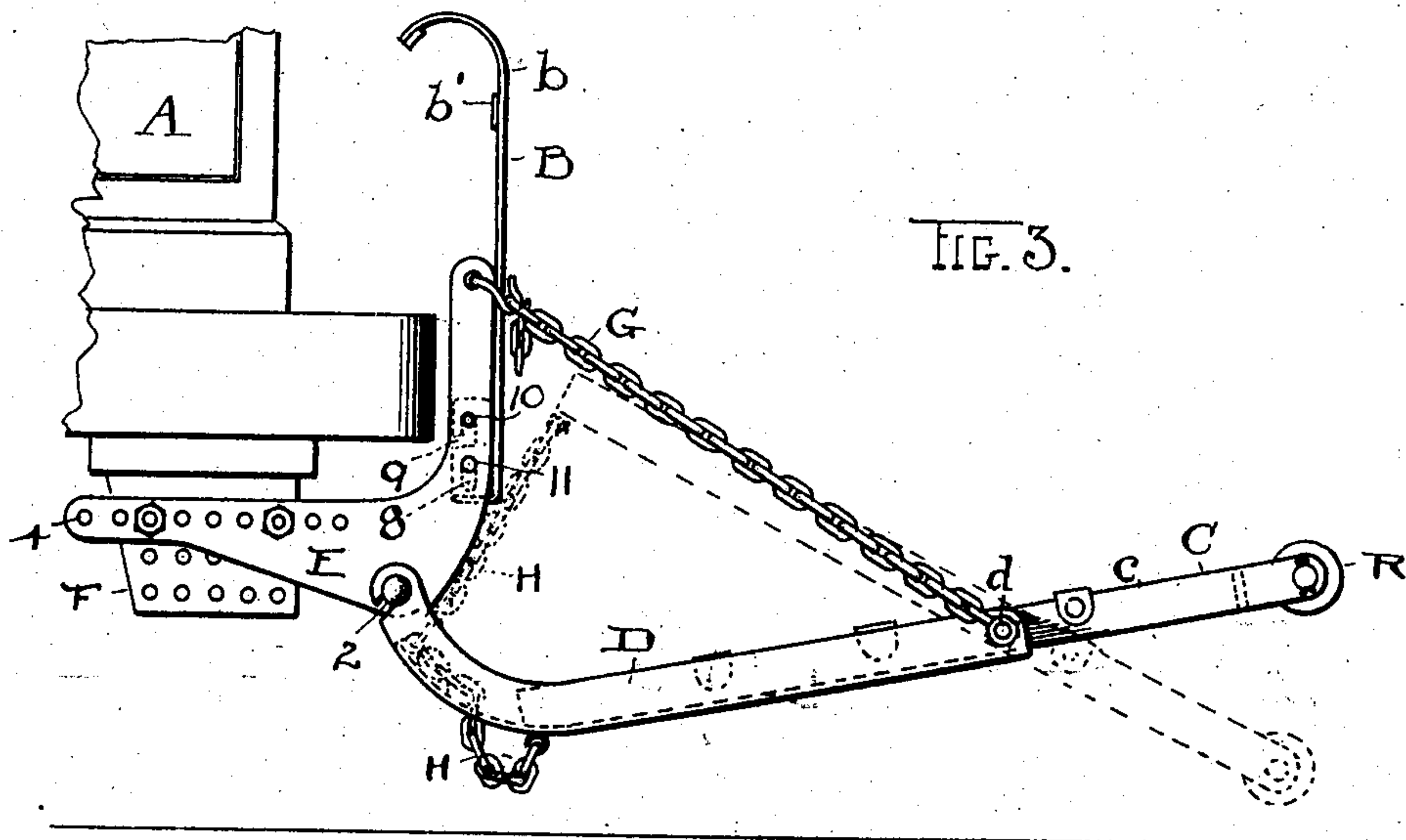
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2 SHEETS—SHEET 2.



ATTEST.

R. B. Moore
E. M. Fisher

INVENTOR.

Benjamin Lev

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UNITED STATES PATENT OFFICE.

BENJAMIN LEV, OF CLEVELAND, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO AMERICAN SECURITY AND TRUST COMPANY, TRUSTEE, OF WASHINGTON, DISTRICT OF COLUMBIA, A CORPORATION.

LIFE-SAVING ATTACHMENT FOR MOTOR-CARS.

SPECIFICATION forming part of Letters Patent No. 778,198, dated December 20, 1904.

Application filed March 21, 1903. Renewed May 6, 1904. Serial No. 206,696.

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 Life-Saving Attachments 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 life-saving attachments for motor-cars; and the object of the invention is to provide means adapted to be attached to the front of a car and to run comparatively near to the surface of the track and to operate as a medium for picking up and carrying persons who may accidentally or otherwise come into the path of the car and who would probably be crushed or materially injured if no such provision as this were made for their safety.

In the accompanying drawings, Figure 1 is a perspective elevation of the front portion of a car and my safety mechanism in working position thereon. Fig. 2 shows a portion of said mechanism and a small fragment of the front of the car in side elevation, as herein-after fully described. Fig. 3 shows a fragment of the front portion of a car and a side elevation of the safety mechanism thereon, the dotted lines showing it as it appears ordinarily when carried on the car and the full lines as it appears when tilted into safety or carrying position. Fig. 4 shows the same parts as in Fig. 3 with the safety attachment folded up into vertical position at the front of the car, where it is wholly out of service and in which position it is adapted to be carried when the car is coupled up with another car at its front.

In the construction thus shown A represents what may be any motor-car equipped to carry passengers or a freight-car or one used for motor purposes alone, and B represents a spring buffer or cushion affixed to the front of the car and which may be of strips of spring metal, substantially as herein shown, or of

any other form of spring metal or other material adapted to serve as a cushion and to protect a person who may be thrown against the same upon safety carrier or guard C. Said carrier or guard C is constructed, preferably, with an outer frame *c* and interwoven metallic slats *c'*, of spring metal, secured thereto at their ends. This or any equivalent or sufficient construction of body-carrier may be employed, and the said carrier has a width at least equal to the full width of the car, so that if any one be cast off therefrom or fall from either side he will drop outside the path of the car and out of danger on that account. At the front of said carrier or guard I provide a roller R, journaled at its ends in the forwardly-projecting extremities of frame *c* and designed to be of a cushioning or yielding construction, and the special construction of the roller used is a new article of manufacture and sale which is made the subject-matter of a concurrent application, Serial No. 148,829, and hence is not specifically claimed herein. It is not designed that this roller shall run upon the track when in its lowest working position, though even this may occur sometimes, and its ordinary working elevation is shown in dotted lines, Fig. 3.

The instant that carrier or guard C is tripped by a weight falling on its rear portion it tilts into the reversed position and assumes the relation to the other parts seen in full lines, Fig. 3. To the end that these operations may occur, the said carrier is supported at its sides, front of its middle portion, on pivots *d* at the extremities of the supporting side arms D, which themselves are engaged or hooked at their rear extremities over projections 2 on the right-angled adjustable hangers E. Frequently it is desirable to change the carrier from one end of a car to the other at the ends of trips, and hence it is made easily detachable. The hangers E are supported on brackets F, fixed to the bottom of the car and which are provided with one or more series of holes through which the said hangers are bolted in one elevation or another, as may be deemed best, and also forward or back upon said

bracket according to the position the carrier is to sustain upon the car. Such adjustment is found desirable on account of the many different makes of cars and the possible obstruction met with on the front of a car, such as headlights, and the like. The hangers E themselves have perforations 4 to provide this adjustment back and forward as well as for elevation on the said bracket, and a bracket or its equivalent may be used as a support for the hanger.

The side supporting arms D are connected by two or more cross-bars d' , which make what is practically a framework and give said parts the requisite strength to sustain the severe strain that may come upon them in an emergency when the carrier is picking up a person or other heavy object.

Strong chains G connect the upper ends of the right-angled hangers E with the outer extremities of said arms D and serve as suspensory means for the said arms and carrier, and the arms cannot drop below the level permitted by these chains. Said chains therefore serve also as a medium for regulating the elevation of the outer ends of the arms and the elevation of the carrier at its pivot in respect to the car-track. However, the carrier has its own individual chain H connected with its rear portion and with one of the cross-bars d' and which is adapted to fix the elevation upon which the carrier is to run at its front. This adjustment is independent of chains G.

Obviously since the carrier is pivoted forward of its middle portion and is designed to run in a tilted position with its front end down relatively, as in Fig. 1, it must in any event be considerably heavier at its front to counterbalance its rear portion and carry in this way, and the front roller R helps to produce this effect; but the instant that a person or other object is struck by the roller and thrown back upon the carrier across or behind its pivots the rear of the carrier drops down and the person or other object is supported upon the carrier and carried along without further danger or injury. In this case the slats d' or connections between arms D work with the carrier to sustain the load in safety.

In my repeated and somewhat-protracted demonstration of such safety mechanism I have found that almost universally people who are run over by cars are on their feet at the time they are struck. Sometimes, but very rarely, it occurs that a person is prostrate when the car reaches him. In a hundred or more accidents in which my fender has been used there were not exceeding two cases where the person was lying upon the ground when struck by the car. In those cases the life-guard did not do its work, and I may say that it is not intended to pick up prostrate forms or other objects lying as close as that to the ground; but I have never known it to fail to save any one, large or small, who was on his

feet at the time, and hence was struck in such a way as to forcibly throw the person over upon the guard or carrier C and toward and against buffer B. Once there the guard or carrier tilted down at the rear and a cradle was formed which held the body in safety, and this will occur with children and even comparatively small dogs and the like, as experience has demonstrated. By disconnecting chains G and H and arms D from projections 2 the carrier, with said arms and the frame of which they are a part, can be lifted bodily away and placed on the other end of the car or elsewhere, as may be deemed best, or in certain cases the entire structure can be tilted vertically at the front of the car and held there, as in Fig. 4.

Obviously the strain of the thrust backward upon the carrier C when an object is struck is communicated to the arms D through pivots d and then to lugs and projections 2, and it is to be understood that all these parts are built with these demands upon them in view and to end in extraordinary strain in extra emergencies.

The particular hangers E, so called, or their equivalent in one or more parts, may be used, as shall be found most convenient on different makes of cars.

Another important part of my invention is the buffer or fender B. This is not only a yielding member or part; but it is so constructed and arranged as to become in itself a safety member, as of convenience in use. Thus the said member consists of or comprises a series of flat springs b , bent back at the upper end in a short curve and connected by two or more cross bars or pieces b' , which bind them all firmly together, and they are provided with side portions 7, having slots 8 and 9 and adapted to engage on corresponding lugs or pins 10 and 11 on the front upright portion of hangers E. The upper slot 9 is open, so that the said buffer or fender frame can be raised upon pins 10 and 11, and when carrier C is tilted down at the rear said frame can be turned down over it relatively, as in Fig. 2, only in this case carrier C is not shown. It is important that this be done, as in case it be necessary to couple up a car at this end with the carrier thereon and for other reasons as well, and the said fender can be individually removed or with the safety device as a whole. It will also be observed that it has no connection with the car-body, but stands out therefrom at such distance that the fender cannot strike against the car when a body be thrown against it in the onward sweep of the car. There is danger that so-called "safety" devices themselves will kill people by reason of defective construction, and it is not enough to pick up a body; but it needs to be protected from having the life knocked out of it by the faulty construction of the saving device. Hence the removal of my fender

at so great a distance from the car and the free spring action thereof and the carrier which catches the body.

What I claim is—

5 1. In safety attachments for motor-cars, a tilting safety-carrier, supporting-arms therefor at its sides on which said carrier is pivoted, hangers on which said arms are detachably engaged at their rear ends, means to
10 adjustably support said hangers on the car-body, and chains connected with said hangers and the front ends of said supporting-arms, whereby the elevation of said arms can be changed at both ends and the carrier adapted
15 to its place, substantially as described.

2. A car and a pair of substantially right-angled hangers thereon, in combination with a pair of arms detachably supported on said hangers, a chain connection between the top
20 of each hanger and the front end of the corresponding arm, whereby the elevation of the front ends of said arms may be changed, a carrier pivoted upon said arms and adapted to tilt between the same, and means to fix the
25 working inclination of the carrier, substantially as described.

3. The carrier and the supports therefor fixed upon the car, in combination with a

spring-buffer pivotally engaged on said supports independently of the carrier and adapted to fold over upon the carrier, substantially
30 as described.

4. The safety attachment comprising a spring-buffer adapted to stand in front of the car and apart therefrom, separate supports
35 for said buffer projecting forward from the car-body and means to attach the buffer to said supports, said means constructed to hold the buffer erect when in use and to pivotally lower the same when not in use, substantially
40 as described.

5. The car-body and the hangers supported thereon and extending forward in advance of said body, in combination with a buffer supported at its ends on said hangers and means
45 on said parts to hold the fender in an erect position and to turn it down, in combination with a tilting carrier in front of said buffer and means connected with said hangers supporting the same, substantially as described.
50

Witness my hand to the foregoing specification this 24th day of February, 1903.

BENJAMIN LEV.

Witnesses:

R. B. MOSER,

R. ZBORNIK.