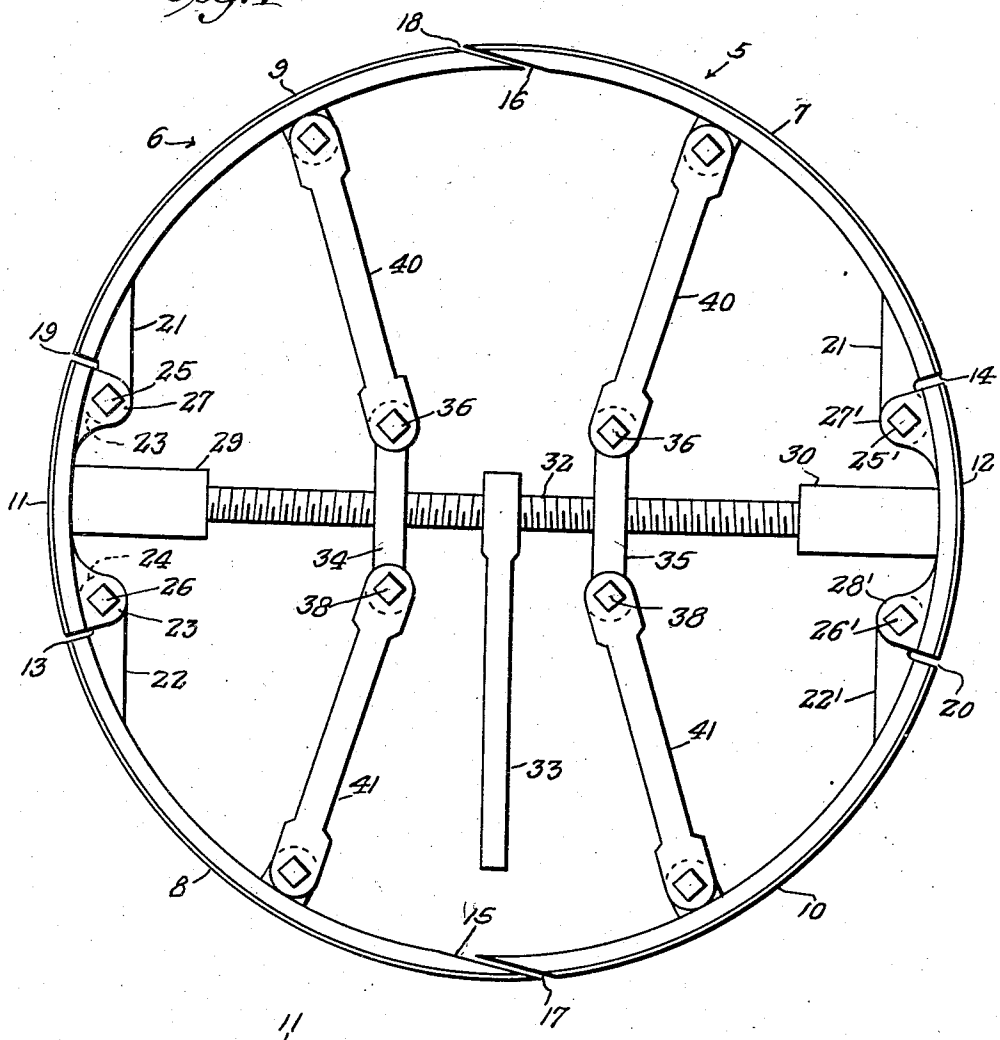
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EXPANSIBLE AND CONTRACTIBLE RIM

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Fig. 1



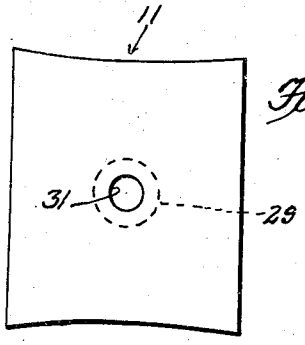


Fig. 5.

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Fig. 2.

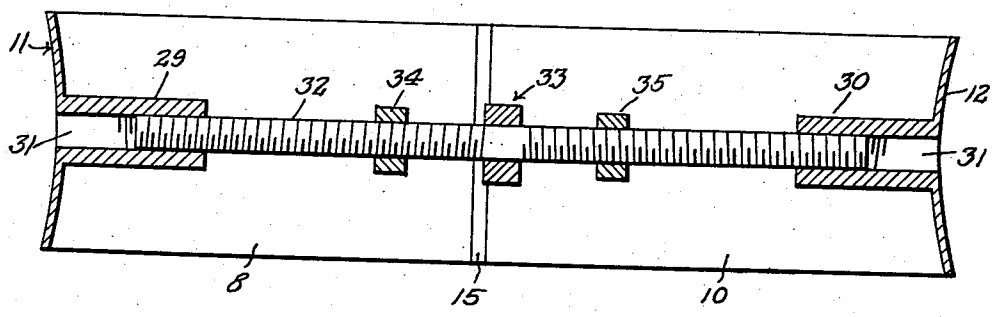
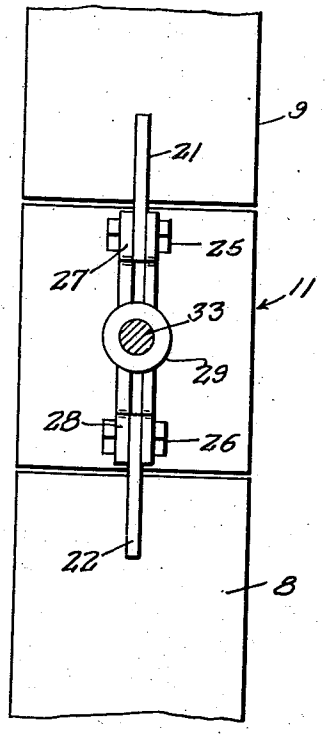


Fig. 3.



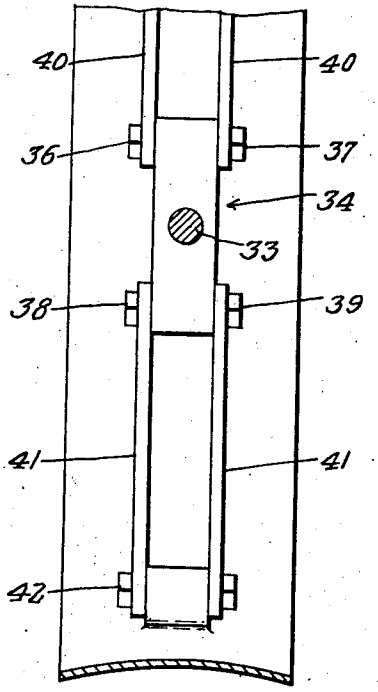


Fig. 4.

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UNITED STATES PATENT OFFICE

2,133,036

EXPANSIBLE AND CONTRACTIBLE RIM

John B. Moricle, Williamson, W. Va.

Application May 20, 1936, Serial No. 80,864
Renewed March 25, 1938

1 Claim. (Cl. 18—38)

My invention relates generally to an expansible and contractible circular rim, for use in such work as supporting pneumatic tires during retreading operations and curing, and an important object of the invention is to provide simple and efficient arrangements of this character which are simple and easy to operate, and which are not prohibitive in cost.

Another important object of my invention is to provide a device of the character indicated which substantially maintains the circular character of the rim portion throughout the expanding and contracting operations, thereby preserving the proper geometrical character of the work and preventing straining and distorting of the work.

Other important objects of my invention will be apparent from a reading of the following description taken in connection with the drawings, wherein for purposes of illustration I have shown a preferred embodiment of my invention.

In the drawings:—

Figure 1 is a general plan view of the embodiment showing the same in relatively unexpanded condition.

Figure 2 is a transverse vertical sectional view taken through Figure 1 at one side of the screw.

Figure 3 is a transverse vertical sectional view taken through the right hand portion of Figure 1 and looking from left to right.

Figure 4 is a transverse vertical sectional view taken through Figure 1 approximately centrally and at one side of the operating ratchet lever.

Figure 5 is an outside view of one of the screw mounting plates.

Referring in detail to the drawings, the numeral 5 generally designates the embodiment which comprises the sectional concave rim which is generally designated 6 and which is comprised by similar long sections 7 and 8 and similar long sections 9 and 10, and two short screw supporting plates 11 and 12.

The long sections 7 and 8 have each a square cut end 13, 14, respectively, and the opposite end thereof is beveled at its inner side as indicated by the numerals 15 and 16, respectively, to cooperate with the outside bevels 17 and 18 on the other long sections 9 and 10. The beveled portions 16 and 18 and the beveled portions 15 and 17 overlap as shown in Figure 1, so as to present to the work, as far as mechanically possible, a continuous periphery of the rim 6 when the rim is in the fully expanded condition. The said other long sections 9 and 10 have respective squared ends 19 and 20. The respective squared ends of the long sections 9 and 8 are placed immediately adjacent the squared ends of the screw supporting plates 11 while the squared ends 14 and 20 of the long sections 7 and 10 are immediately adjacent the squared ends of the short screw supporting plates 12.

The long sections 9 and 10 have fastened thereto adjacent their squared ends the chordally directed arms 21 and 22, respectively, which have generally circular extremities 23 and 24, respectively, which receive pivot bolts 25 and 26, respectively, which pass through pairs of ears 27 and 28, respectively, formed on the inner sides at the ends of the relatively stationary screw-supporting plates 11; whereby the sections 8 and 9 are pivotally connected to the support 11.

Similar arrangements of arms 21′ and 22′ and of pairs of ears 27′ and 28′, and of pivot bolts 25′ and 26′ are arranged for connecting the sections 7 and 10 to the relatively stationary screw supporting plate 12.

Each of the relatively stationary screw supporting plates 11 and 12 has extending radially inwardly a tubular interiorly threaded member 29, 30, respectively, whose bore opens through the outside of the respective plates as indicated in Figure 5, by the numeral 31.

Threaded in the respective bosses 29 and 30 is the screw 32 which has mounted at its middle a right and left hand ratchet lever 33 for operating the screw 32 in opposite directions so as to bring the plates 11 and 12 toward each other or push them away from each other.

Between the operating lever 33 and the respective bosses 29 and 30, there are placed on the screw 32 and threadably engaged therewith the blocks 34 and 35 which are substantially parallel and elongated in the direction of swing of the lever 33, and pivot bolts with appropriate nuts 36, 37 and 38, 39 project from opposite sides of the upper and lower ends of the blocks 34 and 35 and pivotally connect pairs of links 40 and 41, respectively, which have their outer ends pivoted as indicated by the numerals 42 to the respective long sections; whereby the swing of the long sections in expanding and contracting directions on their respective pivots is controlled in accordance with the position of the blocks 34 and 35 on the screw 32, the position of the screw itself determining the distance from the center of the rim 6 of the relatively stationary plates 11 and 12; whereby the circular character of the rim is substantially preserved at all times.

Although I have shown and described herein a preferred embodiment of my invention, it is to

be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in the materials, and in the structure and arrangement of the parts, within the spirit of the invention and the scope of the subjoined claim.

What is claimed is:—

An expansible and contractible rim of the character described, said rim comprising a pair of diametrically opposed bases each formed with a socket, a shaft having its opposite ends rotatably mounted in the sockets, means for rotating said shaft in either direction, said shaft being formed on its surface with a left hand thread and a right hand thread at opposite sides of its middle, a carrier threaded on each of said threads and movable in opposite directions along the shaft whenever the shaft is rotated, a pair of oppositely extending links having their inner ends pivoted to each of the carriers, a rim segment pivoted intermediate its ends on the outer end of each of said links, and pivotal connections between said bases and the adjacent ends of respective rim segments.

JOHN B. MORICLE.