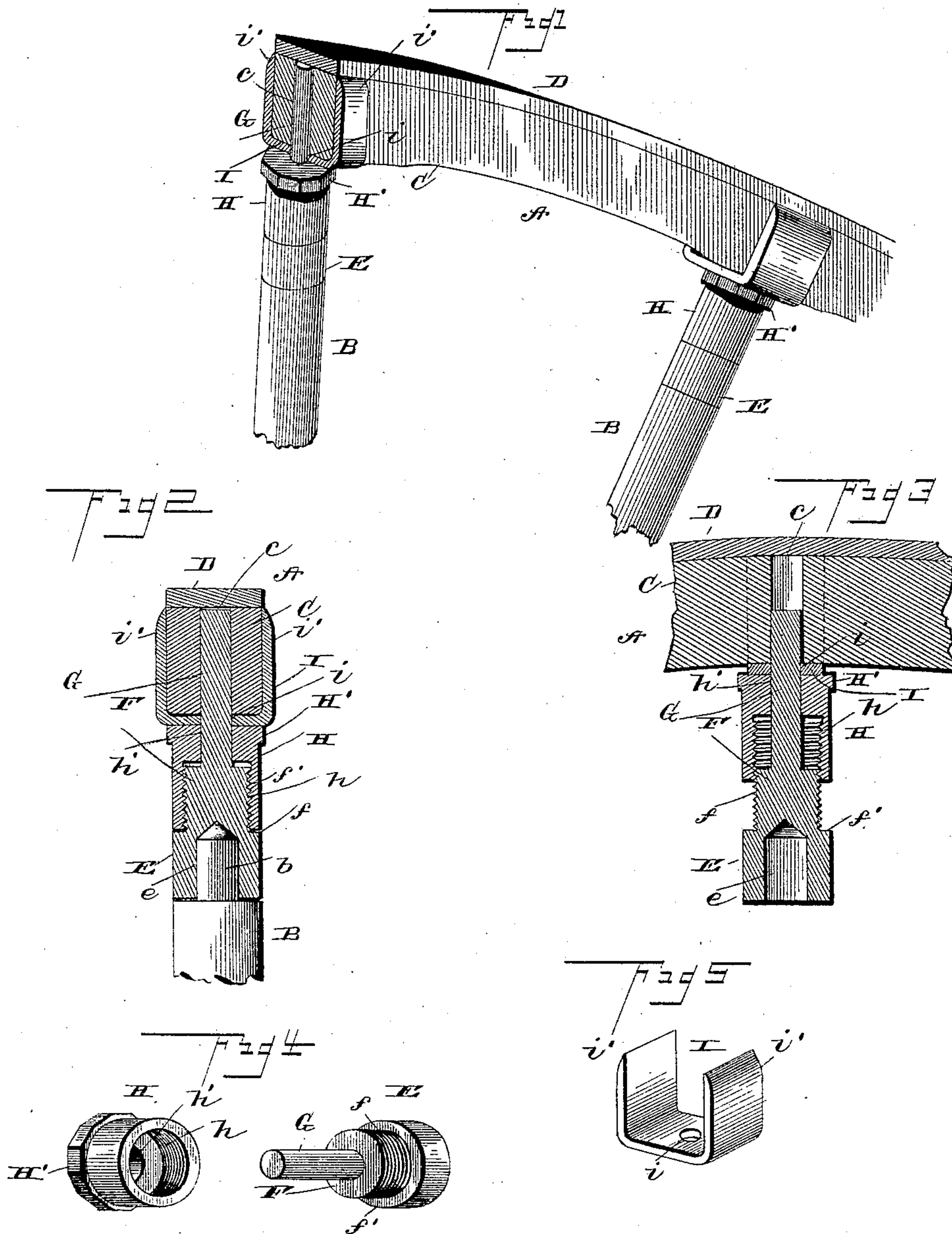


(No Model.)

W. HOGAN.  
TIRE TIGHTENER.

No. 444,492.

Patented Jan. 13, 1891.



Witnesses

John Irvine  
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# UNITED STATES PATENT OFFICE.

WILLIAM HOGAN, OF CORINTH, GEORGIA.

## TIRE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 444,492, dated January 13, 1891.

Application filed September 25, 1890. Serial No. 366,055. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HOGAN, a citizen of the United States, residing at Corinth, in the county of Heard and State of Georgia, have invented certain new and useful Improvements in Tire-Tighteners, of which the following is a specification.

This invention relates to that class of tire-tighteners designed to be applied to the outer ends of the spokes, under the felly, and adjustable against the latter to tighten the tire.

The object of the invention is to provide a simple and effective device of this character which shall be readily and quickly adjusted, which will form a strong and durable connection between the felly and spokes, and which will furthermore possess advantages in point of inexpensiveness in construction and general efficiency.

To this end the invention consists, substantially, in a thimble mounted upon the ends of the spokes and having an exteriorly-threaded extension projecting therefrom, a tenon projecting from the extension and disposed in an eye in the felly, an adjustable interiorly-threaded sleeve working upon the extension and provided with an angular outer end having a contracted opening working upon the tenon and held thereby against lateral play, and a washer-plate provided with outturned flanges at its sides adapted to lap over the felly and strengthen the same, all arranged and adapted to operate substantially as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a portion of a wheel provided with my improved tire-tightener. Fig. 2 is a transverse sectional view taken on the plane of one of the spokes. Fig. 3 is a detail longitudinal sectional view illustrating the adjustable sleeve extended upon the thimble. Fig. 4 is a detail perspective view of the thimble and adjustable sleeve detached. Fig. 5 is a similar view of the washer-plate.

Corresponding parts in the figures are denoted by the same letters of reference.

Referring to the drawings, A designates a wheel comprising the ordinary spokes B, felly C, and tire D. The spokes B are shortened in length from their outer ends, and the latter are reduced to form studs *b*, projecting

outwardly from the spokes and in a longitudinal plane therewith.

E designates a thimble, cylindrical in shape and preferably cast or otherwise constructed of brass or other suitable metal. The thimbles E are by preference of a corresponding diameter to that of the spokes, and are each provided centrally in its inner or opposing end with a socket *e*, corresponding to and adapted to receive the stud *b* of its respective spoke. By thus connecting the spokes and thimble the latter forms practically a smooth unbroken continuation of the former.

From the free or outer end of the thimble E projects a centrally-disposed cylindrical extension F of smaller diameter than the thimble and formed integral therewith. The extension F is provided with exterior screw-threads *f*, and by reason of its contracted diameter a shoulder *f'* is formed between the same at its inner end and the periphery of the thimble. A tenon G, of greatly-reduced diameter, projects centrally from the outer or free end of the extension F, with which it is formed integral. The tenon is of solid formation, thus insuring greater strength, and projects through an eye or bore *c* in the felly C and abuts normally against the tire B, the tenon serving as a secure connection between the spoke and felly.

H designates a tubular sleeve, provided with interior screw-threads *h*, corresponding to and designed to mesh with the threads *f* upon the extension F. The sleeve H corresponds in diameter to the thimble E, and when screwed home upon the extension F, with its inner edge abutting against the shoulder *f'*, forms a smooth unbroken continuation of the thimble. At the outer end of the sleeve is formed integral therewith an angular extension H', adapted to be engaged by a wrench for the purpose of adjusting or extending the sleeve. The portion H' is provided with an eye or bore *h'* of less diameter than the bore of the sleeve proper and corresponds to the diameter of the tenon G, upon which said portion works. It will thus be seen that no matter what position the sleeve may occupy with relation to the extension F the former is guided by the tenon G and lateral play of the sleeve effectually prevented.

The outer face of the portion H' of the



sleeve H bears against a washer-plate I, provided with a central eye or bore *i*, through which the tenon G passes. The washer-plate is formed of iron or other suitable metal, and  
5 has its opposite sides *i' i'* bent outwardly and adapted to overlap the felly, serving as a brace for the latter and to obviate splitting thereof.

The operation and advantages of my invention will be readily understood by those  
10 skilled in the art to which it appertains. It is my purpose to provide each spoke with one of the tighteners; but it will be obvious that the number of and arrangement of the latter may be varied according to circumstances  
15 without departing from the spirit and scope of my invention.

In adjusting the tighteners the sleeves are turned through the medium of a wrench to force them against the felly, thereby expanding the circumference of the latter and binding  
20 it securely against the tire. If at any time the latter should work loose, it may be readily tightened by a further adjustment of the tighteners, as above set forth.

25 I claim as my invention—

1. In a tire-tightener, the combination, with the spokes and felly of a wheel, of thimbles mounted upon the former and under the latter and provided with a contracted screw-  
30 threaded extension projecting outwardly therefrom, a tenon of less diameter than said extension and adapted to be received by an eye or bore on the felly, said tenon being smooth and unthreaded throughout its length,  
35 and an interiorly-threaded sleeve closed at its outer end and working upon the threaded extension, the sleeve being provided with an unthreaded eye in its closed end corresponding to and receiving the tenon, substantially  
40 as and for the purpose set forth.

2. In a tire-tightener, the combination, with the spokes and felly of a wheel, of thimbles mounted upon the former and under the latter and provided with a contracted screw-  
45 threaded extension projecting outwardly therefrom, a tenon of less diameter than said extension and adapted to be received by an eye or bore in the felly, an adjustable tightening-sleeve working on the threaded extension and retained against lateral displacement  
50 by the tenon in the manner described, and a flat washer-plate interposed between the outer face of the sleeve and the under side of the felly and having its projecting portions bent up against the sides of the felly,  
55 substantially as and for the purpose set forth.

3. As an improved article of manufacture, a tire-tightener consisting of a thimble provided with a socket at its inner end, an integral screw-threaded extension projecting  
60 from the outer end of the thimble and of less diameter than the latter, a tenon integral with the extension, of less diameter than the latter, and projecting from the outer end thereof, an interiorly-screw-threaded sleeve  
65 adapted to work upon the extension and provided with an angular outer end having a contracted bore or eye for receiving the tenon and working thereon, and a washer-plate adapted to be mounted upon the tenon and  
70 provided with outturned opposite sides adapted to overlap and brace the felly of a wheel, substantially as and for the purpose set forth.

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

WILLIAM HOGAN.

Witnesses:

W. W. WISDOM,  
L. B. WEBB.