

No. 819,614.

PATENTED MAY 1, 1906.

W. K. STEWART & F. MOWREY.

WRENCH.

APPLICATION FILED NOV. 9, 1905.

Fig. 1.

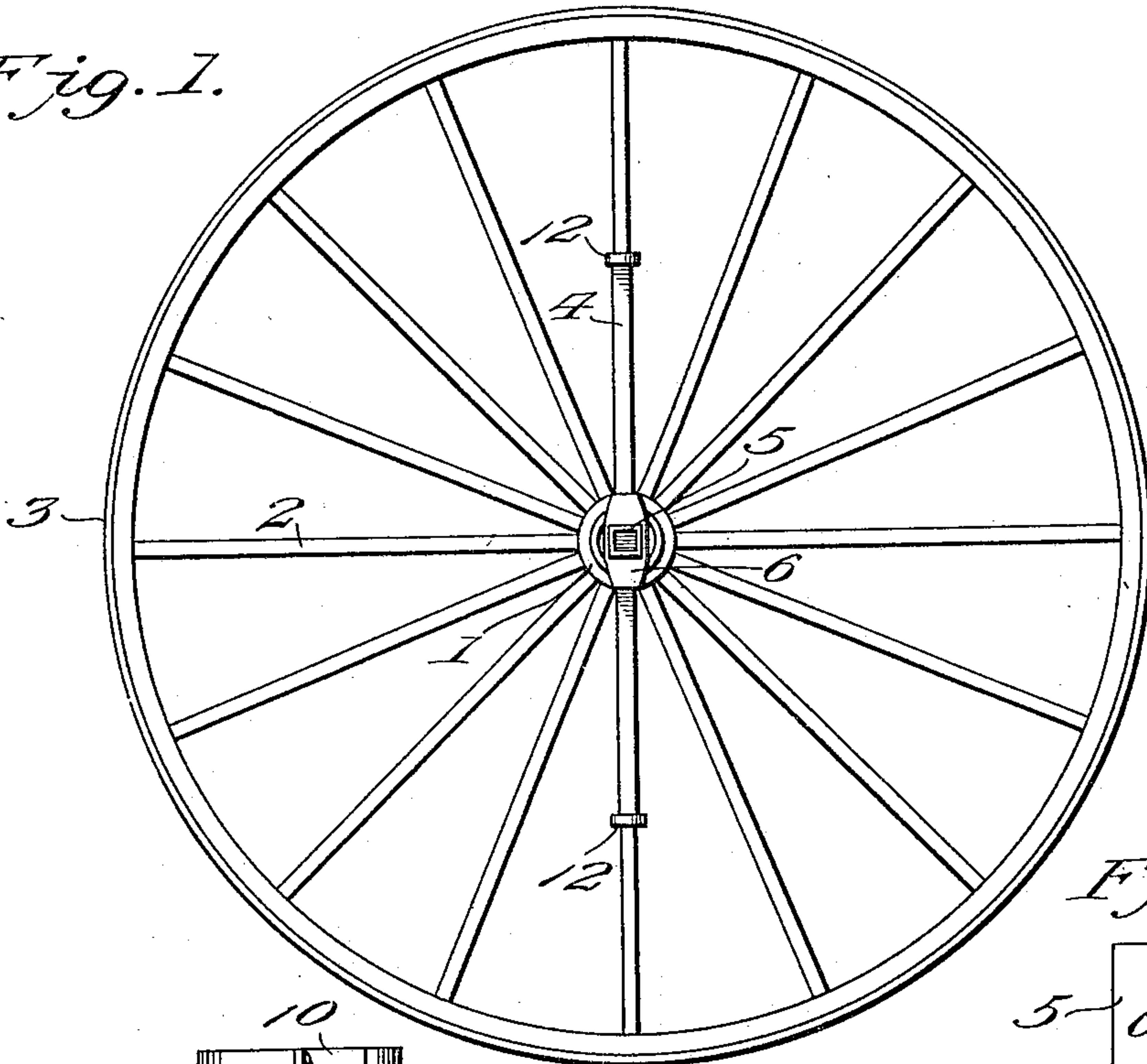


Fig. 2.

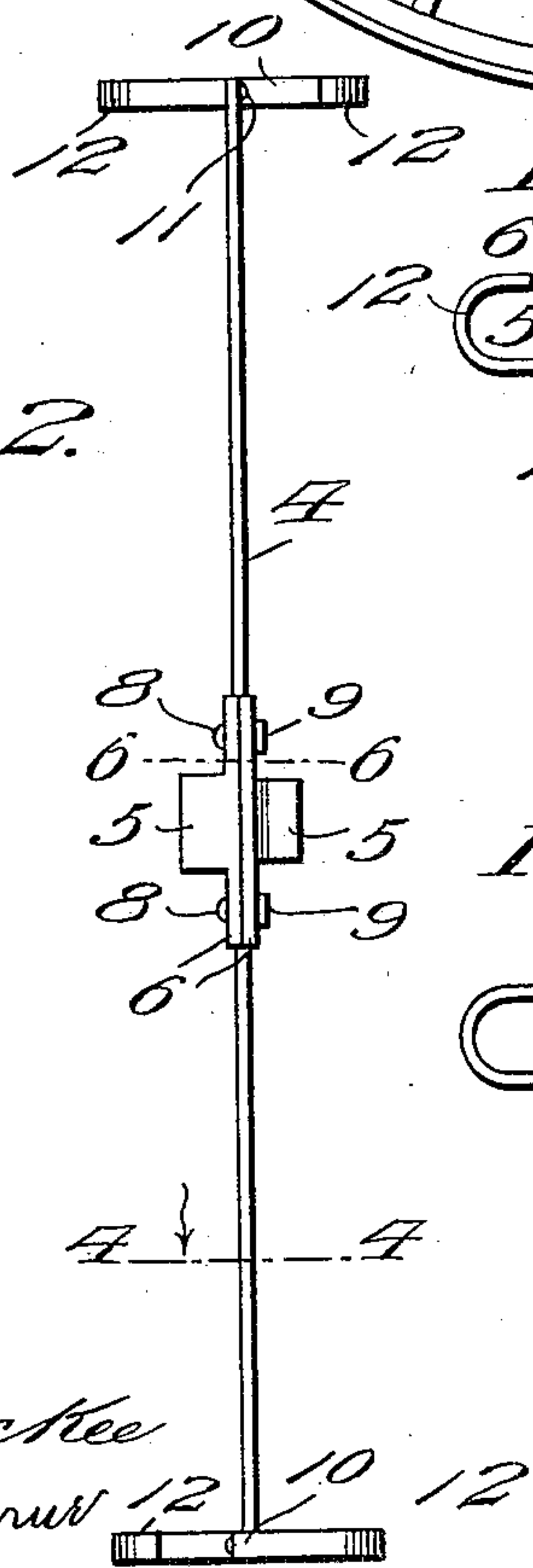


Fig. 3.

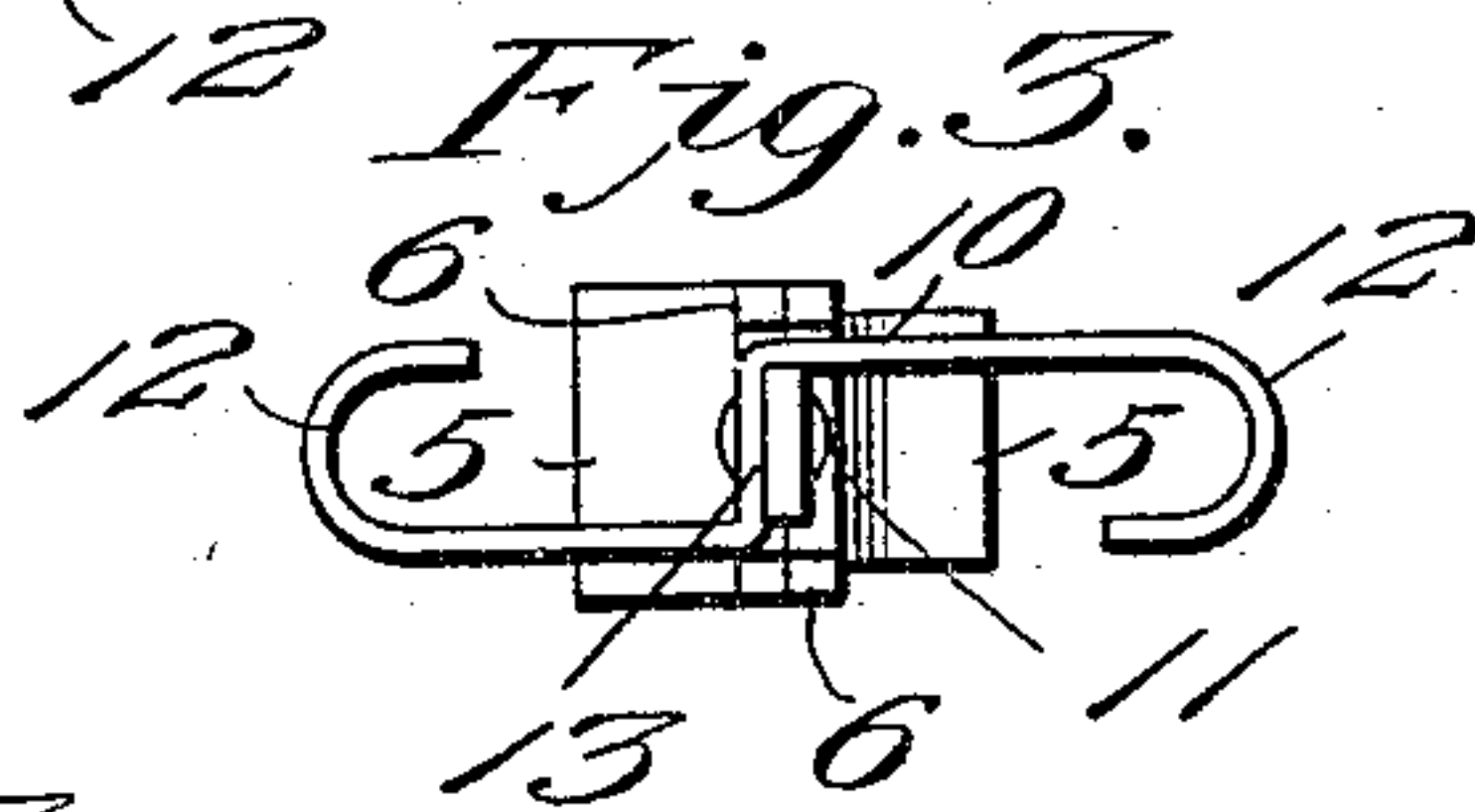


Fig. 4.

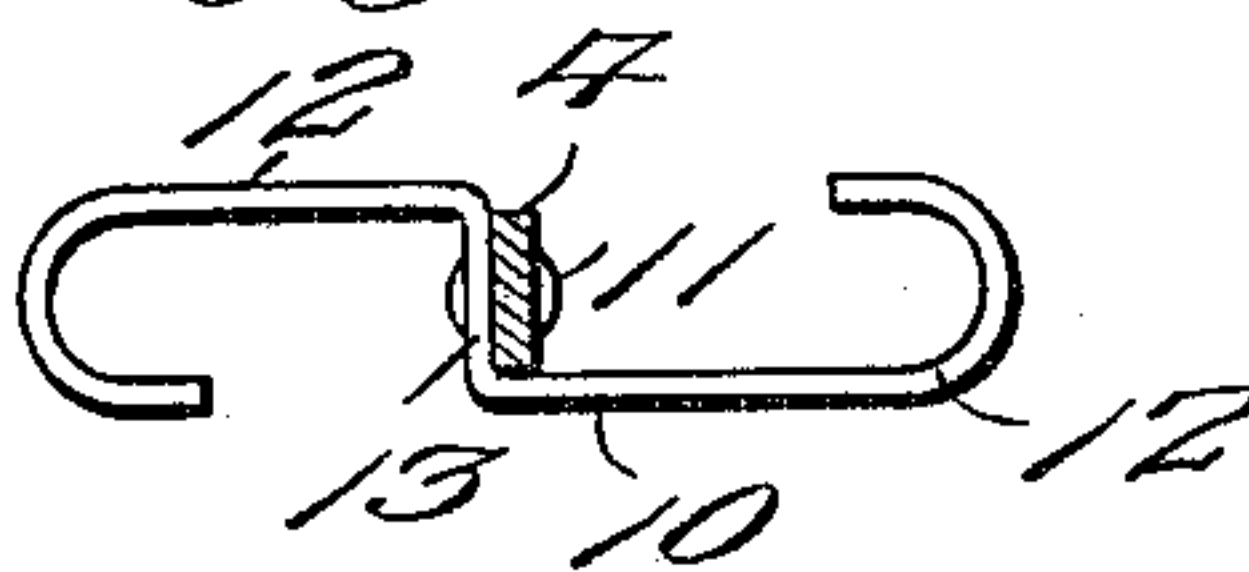


Fig. 6.

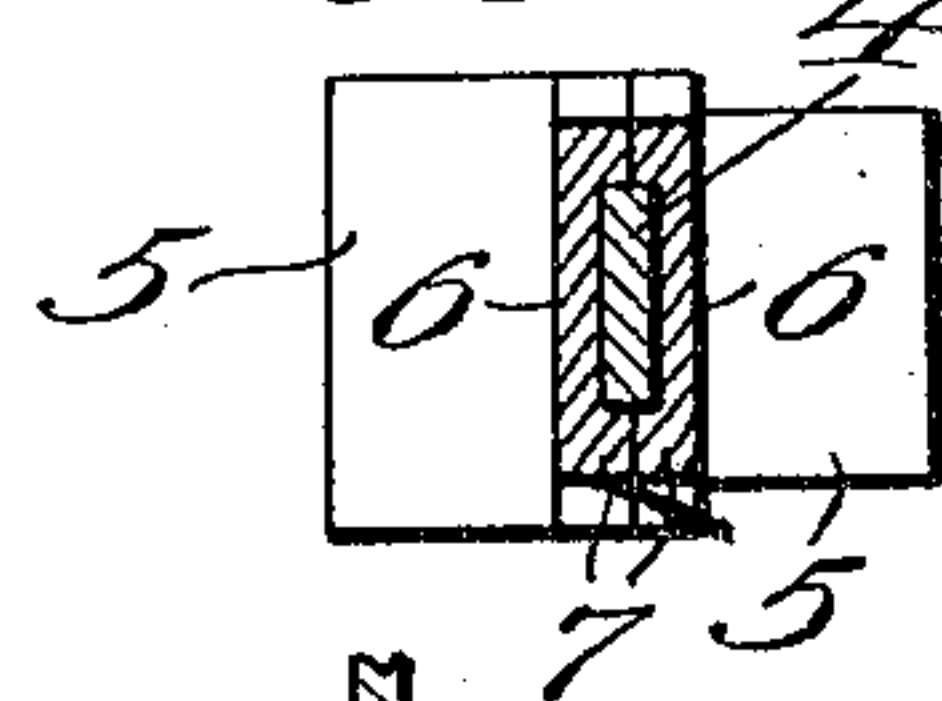
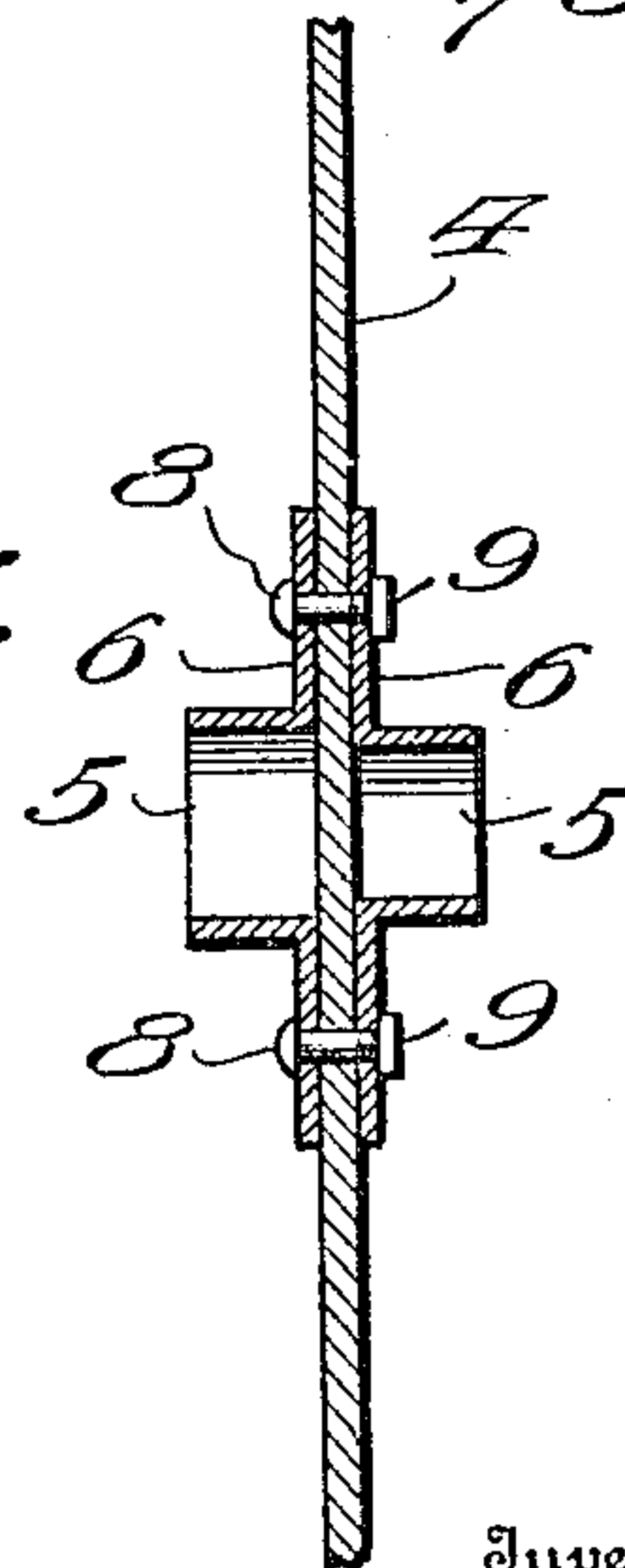


Fig. 5.



Witnesses

E. G. McKee
J. F. Byrum

By

W. K. Stewart
Frank Mowrey
Victor J. Evans
Attorney

Inventors

UNITED STATES PATENT OFFICE.

WILLIAM KING STEWART AND FRANK MOWREY, OF PHILADELPHIA,
PENNSYLVANIA.

WRENCH.

No. 819,614.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed November 9, 1905. Serial No. 286,541.

To all whom it may concern:

Be it known that we, WILLIAM KING STEWART and FRANK MOWREY, citizens of the United States, residing at Germantown Station, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Wrenches, of which the following is a specification.

Our invention relates to wrenches; and its primary object is to provide a novel and highly useful device of this character which is adapted to be readily and quickly applied to the wheel of a vehicle, so as to permit a nut being applied to and removed from an axle-spindle by the turning of the wheel, and one which is adapted to hold a nut after its removal, and thereby facilitate its reapplication to an axle-spindle.

A further object of the invention is to provide a device of this character which is simple and durable of construction, which is equipped with nut-sockets of different sizes, and which may be manufactured and sold at a comparatively low cost.

With the above and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter fully described, claimed, and illustrated in the accompanying drawings, wherein—

Figure 1 is a view in front elevation, illustrating our improved wrench in applied position upon a vehicle-wheel. Fig. 2 is a view in detail side elevation of the wrench. Fig. 3 is a top plan view thereof. Fig. 4 is a sectional view on the line 4 4 of Fig. 2 looking in the direction indicated by the arrow. Fig. 5 is a central longitudinal view of a portion of a shank, the same being on an enlarged scale; and Fig. 6 is a sectional view on the line 6 6 of Fig. 2.

Referring to the drawings by reference-numerals, 1 denotes the hub, 2 the spokes, and 3 the tire, of a vehicle-wheel of the usual form and construction.

4 denotes the shank of the wrench, and it is constructed of a metal having yielding quality, so as to permit of the application of the means for securing the wrench in applied position. Secured to the opposite sides of the shank 4 and centrally of the ends thereof are nut-sockets 5, said nut-sockets being of different sizes, so as to adapt the wrench for re-

moving and replacing nuts of varying sizes. 55
The nut-sockets 5 are provided with oppositely-disposed attaching-flanges 6. The longitudinal edges of the attaching-flanges 6 and the rear side edges of the nut-sockets 5 are formed to provide rearwardly-directed and parallel-arranged flanges 7, said flanges 7 serving to engage the edges of the shank 4, so as to prevent the nut-sockets from having any movement thereon. The nut-sockets are removably secured in applied position upon the shank by means of bolts 8 and nuts 9, said nut-sockets being removably secured to the shank so as to permit of the substitution therefor of other sockets should occasion demand. The engagement of the edges of the shank 4 by the flanges 7 prevents any strain being placed upon the bolts 8, whereby all liability of the fastening means becoming weakened is obviated. The end of the shank 4 are provided with spoke-engaging members 10, the same being secured in applied position by means of rivets 11 or their equivalent. Each engaging member 10 comprises two hook members 12, disposed in reverse directions and arranged to project on each side of the shank 4. The hook members 12 are united by means of a flange 13, which also provides means for securing the engaging members in applied position. The engaging members 10 are formed from a single blank of metal bent to provide the hooks 12 and flange 13. 85

The wrench is adapted to be applied to a wheel of a vehicle so as to position one of its spoke-sockets 5 over a nut, and it is held in applied position upon the wheel by means of the hooks 12, which are caused to engage the spokes, as is fully illustrated in Fig. 1 of the drawings. When the wrench is in applied position, the attaching-flanges 6 of the spoke-sockets 5 engage the outer edges of the hub 1, and thereby tends to cause the tightening of the hooks 12 upon the spokes 2. After the wrench has been applied the nut may be removed by simply turning the wheel. The removal of the wheel will also remove the nut, which is designed to be held by the spoke-socket, so as to facilitate the reapplication of the nut. 100

Having fully described and illustrated our invention, what we claim is— 105

1. An axle-nut wrench comprising a shank provided with means for reversibly connect-

ing it with the spokes of a wheel, sockets disposed on opposite sides of the shank and formed with attaching-flanges, said flanges being provided with abutting projections
5 bearing against the edges of the shank and holding the sockets from lateral movement, and fastening devices passing through the shank and flanges and acting as common means for securing both sockets to the shank.
10 2. An axle-nut wrench comprising a shank provided with nut-engaging sockets on opposite sides thereof, and also provided at each end with a spoke-engaging member, each spoke-engaging member comprising a strip

having its ends bent to form reversely-extending hooks and its central portion lying at right angles to the shanks of the hooks and bearing against one side of the shank member, and a fastening passing through said central portion and shank member and fastening
20 the spoke-engaging member thereto.

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

WILLIAM KING STEWART.
FRANK MOWREY.

Witnesses:

JOHN O'CONNELL,
M. J. WALLACE.