

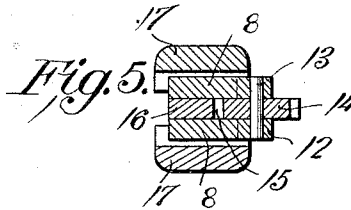
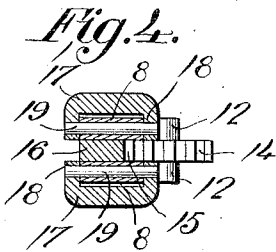
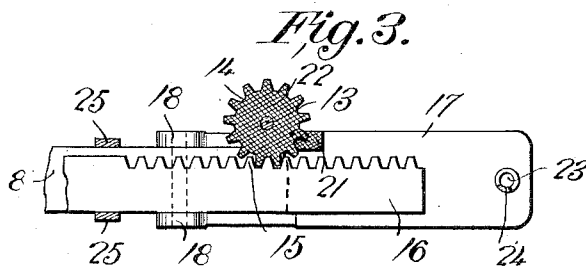
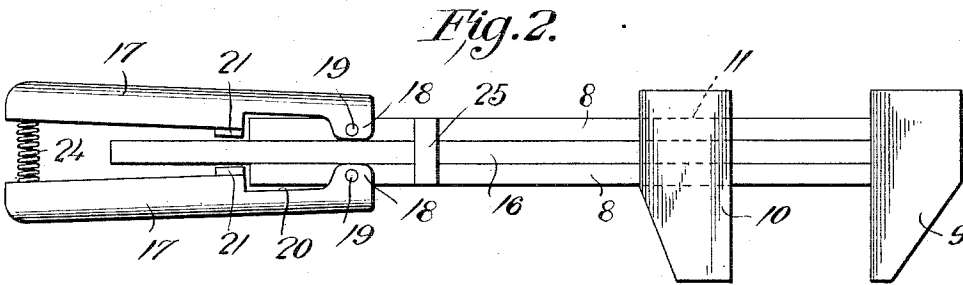
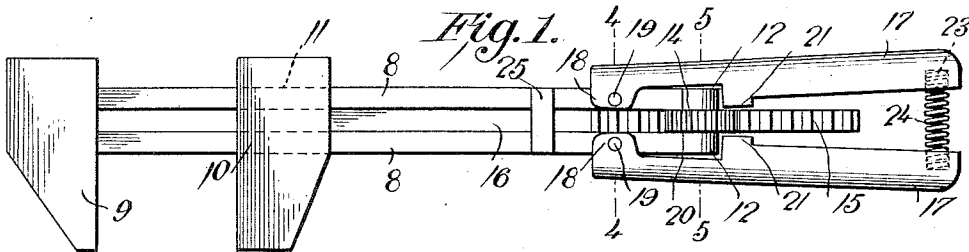
D. F. WACK, JR.

WRENCH.

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Witnesses

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WRENCH.

1,044,712.

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To all whom it may concern:

Be it known that I, DANIEL F. WACK, JR., a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in Wrenches, of which the following is a specification.

The invention relates to wrenches, and more particularly to the class of quick adjusting wrenches.

The primary object of the invention is the provision of a wrench wherein the movable jaw may be readily and quickly adjusted with respect to the stationary jaw without requiring the manual manipulation of an adjusting screw or nut for this purpose, and also that will be securely locked in its adjusted position on firmly gripping the handle of the wrench so that there will be no possibility of the slipping of the movable jaw when engaged with a piece of work.

Another object of the invention is the provision of a wrench wherein the cog wheel engaging the shank of the movable jaw will be subjected to braking action on the gripping of the handle so as to prevent the turning of the said wheel, and thereby sustaining the wrench in its adjusted position without the liability of the slipping of the movable jaw with respect to the stationary jaw on the said wrench.

A further object of the invention is the provision of a wrench wherein the movable jaw slidably engages the double shank thereby materially strengthening the same for positively gripping a piece of work without possibility of the breaking of the wrench when subjected to heavy strain, the movable jaw being held firmly in adjusted position when the wrench is operated.

A still further object of the invention is the provision of a wrench which is simple in construction, reliable and efficient in operation, and inexpensive to manufacture.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawing, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a side elevation of a wrench constructed in accordance with the invention. Fig. 2 is a similar view looking toward the opposite side thereof. Fig. 3 is a fragmentary vertical longitudinal

sectional view through the same. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Fig. 5 is a sectional view on the line 5—5 of Fig. 1.

Similar reference characters indicate corresponding parts throughout the several views in the drawing.

Referring to the drawings by numerals, the wrench comprises spaced parallel guide shanks 8 formed at their outer ends with a stationary jaw 9 adapted to cooperate with a movable jaw 10, the same being formed with elongated openings 11 receiving the guide shanks 8 carrying the stationary jaw and said movable jaw is adapted to slide upon the said shank in the adjustment of the wrench. Formed at the inner ends of the guide shanks 8 are alining bearings 12, in which are journaled the ends of a rotatable pintle 13 having fixed thereto a cog wheel 14, the latter meshing with a tooth rack 15 formed at one edge of an intermediate stem or shank 16 carried by the movable jaw 10, the shank 16 being designed to slide between the guide shanks 8 when the movable jaw is being adjusted. Connected to the shanks 8 near their inner ends are swinging sections 17, the inner ends of which are formed with ears 18 through which are passed pivot pins 19, the same being also passed through the shanks 8 for pivotally connecting the said handle sections 17 thereto whereby the same may be swung toward and away from each other. The handle sections 17 are cut away to form recesses 20 in their inner faces, for receiving the inner ends of the shanks 8, and also to accommodate the bearings 12 thereon.

Formed on and projecting inwardly from the handle sections 17 are opposed friction lugs 21, the same being designed to frictionally engage knurled or roughened surfaces 22 at opposite sides of the cog wheel 14, so that upon firmly gripping the handle sections 17 the lugs 21 will be brought into contact with the surfaces 22 and thereby hold the cog wheel 14 against rotation, thus sustaining the movable jaw in its adjusted position without the possibility of the slipping thereof during the manipulation of the wrench when engaged with a piece of work.

Formed in the inner faces of the handle sections 17 near the outer ends thereof are counter seats 23 in which are fitted the ends of a coiled expansion spring 24 which is

designed to normally separate or spread the handle sections 17 apart thereby holding the friction lugs 21 out of engagement with the knurled or roughened surfaces 22 of the cog wheel 14, so that the movable jaw 10 may be readily and quickly adjusted with respect to the stationary jaw 9 as may be desired. Integral with the shanks 8 at opposite sides thereof near the inner ends are cross webs 25 which prevent the displacement of the shanks during the working of the wrench and in this manner the said shanks are sustained rigid and non-flexing.

It is thought that the operation of the wrench will be clearly apparent, and it will be seen that it is only necessary to firmly grip and compress inwardly the handle sections 17 for locking the cog wheel 14 against rotation and thus sustain the movable jaw in adjusted position with respect to the stationary jaw of the wrench.

What is claimed is:—

1. A wrench having stationary and movable jaws, means for adjusting the movable jaw, a handle for frictional engagement with said means for sustaining it immovable, means acting on the handle to hold it normally away from the said first named means, spaced guide shanks slidably supporting the movable jaw and connected to the handle, a stem on said movable jaw and disposed between the shanks and engaged by the first named means, and knurled surfaces formed on the said first named means for the positive engagement of the handle therewith.

2. A wrench comprising spaced parallel shanks, a stationary jaw supported by said shank, a movable jaw slidable on said shank and having a rack stem disposed therebetween, a cog wheel journaled on the guide shanks and meshing with the rack stem, the handle sections swingingly pivoted to the said shanks, friction lugs formed on said handle sections and engageable with the cog wheel, and extensible means interposed between the handle sections for normally sustaining the lug disengaged from the cog wheel.

3. A wrench comprising spaced parallel shanks, a stationary jaw supported by said shank, a movable jaw slidable on said shank and having a rack stem disposed therebetween, a cog wheel journaled on the guide shanks and meshing with the rack stem, the handle sections swingingly pivoted to the said shanks, friction lugs formed on said handle sections and engageable with the cog wheel, extensible means interposed between the handle sections for normally sustaining the lug disengaged from the cog wheel, and knurled surfaces formed on the opposite side faces of the cog wheels for positive locking engagement of the lugs therewith.

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

DANIEL F. WACK, Jr.

Witnesses:

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ANDREW ALMASH.