

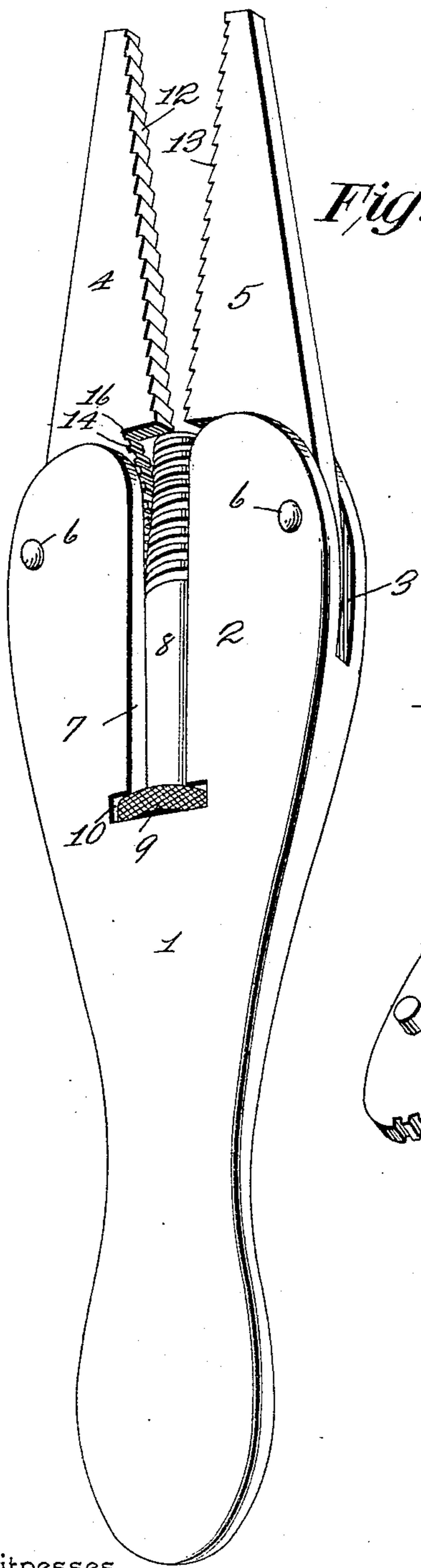
No. 774,310.

PATENTED NOV. 8, 1904.

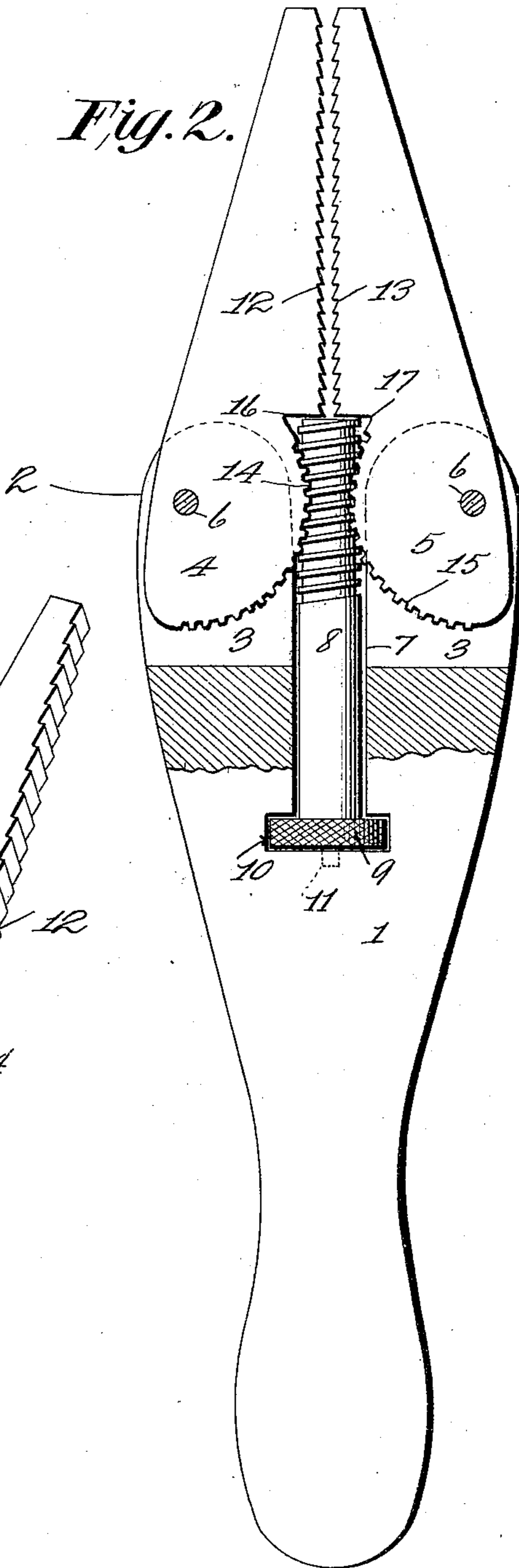
C. CONRAD.  
WRENCH.

APPLICATION FILED AUG. 10, 1904.

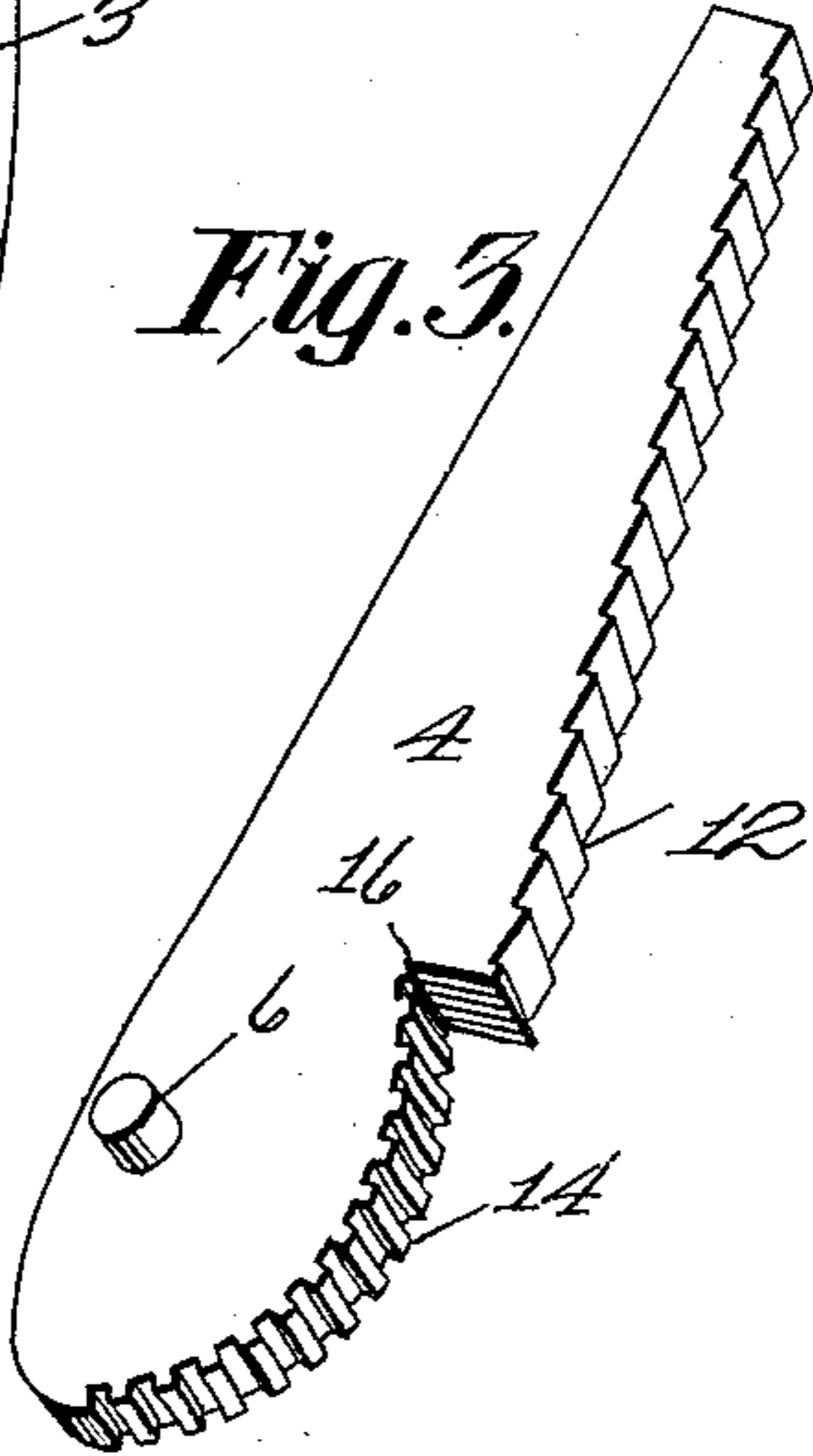
NO MODEL.



*Fig. 1.*



*Fig. 3.*



### Witnesses

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by

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# UNITED STATES PATENT OFFICE.

CLARENCE CONRAD, OF TOLUCA, ILLINOIS.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 774,310, dated November 8, 1904.

Application filed August 10, 1904. Serial No. 220,268. (No model.)

*To all whom it may concern:*

Be it known that I, CLARENCE CONRAD, a citizen of the United States, residing at Toluca, in the county of Marshall and State of Illinois, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to improvements in wrenches, and has for its object to provide an improved device of that type of wrench having pivoted jaws actuated by a longitudinally-movable bolt. In devices of that type the actuating-bolt has a positive movement longitudinally within the wrench-casing and is usually formed with ratchet-teeth coacting with similar teeth on the circular heads of the pivoted jaws. Such bolts require a double cutting, both the ratchet-teeth and the screw-threads being separately formed thereon, thus increasing the cost of the bolt.

It is an object of my invention to provide an improved wrench having a bolt the threads on which extend from end to end thereof and the bolt itself having no movement other than of rotation on its own axis as opposed to the compound movement of the above-described bolts. Moreover, the actuating-wheel for the bolt heretofore has been separately formed from the bolt, and through this the bolt passes, thus necessitating the provision of threads on the wheel. In my improved device the wheel is dispensed with and the bolt actuated simply by means of an enlarged head, which may be an integral part thereof. It will thus be seen that my device is much simpler of operation than those now in use and much more cheaply manufactured, while being at the same time equally efficient.

The invention is fully described in the following detailed description and the preferred form thereof shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my device. Fig. 2 is a plan view thereof, a portion of the top casing being removed to show the operating means, the jaws being closed in Fig. 2 and being partially opened in Fig. 1; and Fig. 3 is a detail perspective view of one of the jaws.

Similar parts are referred to by similar numbers in all the views.

The wrench consists of a handle portion 1

and a casing 2, said casing being centrally cut away, as at 3, to provide seats for the jaws 4 and 5, pivoted at 6, each pivot passing through the casing and the jaw. The casing is also slotted at 7, said slot extending longitudinally of the casing to provide an opening in which the actuating-bolt 8 fits, the operating head of which fits in a small transverse slot 10 in the casing. Extending from the head 9 is a pin 11, fitting in a recess in the casing and assisting in the retention of the bolt in place in the casing.

The jaws 4 and 5 are provided, respectively, with toothed gripping-surfaces 12 and 13 and at their lower inner ends are provided with threaded faces arranged on arcuate lines struck from the centers of the pivots 6. The said threaded faces 14 and 15 are slightly concaved to operate with the threads of the actuating-bolt 8 and are provided with threads to engage with the threaded bolt. The outer end of said bolt 8, when the jaws are in a closed position, fits in recesses 16 and 17, formed in the jaws 4 and 5, respectively. The bolt is thus retained in place owing to the position of the slots and the coöperation of the concaved surfaces 14 and 15. The pin 11 also assists in retaining the bolt in place.

The operation of the device is simple and is readily understood from the above. Rotation of bolt 8 by moving its head 9 in one direction or the other causes a corresponding movement of the jaws 4 and 5, owing to the coöperation of the screw-threaded bolt with the screw-threads on the operative surfaces of said jaws.

Modifications within the scope of the claims are of course possible, and I do not limit myself to the exact details shown and described.

Having thus described the invention, what is claimed is—

1. A wrench including a recessed handle, a pair of jaws pivotally mounted therein and provided with threaded portions adjacent to their inner ends, and a revoluble stem arranged in the recess and provided with threads interengaging with the threads of the jaws.

2. A wrench including a recessed handle, a pair of jaws pivotally mounted therein and provided with threaded portions at their in-

ner ends, the threaded surfaces being transversely concaved, and a threaded stem mounted in the recessed handle and engaging the threaded portions of the jaws, the outer end  
5 of the stem being partly supported by the concave surfaces of the jaws.

3. A wrench including a recessed handle, a pair of gripping-jaws pivotally mounted therein and provided with threaded portions arranged on arcuate lines struck from the respective pivots, said threaded faces being transversely concaved, and a threaded stem disposed in the recess and engaging the threaded portion of the jaws.  
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15 4. A wrench including a recessed handle, a

pair of gripping-jaws pivotally mounted therein and provided with threaded portions arranged on arcuate lines struck from the center of the pivots, the threaded surfaces being transversely concaved, and a threaded stem 20 having an enlarged head portion, the edges of which project beyond the opposite sides of the handle.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 25 the presence of two witnesses.

CLARENCE CONRAD.

Witnesses:

D. M. WOOD,  
JOHN SCUWANS.