(No Model.)

T. B. JEFFERY

PNEUMATIC TIRE.

No. 556,931. Patented Mar. 24, 1896.

Fig. 1.

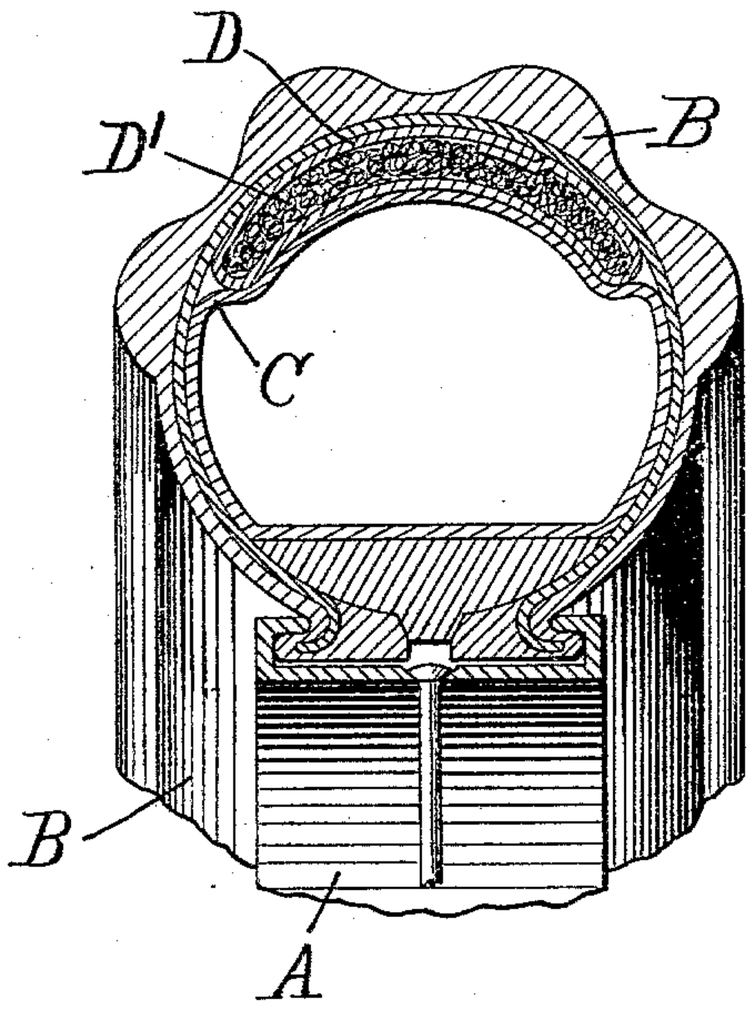
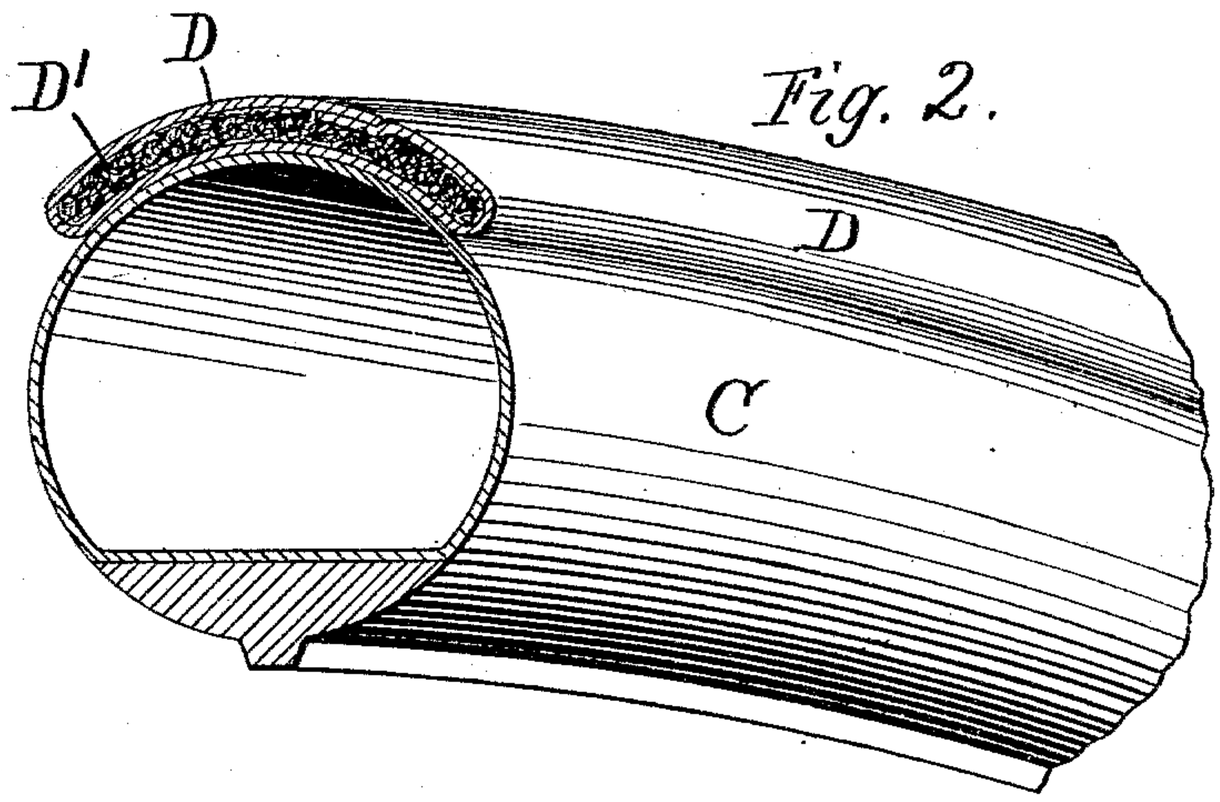


Fig. 2.



Witnesses.
E. T. Wray.
Jean Elliott.

Inventor.
Thos. B. Jeffery
by Burton and Burton
his attys

UNITED STATES PATENT OFFICE.

THOMAS B. JEFFERY, OF CHICAGO, ILLINOIS.

PNEUMATIC TIRE.

SPECIFICATION forming part of Letters Patent No. 556,931, dated March 24, 1896.

Original application filed January 16, 1892, Serial No. 418,234. Divided and this application filed February 17, 1894. Serial No. 500,565. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. JEFFERY, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Pneumatic Tires, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

This application is a division of my application, Serial No. 418,234, filed January 16, 1892.

In the drawings, Figure 1 is a transverse section of a tire involving my improvement. Fig. 2 is a perspective of a short portion of the inflatable core and the cap associated therewith which constitutes my improvement.

A is the rim of the wheel; B, the tire-cover; C, the inflatable core; D D′, a pad which is located between the cover B and the core C and protects the latter against puncture from sharp substances which might penetrate the tread of the cover and reach the core in riding. This pad consists of an envelope or sheath D of textile fabric, inclosing fibrous material D′. The sheath of textile fabric has the pliancy necessary to make it accommodate itself to the tire-cover and core in riding, and it assists in preventing any sharp substance from penetrating the pad and reaching the core; but its chief purpose is merely to retain the fibrous material D′ within it, which is packed closely enough to offer sufficient resistance to any sharp point to prevent it from reaching the core. The resistance of the fibrous material to the penetrating point may be very much increased by the addition of rosin, which, adhering to the fibers, makes them adhere to any penetrating object, and thereby the mass of fibrous material becomes almost as impenetrable as stone, while retaining all the pliability of the fiber.

I do not claim as my invention the employment of rosin with the fiber, and the fiber may be used very effectively without that addition, and I expressly disclaim the use of fiber in the condition of felt or other firmly-organized fabric, since fiber in that condition lacks the necessary capacity for yielding under the sheath when the latter is attacked by a point which might penetrate it and by reason of its firmness tends rather to hold the sheath so stiffly in position that it is more easily penetrated by a sharp point. The fiber, such as raw cotton, merely massed and pressed into the sheath closely enough to distend the sheath to the proper shape, is presented in a confused aggregation to the penetrating point, and is more useful then than the more solid material which would be produced by felting or any equivalent process.

The sheath D of textile fabric, which incloses the fibrous material, may be made in the simplest manner by lapping the lateral edges and stitching them together, making a cushion in the form of a band which may be laid about the periphery of the core or within the sheath before the core is inserted therein. The stitching which secures the lapped edges may pass through and through the whole cushion, and thereby assist in securing the fibrous material in uniform arrangement throughout the length of the cushion or pad about the whole circumference of the wheel. After the core has been once inflated and the wheel used for some time the pad will be found so perfectly shaped to the position which it is designed to occupy in the tire that there will be no tendency toward displacement and no imperative necessity for securing it in its place in the tire-cover.

I claim—

1. In a pneumatic tire, in combination with the inflatable core, a pad located outside the same comprising fiber neither felted nor woven, but closely packed, and suitable means for retaining the same about the core: substantially as set forth.

2. In a pneumatic tire, in combination with the tire-cover and the inflatable core within the same, a pad of fiber neither felted nor woven, but closely packed and located within the tire-cover and outside the core: substantially as set forth.

3. In a pneumatic tire, in combination with the tire-cover and the inflatable core, a pad

located outside the core and within the cover, composed of a sheath or envelope of textile fabric, and a filling of fiber neither felted nor woven, but closely packed in the sheath: substantially as set forth.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 15th day of February, 1894.

THOS. B. JEFFERY.

Witnesses:
CHAS. S. BURTON,
JEAN ELLIOTT.