

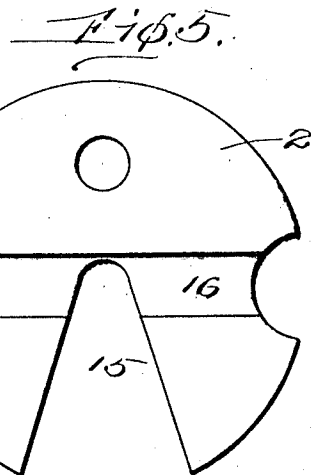
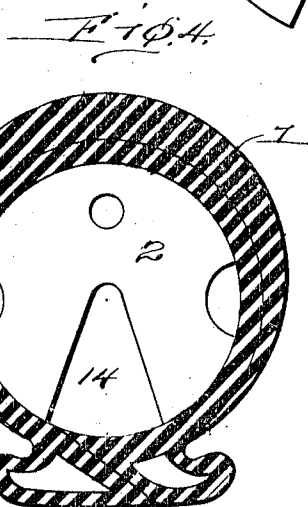
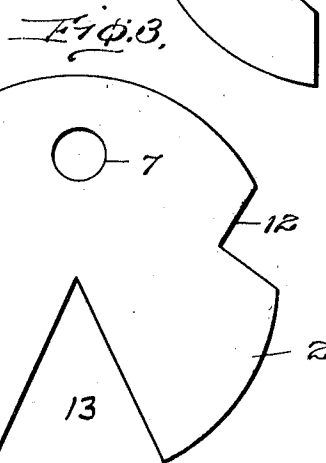
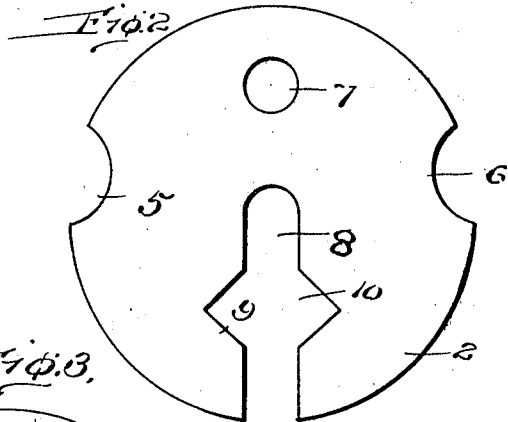
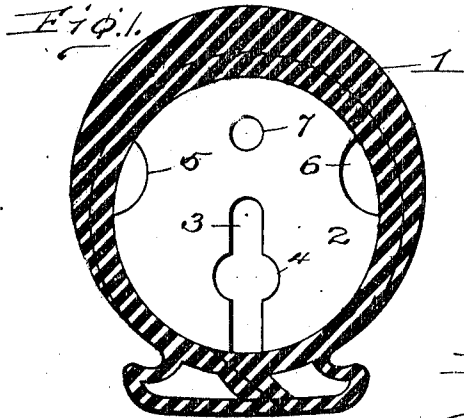
H. W. ROBERTS.
TIRE SHOE SUPPORT.

APPLICATION FILED SEPT. 8, 1910. RENEWED APR. 27, 1912.

1,031,469.

Patented July 2, 1912.

2 SHEETS-SHEET 1.



Inventor

H. W. Roberts

By *Mason Finck Lawrence*

Attorneys

Witnesses

J. M. Fowler Jr.
E. B. Simon

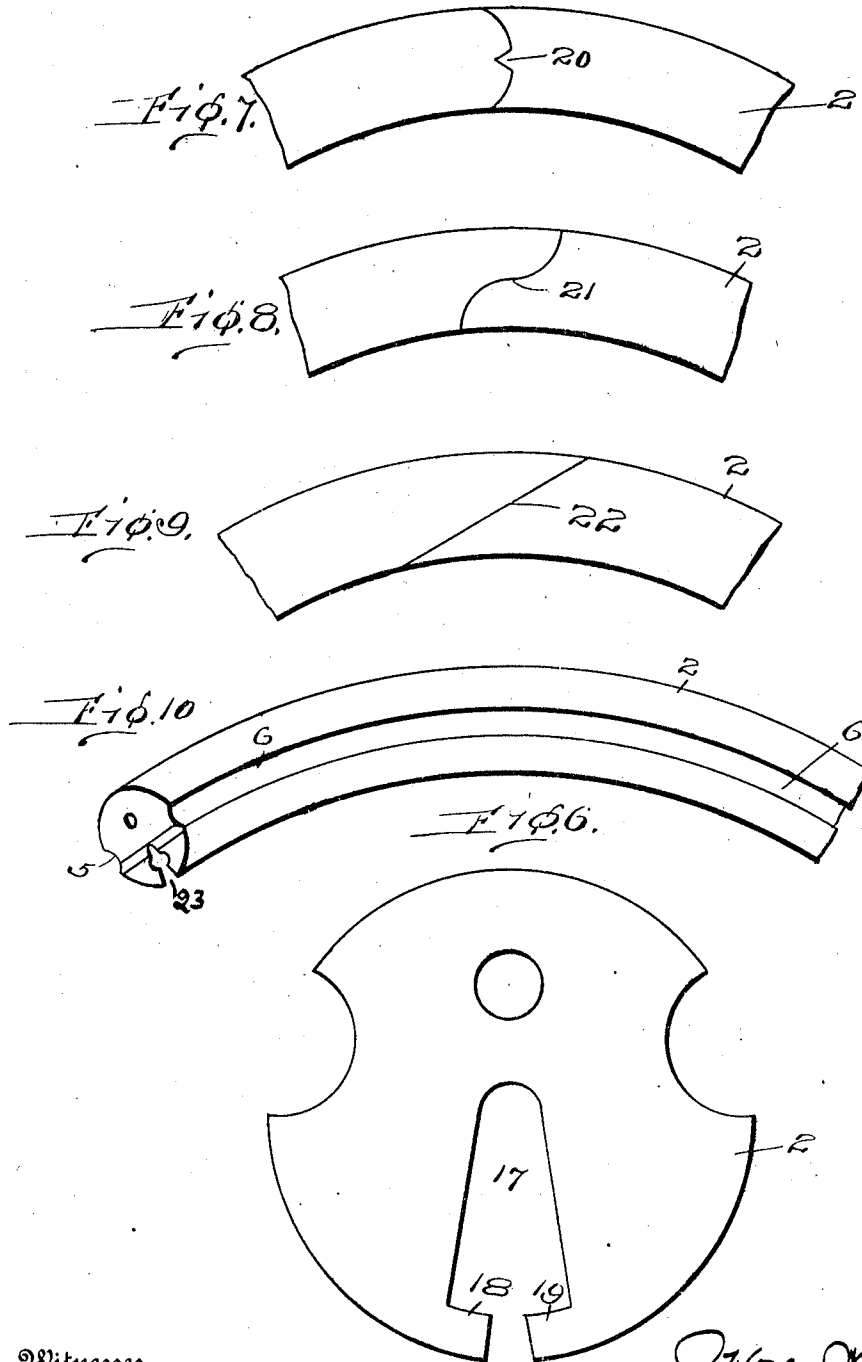
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UNITED STATES PATENT OFFICE.

HORACE W. ROBERTS, OF ALLENTOWN, PENNSYLVANIA.

TIRE-SHOE SUPPORT.

1,031,469.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed September 8, 1910, Serial No. 581,059. Renewed April 27, 1912. Serial No. 693,558.

To all whom it may concern:

Be it known that I, HORACE W. ROBERTS, a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in Tire-Shoe Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to tire shoe supporters and it consists in the novel construction hereinafter described and claimed. In the accompanying drawings forming part of this application, Figure 1 is a cross section through a shoe or outer casing showing the formation of the supporting device, or rather showing one form of the latter. Fig. 2 shows the supporting device by itself the principal longitudinal channel or groove being differently formed. Fig. 3 shows a further variation in the form of the principal groove, as well as in the smaller grooves. Fig. 4 presents a shoe in cross section with a supporting device having a principal groove substantially V shaped, with half-round grooves in the sides. Figs. 5 and 6 show grooves of various forms. Figs. 7, 8 and 9 show forms of joints for locking sections of the shoe supporter, when the latter is made in sections. Fig. 10 shows a portion of a continuous shoe supporting device.

Referring to the drawings in detail, and especially to Fig. 1, the numeral 1 indicates the shoe or outer casing which incloses the supporting device 2, designed to maintain the shoe in its true position at all times and under all conditions. The member 2 is provided with a deep and relatively narrow channel or groove 3 extending from the inner surface to a point near the center of the said member, and the side walls of this principal groove are provided with grooves 4 as shown, for the purpose of increasing the elasticity by providing for an additional air space. Smaller and approximately half-round grooves 5 and 6 are located at points in the member 2 adjacent to the base portions of the arch formed by the tread of the shoe. The distance between the grooves 5 and 6 may be substantially the same as the distance between each of such grooves and groove 3. The solid portions of member 2 prevent any portion of the shoe from col-

lapsing under even excessive loads, while the air spaces arranged as described render the device as a whole sufficiently resilient. Between that portion of member 2 which adjoins the tread of the shoe, and the groove 3 a bore 7 is provided.

In Figs. 2 to 6 inclusive, I have shown other forms of the supporting member. In the first of these views, that is, in Fig. 2, the principal groove 8 has V shaped grooves 9 and 10 in the side walls thereof, the other air spaces being the same as those shown in Fig. 1.

In Fig. 3 the smaller grooves, located near the base portions of the arch formed by the tread, are V shaped, and are numbered 11 and 12. The larger groove 13 is also V shaped and has no additional grooves in the side walls, as described in connection with the previous forms.

In Fig. 4 the principal groove 14 is approximately V shaped, although the inner portion does not form a sharp angle. In this case the side grooves are located diametrically opposite each other, as they are also in Fig. 5, where the principal groove 15 has the same form as in Fig. 4. A transverse groove 16 provides means for engaging a rib similarly formed on the end of an adjoining section for holding the parts in position.

In Fig. 6 the principal groove 17 is again provided with inclined walls from the inner portion to a point near the outer surface of the member 2, but projections 18 and 19 are located respectively on the opposite walls of the groove, and prevent the latter from being entirely closed regardless of the pressure which may tend to cause such closing.

In Fig. 7 the sections of member 2 are prevented from becoming displaced by a joint 20 consisting of a V shaped tongue and groove. The joint takes the form of a curve 21 in the next figure, and in Fig. 9 the end of one of the sections of the supporter is merely cut off at an angle, or beveled, forming a joint 22.

If desired, the supporting device may be made in one piece. A portion of such a device is shown in Fig. 10, in which still another form of principal groove is shown at 23.

It will be obvious from the above that I do not desire to limit myself to a particular form of groove, reserving the right to make

such changes, alterations or additions to the device as fall within the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent, is:

1. A supporting device for a resilient tire shoe consisting of interlocked segmental sections, each section presenting a groove opposite the tread extending substantially to the center and permitting the closing together of such sections and with grooves formed for permitting a greater degree of resiliency in such closing action, all of said grooves having continuous walls throughout the length of the section.
2. A supporting member for a resilient tire shoe comprising segmental abutting sec-

tions having a general circular shape in cross section and each provided with a groove on the side opposite the tread extending substantially to the center and permitting a closing together of the parts to reduce the circumference of the member and with grooves cut out of the periphery to add flexibility in the closing, said grooves presenting substantially continuous walls throughout the circumference of the member.

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

HORACE W. ROBERTS.

Witnesses:

HARVEY E. MERTZ,
ROY R. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."