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D. F. & J. J. GEIGER.

WRENCH.

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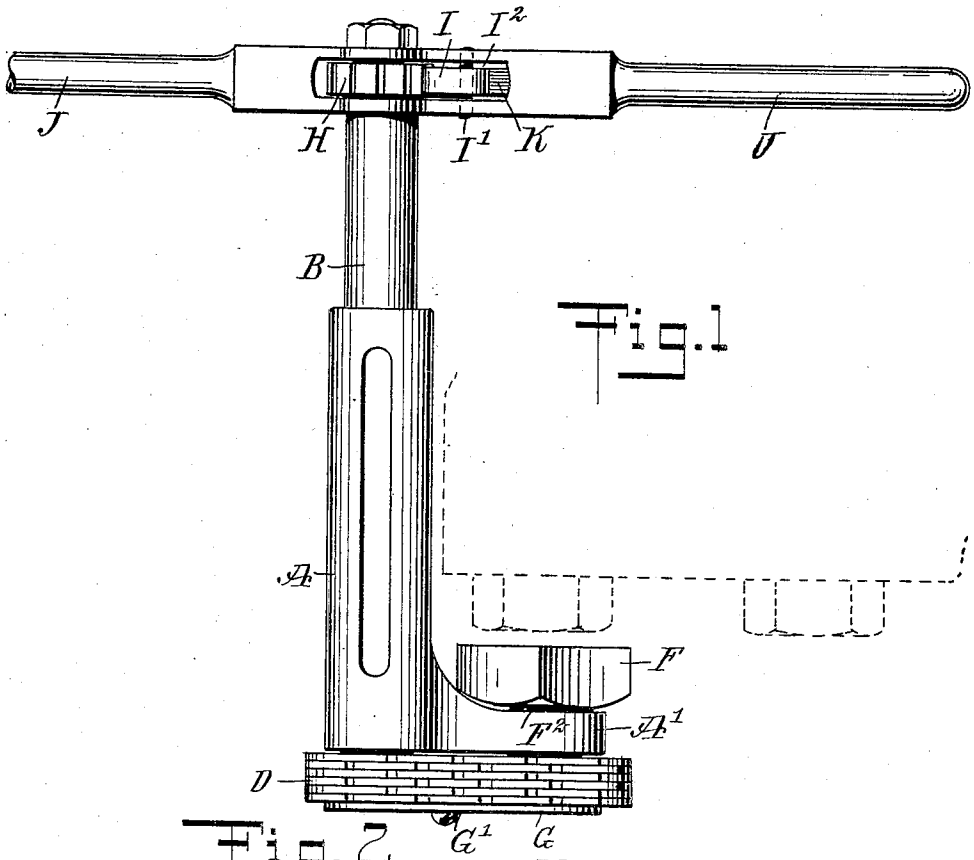


Fig. 1

Fig. 2

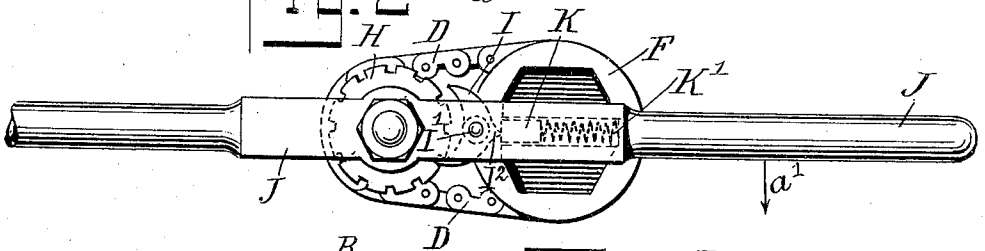
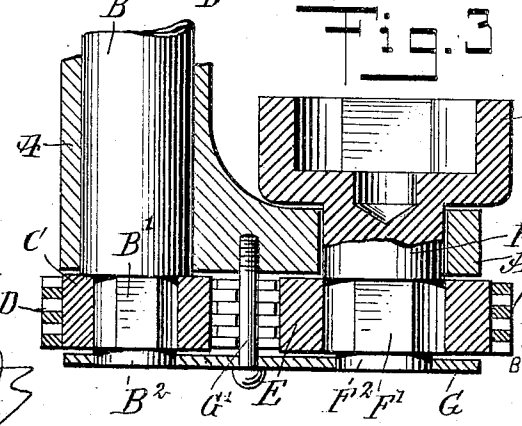


Fig. 3



WITNESSES

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WRENCH.

No. 891,615. Specification of Letters Patent. Patented June 23, 1908.

Application filed November 5, 1907. Serial No. 400,823.

To all whom it may concern:

Be it known that we, DAVID FRANKLIN GEIGER and JOHN JOSEPH GEIGER, both citizens of the United States, and residents of Barlow, in the county of Foster and State of North Dakota, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

The invention relates to wrenches having revoluble sockets for engagement with nuts or other articles located in places hard to reach by an ordinary wrench.

The object of the invention is to provide a new and improved wrench, which is simple and durable in construction, easily manipulated, and arranged to permit of conveniently engaging and forcibly turning the nut or other article in either direction.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement; Fig. 2 is a plan view of the same, and Fig. 3 is an enlarged sectional side elevation of the improvement.

In the hollow handle A, is mounted to turn the shaft B, having a polygonal portion B′, on which is secured a sprocket wheel C, connected by a sprocket chain D, with a wheel E, held on the polygonal portion F′ of the shank F^2 of a socket F, for engagement with a nut or other article to be turned by the wrench. The shank F^2 is provided with a cylindrical portion F^3, intermediate the socket F and the polygonal portion F′, and the said cylindrical portion F^3 is journaled in an angular arm A′, forming an integral part of the handle A at one end thereof. A bar G connects the cylindrical terminal B^2 of the shaft B and the shank F^2, with each other, and the said bar is secured by a bolt G′ to the arm A′ of the handle A.

The socket F is shaped to readily fit onto the nut or other part to be turned, and when the socket F is in engagement with the nut and the shaft B is turned, then the rotary motion of the shaft B is transmitted by the sprocket wheels C and E and the sprocket chain D to the socket F, to rotate the latter in either direction, according to the direction in which the shaft B is turned.

In order to turn the shaft B by hand, the following arrangement is made: On the outer end of the shaft B is secured a toothed wheel H, adapted to be engaged by a double pawl I, fulcrumed at I′ on a hand lever J, fulcrumed loosely on the shaft B. The pawl I is provided with a point I^2, pressed on by a block K, slidably held on the hand lever J and pressed on by a spring K′, seated in a recess formed in the lever J. By the arrangement described, the pawl I may be swung by the operator into engagement with the toothed wheel H at either side of the hand lever J, so that when the operator swings the hand lever J around, the shaft B can be turned in either direction. When the pawl I is in the position shown in Fig. 2, and the hand lever J is swung around in the direction of the arrow *a′*, then a rotary motion is given to the shaft B and the socket F in the same direction, and when the pawl I is shifted into its other position and the hand lever J is turned in the inverse direction of the arrow *a′*, then a reverse turning motion is given to the shaft B and the socket F.

Now in using the device, the operator takes hold of the handle A and engages the socket F with the nut or other article to be turned in either direction, and then the operator swings the hand lever J around, so as to turn the socket F in either direction, as above explained. By having the handle A provided with the angular arm A′, in which the socket F is mounted, it is evident that the wrench can be readily placed in position, so as to engage the socket F with the nut or other article, even in case such article is located in inaccessible places hard to reach by an ordinary wrench.

The wrench shown and described is very simple and durable in construction, is composed of comparatively few parts, and not liable easily to get out of order.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

A wrench, comprising a handle having an angular arm, a socket having a shank provided with a cylindrical portion adjacent to the socket a polygonal portion and an outer reduced cylindrical portion, the first-named cylindrical portion being journaled in the said angular arm, a manually operated shaft

journaled in the said handle and having its axis parallel to the axis of the said socket, sprocket wheels, one secured on the said shaft and the other on the polygonal portion of the socket shank, a sprocket chain connecting the said sprocket wheels with each other and a bar secured to the arm, and having an opening for receiving the outer cylindrical portion of the socket.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

DAVID FRANKLIN GEIGER.
JOHN JOSEPH GEIGER.

Witnesses:
G. W. STREETER,
NATHAN STANTON.