

T. F. CHANE.
TIRE TIGHTENER.
APPLICATION FILED MAR. 25, 1912.

1,041,026.

Patented Oct. 15, 1912.

Fig. 1.

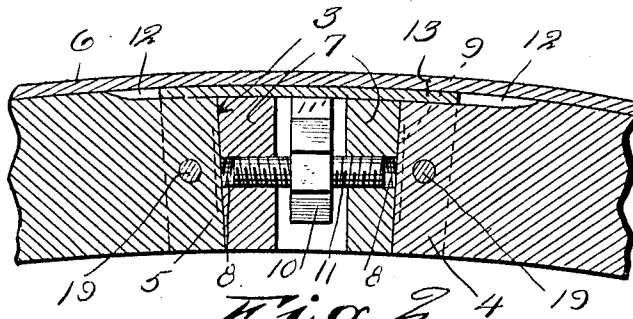
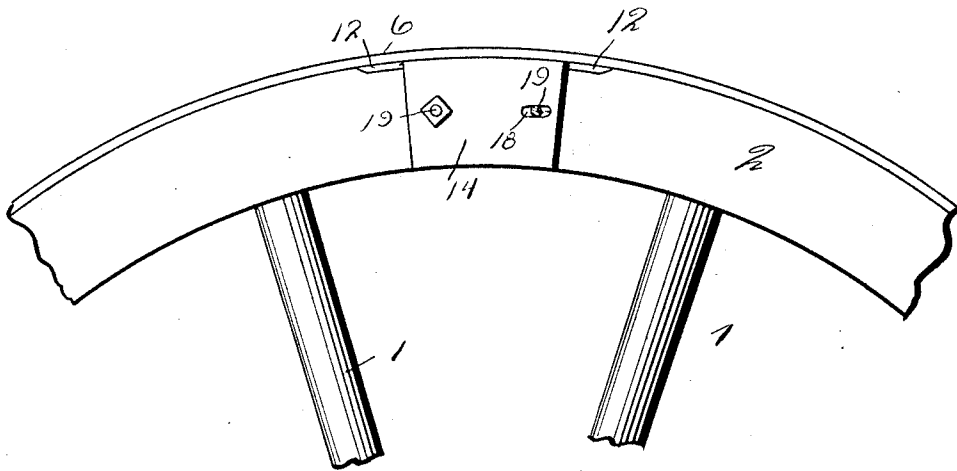


Fig. 2.

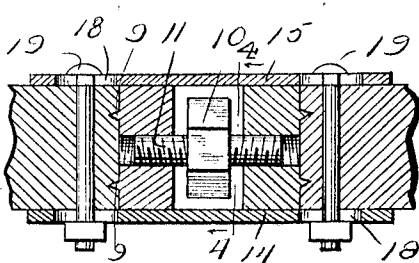


Fig. 3.

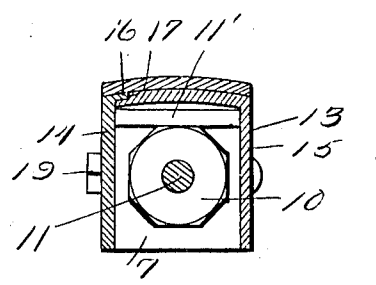


Fig. 4.

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UNITED STATES PATENT OFFICE.

THEODORE F. CHRANE, OF GRAVETTE, ARKANSAS.

TIRE-TIGHTENER.

1,041,026.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THEODORE F. CHRANE, a citizen of the United States, residing at Gravette, in the county of Benton and State of Arkansas, have invented certain new and useful Improvements in Tire-Tighteners, of which the following is a specification.

The present invention relates to those devices commonly termed tire tighteners, and has particular reference to such a device embodying novel means for expanding the felly of the wheel.

An important object of this invention is to provide means of the above mentioned character, which are simple in construction, easy to operate, reliable, and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a fragmentary side elevation of a portion of a wheel, showing my improved device applied thereto, Fig. 2 is an enlarged central vertical sectional view through the tire tightener, Fig. 3 is a central horizontal sectional view through the same, and, Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 3.

In the drawings wherein for the purpose of illustration, I have shown a preferred embodiment of my invention, the numeral 1 designates spokes of a wheel of ordinary construction, connected at their outer ends with a felly 2, which is cut away between the spokes 1 for forming an opening 3, disposed between end portions 4 and 5 of said felly. Surrounding the felly 2 is the ordinary metallic tire 6.

Disposed within the opening 3 between the end portions 4 and 5 of the felly are spacing blocks 7, provided with openings 8, having right and left hand screw-threads. The spacing blocks 7 are provided upon their outer faces with teeth or ribs 9, which are sunk into the end portions 4 and 5 of the felly and prevent the displacement of the spacing blocks 7. The spacing blocks 7 are spaced, as shown, to afford an opening therebetween for receiving an operating nut 10, rigidly mounted upon an adjusting bolt 11, having its opposite end portions provided with right and left hand screw-

threads, for engagement within the openings 8. It is thus seen that by turning the operating nut 10, the adjusting bolt 11 will move the spacing blocks 7 farther apart and hence expand the felly 2.

The end portions 4 and 5 of the felly 2 are cut away or reduced, as shown at 12, for providing a suitable space beneath the tire 6 for receiving a housing or casing 13. This housing or casing is approximately U-shaped in cross-section and is formed in two parts 14 and 15. The part 14 is removable and is provided at its outer edge with a tongue 16 adapted to engage within a groove 17 formed upon the part 15, as shown. The parts 14 and 15 of this housing are provided with transversely alined elongated openings or slots 18, for receiving transverse bolts 19, which hold the housing in place upon the felly and permit of the expansion of said felly, as above indicated. The bolts 19 pass through the end portions 4 and 5 of the felly, as shown. The operating nut 10 is locked against accidental rotation by a removable key or wedge 11', which also serves to support the peripheral portion of the housing 13.

In the use of the device, any suitable number of them may be applied to the wheel, although I have found that satisfactory results may be obtained by using only one of them.

When it is desired to tighten the tire, the part or plate 14 is removed, the key 11' removed, and a suitable tool placed in engagement with the operating nut 10 for turning the same, whereby the spacing blocks 7 are moved farther apart and hence the felly 2 is spread. The key 11' is now placed in position. The part 15 is then returned to its proper position and securely locked to the felly 2.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

The combination with the felly of a wheel having an opening formed therein and its adjacent ends reduced, of an integral tire surrounding the felly, spacing blocks pro-

vided upon their outer surfaces with teeth adapted to be embedded within the ends of the felly, said spacing blocks being provided with screw-threaded openings, a screw operating within the openings and adapted upon being turned to move the spacing blocks farther apart, an operating nut rigidly mounted upon the screw, a housing surrounding the adjacent ends of the felly, including an L-shaped section and a flat section having interlocking engagement with each other, the L-shaped section having its horizontal portion passed through the opening formed between the reduced ends of the felly and the tire to completely fill such opening for the greater portion of its length and to hold said L-shaped section in place, the flat section being readily removable from the ends of the felly and the L-shaped section to allow ready access to the

opening between said ends of the felly, a key adapted to be inserted and removed within the opening between the ends of the felly when the flat section is removed, said key being placed in engagement with the outer portion of the operating nut to prevent its accidental rotation and serving as reinforcing means for the horizontal portion of the L-shaped section, said L-shaped section and flat section being provided with transversely aligned elongated openings, and transverse bolts passing through the ends of the felly and disposed within the elongated openings.

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

THEODORE F. CHRANE.

Witnesses:

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WM. FRAZER.

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