

No. 753,920.

PATENTED MAR. 8, 1904.

M. V. RUSH.
VEHICLE TIRE.

APPLICATION FILED MAY 28, 1903.

NO MODEL.

Fig. 1.

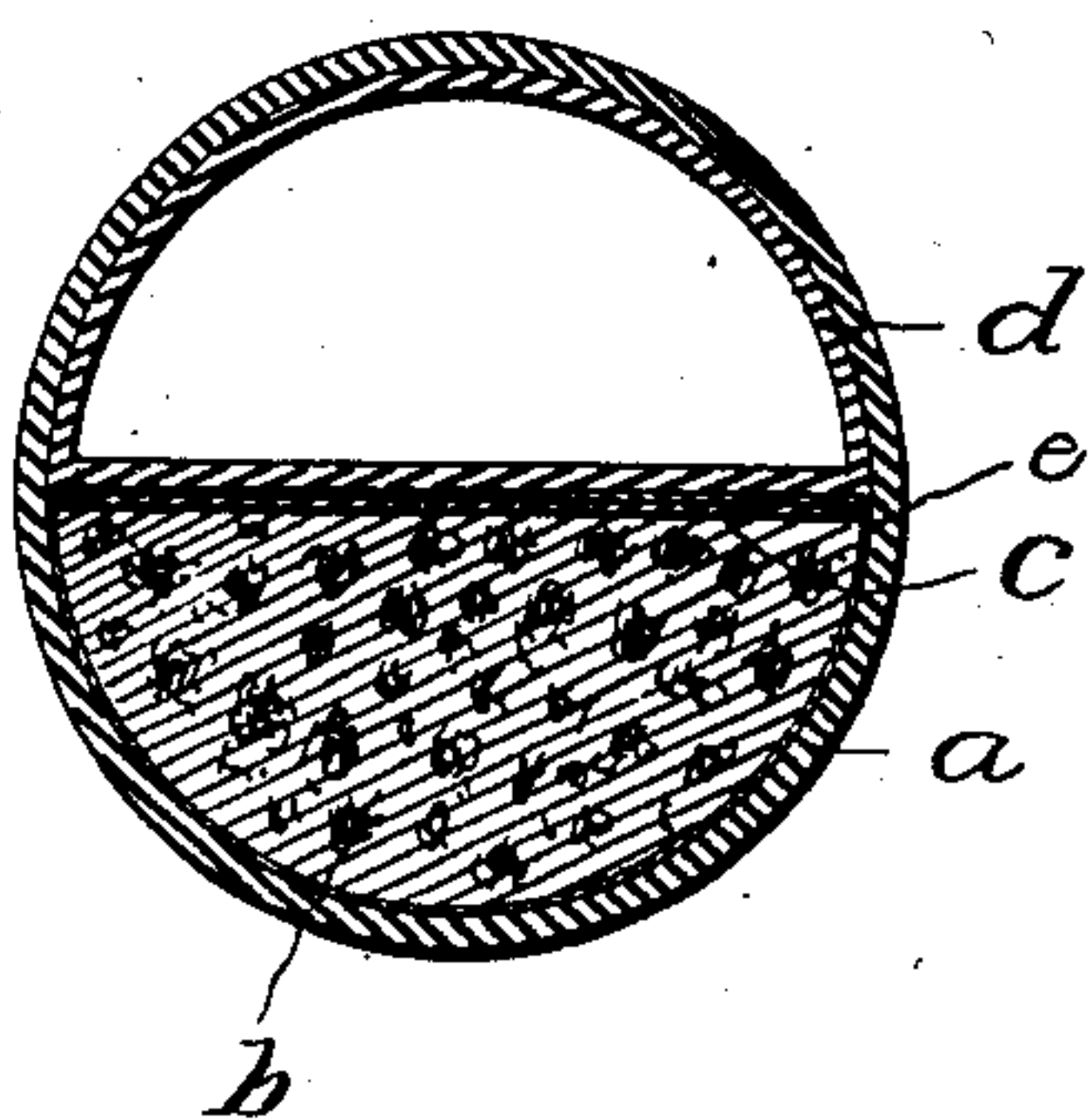


Fig. 2.

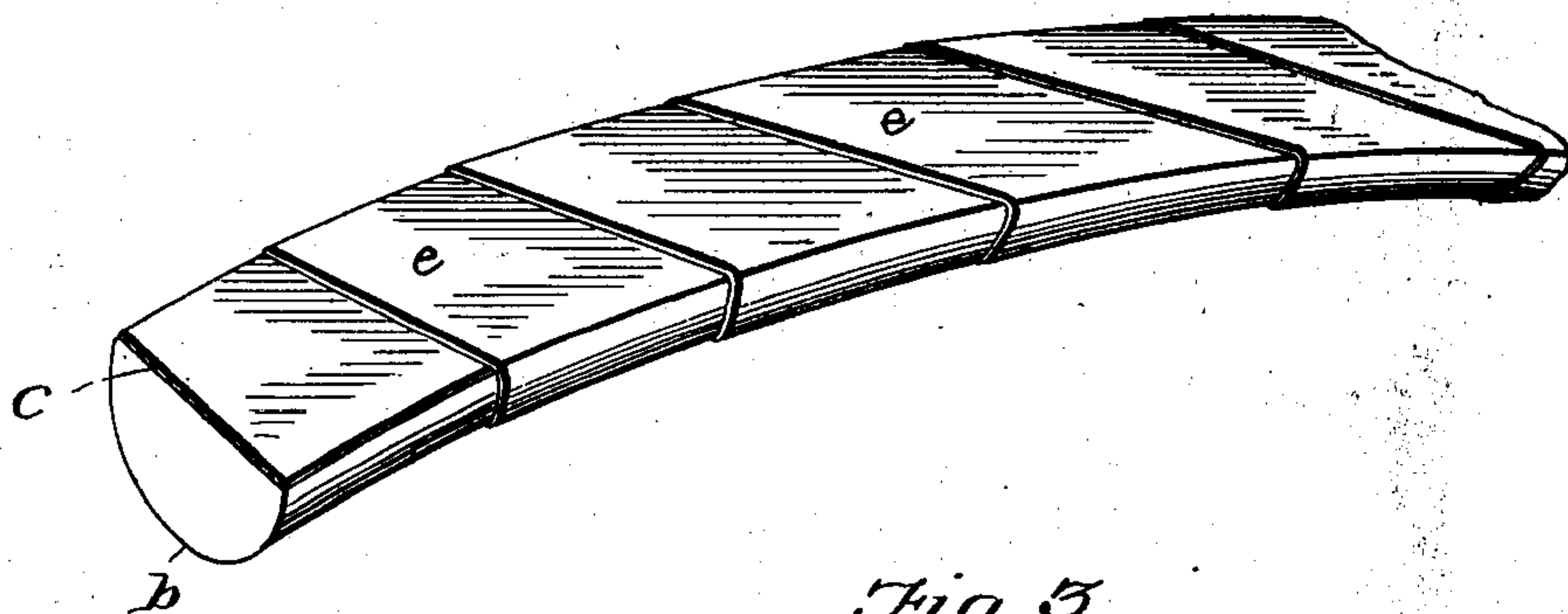


Fig. 3.

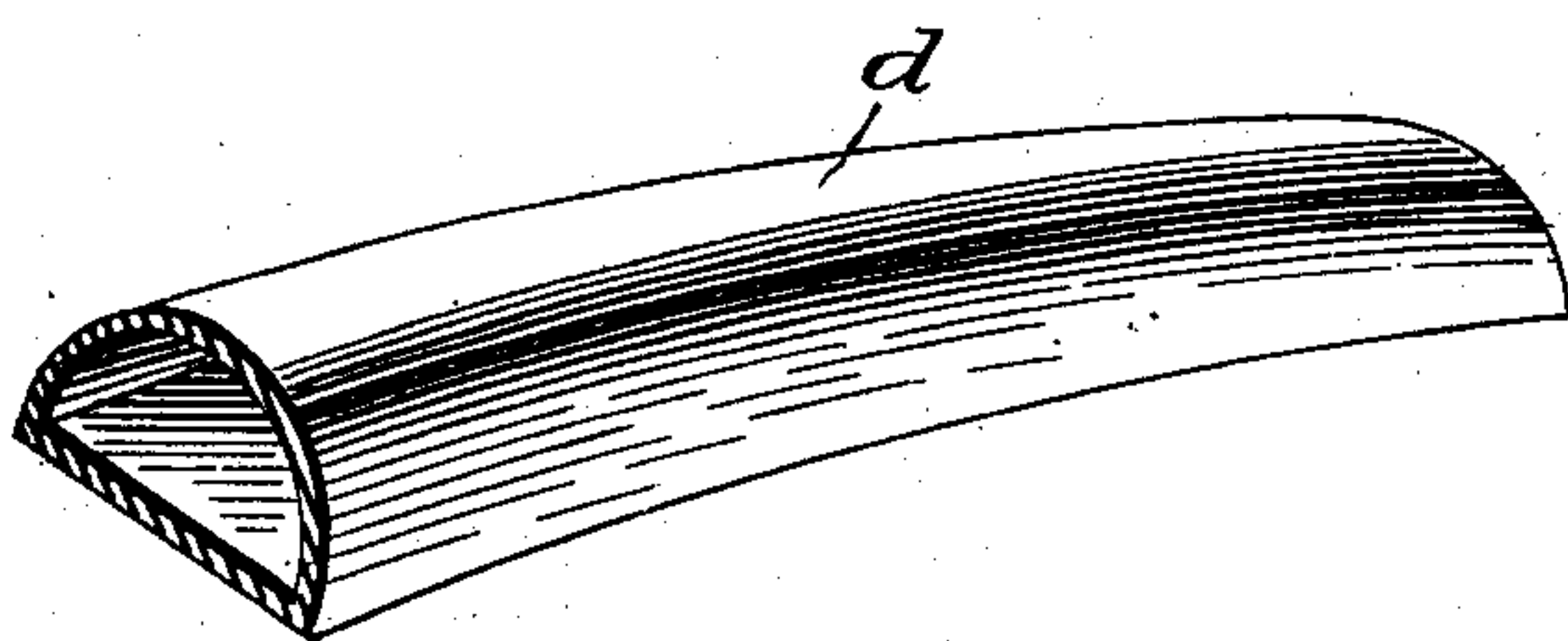
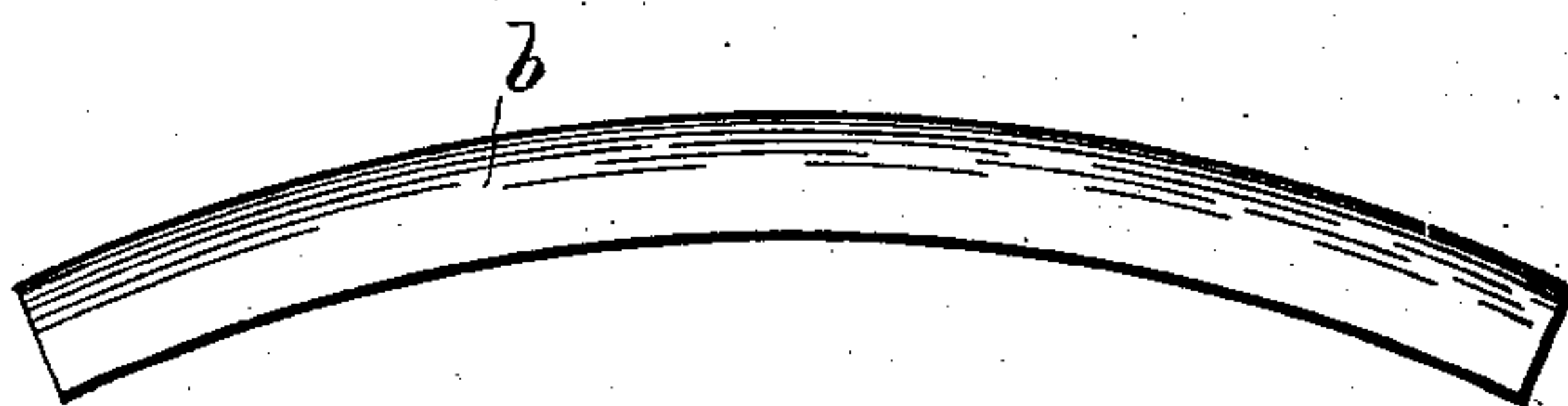


Fig. 4.



Witnesses

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334

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UNITED STATES PATENT OFFICE.

MARTIN V. RUSH, OF ANDERSON, INDIANA.

VEHICLE-TIRE.

SPECIFICATION forming part of Letters Patent No. 753,920, dated March 8, 1904.

Application filed May 28, 1903. Serial No. 159,141. (No model.)

To all whom it may concern:

Be it known that I, MARTIN V. RUSH, a citizen of the United States, and a resident of Anderson, in the county of Madison and State of Indiana, have made a certain new and useful Invention in Vehicle-Tires; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to pneumatic tires; and it consists in the novel construction and combinations of the parts, as hereinafter set forth.

The object of the invention is the improvement of pneumatic tires to prevent puncture by cutting articles encountered on roadways—such as glass, nails, and tacks—penetrating to the air-tube.

In the accompanying drawings, Figure 1 is a cross-section of my tire. Fig. 2 is a detail perspective view of a portion of one of the cork strips *b*, showing the steel strips *c* and the fabric wrapping. Fig. 3 is a similar view of a portion of the tube *d*, and Fig. 4 is a detail view of one of the cork sections *b*.

In the drawings the letter *a* designates the outer cylindrical rubber-coated tube inclosing all parts of the tire.

d is a semicylindrical or segment-form rubber air-tube of about half the size of the ordinary inner tubes of pneumatic tires and occupying the inner half of the outer covering *a*, its diametric chord-surface presenting outward.

b is a series of segment-form cork strips consisting of semicylindrical arc-form sections of about twelve inches long cut to conform to the circumference desired, usually about five-eighths of an inch thick and the full diameter of the inner surface and about two inches over the convex bottom side, being deep enough to take up minor punctures penetrating the outer tube. The cork being cut to a larger size than is required is then steamed and compressed to

proper size in order to reduce shrinkage and to render it more compact.

c is an inside flat-strip annulus, of steel, brass, aluminium, or other metal, steel being preferred, and about one one-hundredth of an inch in thickness. This steel-strip annulus engages the inner surface of the cork, and its ends are usually welded together to prevent friction. It forms an inner protective metal tire for the air-tube, spanning its diametric inner surface and serving to prevent injury thereof from any punctures that may extend through the cork segments. The metal-strip annulus *c* is coated with a rust-proof paint or varnish and bears against said series of cork sections on their inner surface and is united therewith by means of a strip-binder, of ducking, cotton, linen, or other strong fabrics, wound securely around them, forming a double protective inner tire of steel and cork. The binder ribbon or tape *e*, which is wound around the cork sections and metal-strip ring, is also coated with paint or varnish to make it adhere to the adjacent parts.

The cork protector-sections are rendered spongy by steaming and drying and are then made compact by pressing them to the proper form. These are placed around the metal-strip annulus and firmly bound thereto, forming the outer half or protective portion of the tire within the outer cylinder, the inner half within said outer cylinder being formed by the semicylindrical air-tube, the diametric chord-faces of these interior inner and outer portions engaging each other. The metal plate or strip is located diametric of the main tube, and the width of the cork sections being also diametric the tire is protected completely from one side to the other. The binder fabric not only holds the plate and cork sections together, but also prevents the edges of the metal plate from working against the inner wall of the main tube and cutting the same.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a pneumatic tire, the bottom semicircular protector-sections of compressed spongy cork, an inner coated diametric metallic-strip

annulus engaging the same, and a fabric binder around said cork sections, and strip annulus, substantially as specified.

2. A pneumatic tire, comprising an outer
5 cylindrical tube, and within the same, an inner semicylindrical air-tube, outer semicylindrical spongy compressed cork protector-sections, a metallic-strip annulus engaging the chord-surfaces of the cork sections, and the
10 fabric binder of said strip annulus and cork

sections engaged by the diametric chord-surfaces of the inner air-tube, substantially as specified.

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

MARTIN V. RUSH.

Witnesses:

JULIA A. MOORE,
DE WITT C. CHIPMAN.