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B. LEV.

FLEXIBLE ROLLER FOR SAFETY ATTACHMENTS ON MOTOR CARS.

APPLICATION FILED AUG. 1, 1903. RENEWED MAY 6, 1904.

NO MODEL.

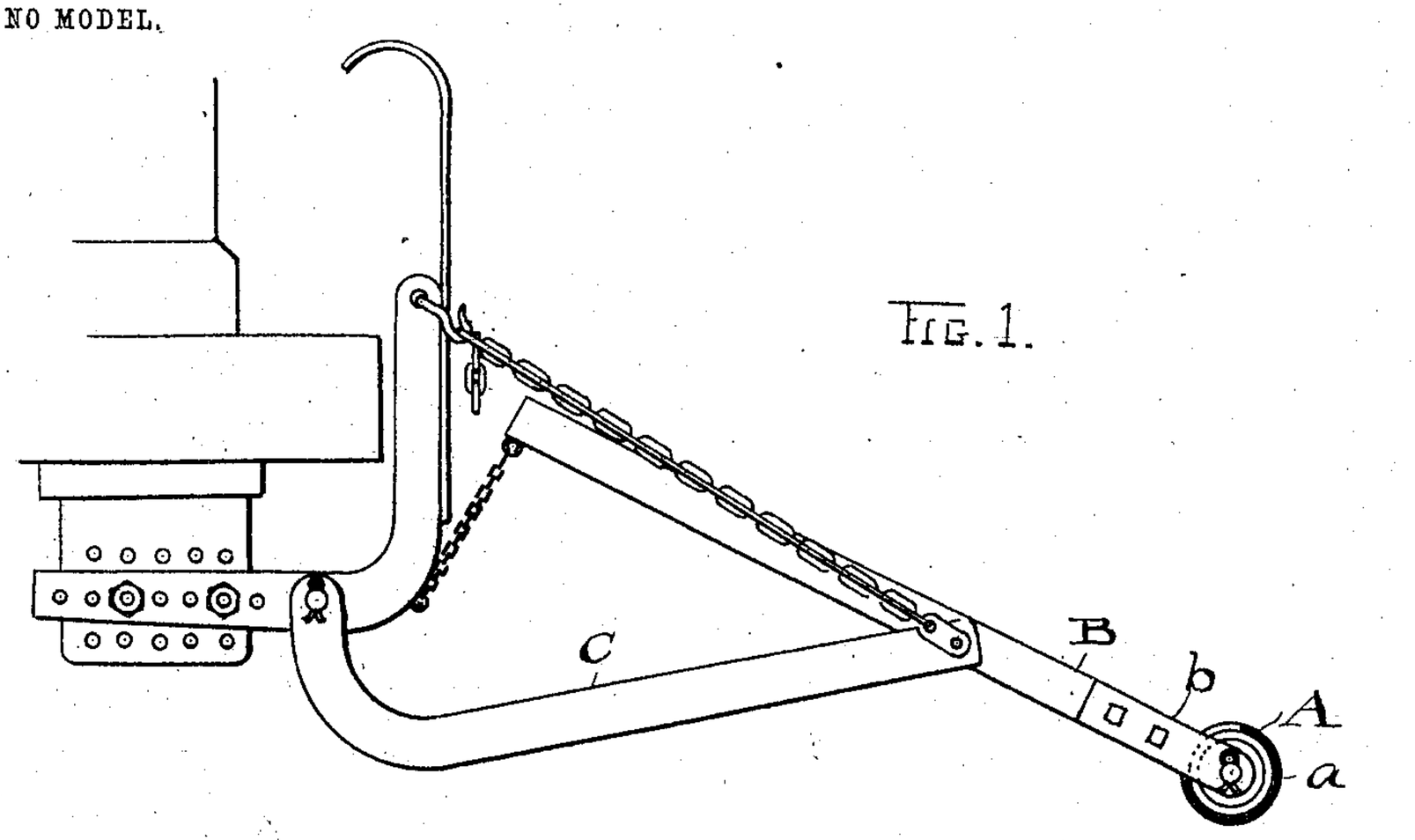

FIG. 1.

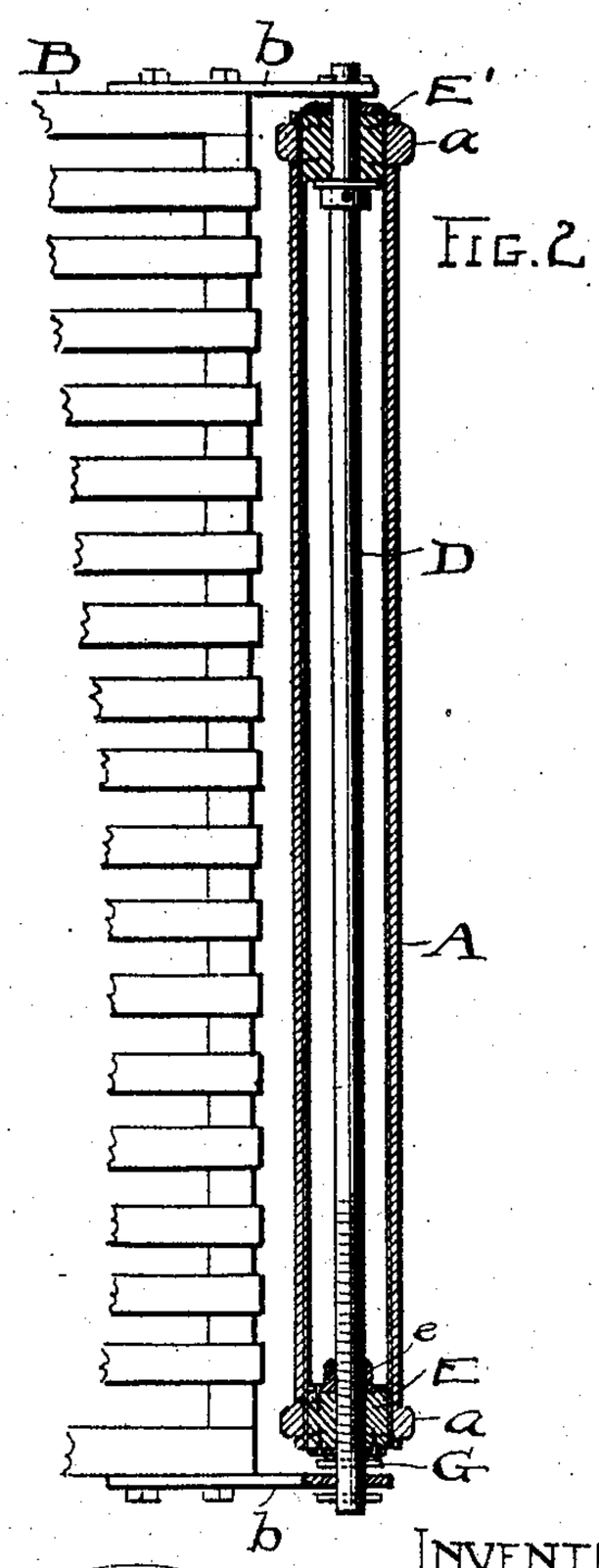

FIG. 2.

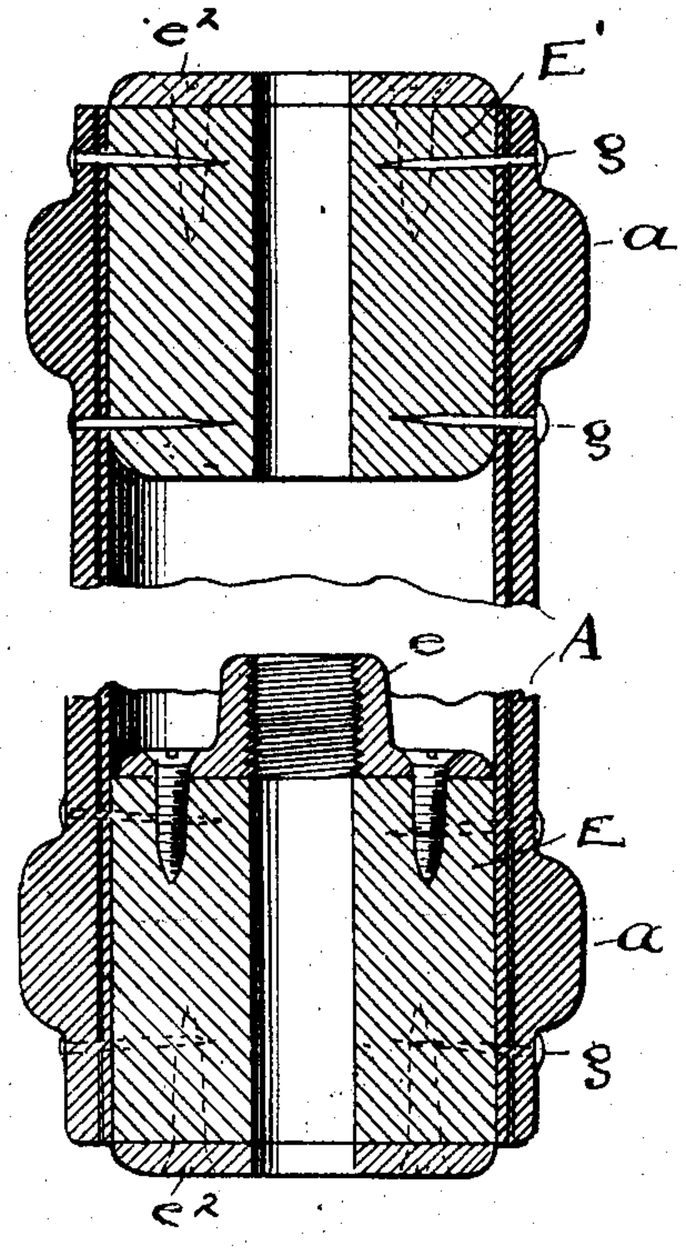

FIG. 3.

ATTEST

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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.

FLEXIBLE ROLLER FOR SAFETY ATTACHMENTS ON MOTOR-CARS.

SPECIFICATION forming part of Letters Patent No. 778,200, dated December 20, 1904.

Application filed August 1, 1903. Renewed May 6, 1904. Serial No. 206,698.

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 Flexible Rollers for Safety Attachments on 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 has reference to a flexible roller for safety attachments on motor-cars; and the invention consists in a roller which is adapted to work at the front of a safety attachment and serves as the striking member of the attachment, so that when a person who may be upon the track is struck the first contact or blow is through or upon this flexible or yielding member and which is so constructed as to cushion the blow and not produce injurious results.

In the accompanying drawings, Figure 1 is a side elevation of my improved attachment with the roller in position at the front. Fig. 2 is a longitudinal sectional view in plan of the roller, and Fig. 3 is an enlarged view in section of the ends of the roller with the middle portion broken away.

As thus shown the roller comprises a flexible tube A, preferably of rubber, which may be made up more or less as rubber hose, with this difference, that the body of the rubber comes upon the outside at the place of wear, while the canvas or cloth upon which the rubber is grounded comes more upon the inside of the tube.

B represents a pivoted carrier in the safety attachment, supported upon arms C and provided with extensions *b*, in which the shaft D, carrying the roller, is supported. This shaft is shown as a threaded rod of a suitable size, and the roller-tube A is of a size in cross-section to be kept apart from said shaft the entire length thereof, except at the ends, so as to afford a good cushioning-surface across the entire front of the attachment from side to side.

It is not intended that an attachment of this kind should run upon the road-bed; but it is designed to be carried at more or less elevation from the bed or surface—say, three to six inches—so as to avoid running contact; but experience has shown that there is danger of the roller striking the surface of the track at times, especially with uneven roads, and in such cases the roller would be subjected to injury if it were not especially protected. To this end I have formed an annular rib or riding rim or tread *a* upon each end of the roller of such depth relatively that when the road bed or surface is struck these ribs or treads will make the contact and protect the body of the roller from injury. Preferably I form these ribs also of rubber; but I might make them of a different material, if preferred.

The rubber tube A is secured upon shaft D by intervening cylindrical blocks E and E′, and the block E′ is so secured as not to be movable longitudinally on the shaft while block E engages the threaded portion of the shaft, and the construction at this end is such and the threads are so placed upon the shaft that in case of rotation by the ribs *a* striking the road-bed the tendency will be to run the block out upon the thread, thus keeping the tube stretched. However, there necessarily is a limit to this movement of block E to prevent wedging of roller A between its supports, and to this end I have placed a cotter-pin G through the shaft to limit the movement of the block outward.

The roller-tube A is made up as a special article adapted for this use only, and if it becomes unserviceable for any cause it can be replaced by a new one.

The annular rib or rim *a* serves to protect the heads of the nails which fasten tube A upon blocks E E′ and prevent the heads from wearing off and releasing tube.

The wear is greatest at the point where the rubber tube is backed up at the ends by blocks E E′, and it is here more than any other place where an annular rib is required. A further advantage of locating rib *a* at and around blocks E E′ is in the stiffness it affords to

tube A at the point where it is fastened by the nails to said blocks, thereby preventing the rubber from stretching and being cut by the nails when under the tension as it is normally.

What I claim is—

1. As a new article of manufacture, a rubber tube for safety attachment on motor-cars having an annular integral rib about each end thereof, substantially as described.

2. A safety attachment for motor-cars, comprising a pivoted carrier, a striking member on said carrier consisting of a rubber tube having an annular bearing of rubber upon each end thereof projecting beyond the surface of the tube, and a shaft upon which the tube is mounted, substantially as set forth.

3. The carrier and the roller thereon, comprising a shaft supported at its ends on the carrier, a rubber tube stretched over said shaft and means on the shaft to limit the tension to which the roller may be stretched, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

BENJAMIN LEV.

Witnesses:
R. B. MOSER,
R. ZBORNIK.