W. G. DICKER.

WRENCH.

APPLICATION FILED NOV. 9, 1908.

935,002. Patented Sept. 28, 1909.

Fig. 1.




Fig. 2.




Fig. 3.

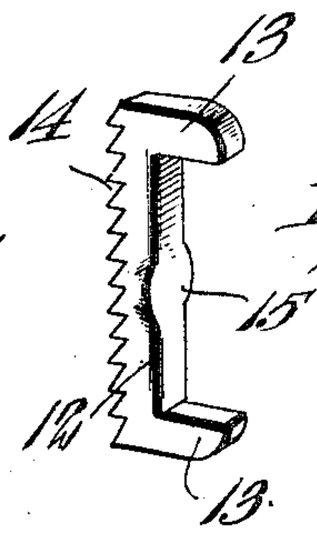



Fig. 4.

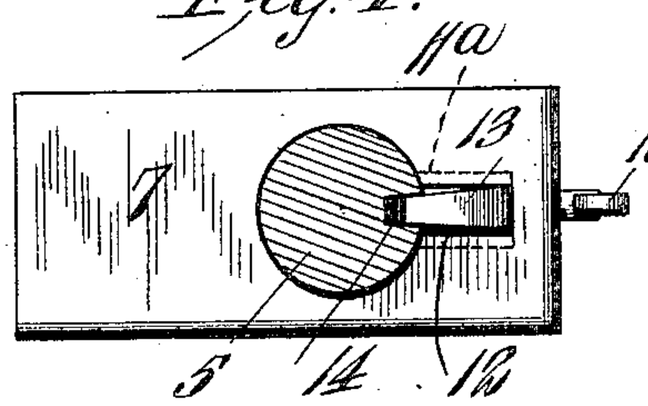
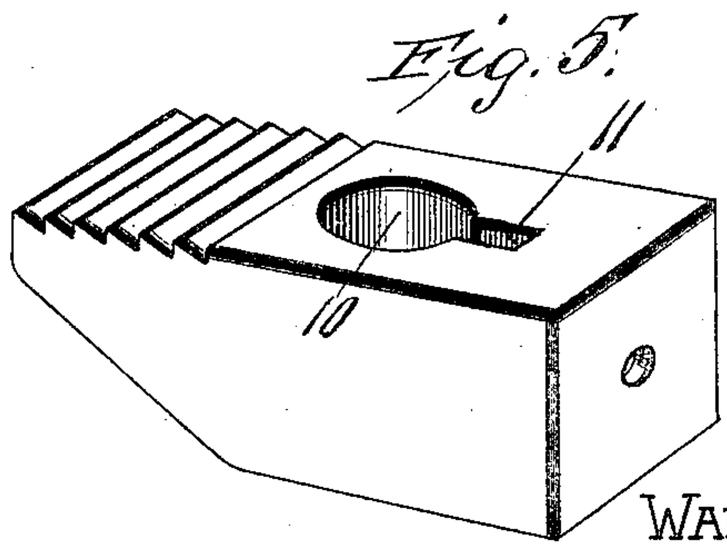



Fig. 5.

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# UNITED STATES PATENT OFFICE.

WALTER G. DICKER, OF GILBY, NORTH DAKOTA.

## WRENCH.

935,002. Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed November 9, 1908. Serial No. 461,754.

*To all whom it may concern:*

Be it known that I, WALTER G. DICKER, a citizen of the United States, residing at Gilby, in the county of Grand Forks and State of North Dakota, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to wrenches, and the primary object thereof is to provide a device of this kind which is extremely simple in construction and operation, and which may be expeditiously adjusted to receive any size nut or pipe.

Another object contemplated by the invention is the provision of means whereby the movable jaw may be adjusted along the entire extent of the handle or shank portion, and removed therefrom if the occasion so requires.

To the accomplishment of the recited objects, and others coördinate therewith, the preferred embodiment of my invention resides in that construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and embraced within the scope of the appended claim.

In said drawings:—Figure I is a side elevation, partly in section, of the wrench embodying my invention. Fig. II is a rear end elevation of the wrench. Fig. III is a detail perspective view of the rack-block. Fig. IV is a transverse sectional view taken along lines 4—4 of Fig. I, and Fig. V is a detail perspective view of a movable pipe wrench jaw.

Similar reference characters designate corresponding parts throughout the several views.

The numeral 5 designates a cylindrical shank having a terminally disposed, rigidly secured jaw (6), and a movable jaw (7) which will presently be more fully described. Commencing at the junction of the rigid jaw (6) and the shank (5), and preferably on the rear portion of the latter, is a slot (8) which is continued longitudinally to the opposite extremital portion of said shank, and has at the base thereof a rack (9).

The movable jaw (7) has the usual opening (10) for proper relative movement with the shank (5) and in addition thereto is equipped with a slot (11) having a vertical extension which is commensurate with the extension of the opening (10) and is designed to accommodate the rack-block (12). It will also be noted that a circular depression (11ª) is arranged centrally of the longitudinal extent of the slot (11). This rack-block presents a wedge, and comprises a substantially U-shaped member, the arms or lateral projections on the opposed ends thereof being indicated by the reference character 13. The outer side of the rack-block is provided with a series of teeth, as 14, for engagement with the corresponding teeth of the rack (9), and arranged medially of the longitudinal extent of said rack-block is a bulged portion (15) which is devised to receive the inner distal end of the thumb screw (16), the latter being positioned centrally of the rear portion of the movable jaw and lying in a perpendicular plane with respect thereto. In this connection it will be manifest that the circular depression (11ª) will serve for the movement of the rack block (12).

In practical operation, when it is desired to adjust the movable jaw (7) it is only necessary to loosen the thumb screw (16) a sufficient distance in order to permit a slight play of the rack-block, when the said rack-block may be held in disengaged relation to the rack (9) and the jaw (7), as an entirety, moved longitudinally of the shank (5). The movable jaw can obviously be secured in locked position by simply tightening the thumb screw (16). If, for any reason, it should be found expedient to remove the jaw (7) this operation can be readily effected owing to the continuity of the slot, and since the component parts of the organization are readily detachable, a movable jaw, such as disclosed by Fig. V of the accompanying drawings, which is used for gripping pipes and the like may be substituted in place of the type of jaw shown in Fig. I. Owing particularly to the substantially V-shaped slot, rack-block and rack, the rack-block not only engages the teeth of the rack but is furthermore held in wedged relation to the sides of the slot (8), thus precluding any possibility of the parts becoming dislocated or disassociated when once set.

As will be apparent a wrench constructed in accordance with my invention is composed of a small number of parts which are simple in construction and capable of being assembled and disassembled with the utmost facility. Consequently, a wrench embodying these features may be manufactured and marketed at a sufficiently low cost to permit of its use generally.

What I claim as new is:—

In a wrench the combination of a shank having a rigid jaw and a substantially V-shaped recess with a rack at the bottom thereof, a movable jaw having a substantially V-shaped slot which is enlarged at a medial point on each side thereof, a rack-block having a contour corresponding to the contour of said slot and said recess and a central portion movable in the medial enlargement of said slot, and a thumb screw adapted to have bearing on said bulged portion for locking said rack-block in engagement with the rack, said recess being disposed longitudinally of the shank from the base of the rigid jaw to the opposite extremital point to permit removal of the movable jaw and its appurtenances.

In testimony whereof I affix my signature, in presence of two witnesses.

WALTER G. DICKER.

Witnesses:
GEO. S. MUIR,
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