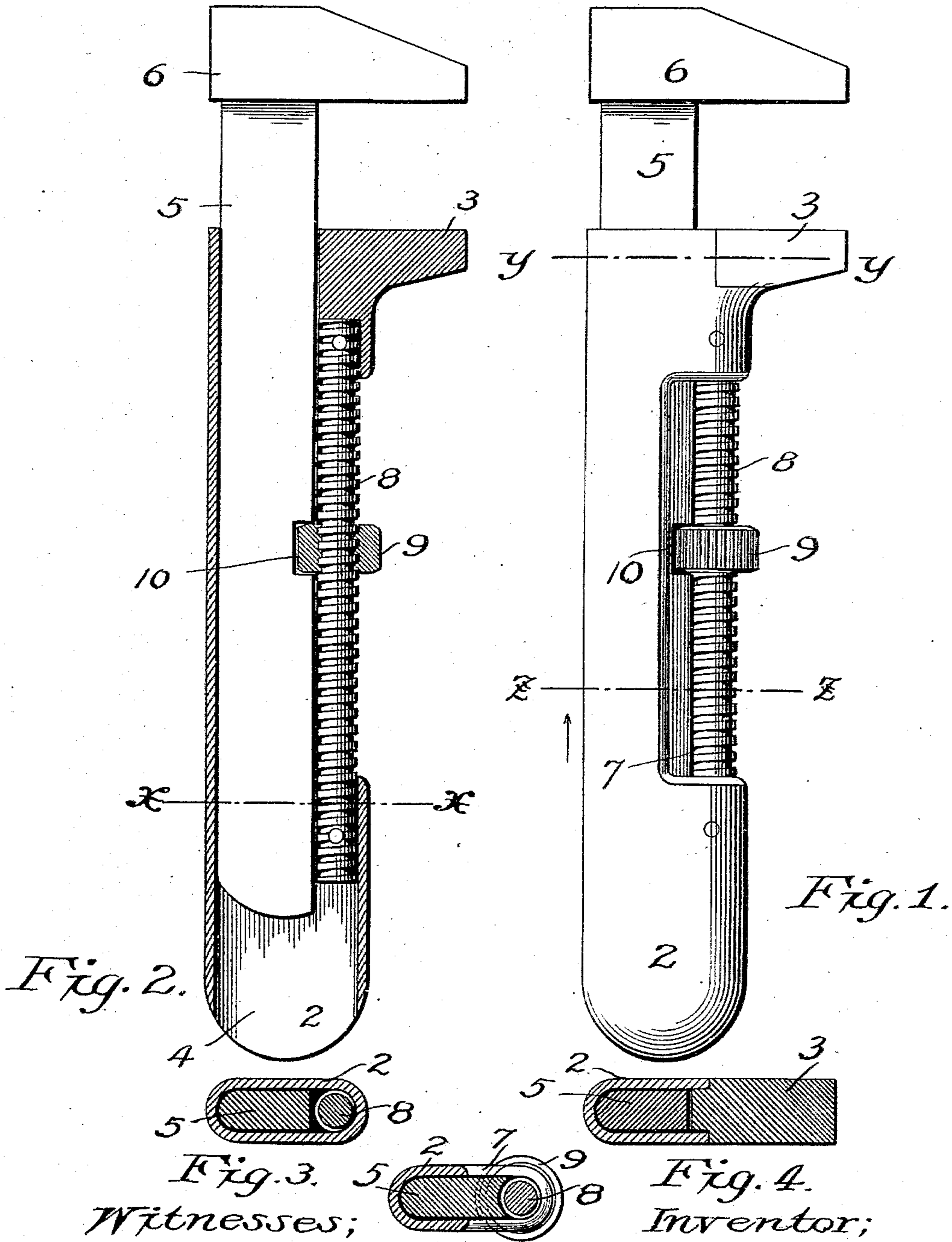


(No Model.)

O. H. HANSON.  
WRENCH.

No. 551,467.

Patented Dec. 17, 1895.



Witnesses;

C. C. Van Dorn.  
Richard Paul.

Inventor;

Ole H. Hanson.

By Paul & Hawley  
his Attorneys.

# UNITED STATES PATENT OFFICE.

OLE H. HANSON, OF LITCHFIELD, MINNESOTA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 551,467, dated December 17, 1895.

Application filed March 25, 1895. Serial No. 543,012. (No model.)

*To all whom it may concern:*

Be it known that I, OLE H. HANSON, of the city of Litchfield, Meeker county, State of Minnesota, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches and particularly to that class known as "monkey-wrenches," and the object which I have in view is to provide a tool of a very compact and convenient form and one with which a greater leverage can be obtained than with the ordinary style of monkey-wrench, and a further object is to provide a very simple and inexpensive, but at the same time a very strong durable, tool.

My invention consists generally in the constructions and combinations as hereinafter described, and particularly pointed out in the claims.

The invention will be more readily understood by reference to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a plan view of a wrench embodying my invention, the stationary jaw being shown detachable. Fig. 2 is a longitudinal section of the same, the screw, the movable jaw and the shank being shown in full, and the stationary jaw being shown as formed integrally with the handle. Fig. 3 is a transverse section on the line  $xx$  of Fig. 2. Fig. 4 is a transverse section on the line  $yy$  of Fig. 1. Fig. 5 is a transverse section on the line  $zz$  of Fig. 1.

In the drawings, 2 represents the handle of the wrench which may be made of any suitable material, preferably of cast or wrought metal, and provided at its inner end with the part 3 secured to the end of the handle or formed integrally therewith, as desired, and forming the stationary jaw of the wrench. This part 3 is hardened, as is usual with wrenches of this construction, so that it will not wear readily or be broken when in use. The handle 2 is provided with a longitudinal opening 4 in which the long shank 5 carrying the movable jaw 6 is adapted to slide. This shank may be of the same length as the handle and when the wrench is closed be entirely concealed therein. The handle is also provided on its longitudinal edge adjacent to the

stationary jaw 3 with a slot 7. A screw 8 is provided having its opposite ends secured to the handle at each end of the slot 7, as shown in Fig. 1. This screw may be secured to the handle in any suitable way, as by rivets, as shown in the figure. The length of this screw and the slot 7 determine the travel of the movable jaw. The screw 8 is provided with the interiorly-threaded sleeve or bur 9 which engages the threads of the screw and also engages a slot 10 in the adjacent longitudinal edge of the shank 5. It therefore follows that, when the bur or sleeve is turned on the screw, the movable jaw will travel with it, the shank sliding freely in the hollow handle. As the bur or sleeve is turned upon the screw to move the shank out from within the handle, the leverage is increased, and will continue to increase as the jaws are separated and the farther the movable jaw is moved out from the stationary jaw the greater will be the leverage.

When the wrench is not in use the shank may be moved back within the hollow handle and the wrench thereby put in very convenient form to be carried in the pocket, if desired. The handle may be of any desired length and the travel of the movable jaw increased at any time by increasing the length of the slot in the handle and the screw.

From the above description and from the drawings it will be noted that the distance from the hand to the center of the space between the jaws, or to the center of the nut or bolt which it is desired to turn, determines the leverage of the wrench. The larger the nut or bolt which it is desired to turn the farther out the movable jaw is extended, and in consequence the center of the space between the jaws or the center of the nut or bolt is farther from the hand and the leverage is increased in proportion to the size of the nut or bolt to be turned, while in the usual style of monkey-wrench the larger the nut or bolt the nearer the movable jaw and the nearer the center of the space between the jaws is brought toward the hand and the leverage consequently decreased in proportion to the increase of distance between the jaws.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A monkey wrench, comprising a hollow handle provided with a longitudinal opening, a stationary jaw carried at or near the end of said handle, a movable jaw having a shank arranged to slide within said hollow handle, said shank being provided with a slot or recess in one of its longitudinal edges, a screw arranged in the longitudinal opening provided in said handle and parallel to the shank of said movable jaw, and having one end secured to said stationary jaw and its opposite end to said handle, a revoluble sleeve or bur carried by said screw and adapted to enter the recess in said shank, whereby when said sleeve is revolved on said screw said shank will be moved back and forth within said handle, and the distance between said jaws increased or diminished, substantially as described.

2. A monkey wrench, provided with a hollow handle, having a longitudinal slot in its edge, a movable jaw having a shank arranged to slide within said handle, a stationary jaw formed upon or secured to said handle, a threaded shank secured within said handle and extending lengthwise of said slot, and a revoluble bur carried by said threaded shank in position to enter a recess provided in the shank of said movable jaw, for the purpose set forth.

In testimony whereof I have hereunto set my hand this 27th day of February, A. D. 1895.

OLE H. HANSON.

In presence of—

ARON LUDHOLM,  
NELS LARSON.