(No Model.)

W. L. FRAZER & W. E. BROWN.

ADJUSTABLE SPINDLE NUT.

No. 475,762. Patented May 31, 1892.

Fig. 1.

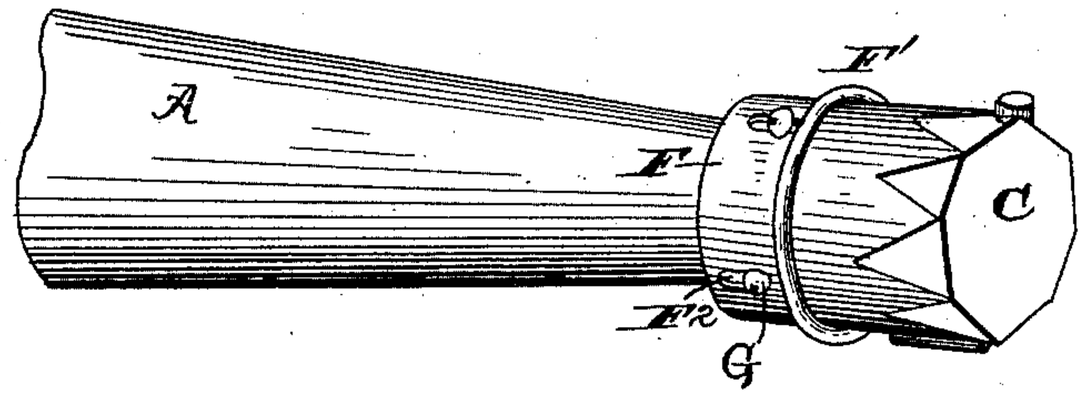


Fig. 3.

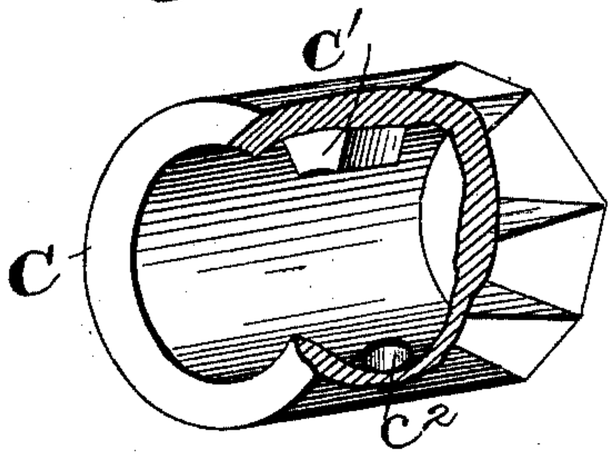


Fig. 2.

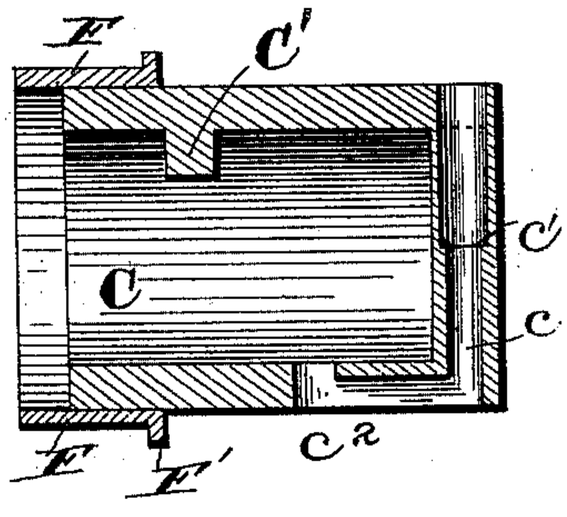


Fig. 4.

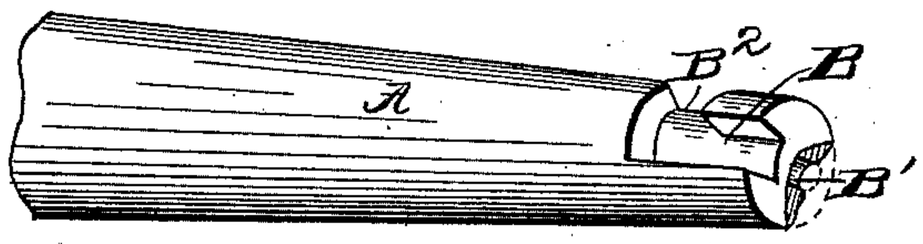


Fig. 5.

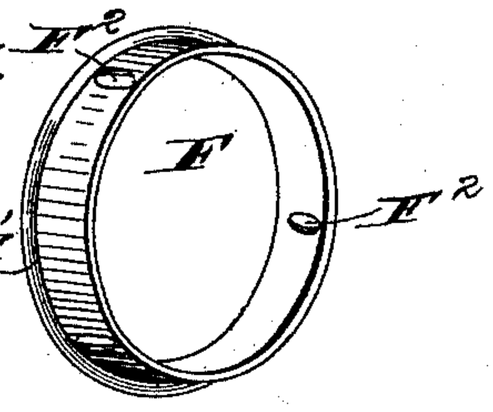
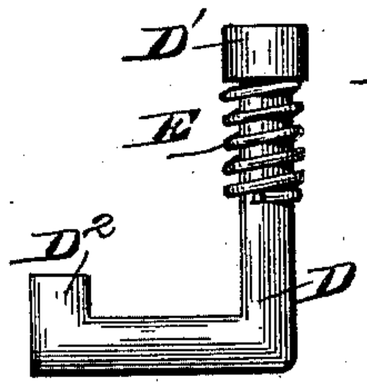


Fig. 6.



Walter L. Frazer
Walter E. Brown
INVENTORS

WITNESSES
A. J. Schwartz
J. L. Edwards.

By W. J. FitzGerald
Associate Attorney.

UNITED STATES PATENT OFFICE.

WALTER L. FRAZER AND WALTER E. BROWN, OF NATIONAL CITY, CALIFORNIA.

ADJUSTABLE SPINDLE-NUT.

SPECIFICATION forming part of Letters Patent No. 475,762, dated May 31, 1892.

Application filed November 26, 1890. Renewed April 4, 1892. Serial No. 427,696. (No model.)

To all whom it may concern:

Be it known that we, WALTER L. FRAZER and WALTER E. BROWN, both citizens of the United States, residing at National City, in the county of San Diego and State of California, have invented certain new and useful Improvement in Adjustable Spindle-Nuts; and we do hereby 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.

Our invention consists in a new and improved spindle-nut which can be readily and instantly placed on the end of the spindle and locked thereon and can be as readily removed, this nut being further provided with an adjustable flanged collar for holding the washers in position; and our invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of the end of a spindle with our new and improved nut secured thereon. Fig. 2 is a longitudinal sectional view taken on line 2 2 of Fig. 1. Fig. 3 is a perspective view, partly in section, of the nut. Fig. 4 is a perspective view of the end of the spindle. Fig. 5 is a similar view of the adjustable flanged collar hereinafter described, and Fig. 6 is a detail view of the spring-actuated locking-bolt.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A indicates the spindle or axle on which the carriage or vehicle wheel is mounted. This spindle is formed at its outer end with an L-shaped recess B and with an aperture B′ at the point shown.

C indicates our new and improved nut, the outer end of which may be made octangular for the reception of a wrench. This nut is formed on its inner side with the projection C′, adapted to enter the recess B, and in an opening *c* in the outer end of the nut is arranged the L-shaped locking-bolt D, upon the outer end of which the head D′ is secured. Along the stem of this bolt is arranged a spiral spring E, bearing, as shown, against the head of the bolt D and the shoulder *c*′, formed in the transverse opening *c*. The locking-point of the bolt D^2 extends in at right angles through an opening c^2 in the side of the nut. To place the nut on the end of the spindle, it is only necessary to press in on the head D′ of the locking-bolt until its inner end D^2 is flush with the inner face of the nut, thereby compressing the spiral spring E. The nut is now slipped on the end of the spindle, its interior projection C′ passing down the longitudinal portion of the recess B until it reaches the inner end of the same. The nut is then given a quarter-turn to slide the projection C′ into the transverse end B^2 of the slot B. When it reaches this point the pressure on the locking-bolt D is released, and the spiral spring E will throw the inner end of the bolt D^2 into the opening B′, thereby locking the nut firmly on the end of the spindle and securing the wheel on the spindle, so that it will be impossible for it to slip or work loose. The locking-bolt holds the nut firmly on the end of the spindle, and when it is desired to remove the wheel it is only necessary to press on the head D′ of the locking-bolt until its inner end D^2 is freed from the opening B′, when the nut is given a quarter-turn to the left, and it is then drawn out from the end of the spindle, its interior projection C′ sliding out through the recess B until the nut is freed.

On the inner end of the nut is secured the collar F, the outer end of which is formed with an annular flange F′. This collar is formed with the adjusting-slots F^2 and is secured on the inner end of the nut by set-screws G, passing through these slots. The object of this construction is to enable the flange-collar to be adjusted in on the end of the spindle to take up the wear of the washers which it serves to hold in place in the end of the wheel-hub.

The object of forming the outer end of the nut angular or octagonal is that in case the nut becomes hot in use a wrench can be applied to it instead of the hand and the nut turned for a quarter-turn after pushing in the securing-bolt D, and be thus removed from the end of the spindle.

From the foregoing description, taken in

connection with the accompanying drawings, the construction and advantages of our new and improved spindle-nut will be readily understood. It will be seen that our device is simple in its construction, while it is exceedingly effective for the purpose for which it is intended. It can be applied to the end of any spindle by merely cutting in the same the recess B and the opening B′.

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

1. The combination, with the spindle formed at its end with the L-shaped recess B and the opening B′, of the nut C, having the inner projection C′, and the locking-bolt D, arranged in the outer end of the nut, substantially as set forth.

2. The combination of the spindle formed at its outer end with the L-shaped recess B and the opening B′, the nut C, having the inner projection C′ and the openings c c^2, the L-shaped locking-bolt B, and the spiral spring E, substantially as set forth.

3. The combination, with the removable nut, of the flanged collar F, having the adjusting-slots F′, and the set-screws G, substantially as set forth.

4. The combination of the spindle having the L-shaped recess B and the opening B′ at its outer end, the nut having the inner projection C′, the openings c c^2, and the angular outer end, the spring-actuated L-shaped locking-bolt D, having the head D′, the flanged collar F, having the adjusting-slots F′, and the set-screws G, substantially as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

WALTER L. FRAZER.
WALTER E. BROWN.

Witnesses:
A. B. SMITH,
C. E. CLARK.