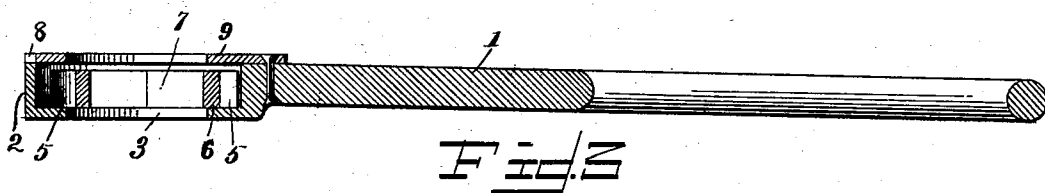
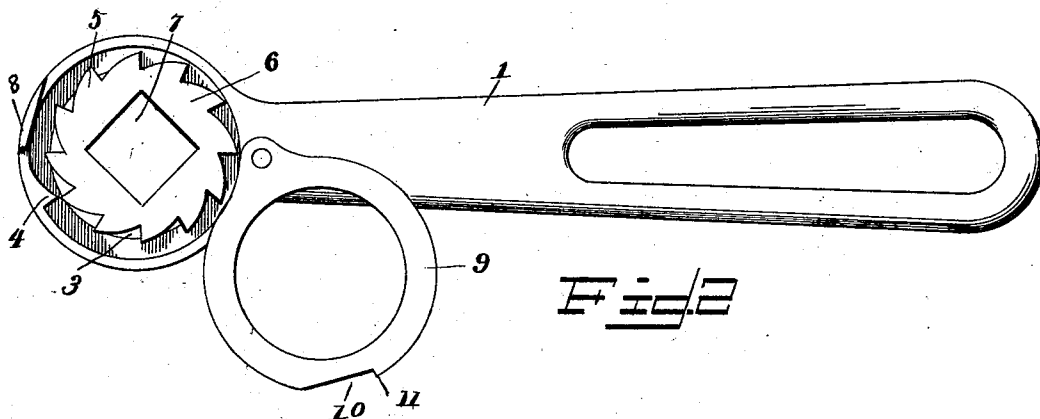
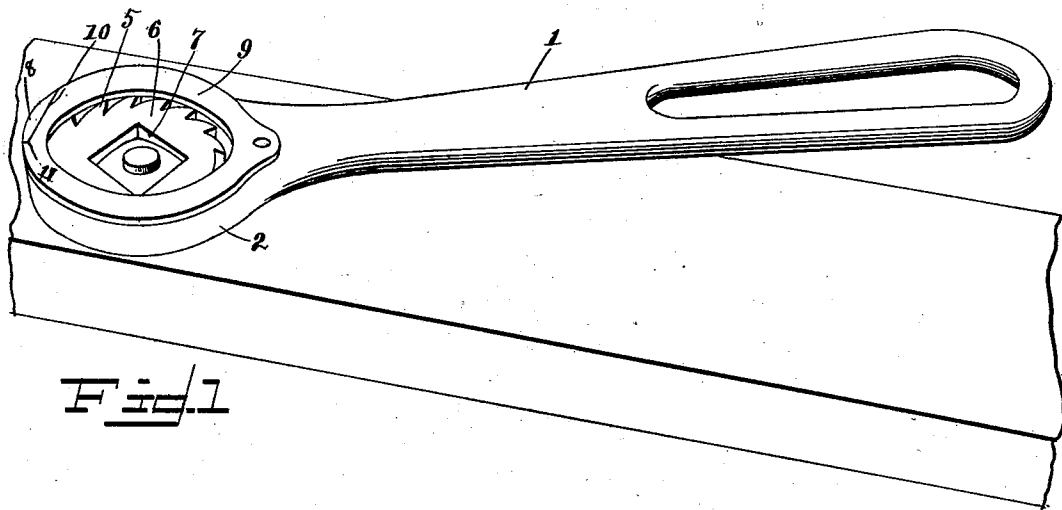


(No Model.)

H. H. KENDRICK.
WRENCH.

No. 508,519.

Patented Nov. 14, 1893.



Witnesses

Ed B Mattingly
Chas. S. Hoyer.

Inventor

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UNITED STATES PATENT OFFICE.

HILAND HALL KENDRICK, OF FULTON, NEW YORK.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 508,519, dated November 14, 1893.

Application filed March 20, 1893. Serial No. 466,841. (No model.)

To all whom it may concern:

Be it known that I, HILAND HALL KENDRICK, a citizen of the United States, residing at Fulton, in the county of Oswego and State of New York, have invented a new and useful Wrench, of which the following is a specification.

This invention relates to wrenches, and particularly to that class wherein a freely-movable socket is employed and has for its object to increase the convenience of action and the strength of such devices, and at the same time simplify the construction and consequently cheapen the cost of manufacture.

With this and other objects in view the invention consists of the construction and arrangement of the parts thereof as will be hereinafter more fully described and claimed.

In the drawings: Figure 1 is a perspective view of the wrench embodying the invention and shown in operative position applied to a nut. Fig. 2 is a top plan view of the wrench, showing the keeper thrown back and exposing the movable socket to full view. Fig. 3 is a longitudinal vertical sectional view taken centrally of the device as shown in Fig. 1.

Similar numerals of reference indicate corresponding parts in the several figures of the drawings.

Referring to the drawings, the numeral 1 designates a suitable handle, having at one end thereof an annular box 2 arranged horizontally and having an opening 3 through the bottom thereof, the rim or flange surrounding the said opening 3 forming the base of the box. Inwardly projecting from one point of the interior wall of the box 2 is a lug or tooth 4, that is adapted to engage the teeth 5 of a movable socket 6, having a central angular opening 7 that is intended to fit over the head of the nut to be engaged. The said loose socket 6 is free to move within the box, and is thereby caused to have its teeth 5 engage the lug or tooth 4, or be disengaged from said lug or tooth. From the top of the wall of the box 2 rises a shouldered lug 8, and hinged to the handle 1 is a keeper 9 that consists of an annular metallic plate having one part thereof cut away at a bevel, as at 10, and that terminates in a shoulder 11, to thereby provide for engagement with the shouldered lug 8 and hold the said keeper closed over

the top of the box. The object of this keeper is twofold in its nature, as it not only prevents disengagement of the movable socket 6 from its box by having the opening therein made smaller than the full diameter of the said socket, but also provides means for removing the said socket 6 when desired and permit the substitution therefor of another socket having a different form of angular opening in the center thereof.

It will be observed that the shouldered lug 8 is so positioned relatively to the shoulder 11 of the keeper 9 that the back movement of the wrench handle, or the loose operation of the box around the socket 6, is such that the centrifugal action tends to force said keeper closely over the box, and prevents the same from moving off of the box, which would be a considerable source of inconvenience and would require continuous watching. By this means all fastening devices are dispensed with and the keeper is in position to be readily opened when so desired.

In operation the wrench is placed over the nut so that the latter will pass through the opening 3 and engage the opening 7 of the movable socket, the keeper 9 having been previously closed to hold the socket in place, and to tighten or loosen the nut the wrench handle is operated in the proper direction, and the pressure on the handle thereof produces an engagement of the lug or tooth 4 alternately with the teeth 5 of the socket 6 to produce a rigid bearing by causing the said socket to be drawn toward the said lug or tooth 4. On the back or loose movement of the wrench-handle the said pressure is released and the socket 6 freely moves away from the lug or tooth 4, but still retains its grip upon the nut and permits the rim of the box to turn around the same. Of course these movements become successive, and a nut can be readily taken off or driven home, as may be found desirable, requiring only a small amount of oscillating movement of the handle of the wrench to obtain the desired operation. It will be understood that the movable sockets will be made in interchangeable forms as regards the openings 7 thereof, and will be furnished with the wrench to thereby make it convenient to operate upon nuts of various forms.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

5 Having described the invention, what is claimed as new is—

In a wrench, the combination of a handle having an annular box at one end thereof
10 provided with an inwardly projecting lug or tooth, a socket loosely mounted in said box and having peripheral teeth and a central nut-opening, a keeper of annular form pivotally attached to the said handle of the wrench
15 and having a shoulder thereon, and a projec-

tion on the said box arranged to engage the shoulder of the keeper, the said projection on the box being so positioned that the centrifugal action that would tend to open the keeper on the back movement of the wrench closes
20 the same tightly in position over the said box, substantially as described.

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

HILAND HALL KENDRICK.

Witnesses:

CHAS. F. BOYD,
C. H. DANIEL.