

(No Model.)

A. WARNER  
WRENCH.

No. 536,943.

Patented Apr. 2, 1895.

Fig. 1.

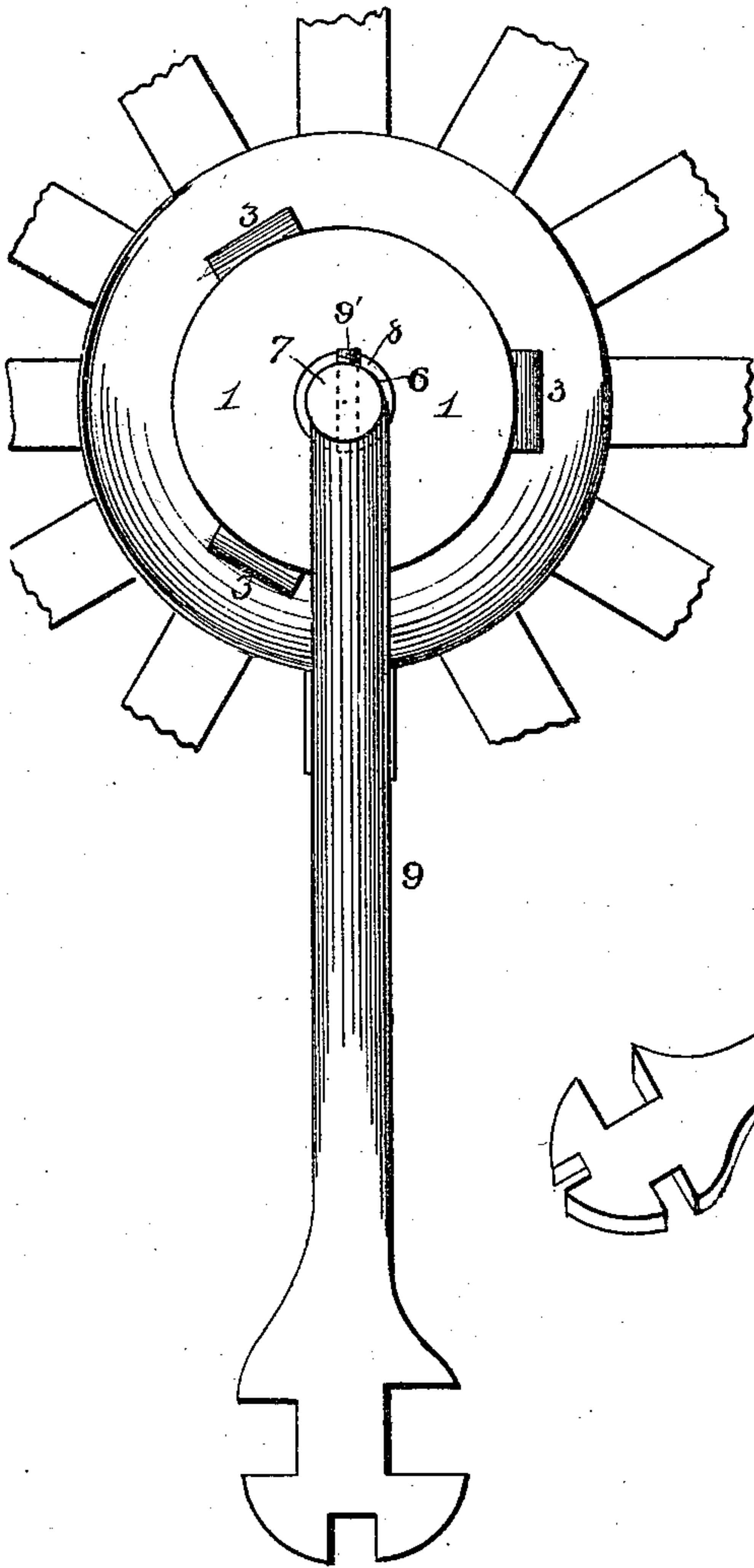


Fig. 2.

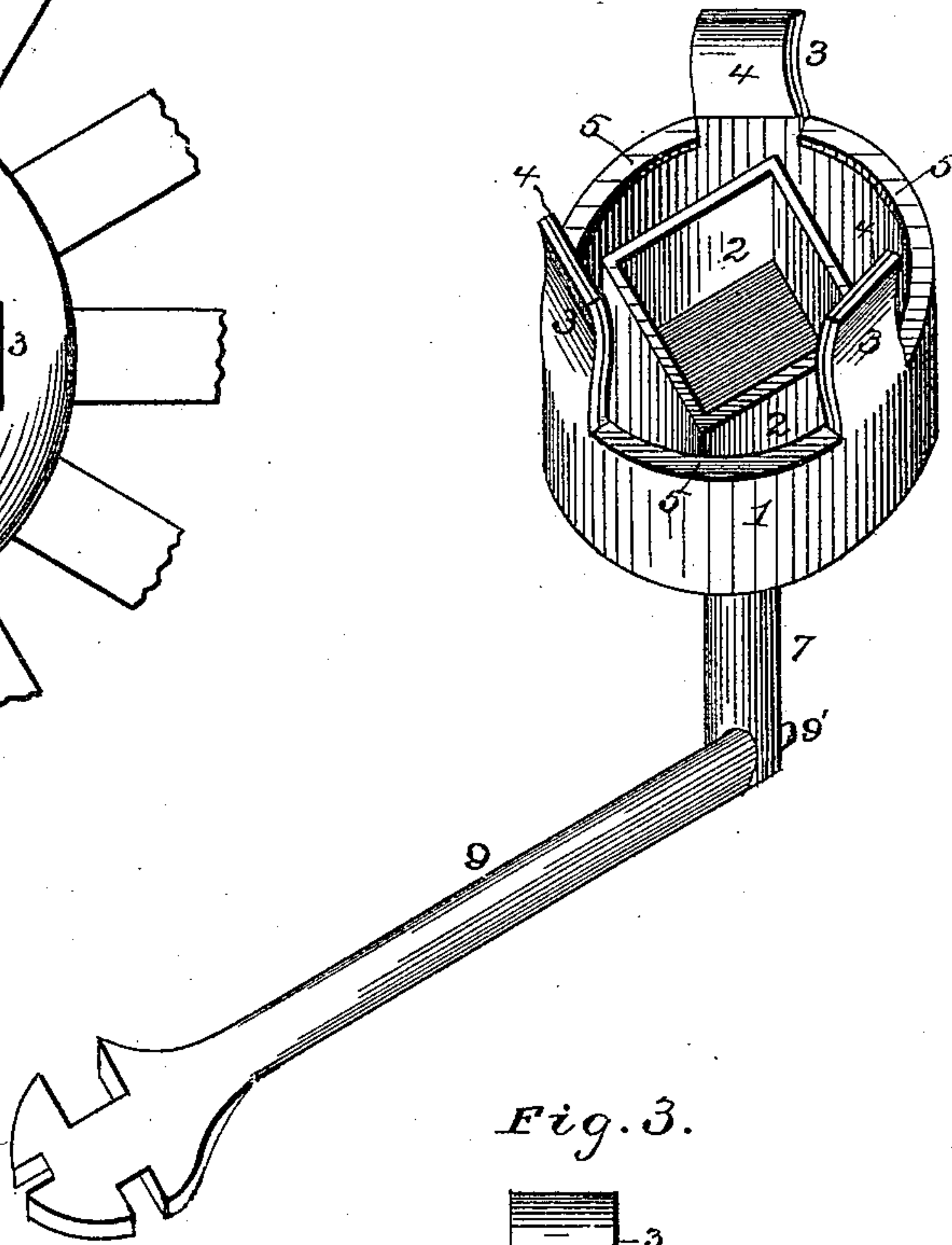
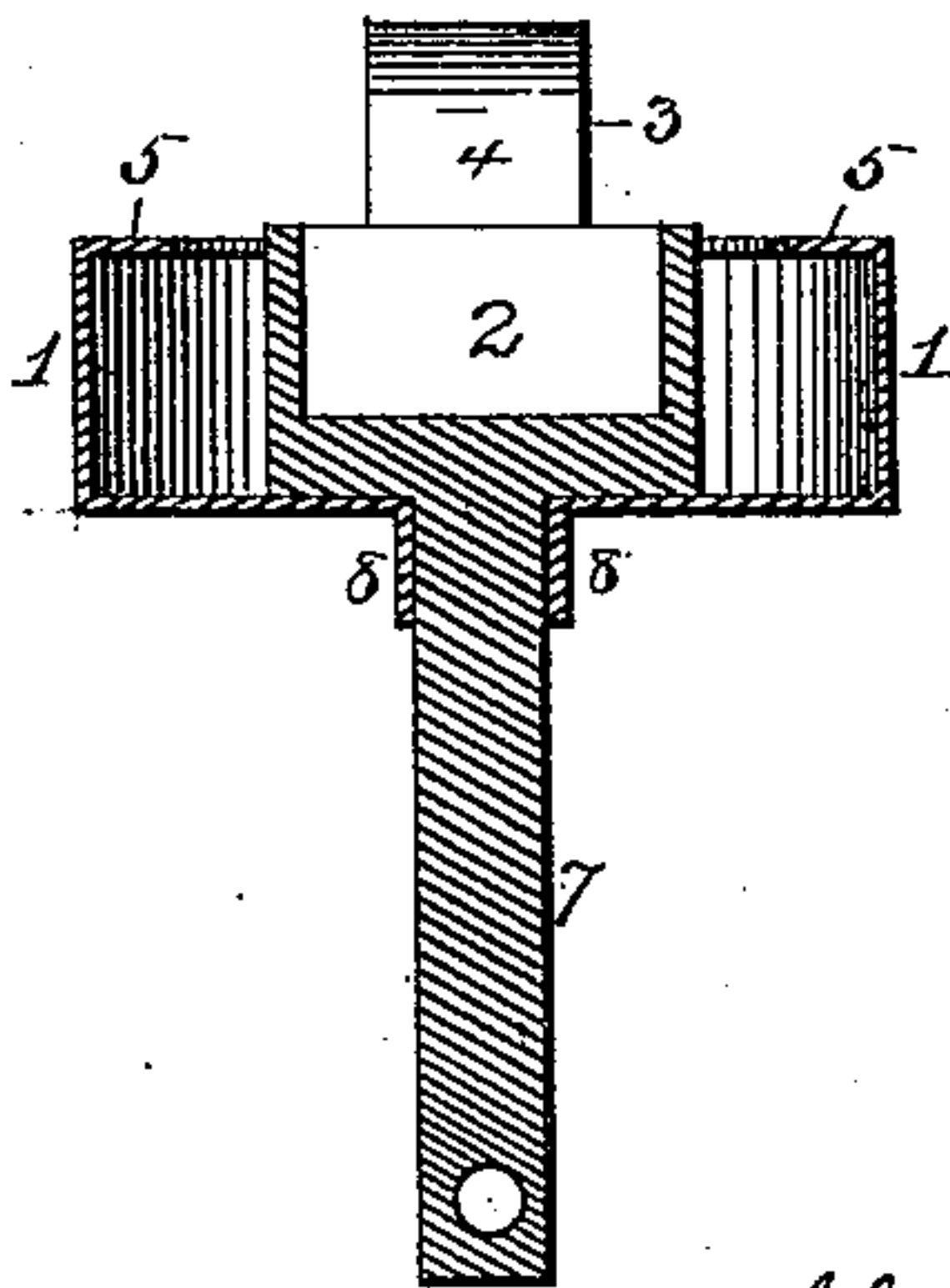


Fig. 3.



Inventor  
Albert Warner,

Witnesses

F. G. Lehmann,

Geo. C. Shumaker,

By his Attorneys.

C. A. Snow & Co.



# UNITED STATES PATENT OFFICE.

ALBERT WARNER, OF VINE CREEK, KANSAS.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 536,943, dated April 2, 1895.

Application filed July 31, 1894. Serial No. 519,111. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT WARNER, a citizen of the United States, residing at Vine Creek, in the county of Ottawa and State of Kansas, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to an improvement in wrenches, intended more especially for use on vehicles; and it consists in a cup, provided with springs for catching over the outer end of the hub, and inside of which the wrench for removing the axle nut is placed, and a handle for operating the wrench in unscrewing or screwing on the nut, as will be more fully described hereinafter.

The object of my invention is to provide a means for supporting the wrench, which screws and unscrews the axle nut, in position upon the end of the hub, so as to do away with the necessity of having to handle the wrench in applying it to the nut, and in having to remove both nut and wrench while the wheel is removed wholly or partially from the spindle.

In the accompanying drawings;—Figure 1 is a side elevation of a wrench which embodies my invention, showing it applied to the end of a hub. Fig. 2 is a perspective view of the same, taken from the reverse side. Fig. 3 is a vertical transverse section of the same.

1 represents the supporting cup, which is to be made of some light sheet metal, and forms a support for the cup-shaped wrench 2, while being used in screwing the axle nut upon or removing it from the end of the spindle. The cup 1 surrounds the socket of the wrench; and projecting beyond the inner edge of this cup are a suitable number of springs 3, which are arranged in an annular series and are formed integrally with the cup, as here shown, but which may be made separately from the cup and then secured thereto in any suitable manner. The outer ends of these springs are curved slightly outward, so as to enable them to be easily pushed over the end of the hub, and each one has a pad of leather 4, or other similar material applied to its inner surface so that the paint or varnish on the hub will not be scratched. The inner edge of this cup is turned squarely inward so as to form the flange 5, and thus present a square bearing for the outer end of the

hub and assist in supporting the cup in position. The outer end of the cup is solid, as shown in Fig. 1, and through its center is formed an opening 6, through which the shank 7 of the wrench 2, passes, and around this opening is made a flange or sleeve 8, of suitable length or width to form a support for the shank 7, and cause it to always hold the wrench 2 in the center of the cup ready to receive the nut. The wrench 2 and shank 7, are formed in one piece and are capable of rotating independently of the cup and can be removed from the same after the wrench handle 9 has been taken off. Through the outer end of the shank is formed a screw-threaded opening, and on the inner end of this handle is formed a threaded tenon 9' to fit therein, and thus enable these two parts to be readily connected and disconnected at will. The outer end of this handle is formed into a wrench to tighten or loosen the nuts upon the buggy, either while detached from the cup and wrench, or while all the parts are connected.

In using my invention, the handle is screwed into the shank, and then the cup 1 is forced up against the end of the hub, its springs passing up over its outer surface, as shown in Fig. 1. The wrench 2 catches over the axle nut, and then by sweeping the handle around, the nut is unscrewed and held in position while the wheel is removed entirely, or drawn outward far enough to enable the spindle to be lubricated, and then returned to position without removing the wrench from the hub.

This wrench enables the person oiling the vehicle to do so without soiling his hands or his clothes, and is handier to use than the ordinary wrench.

Having thus described my invention, I claim—

1. The combination of a wrench, having a socket and a cup surrounding the socket and provided with an annular series of outwardly projecting springs arranged to engage a hub, substantially as described.

2. A supporting cup, provided with springs to catch over the end of the hub, and having a square shoulder to bear against the hub, combined with a wrench that is placed therein, substantially as set forth.

3. A supporting cup made of sheet metal and having its inner edge turned inwardly to form a bearing for the end of the hub, and springs to catch over the end of the hub and  
5 formed integrally therewith, combined with a wrench placed in the cup, substantially as specified:

4. The supporting cup, having springs to catch over the end of the hub, combined with  
10 a cup shaped wrench placed therein; and a handle for revolving the wrench independently of the cup, substantially as shown.

5. The supporting cup, provided with springs for catching over the end of the hub,  
15 a wrench placed in the cup and having a shank which projects therefrom, and a detachable handle that is applied to the shank, substantially as described.

6. In a vehicle wrench, the supporting cup

having an inwardly turned flange, and springs 20 upon its inner end, and pads applied to the inner sides of the springs, substantially as set forth.

7. In a vehicle wrench, the supporting cup, provided with springs for attaching it to the 25 hub, and an inwardly turned flange, combined with a cup shaped wrench placed in the cup, the wrench shank projecting through the cup, and a removable handle attached to the shank, substantially as specified. 30

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

ALBERT WARNER.

Witnesses:

J. A. STONE,

E. R. WOODRUFF.