

(No Model.)

T. G. CLIFFORD.
AXLE NUT WRENCH.

No. 571,214.

Patented Nov. 10, 1896.

Fig. 1.

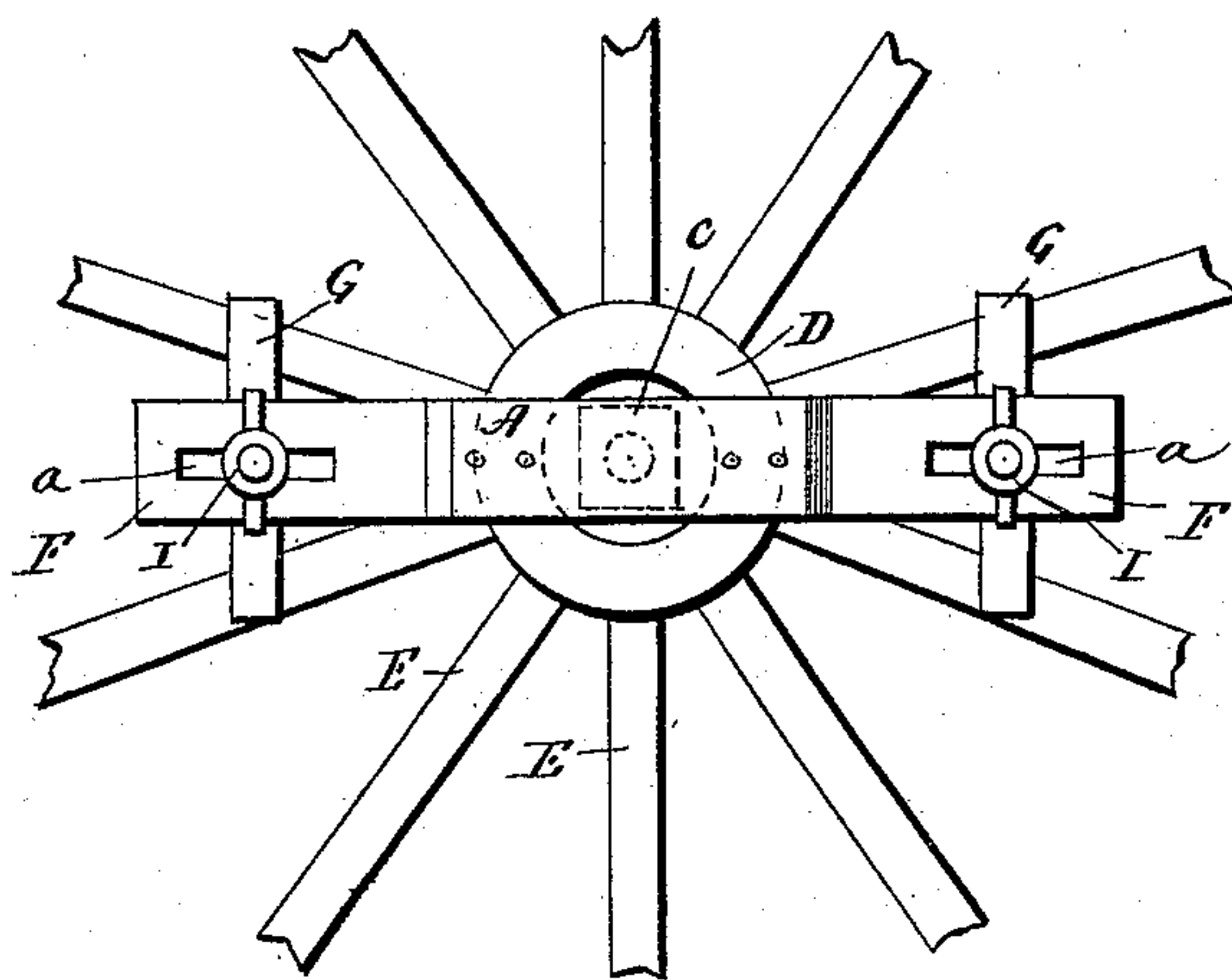


Fig. 2.

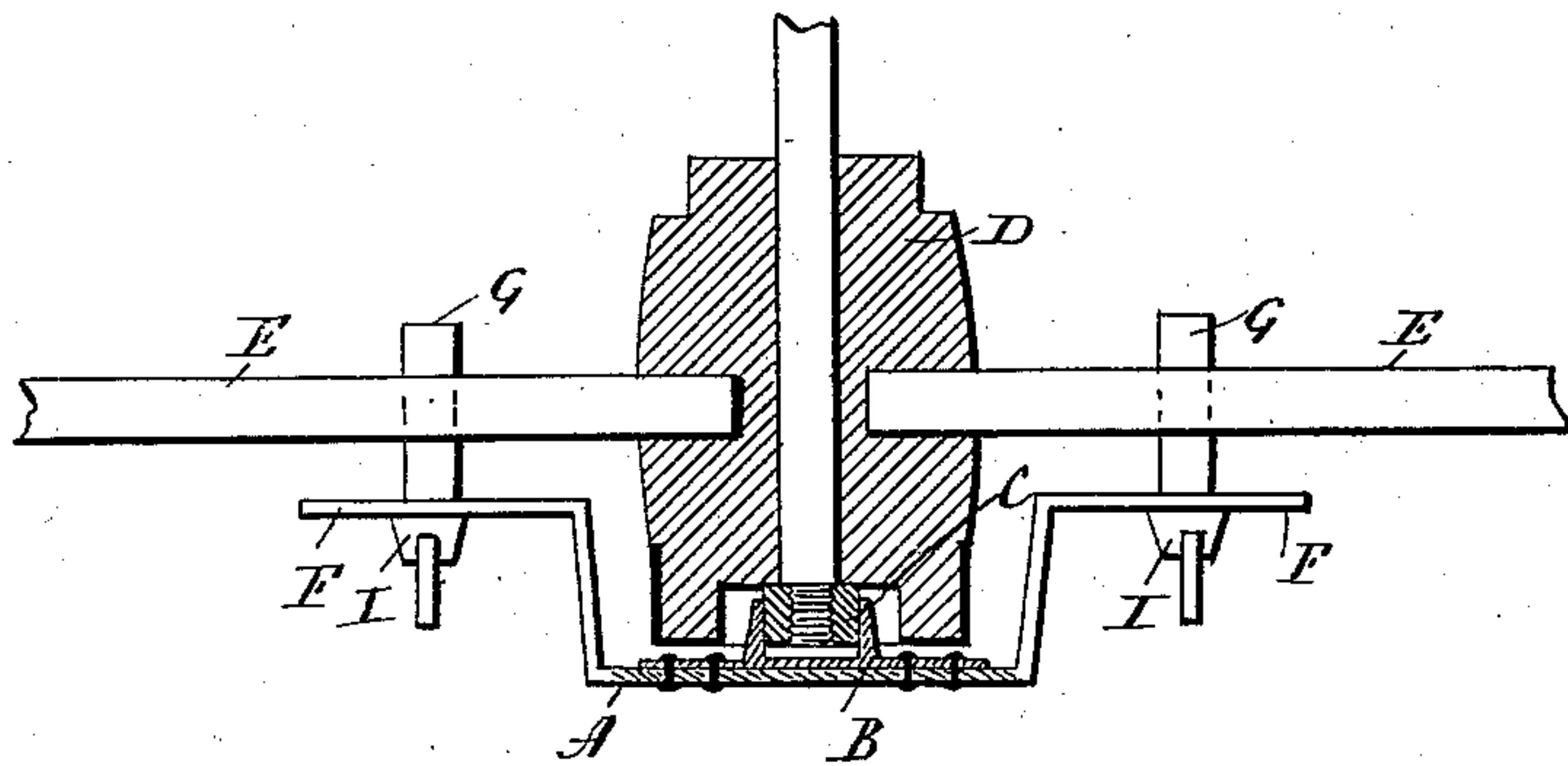


Fig. 3.

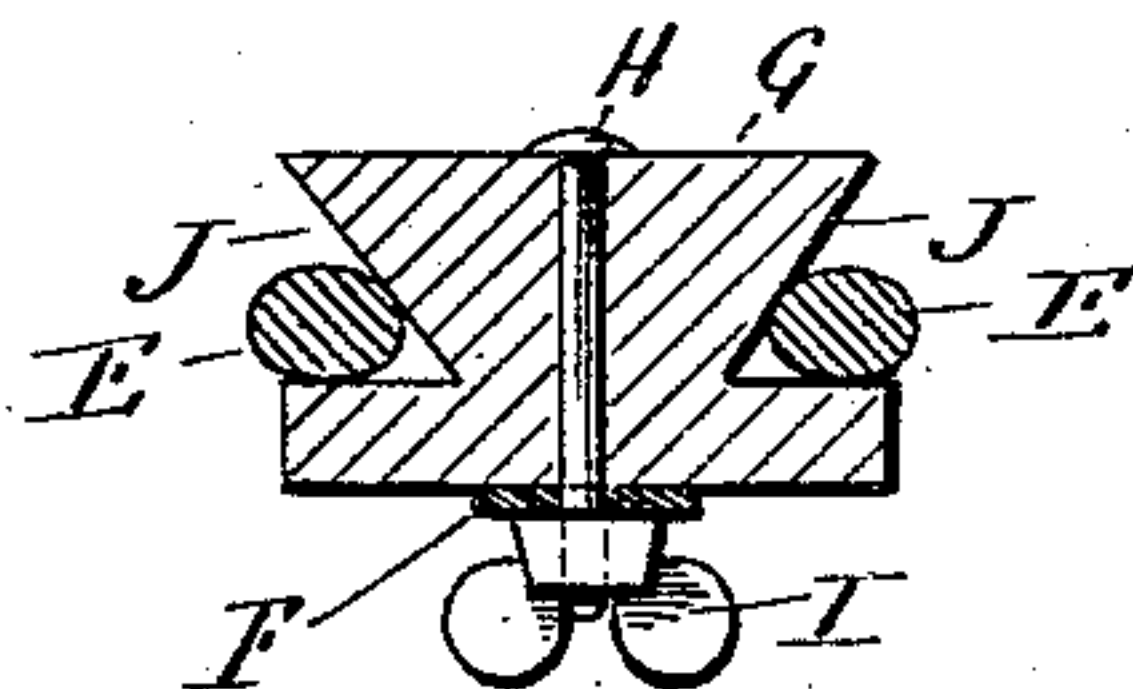
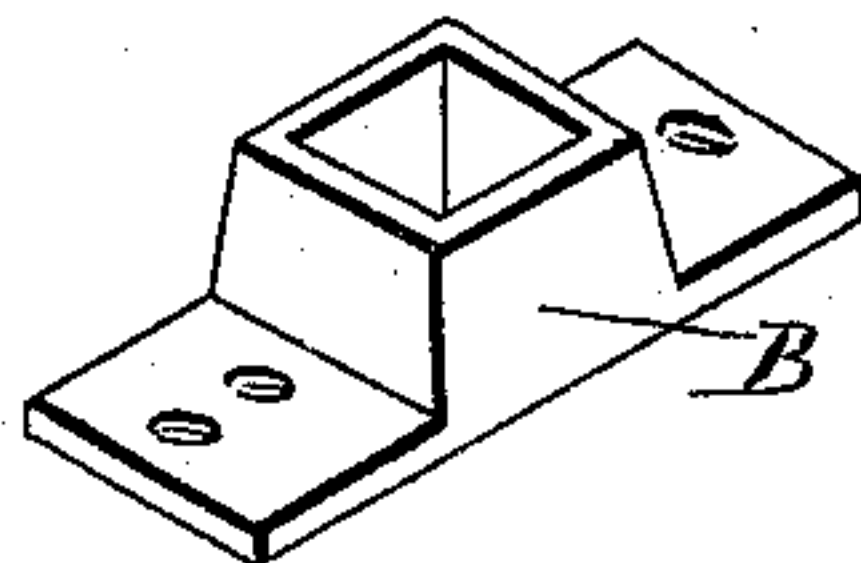


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS G. CLIFFORD, OF HOBOKEN, NEW JERSEY, ASSIGNOR OF ONE-HALF
TO AUGUST HARTKORN, JR., OF SAME PLACE.

AXLE-NUT WRENCH.

SPECIFICATION forming part of Letters Patent No. 571,214, dated November 10, 1896.

Application filed August 17, 1896. Serial No. 602,927. (No model.)

To all whom it may concern:

Be it known that I, THOMAS G. CLIFFORD, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new Improvement in Axle-Nut Wrenches; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a front view of a wrench embodying my invention as applied to a wheel; Fig. 2, a top view, partially in section; Fig. 3, an end view showing one of the keys in engagement with the spokes; Fig. 4, a detached view of the socket.

This invention relates to an improvement in axle-nut wrenches, and particularly to that class which are adapted for the removal of nuts from the axles of carriages and wagons, and in which the device is clamped or secured to the wheel, and whereby the wheel is utilized to turn the wrench in removing or applying a nut, the object of the invention being a simple and cheap construction, one readily applied to a wheel, and in which the strain comes upon four spokes instead of upon two, as in the more general construction; and the invention consists in the construction as hereinafter described, and particularly recited in the claim.

The wrench proper consists of a plate A, to which a socket B is attached, which socket corresponds to the nuts C, which it is intended to remove. The ends of the plate are bent inward to set over the hub D, and thence outward in a plane parallel with the plane of the spokes E, and in each of the ends F is a slot *a*. At each end are keys G, and extending through these keys and the slots *a* are bolts H, which receive at their outer ends nuts I, by which the said keys are clamped to the ends F. These keys are formed with clearance-notches J at opposite sides for the spokes E. To adjust the wrench, the keys G are turned so as to readily pass between spokes on opposite sides of the hub and the socket B set over the nut C. The keys are then turned

into a vertical position, as shown in Fig. 1, and adjusted toward or from the hub until they take a bearing against the spokes. When thus seated, the nuts I are turned to clamp the keys to the ends of the wrench-plate. When thus clamped, if the wheel is turned in the proper direction the nut C will be removed from the axle and held in the proper position with relation to the hub, so that when it is desired to replace the wheel it is only necessary to set the wheel onto the axle, when the nut will come in line with the end thereof, and upon the rotation of the wheel in the proper direction turn the nut onto the axle.

Preferably the socket B will be riveted to the plate A, as shown in Fig. 2, and so that a separate wrench will be employed for different styles of nuts; but, if desired, the sockets may be screwed to the plate, as indicated in Fig. 4, whereby they may be readily removed and sockets of other size and shape substituted, as occasion may require.

It will be understood from the foregoing that I am aware that wrenches adapted to be clamped to the spokes of a wheel and whereby the wheel is employed to assist in turning the wrench is old, and therefore do not wish to be understood as claiming broadly such as my invention; but

What I do claim as new, and desire to secure by Letters Patent, is—

The herein-described wrench consisting of a plate bent to sit over the end of a hub and with outwardly-extending slotted ends, an angular socket secured to the central portion of said plate, and keys adapted to be clamped to said ends by bolts extending through said slots, said keys formed with spoke-notches in their opposite edges, and whereby the wrench may be rigidly secured to a wheel, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS G. CLIFFORD.

Witnesses:

JOHN I. WELLER,
THOMAS A. ROONEY.