No. 751,662. PATENTED FEB. 9, 1904.

G. F. LINDSAY & W. P. GUNN.

SPOKE TIGHTENER.

APPLICATION FILED JULY 30, 1903.

NO MODEL.

Fig. 1.

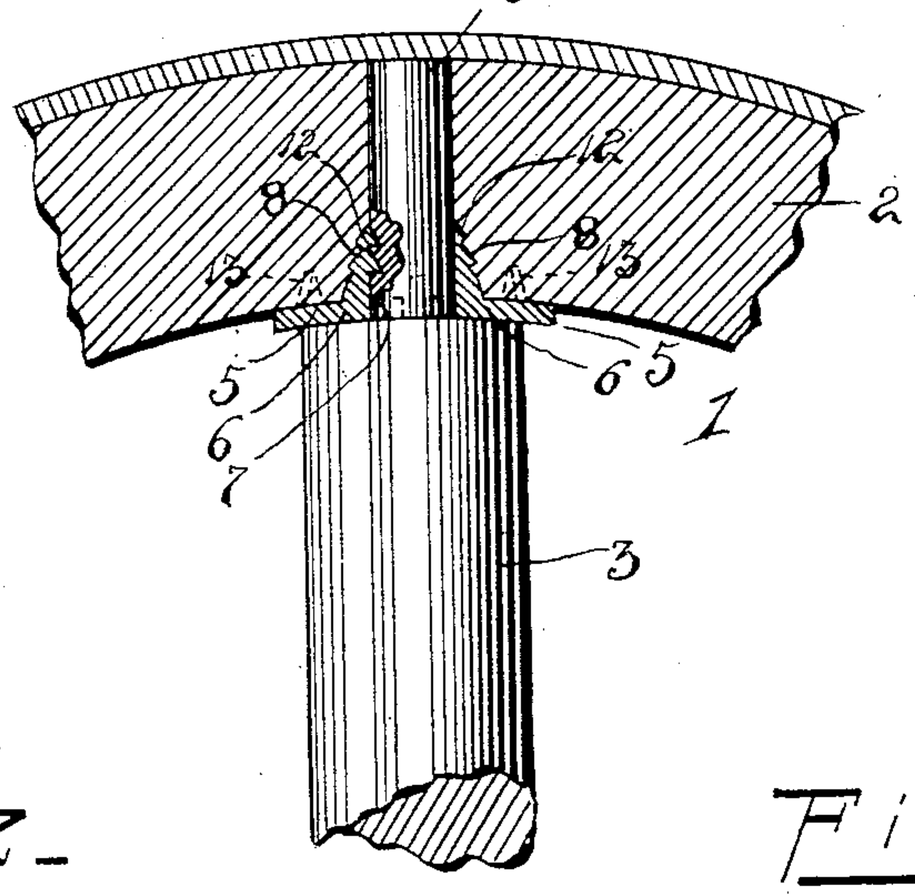
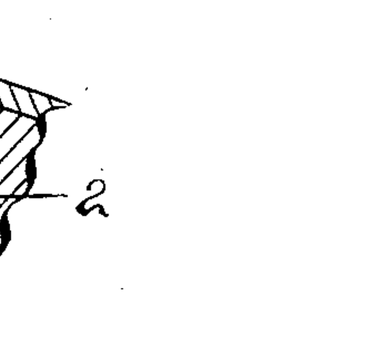


Fig. 2.

Fig. 3.



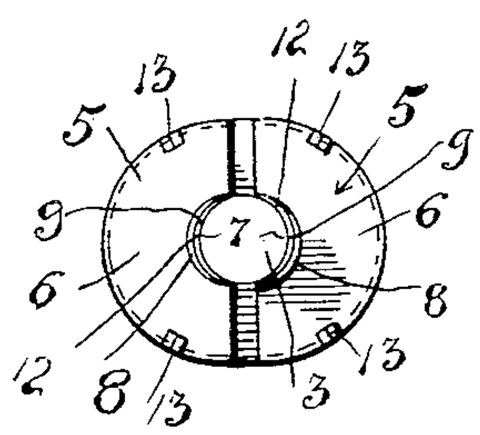
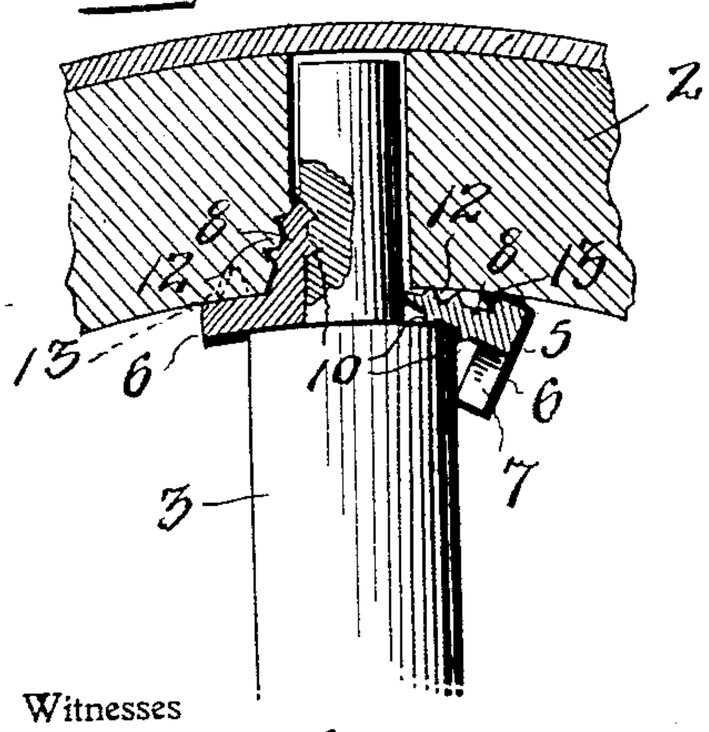
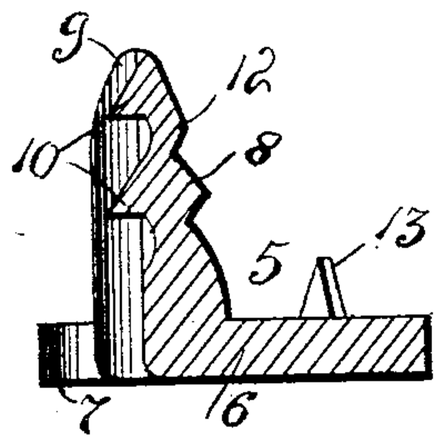


Fig. 5.

Fig. 4.





Witnesses

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No. 751,662. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

GEORGE F. LINDSAY AND WILLIAM P. GUNN, OF SHERMAN, TEXAS.

SPOKE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 751,662, dated February 9, 1904.

Application filed July 30, 1903. Serial No. 167,649. (No model.)

To all whom it may concern:

Be it known that we, GEORGE F. LINDSAY and WILLIAM PARKS GUNN, citizens of the United States, residing at Sherman, in the county of Grayson and State of Texas, have invented certain new and useful Improvements in Spoke-Tighteners; and we do 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 improvements in spoke-tighteners.

The object of the invention is to provide a spoke-tightener which may be quickly and easily applied to the spokes of a wheel to tighten the same, the application of which will also lengthen the spoke and tighten the felly against the tire.

A further object is to provide a device of this character which will be simple in construction and can be cheaply manufactured and sold and which is well adapted to the purpose for which it is designed, means being provided for retaining the tightener in place.

With these and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a wheel felly and spoke, showing the application of the invention. Fig. 2 is a view looking at the end of a spoke, showing the tightening device in place. Fig. 3 is a detail perspective view of one-half of the tightener. Fig. 4 is an enlarged detail vertical sectional view through the same. Fig. 5 is a detail view illustrating the manner of applying a section of the tightening device.

Referring more particularly to the drawings, 1 denotes a portion of the felly, 2 the tire, and 3 one of the spokes of a wheel.

5 denotes the tightening device, comprising two sections or halves, each consisting of a semicircular disk or plate 6, in the straight edge of which is formed a concentric semicircular opening 7. Partially surrounding the edge of this opening is an upwardly-projecting segmental flange 8, the upper edge of which is curved or rounded, as shown at 9. The inner face of the flange 8 is vertical and is provided with a series of barbs 10, while the outer face of the same is inclined and tapers upwardly toward the upper edge of the flange, thus making the flange wedge shape. This outer face is provided with a series of horizontally-disposed grooves or creases 12. On the outer edge of the plate or disk 6 are formed upwardly-projecting prongs or teeth 13.

In practice when a spoke becomes loose one of the tightener-sections is applied upon each side of the same, as shown in Fig. 5, by first inclining the tightener-section at an angle to bring the upper end of the flange 9 into the tenon-socket and then tapping the same to drive the wedge-shaped flange upwardly between the tenon of the spoke and the walls of the tenon-socket. The barbs 10 on the inner face of the flange enter the tenon, while the sharp edges or barbs of the grooves 12 are forced into the walls of the tenon-socket, thus holding the tightener in place. The application of the tightener-sections may be facilitated by forcing the felly outwardly on the tenon in any preferred way so as to allow the segmental plate or section to turn or straighten to a horizontal position as the flange 8 enters the tenon-socket.

The plate or disk portion of the tightener is adapted to lie against the inner side of the wheel-felly, between the same and the shoulder of the spoke, thereby lengthening the spoke and forcing the felly outwardly against the tire, which will tighten the same to the felly. The prongs or teeth 13 are driven into the inner face of the felly and assist in holding the tightener in place, also preventing the splitting of the felly at the spoke-tenon holes.

By the use of a tightening device as herein described the loose spokes of a wheel may be quickly tightened and the loose tire also tightened without removing or shrinking the same. It is intended to manufacture the tighteners in various sizes for use on large or small wheels.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the inven-

tion will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A spoke-tightening device, consisting of counterpart plates each having a semicircular opening formed in one edge of the same, upwardly-projecting flanges partially surrounding said openings, said flanges being adapted to enter the tenon-socket, and means for retaining said plates in position between the end of a spoke and the felly of a wheel, substantially as described.

2. A spoke-tightening device, consisting of counterpart semicircular plates, each having semicircular, concentric openings formed in their straight edges, curved wedge-shaped, upwardly-projecting flanges partially surrounding said openings, and adapted to be driven between the tenon of a spoke and walls of the tenon-opening in the felly of a wheel, and means for retaining the device in place, substantially as described.

3. The combination with the felly and spokes of a wheel, of a spoke-tightening device consisting of counterpart semicircular plates, each having a semicircular concentric opening formed in their straight edges, curved upwardly-projecting flanges partially surrounding said openings, said flanges having an inner vertical wall and an outer inclined wall, barbs formed on said inner wall to engage the tenons of said spokes and horizontally-disposed grooves formed on said outer wall to engage the walls of the spoke-tenon holes in said felly, and prongs or teeth formed on said plates to engage the inner surface of said wheel-felly, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

GEORGE F. LINDSAY.
W. P. GUNN.

Witnesses:
C. K. GALLOWAY,
A. H. CULVER.