W. E. BUDD.

RESILIENT TIRE.

APPLICATION FILED JAN. 25, 1913.

1,067,639. Patented July 15, 1913.

Fig. 1

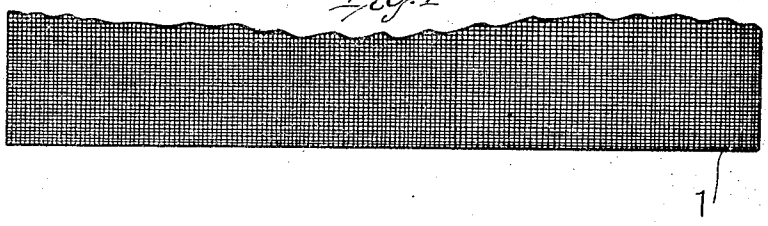


Fig. 2

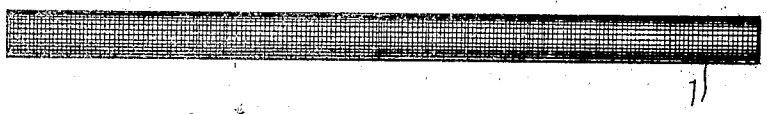


Fig. 3

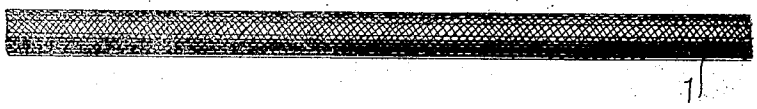


Fig. 4

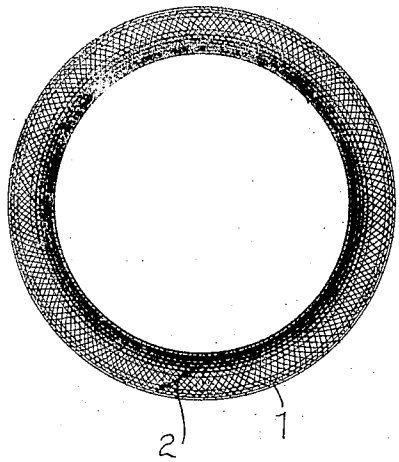
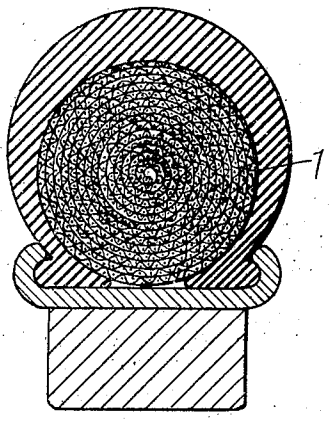


Fig. 5



Inventor
W. E. Budd

Witnesses
Robert M. Sutphen.
A. L. Hind.

By Watson E. Coleman
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM E. BUDD, OF ELIZABETH, NEW JERSEY.

BEST AVAILABLE COPY

RESILIENT TIRE.

1,067,639. Specification of Letters Patent. Patented July 15, 1913.

Application filed January 25, 1913. Serial No. 744,189.

To all whom it may concern:

Be it known that I, WILLIAM E. BUDD, a citizen of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Resilient Tires, of which the following is a specification, reference being had to the accompanying drawings.

This invention comprehends certain new and useful improvements in resilient tires for the wheels of automobiles, motor trucks and other vehicles generally, and it has for its primary object a simple, durable and efficient construction of core for use in connection with the ordinary shoe or casing, whereby a resilient structure will be produced without the disadvantages which are incidental to the use of pneumatic tires which are rendered unfit for service by punctures, blow-outs, or the like. And the invention also aims to generally improve devices of this class so as to render them more useful and commercially desirable.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of my invention, reference is to be had to the following description and accompanying drawing, in which—

Figure 1 is a face view of a portion of a sheet or strip of fabric out of which the core may be formed. Fig. 2 is a view of the strip rolled. Fig. 3 is a similar view indicating the torsional strain which has been imposed upon the roll, preparatory to shaping it. Fig. 4 is a side view of the core complete, and Fig. 5 is a transverse sectional view on an enlarged scale, showing the core embodied in a tire.

Corresponding and like parts are referred to in the following description and designated in all the views of the accompanying drawing by like reference characters.

In carrying out my invention, I take a sheet or strip, or sheets or strips of some textile fabric which is capable of absorbing a liquid, such as canvas, linen, cotton duck, felt or the like, as illustrated at 1, and I impregnate the same with a solution of the required consistency and stability to render the completed core rigid enough not to be easily deformable, while at the same time possessing characteristics of resiliency.

It is to be understood that I am not limited to the use of any particular solution or combinations of ingredients for saturating the cloth, but as an example, would state that I might use a mixture of soap and linseed-oil. After the cloth has been saturated with the solution, it is rolled to produce a structure of substantially circular shape and of the required diameter to properly fill the tire shoe or casing for which it is intended and it is bent to a circular shape, the ends being secured together by stitching or any other desired means.

From the foregoing description in connection with the accompanying drawing, it will be understood that when a core, constructed in accordance with my invention, is inserted in the tire shoe or casing in lieu of the ordinary inflatable inner tube, the shoe will be in condition for service and a resilient tire will be produced. Manifestly, a core embodying the improvements of my invention can be very cheaply constructed and as it will last a very long time under ordinary service and will not be liable to injury from puncture, its availability and advantages will at once be apparent.

It is to be understood that a core constructed in accordance with my invention may be formed of any desired number of layers of cloth or fabric and that any desired layers may be added thereto as required in order to produce the necessary diameter. It is further to be understood that in saturating the sheet or strip of fabric, I prefer to boil the same in a gelatinous solution which will not only permeate all of the interstices of the fabric and properly fill up the pores, but will also give a body or sizing to the cloth and impart some resilience thereto. Furthermore, in order to facilitate the bending of the roll to form the circular core, the roll is preferably twisted axially by torsional strain before it is curved or bent into circular shape, and the ends of the roll are preferably cut on the bias or beveled and lapped and then stitched through as indicated at 2 in Fig. 4.

I propose, after the core has been used for some time and possibly become somewhat deformed and flattened in service, to add to the core any desired number of layers

or winding of fabric, so as to build the core to its proper and original diameter and shape.

What I claim is:—

As a new article of manufacture, the herein described resilient core for use in a tire casing, the same consisting of a circular structure embodying a textile sheet wound upon itself and saturated with a solution, and held under torsional strain.

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

WILLIAM E. BUDD.

Witnesses:

CHAS. M. BIRCKHEAD,

FREDERICK S. SMITT.