

M. D. KUHLE.
CORE FOR BUILDING PNEUMATIC TIRES.
APPLICATION FILED AUG. 16, 1912.

1,060,262.

Patented Apr. 29, 1913.

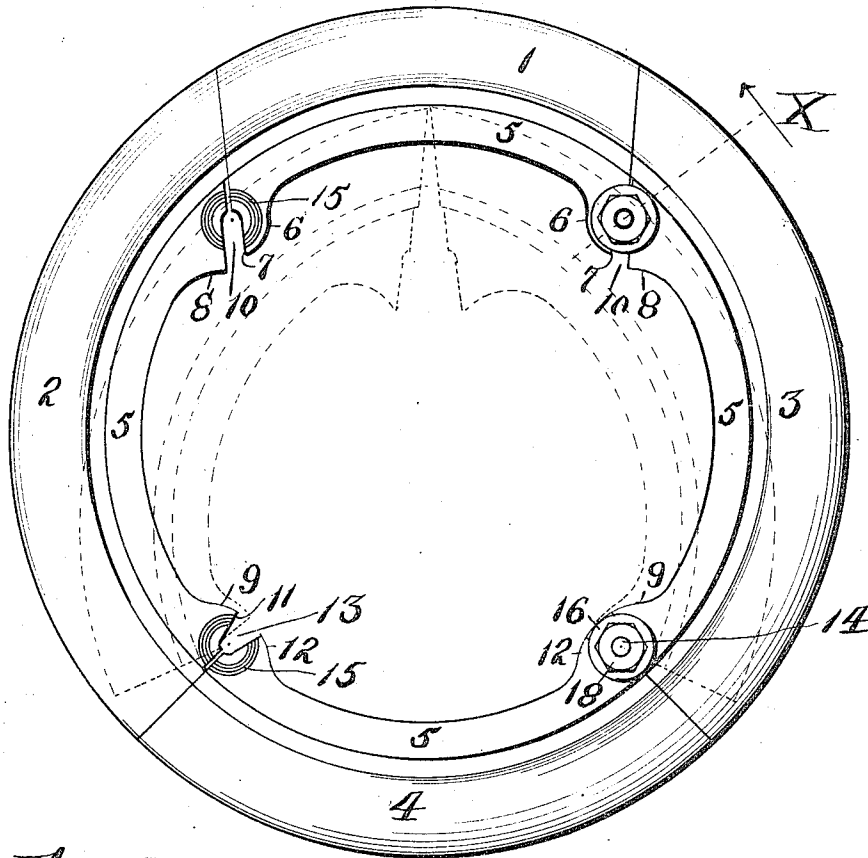


Fig. 1

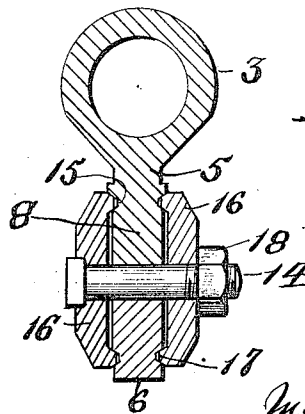


Fig. 2

Witnesses:
A. L. McClintock
J. Kelley

Inventor,
Martin D. Kuhlke
by C. E. Humphrey
Atty.

UNITED STATES PATENT OFFICE.

MARTIN D. KUHLMKE, OF AKRON, OHIO.

CORE FOR BUILDING PNEUMATIC TIRES.

7,060,262.

Specification of Letters Patent. Patented Apr. 29, 1913.

Application filed August 16, 1912. Serial No. 715,518.

To all whom it may concern:

Be it known that I, MARTIN D. KUHLMKE, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Cores for Building Pneumatic Tires, of which the following is a specification.

This invention relates to improvements in collapsible cores for manufacturing the outer-shoes of double-tube pneumatic tires, and the object thereof is to provide a collapsible core which may be quickly assembled or collapsed, the invention contemplating the provision of a plurality of segments, which, when united, will form an annular core-body for imparting to the interior of the tire-shoe during the manufacture thereof, the proper shape to receive the inner inflatable tube, the invention more particularly residing in the means whereby the various segments constituting the body portion of the core, are temporarily united.

The primary object of the invention is to so construct the device that one of the segment-shaped members constitutes a key, the removal inwardly of which permits two of the other segments to be swung toward each other while hinged at their opposite ends to one of the other segments of the core to permit their removal from the tire-shoe after the removal of the initial key member. The means for hinging the swinging sections to the stationary section are freely removable to permit the complete separation of the segments or their simple swinging as desired.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings in which similar reference numerals indicate like parts in the different figures, Figure 1, is a plan view of a ring-core embodying this invention; and, Fig. 2, is a transverse sectional view of the device shown in Fig. 1 on line X thereof.

The ring-core is constructed of a plurality

of segment-shaped members which when united together, as herein described, constitute an annulus the outer face of which is adapted to impart the desired configuration to the inner surface of a tire-shoe manufactured thereon. These segments are designated in the drawings by the reference numerals 1, 2, 3 and 4. These various segment-shaped members are preferably cored or made hollow to reduce the weight of the entire core and with the ends of each segment closed to present a smooth surface so that when arranged in abutting relation they form a complete annulus. Each of the segment-shaped members is further provided with an inwardly-extending flange 5.

The flange 5 of the segment-shaped member 1 is provided at its ends with inwardly-extending lugs 6. These lugs 6 are cut away at 7 for a purpose to be later described. The flanges 5 of the members 2 and 3 are provided at the ends with inwardly-projecting portions 8 and 9. The portions 8 are cut away to form in connection with the complementary or oppositely-disposed lugs 6 of the member 1 recesses 10. The portions 9 are also cut away at 11. The flange 5 of the member 4 is provided at the ends with inwardly-projecting portions 12 which are also cut away to form in connection with the portions 9 recesses 13. The outer portions of the recesses 10 and 13 constitute seats for clamping bolts 14.

Concentric with the axes of the bolts and formed in both faces of the opposing lugs of contiguous segment-shaped members are concentric grooves 15 the sides of which are inclined. These concentric grooves are interrupted by the recesses 10 and 13. Positioned on the opposite faces of the lugs at the opposing ends of contiguous segment-shaped members are washers 16, circular in outline, and each provided on one face with an annular laterally-projecting ridge the side walls of which are inclined and fashioned to engage in the circular grooves 15.

In setting up a ring-core constructed in accordance with this invention, the various segment-shaped members are assembled as shown in solid lines in Fig. 1 and the bolts 14 are passed through the recesses 10 and 13 and the washers 16 are applied to opposite faces of the contiguous lugs and seated in the grooves. The nuts 18 on the bolts 14 are then tightened up, thereby securely holding the assembled segment-shaped members in

annular formation and by reason of the inclined walls of the ridges 17 engaging the inclined faces of the grooves 15 the ends of the assembled members of the core will be brought into snug engagement with each other. After use, and in order to dismantle the core, the nuts on the bolts in the recess 10 will be loosened sufficiently to permit the washers to be withdrawn from the grooves 15 and the bolts and washers moved inwardly until free from the core-body. The member 1 is then shifted inwardly and removed entirely. After this operation, the nuts on the bolts in the recesses 13 are released sufficiently to permit the free ends of the segment-shaped members 2 and 3 to be swung toward each other as shown in dotted lines in Fig. 1, the members 2 and 3 turning on the bolts 14 in the recesses 13 as pivots or hinges for permitting this movement. When the parts are arranged as indicated in dotted lines in Fig. 1, the members 2, 3 and 4 may be removed as a unitary body from the tire-shoe.

By this mechanism the operator is enabled to remove a separable core from the interior of a tire-shoe after the removal of only one segment-shaped member and the inward swinging of the members 2 and 3, thus obviating the necessity of entirely dismantling the core and separating the members 2, 3 and 4 from each other.

I claim:

1. In a collapsible core for the manufacture of tire-shoes, the combination of a series of segmental-shaped sections adapted to be assembled into a circular core, the ends of the sections abutting against each other and each formed with an inwardly-extending flange, the opposing ends of the flanges of a portion of the sections being cut away inwardly, the opposing cut faces inclined away from each other and the abutting ends of a portion of the sections further provided with registering inwardly-extending notches forming recesses constituting seats, opposite faces of said flanges formed with registering semi-circular grooves concentric with the outer ends of said recesses, said grooves having inclined walls, washer members applied to opposite sides of the flanges and formed with annular ridges adapted to be seated in the registering semi-circular

grooves, the lateral walls of said ridges being beveled to cooperate with the inclined walls of the grooves to wedge the core sections tightly together, and bolt members extending through the washer members and through the openings formed by the registering notches before mentioned, to constitute pivots to permit the swinging of a pair of said members toward each other subsequently to the removal of an intervening segmental-shaped member.

2. In a collapsible core for the manufacture of tire-shoes, the combination of a series of segmental-shaped sections adapted to be assembled into a circular core, the ends of the sections abutting against each other and each formed with an inwardly-extending flange, a portion of the ends of the flanges inwardly cut away, the cut edges inclined away from each other, the other ends provided with registering notches forming recesses opening inwardly and constituting seats, said flanges also formed with registering semi-circular grooves concentric with the outer ends of the recesses and having inclined walls, washer members applied to opposite faces of the flanges and formed with annular ridges adapted to be received in the registering semi-circular grooves, the annular ridges having beveled lateral walls to cooperate with the inclined walls of the annular grooves to wedge the core sections tightly together, bolt members extending through the washer members and adapted to be passed laterally through the recesses and normally rest in the seats formed thereby for clamping said washer members snugly in said grooves, said bolts and washer members being laterally and bodily removable, said bolts adapted to constitute pivots for the free swinging for a portion of said segmental-shaped sections, subsequent to the removal of an intervening segment-shaped section, the movement being permitted by the cut-away portions at the ends of said flanges.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

MARTIN D. KUHILKE.

Witnesses:

C. E. HUMPHREY,
A. L. MCCLINTOCK.