No. 713,742.

Patented Nov. 18, 1902.

W. M. BROWN.

CONTACT SHOE FOR ELECTRIC RAILWAYS.

(Application filed Nov. 30, 1901.)

(No Model.)

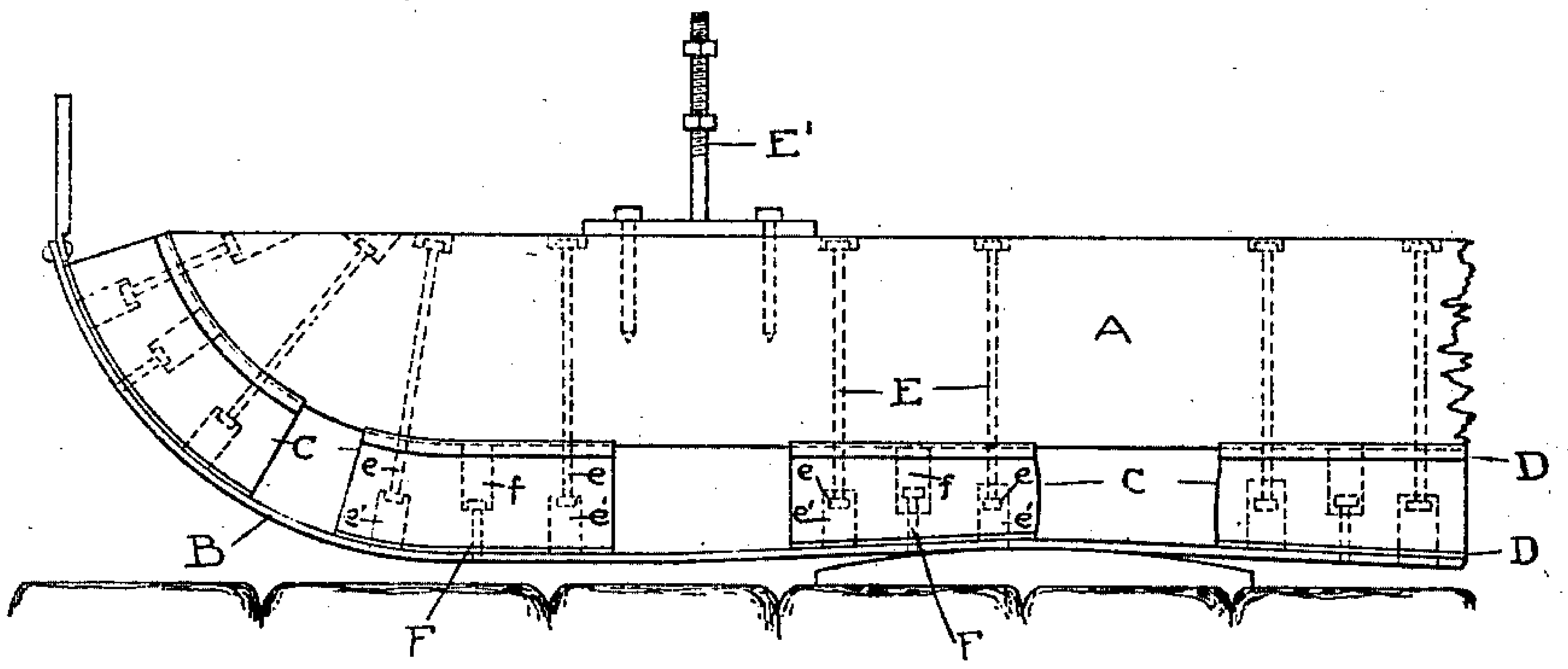

FIG 1

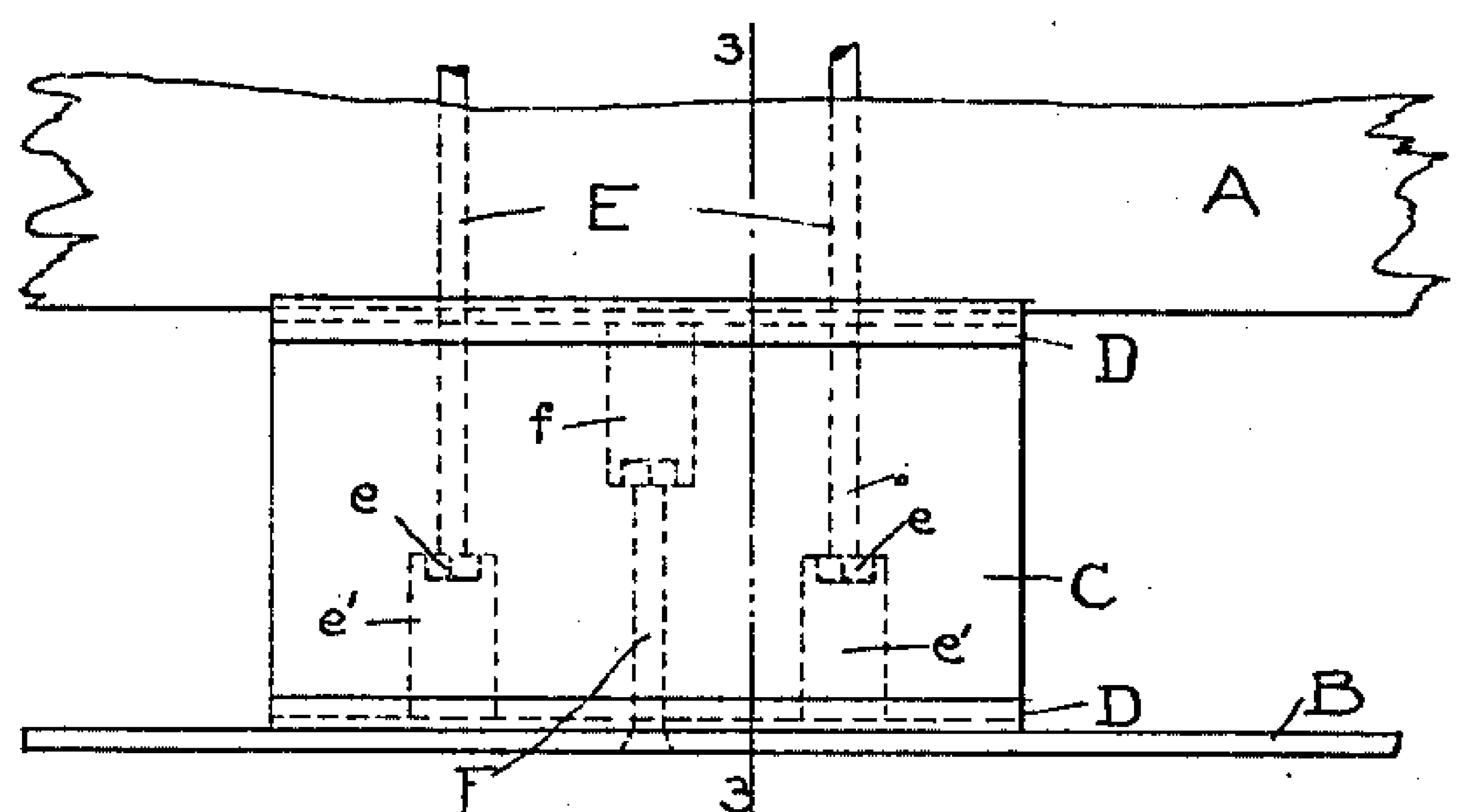

FIG 2

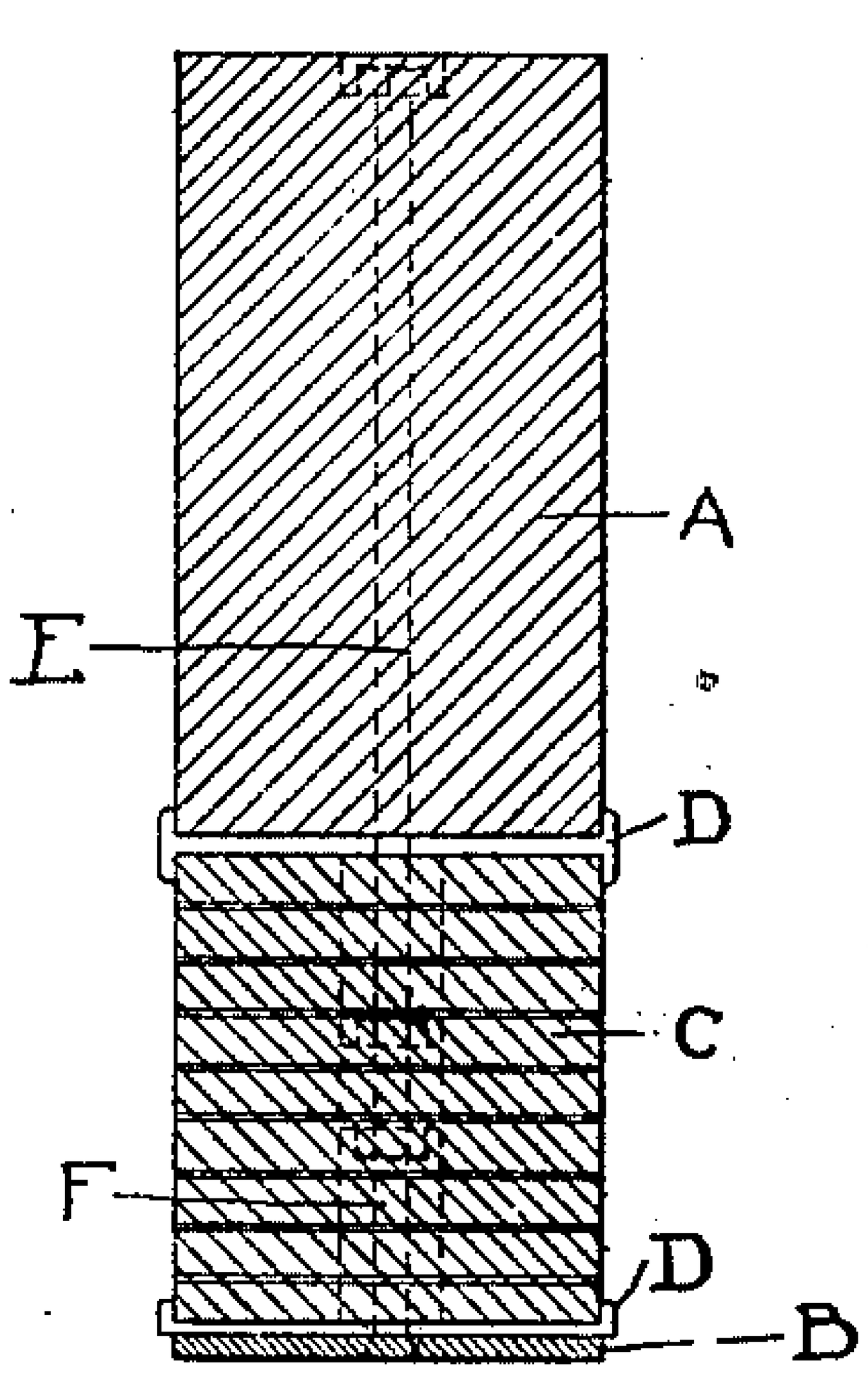

FIG 3

WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM MILT. BROWN, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO THE LORAIN STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

CONTACT-SHOE FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 713,742, dated November 18, 1902.

Application filed November 30, 1901. Serial No. 84,236. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MILTON BROWN, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Contact-Shoes for Electric Railways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to contact-shoes for electric railways, and is an improvement upon the shoe described and claimed in my Patent, No. 602,495, of April 19, 1898.

The object of my invention is to retain the vertical elasticity or flexibility of the shoe described in the said patent and at the same time provide for greater lateral rigidity thereof; also, to obviate the tendency of the shoe to sag, and thereby hang too low in use by reason of the tendency of the elastic cushion to stretch or elongate vertically, and to provide fastening means for the contact-strip and cushions which will not become loose or tear out in use.

To these ends my invention consists in interposing between the metallic contact-strip of the shoe and its carrier a cushion composed of a number of separate pieces or blocks of soft rubber or other similar material combined with means for securing the contact-strip and the said pieces or blocks and the latter to the carrier in such a manner as to permit of the necessary vertical compression of the blocks or pieces without objectionable lateral movement and tendency to stretch or sag.

In the accompanying drawings, Figure 1 is a side elevation of a portion of a contact-shoe embodying my invention shown in engagement with a contact-box of an electric railway. Fig. 2 is an enlarged view of a portion of the shoe, and Fig. 3 is a section on the line 3 3 of Fig. 2.

The letter A designates a bar of wood or other suitable material secured to any desired part of the car frame or truck by means of bolts E', one of which is shown in Fig. 1.

B designates the continuous metallic contact-strip, and C designates a number of cushion members which are interposed between the bar A and the said contact-strip. These cushion members consist each of a block or section, preferably of soft rubber of a more or less porous or spongy character. They are seated between upper and lower cap-plates D and are secured to the bar A by means of bolts E, having headed lower ends *e*, which are seated in recesses *e'*, cut into the blocks on the lower sides thereof. The bar B is secured to the blocks or cushion members by means of rivet-bolts F, which extend up into the said blocks or members, with heads at their upper ends which are seated in recesses *f*, cut into the upper surfaces of the blocks. The depth of the recesses *e* and *f* is sufficient to permit a considerable compression of the blocks in the manner shown in Fig. 1. In fact, the bolts do not in any way restrain or limit such vertical compression, but they do prevent to a considerable extent any objectionable lateral or swinging movement of the contact-strip. There will be very little tendency of the cushion members to sag or stretch vertically. I do not wish to limit myself, however, to cushion members of the particular construction which I have herein shown and described, nor do I wish to limit myself to the particular fastening devices, as it is obvious that blocks or sections of elastic material may be constructed in various ways to serve the purpose of the invention and that various means may be employed for securing them to the carrier and to the contact-strip which will possess the advantages herein described.

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

1. In an electric contact-shoe, a cushion composed of a plurality of separate blocks or sections of elastic material interposed between and secured to the contact-strip and its carrier and capable of independent vertical compression.

2. In an electric contact-shoe, the combination with a contact member and its carrier, of a cushion composed of a plurality of separate elastic blocks or sections interposed between said contact member and carrier, and fasten-

ing devices which secure said blocks or sections to permit vertical compression thereof, and to restrain their lateral movement.

3. In an electric contact-shoe, the combination of a suitable carrier secured to the vehicle, a number of blocks or sections of elastic material secured to the under side of said carrier, and a continuous contact-strip secured to the under side of said blocks or sections, the securing device for said strip being movably engaged with said blocks or sections.

4. In an electric contact-shoe, the combination of a carrier and continuous contact-strip, and a series of cushion members interposed between said carrier and strip, bolts seated in said carrier and having headed ends seated in recesses in said members, and bolts secured in the said strip and having heads movably seated in said members.

5. In an electric contact-shoe, the combination with the carrier and a continuous contact-strip, of a number of cushion members interposed between said carrier and strip, together with bolts secured in said carrier and strip and having headed ends seated in recesses of said cushion members.

6. In an electric contact-shoe, the combination of a carrier and continuous contact-strip, a plurality of separate cushion members interposed between said carrier and strip, cap-plates seating the upper and lower faces of said members, and securing devices seated in said bar and strip and engaging said cushion members in opposite directions through said cap-plates.

In testimony whereof I have affixed my signature in presence of two witnesses.

W. MILT. BROWN.

Witnesses:
COOG G. COX,
H. W. SMITH.