

No. 644,332.

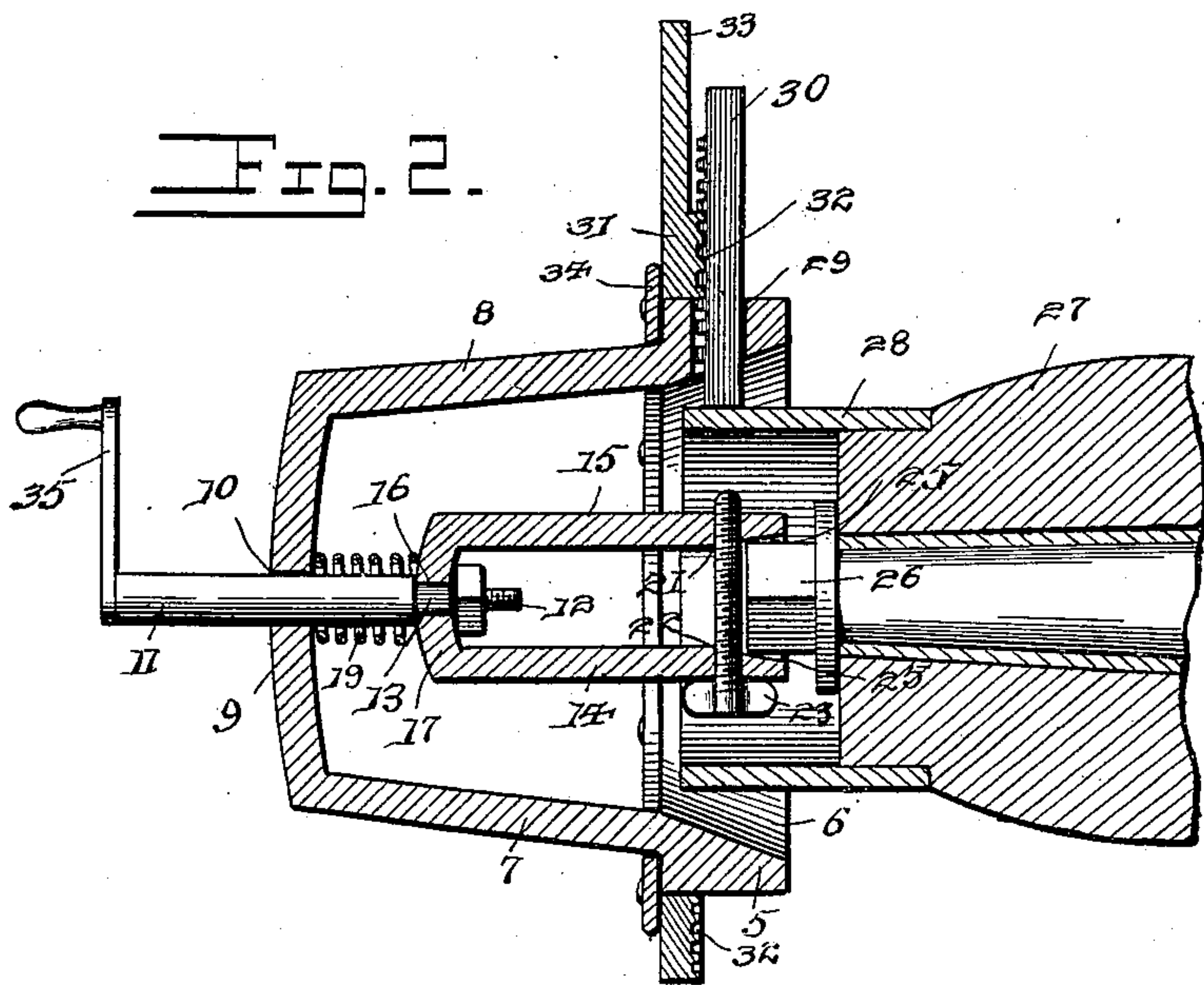
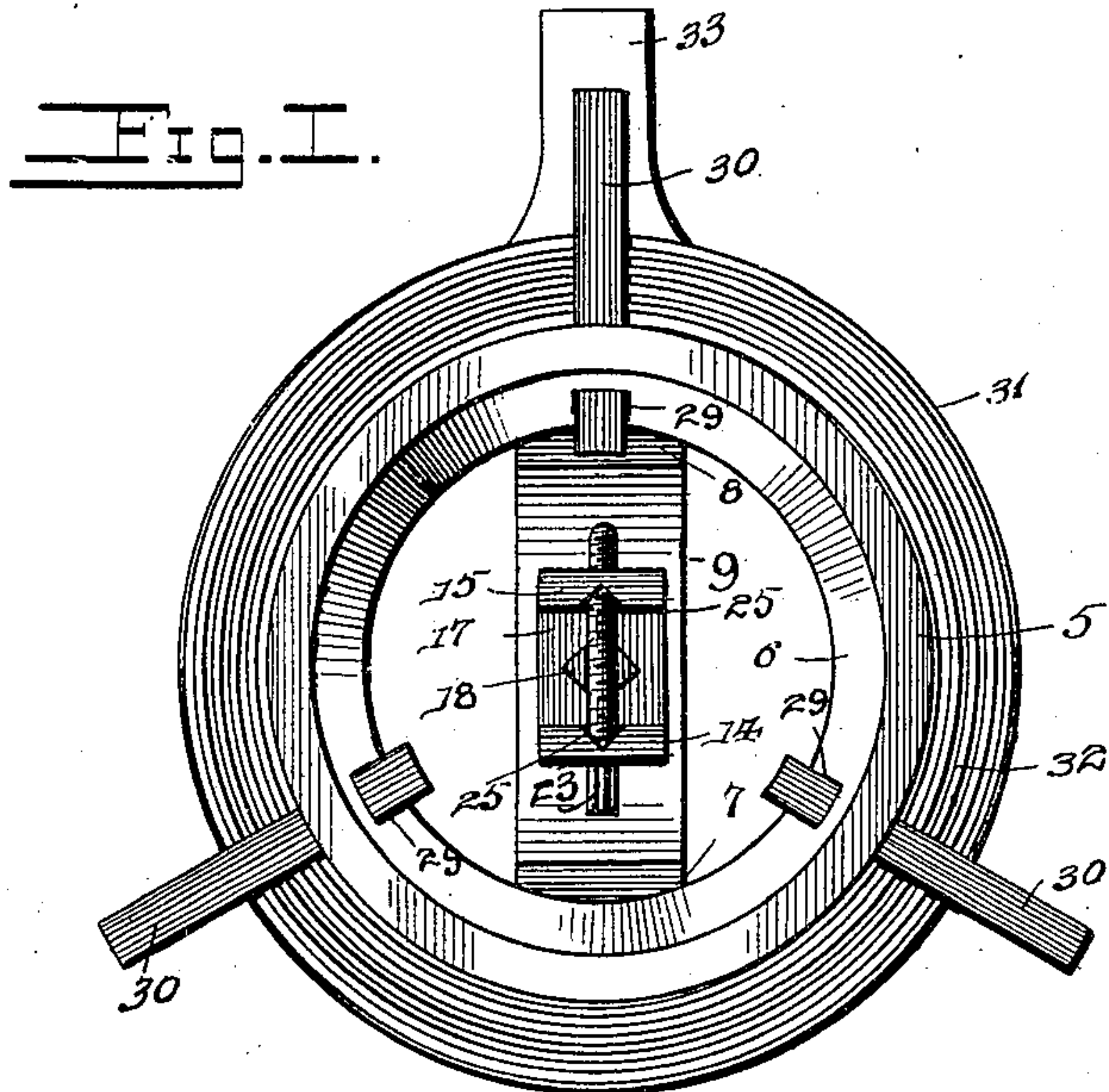
Patented Feb. 27, 1900.

H. SAULS & G. S. COOK.

HUB WRENCH.

(Application filed Dec. 27, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY SAULS AND GEORGE S. COOK, OF MINERAL, TEXAS.

HUB-WRENCH.

SPECIFICATION forming part of Letters Patent No. 644,332, dated February 27, 1900.

Application filed December 27, 1899. Serial No. 741,761. (No model.)

To all whom it may concern:

Be it known that we, HENRY SAULS and GEORGE S. COOK, citizens of the United States, residing at Mineral, in the county of Bee and State of Texas, have invented a new and useful Hub-Wrench, of which the following is a specification.

This invention relates to wrenches in general, and more particularly to that class known as "hub-wrenches," and in which there is provided a support adapted for attachment to the hub of a wheel, and which is provided with a wrench proper for engagement with the nut which holds the wheel upon the axle, one object of the invention being to provide a simple structure which may be easily and quickly operated to engage and disengage the supporting-frame with respect to the hub.

Further objects of the invention will be apparent from the following description.

In the drawings forming a portion of this specification, and in which similar numerals of reference designate like and corresponding parts in both views, Figure 1 is a rear elevation showing the complete structure detached from a wheel-hub. Fig. 2 is a central vertical section of Fig. 1 and showing the wrench applied to the hub of a wheel, parts of the structure being shown in elevation.

Referring now to the drawings, the supporting-frame comprises a sleeve 5, which is circular in form and the inner periphery of which is flared rearwardly, as shown at 6, to facilitate the ready application of the sleeve to the hub of a wheel in the manner illustrated in Fig. 2 of the drawings.

A U-shaped brace or yoke has the ends of its arms 7 and 8 connected with the sleeve 9, at the outer face thereof, or this yoke may be formed integral with the sleeve, and centrally of the web 9 of the yoke is formed a bearing 10 for a crank-shaft 11. The extremity of the shaft 11, which lies within the inclosure of the yoke, is threaded, as shown at 12, while adjacent this threaded portion is formed a squared portion 13, a pair of clamping-jaws 14 and 15 being connected with this squared portion of the shaft 11 by engagement of the squared portion with a corresponding opening 16 in a web 17, which connects the rear ends of the clamping-jaw. After the clamping-jaws are engaged with this squared por-

tion 13 a nut 18 is screwed upon the threaded portion 12 and holds the jaws in position. A helical spring 19 encircles the shaft 11, said spring having a bearing at one end against the inner face of the web 9 and at its opposite end against the outer face of the web 17, the tendency of this spring being to hold the clamping-jaws yieldably projected into the inclosure of the sleeve 5. The clamping-jaws, which are of spring material, have alining perforations 21 and 22, of which the perforation 21 is threaded, and a thumb-screw 23 is passed through the perforation 22 and engaged with the threads of the perforation 21 to draw the jaws together when desired. Each of the jaws has an angular recess 25 in its inner face, these recesses being adapted to receive the corners of the nut 26, which is to be removed to facilitate the clamping of the jaws thereagainst.

In practice, as shown in Fig. 2, the supporting-frame is disposed with the sleeve 5 encircling the band at the outer end of the hub 27, and in order to hold the frame upon the band, which is shown at 28, equidistant angular openings 29 are formed in the sleeve 5 and extend radially thereof. In each of these perforations 29 is disposed a clamping-jaw 30 in the form of a rack-bar, and in order to move these rack-bars into and out of engagement with the band 28 a disk 31 is mounted upon the sleeve 5 and has a spiral thread 32 in one face, this thread engaging the teeth of the several rack-bars. This disk is adapted for rotation upon the sleeve 5 by means of a handle 33, and it will be seen that as this handle is operated in one direction the rack-bars will be moved inwardly, while when the handle is operated in the opposite direction the rack-bars will be moved outwardly, thus being caused to engage and disengage the band 28. The disk 31 is held against displacement from the sleeve 5 by means of a ring 34, which is attached to the outer face of the sleeve and projects beyond the periphery thereof, this ring acting to hold the disk between it and the rack-bars.

The crank-shaft 11 is provided with a crank 35, and it will thus be seen that after the supporting-frame has been properly positioned the disk 31 may be operated to clamp the frame upon the band 38, after which the

clamping-jaws may be engaged with the nut, and the crank 35 may be operated to remove the nut. Furthermore, it will be seen that when it is desired to replace the nut the spring 5 19 will hold it in proper position with respect to the end of the spindle, and it will be necessary only to rotate the shaft 11 to screw the nut into place.

It will of course be understood that any desired number of clamping-jaws may be employed and that any suitable proportions and materials may be used without departing from the spirit of the invention.

What is claimed is—

15 1. A hub-wrench comprising a supporting-frame including a sleeve, rack-bars mounted radially of the sleeve, a disk provided with a spiral thread engaging the rack-bars, said disk being rotatably mounted upon the sleeve, 20 and a wrench rotatably mounted in the supporting-frame.

2. A hub-wrench comprising a supporting-frame including a sleeve having radial openings, a clamping-jaw disposed in each opening, a disk rotatably mounted upon the sleeve 25 and operatively connected with the clamping-jaws to move them, and a wrench mounted in the supporting-frame.

3. A hub-wrench comprising a supporting-frame including a sleeve having radial openings, a rack-bar slidably mounted in each 30

opening, a disk mounted upon the sleeve and having a spiral thread engaging the rack-bars, said disk being adapted to move the bars into and out of operative position, a shaft rotatably mounted in the frame and adapted for longitudinal movement therein, means for holding the shaft yieldably at one limit of its longitudinal movement, and clamping-jaws 35 carried by the shaft. 40

4. A hub-wrench comprising a sleeve having radial openings, a clamping-jaw disposed in each opening, a disk mounted upon the sleeve and having a spiral thread operatively engaged with the jaws, said disk being rotatable, a ring carried by the sleeve and lying 45 against the disk to hold it in operative relation to the jaws, a shaft rotatably mounted in the frame and adapted for longitudinal movement, means for holding the shaft yieldably in one direction of longitudinal movement, 50 and clamping-jaws carried by the shaft and adapted for movement therewith into and out of the inclosure of the sleeve.

In testimony that we claim the foregoing 55 as our own we have hereto affixed our signatures in the presence of two witnesses.

HENRY SAULS.

GEORGE S. COOK.

Witnesses:

W. E. BARNES,

WM. H. SMITH.