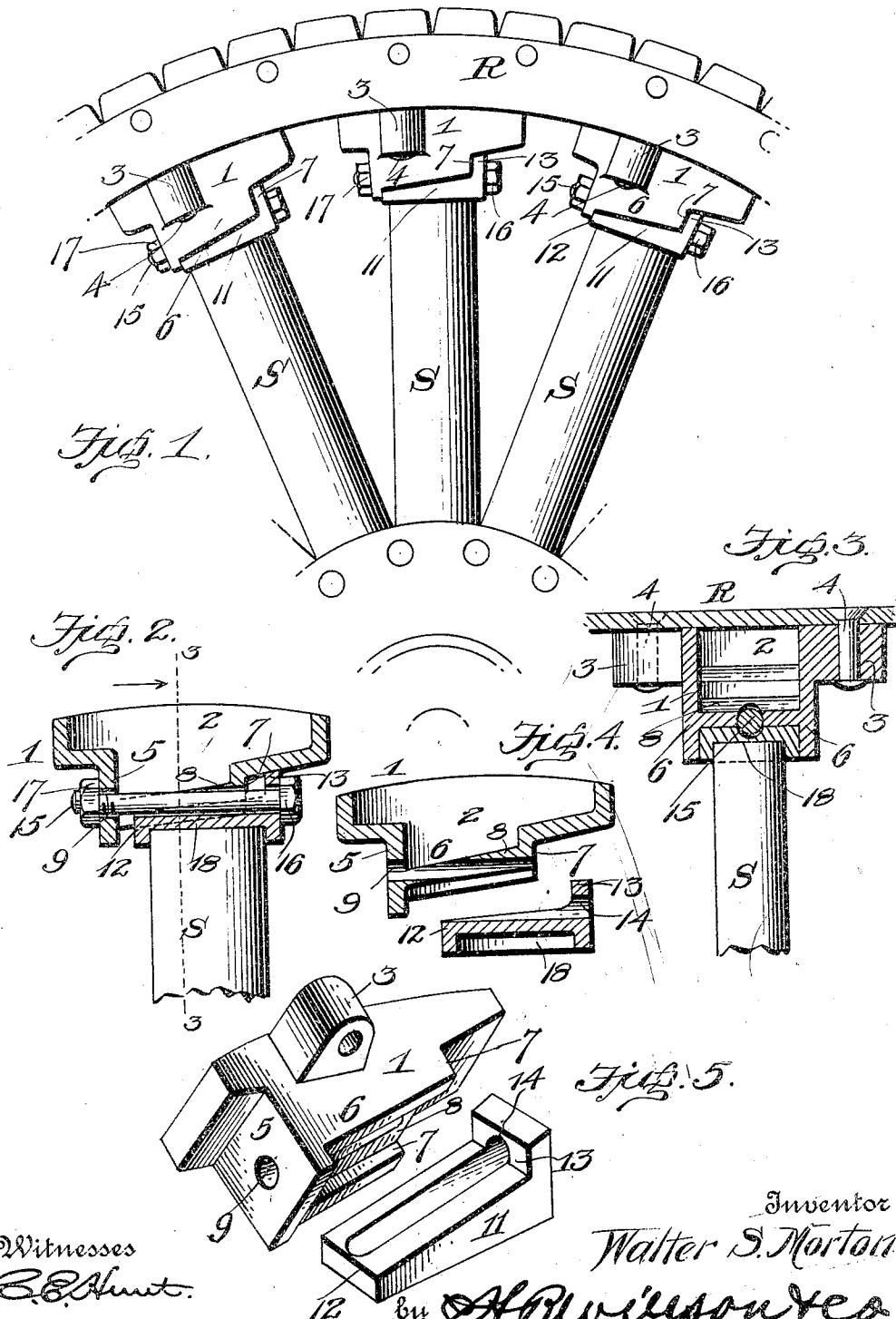


W. S. MORTON.
SPOKE TIGHTENER.
APPLICATION FILED MAR. 5, 1912.

1,053,056.

Patented Feb. 11, 1913.



Witnesses
C. E. Hunt.

N. J. Hollamer.

Inventor
Walter S. Morton.

by H. B. Wilson & Co.
Attorneys

UNITED STATES PATENT OFFICE.

WALTER S. MORTON, OF HARRISBURG, PENNSYLVANIA.

SPOKE-TIGHTENER.

1,053,056.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed March 5, 1912. Serial No. 681,822

To all whom it may concern:

Be it known that I, WALTER S. MORTON, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Spoke-Tighteners; and I 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 carriages and wagons, and more especially to that class of devices therein known as spoke sockets; and the object of the same is to produce an extremely cheap device of this kind applicable to most any form of rim and spoke and by means of which the latter can be instantly tightened when it becomes loose.

To this end the invention consists in the details of construction hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a side elevation of a portion of the rim, three spokes, and the interposed tighteners. Fig. 2 is an enlarged central vertical section through the parts of one of my improved tighteners, taken in the central plane of the wheel, and Fig. 3 is a similar section at right angles thereto on the line 3—3 of Fig. 2. Fig. 4 is a detail sectional view similar to Fig. 2, showing only the two members of the spoke tightener slightly separated from each other. Fig. 5 is a perspective detail of the two members slightly separated.

In the drawings the letter R designates the rim, here shown as of sheet metal and its construction forms no part of the present invention; and the letter S designates a spoke, here shown as round and solid although its detailed construction and its material form no part of the present invention. Where these elements connect with each other there is usually interposed a device known as a spoke socket, and the purpose of the present invention is to produce an extremely cheap and serviceable article of this character as will now be described.

The outer member has a preferably rectangular body 1 curved along its outer side to conform with the curvature of the inner side of the rim R and by preference cupped as shown at 2 for sake of lightness; and a pair of oppositely projecting lugs 3

extending from the sides of said body, preferably near its ends and out of alignment with each other as shown, and through which pass rivets or bolts 4 by means of which the device is connected with the rim. The inner face of said body is cut off oblique so that at one end said cup is rather shallow and at the other it is rather deep, its deeper end standing inside an end wall 5 whose extremities are continued as at 6 into side walls of triangular contour terminating in shoulders 7 near the other end of the body. The bottom of the cup is formed by a transverse wall or web 8 which is also by preference inclined and which extends across the interior of the body a little above the lower edges of the end and side walls so that such lower edges form flanges extending around three sides of the web 8. Finally, a hole 9 is formed through the end wall 5 and the web 8 on a line strictly parallel with the length of this member for a purpose to appear below.

The inner member has a body which is substantially triangular in side elevation as seen at 11, its narrower end 12 being flattened to make contact with the edge of the end wall 5, and its wider end having a lip 13 so spaced from said narrower end that it will simultaneously make contact with the shoulder 7 above referred to; and the width of this body is such that it may move freely between the side flanges of the outer member when its inclined face rests upon the inclined face of the web 8. This member also is pierced with a longitudinal hole 14 opening through its lip 13, standing parallel with its flat inner face, running out through its oblique face, and preferably made slightly oval for a purpose to appear below. Connecting said two members is an ordinary bolt 15 having a head 16 at one end and a nut 17 threaded onto its other end, and the same is preferably inserted so that the head shall stand against the larger end or lip 13 of the inner member, while the shank extends loosely through the hole 14 therein and then through the hole 9 in the outer member, and the nut is screwed upon the projecting end of the shank and against the end wall 5 of said last-named member. The spoke S is attached to the inner member in any suitable way, as by forming said member with a recess 18 in its inner face into which the outer end of the spoke is in-

serted, and the means for holding it there—if any be employed—form no essential part of the present invention.

With the parts of my device constructed in their preferred form as above described, they will doubtless be made of metal casting or forging, but it is not impossible to stamp one or both members from sheet metal if changes in unimportant details be resorted to. I do not, therefore, limit myself to the precise construction herein shown and described. In use an outer member is bolted or riveted inside the rim opposite each spoke, and the outer end of the latter is secured or inserted within the socket in an inner member; then the beveled face of the latter is placed within the recess formed by the three walls of the inner side of the outer member and upon its web 8, and the bolt inserted; and when it becomes desirable to tighten this spoke, it is but necessary to set up the nut on this bolt in a manner which will be clear. This action draws the inner member along inside the outer member so that their inclined faces move over each other, and the desirability of making the hole 14 slightly oval will now be apparent because in the sliding movement of one member on the other holes in them which were truly round would be thrown out of register. When the adjustment has been carried to such an extent that the lip 13 of the inner member comes up against the shoulder 7 of the outer and no further adjustment is therefore possible, the parts will be loosened and a shim or washer inserted over the end of the spoke, either at its inner extremity or its outer extremity, after which the operation above described may be repeated.

What is claimed as new is:

1. The herein described spoke tightener, the same comprising an outer member consisting of side and end walls laterally dis-

posed non-registering lugs pierced with holes for the passage of means to attach the device to the rim, and an internal oblique web, said end wall being provided with a hole opening through said oblique web; and an inner member whose body is substantially triangular in side elevation and of a width to fit between the side walls of the outer member, and whose thicker end has a lip projecting beyond its oblique face, there being an oval hole through said lip and face; and a bolt passing through said holes, for the purpose set forth.

2. The herein described spoke tightener, the same comprising an outer member oblique on its inner side and curved on its outer side to conform with the curvature of the interior of the rim and cupped in this side for sake of lightness, the member consisting of end walls, side walls having lateral lugs pierced with holes for the passage of means to attach the device to the rim, and an internal oblique web, said end wall being provided with a hole opening through said web; and an inner member whose body is substantially triangular in side elevation and of a width to fit between the side walls of the outer member, and has a lip projecting from the thicker end thereof beyond its oblique face and adapted to contact with the thinner end of said first-named member when the thinner end of the inner member contacts with the end wall thereof, there being a hole through said lip and face; and a bolt passing through said holes, for the purpose set forth.

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

WALTER S. MORTON.

Witnesses.

A. W. HOSTER,
K. W. WAHLER.