

No. 750,000.

PATENTED JAN. 19, 1904.

E. F. McARDLE.

VEHICLE TIRE.

APPLICATION FILED NOV. 28, 1902.

NO MODEL.

Fig. 1.

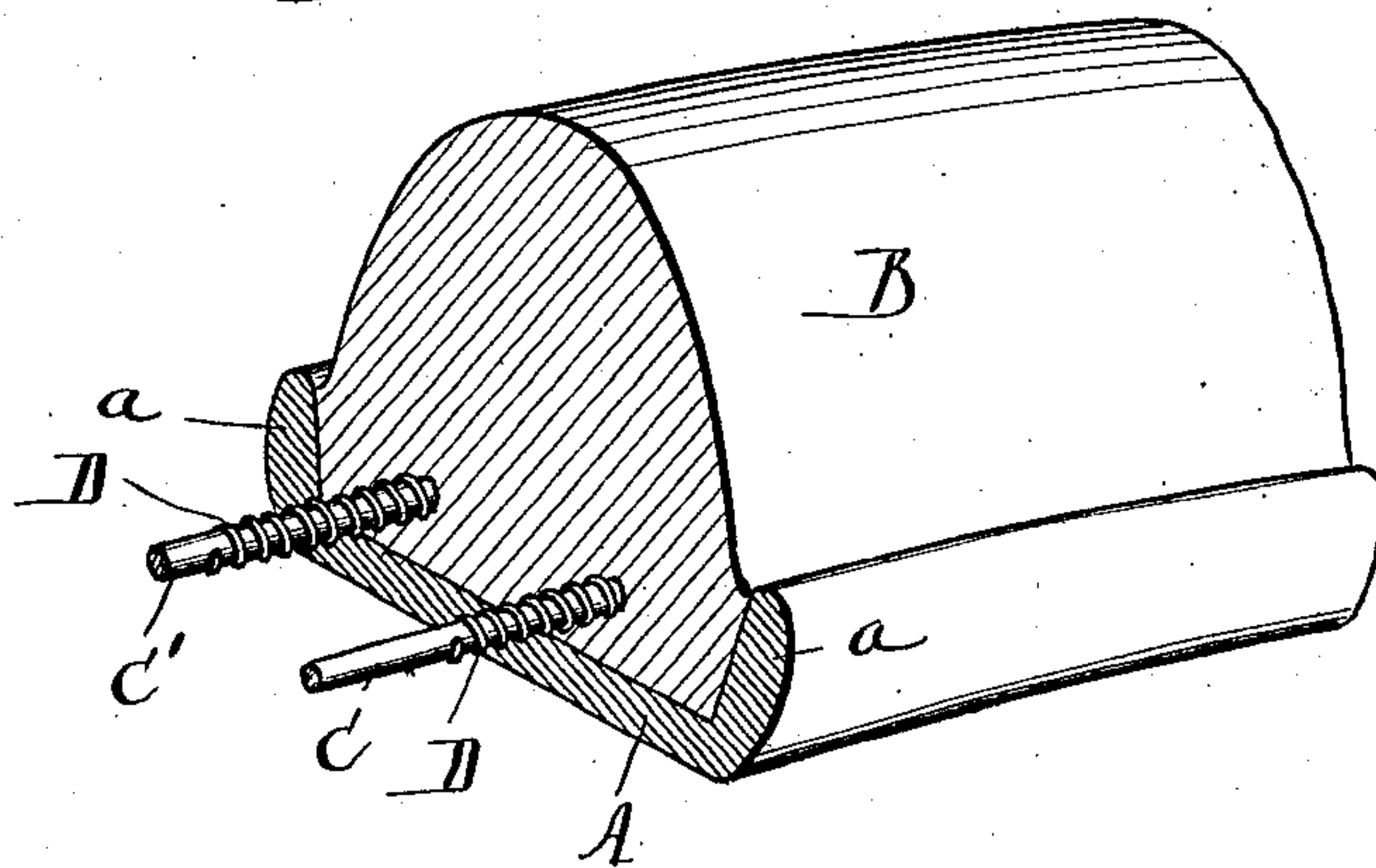
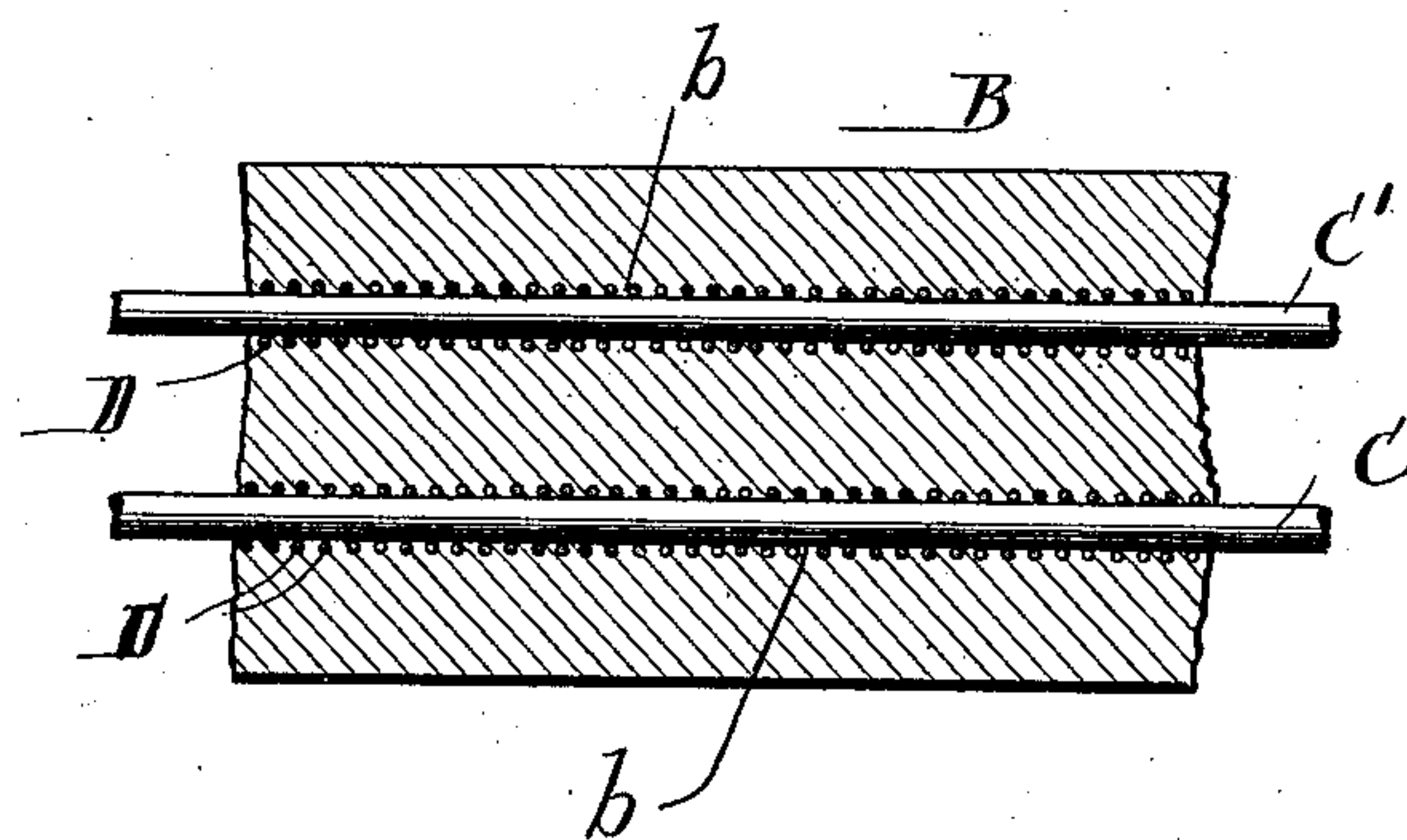


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

EUGENE F. McARDLE, OF NEW YORK, N. Y.

VEHICLE-TIRE.

SPECIFICATION forming part of Letters Patent No. 750,000, dated January 19, 1904.

Application filed November 28, 1902. Serial No. 133,039. (No model.)

To all whom it may concern:

Be it known that I, EUGENE F. McARDLE, a resident of the city and county of New York, State of New York, have invented certain new and useful Improvements in Vehicle-Tires, of which the following is a full, clear, and exact description.

The invention relates more particularly to that class of tires known as "cushion-tires"—*i. e.*, those in which an elastic body or strip is secured in a metallic rim.

The present invention designs to provide an improved tire which is simple and inexpensive of construction and which will be securely held in true longitudinal alinement in the rim.

With this object in view the invention consists in the several novel features of construction hereinafter described, illustrated in the accompanying drawings, and more particularly defined by claims at the conclusion hereof.

In the drawings, Figure 1 is a perspective view of a portion of a tire embodying the invention. Fig. 2 is a view in horizontal section.

A denotes a metallic rim having the usual flanges, between which a channel is formed wherein an elastic body or strip B will fit and be held.

C and C' are retaining-bands in longitudinal bores or openings *b*, formed in and extending entirely around the elastic strip, and these bands secure the strip in the rim-channel.

D denotes a coil of wire embedded in the elastic strip around each of the bores *b* and retaining-bands D and extended longitudinally through the elastic strip. Each bore is of substantially the same diameter as the retaining-wire extending therethrough, and each coil of wire has an inner diameter substantially the same as the bore, so substantially the entire inner surface of the coil will be exposed adjacent the bore. The retaining-wire will engage not only that part of the coil between the retaining-wire and rim, but also the sides and outside portions of the coil. In other words, the coil forms a flexible compressible metallic lining around the entire bore or opening for the retaining-wire. The longitudinal wire will fit snugly in the bore and

in the coil. As a result, the retaining-wire will firmly secure the elastic strip against lateral as well as outward movement with respect to the rim. The coil will effectively prevent cutting or wear of the strip by the longitudinal wire, resulting from vertical and lateral pressure to which the elastic strip is subjected while in use.

In manufacturing the tires the elastic strip is sometimes molded in long straight strips sufficient in length to encircle a rim. Cores of substantially the same diameter as the retaining-wires are within the mold and form the longitudinal bores, and the coils are placed around these cores. The coils having substantially the same inner diameter as the diameter of the bore and fitting snugly around the cores are truly alined in the elastic strip, and therefore form a true "metallic-lined" bore for the retaining-wire. When the elastic strip is formed in a circular mold, the retaining-wires are endless, and the elastic strip is formed with the wire or wires therein.

An important resultant advantage is that all lateral irregularities in the bore and strip are avoided, so the elastic strip will fit truly and accurately in the rim-channel. A further advantage is that the coil or metallic lining being but little greater diameter than the retaining-wires will not lessen the resiliency of the tire.

In applying an elastic strip to the rim it is customary to compress the elastic strip so when laid into a circular rim it will possess the desired density. During such operation the coils will permit the desired flexure and compression and prevent the cutting either laterally or vertically by the retaining-wires.

Manifestly tires made as hereinbefore set forth can be economically produced, are durable because cutting of the elastic body in either direction is prevented by the snugly-fitting retaining-wire and coil, are truly and evenly held in the elastic strip, fit to a nicety in the rim, and are efficient in use.

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

1. In a vehicle-tire, the combination with a rim having a channel therein, of an elastic

strip or body within said channel, and having
a longitudinal bore or opening therein, a coil
molded in the elastic strip or body and ex-
tending longitudinally through said strip and
5 forming a flexible metallic lining for said bore
or opening and a retaining-wire fitting snugly
within said coil, and the bore or opening.

2. In a vehicle-tire, the combination with a
rim having a channel therein, of an elastic
10 strip or body fitting in said channel, having a
plurality of longitudinal bores or openings
therein extending through said strip or body,

a coil of wire embedded in said strip or body,
and extending longitudinally through said
strip and around each of said bores or open- 15
ings, to form a compressible metallic lining
for each bore, and having an inner diameter
substantially the same as the diameter of the
bore, and a retaining-wire fitting snugly with-
in each bore and coil.

EUGENE F. McARDLE.

In presence of—

W. A. LYNCH,

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