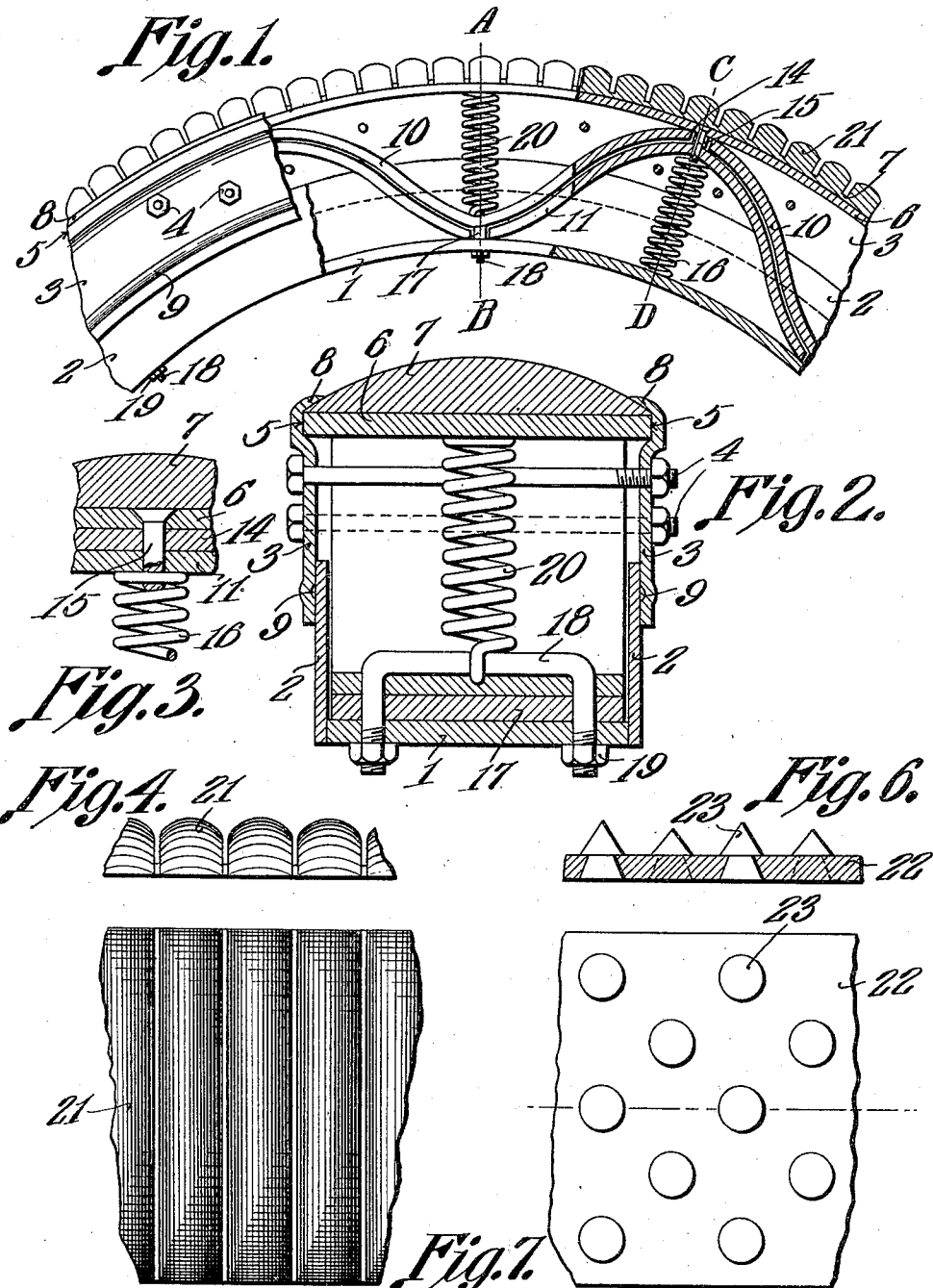


C. E. SCHEURING.
 AUTOMOBILE TIRE.
 APPLICATION FILED MAR. 10, 1911.

1,004,695.

Patented Oct. 3, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES E. SCHEURING, OF WEST DE PERE, WISCONSIN.

AUTOMOBILE-TIRE.

1,004,695.

Specification of Letters Patent.

Patented Oct. 3, 1911.

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To all whom it may concern:

Be it known that I, CHARLES E. SCHEURING, a citizen of the United States, residing at West De Pere, in the county of Brown and State of Wisconsin, have invented a new and useful Automobile-Tire, of which the following is a specification.

It is the object of this invention to provide a resilient tire, the spring elements of which are of novel and improved construction, and to provide novel means for maintaining the spring elements assembled with the remaining portions of the tire.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings,—Figure 1 shows a portion of a tire embodying the invention in sectional side elevation; Fig. 2 is a transverse section on the line A—B of Fig. 1; Fig. 3 is a fragmental section upon the line C—D of Fig. 1; Fig. 4 is a fragmental side elevation of the tread; Fig. 5 is a fragmental top plan of the tread; Fig. 6 is a section of a modified form of tread; and Fig. 7 is a top plan of the tread shown in Fig. 6.

In carrying out the invention there is provided a felly 1 to which are secured annular side plates 2. Disposed upon the outside of the plates 2, and slidable thereon, are cover plates 3, held together by transversely disposed bolts 4. Adjacent their outer edges, the cover plates 3 are recessed as shown at 5 to receive the edges of the tread plate 6, upon which rests the tread proper 7, the outer edges of the cover plates 3 being carried inwardly upon the tread 7, as shown at 8. The cover plates 3 are grooved circumferentially, in their inner faces, as shown at 9, whereby the lubricant may be held, to lessen the sliding friction between the plates 2 and 3.

A plurality of reversely curved springs 10 extend circumferentially of the structure, the adjacent ends of the springs 10 being disposed adjacent the tread of the wheel. Other reversely curved springs 11 are extended circumferentially of the wheel, the adjacent ends of the springs 11 being posi-

tioned close to the member 1. The intermediate portions of the springs 10 overlap the ends of the springs 11, and the intermediate portions of the springs 11 overlap the ends of the springs 10.

Between the ends of the springs 10, blocks 14 are inserted. These blocks 14 are attached to the tread plates 6 by means of securing members 15, the securing members 15 being extended through the intermediate portions of the springs 10, to engage the outer ends of helical springs 16, disposed radially of the structure, and abutting at their inner ends against the member 1.

Blocks 17 rest upon the member 1, between the ends of the springs 11, these blocks 17 being held in place by U-bolts 18, the ends of which protrude through the member 1, nuts 19 being applied to the protruding ends. The U-bolts 18 extend through the intermediate portions of the springs 10, and engage the inner ends of helical springs 20, the outer ends of which bear against the tread plate 6.

With the exception of the tread proper 7, the remaining portions of the device are preferably fashioned from metal, the tread being fashioned from leather, rubber, or any other flexible substance. In the form of the invention shown in Figs. 1, 4 and 5, the tread proper 7 is equipped with a plurality of transverse corrugations 21. If desired, however, the tread proper may take the form shown in Figs. 6 and 7, and there denoted by the numeral 22, suitable anti-slipping elements 23 being extended through the tread 22. In practice, however, the tread may be of any desired construction. It will be seen that the springs 10, 11, 20 and 16, serve to support the tread plate 6 and the tread 7 yieldably, the plates 2 and 3 sliding upon each other, their sliding movement being facilitated by the lubricant which is contained in the grooves 9. Obviously, the blocks 14 and 17, serve to prevent the springs 10 and 11 from creeping circumferentially of the wheel, the member 1, the tread plate 6 and the tread plate 7 being held together yieldably, yet against change of relative positions, circumferentially of the wheel.

Having thus described the invention, what is claimed is:—

1. In a device of the class described, a felly; a tread plate; parallel superposed, reversely curved inner and outer springs dis-

posed circumferentially of the wheel, the ends of the outer springs being disposed adjacent the tread plate, and the ends of the inner springs being disposed adjacent the felly; fixed members upon the tread plate constituting an abutment for the adjacent ends of adjoining pairs of outer springs; and fixed members upon the felly constituting an abutment for the adjacent ends of adjoining pairs of inner springs.

2. In a device of the class described, a felly; a tread plate; superposed, reversely curved inner and outer springs disposed circumferentially of the wheel, the ends of the inner springs being disposed adjacent the felly, and the ends of the outer springs being disposed adjacent the tread plate; blocks disposed between the ends of the springs; securing elements extended through the blocks which are between the ends of the inner springs, through the felly, and through the outer springs; compression springs engaged with said securing elements and bearing against the tread plate; blocks disposed between the ends of the outer springs; securing members extended through said blocks, through the tread plate, and through the inner springs; and compression springs en-

gaged with the last named retaining members, and bearing against the felly.

3. In a device of the class described, a felly; a tread plate; superposed, reversely curved inner and outer springs disposed circumferentially of the wheel, the ends of the inner springs being disposed adjacent the felly, and the ends of the outer springs being disposed adjacent the tread plate; securing members engaging the felly and the outer springs and located between the ends of the inner springs; securing members engaged with the tread plate and with the inner springs and located between the ends of the outer springs; and compression springs connected with the securing members and extended in opposite directions from each other, the ends of the compression springs engaging the outer springs and the tread plate, and the inner springs and the felly, respectively.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CHARLES E. SCHEURING.

Witnesses:

JAMES M. BROWN,

C. W. MUNSON.