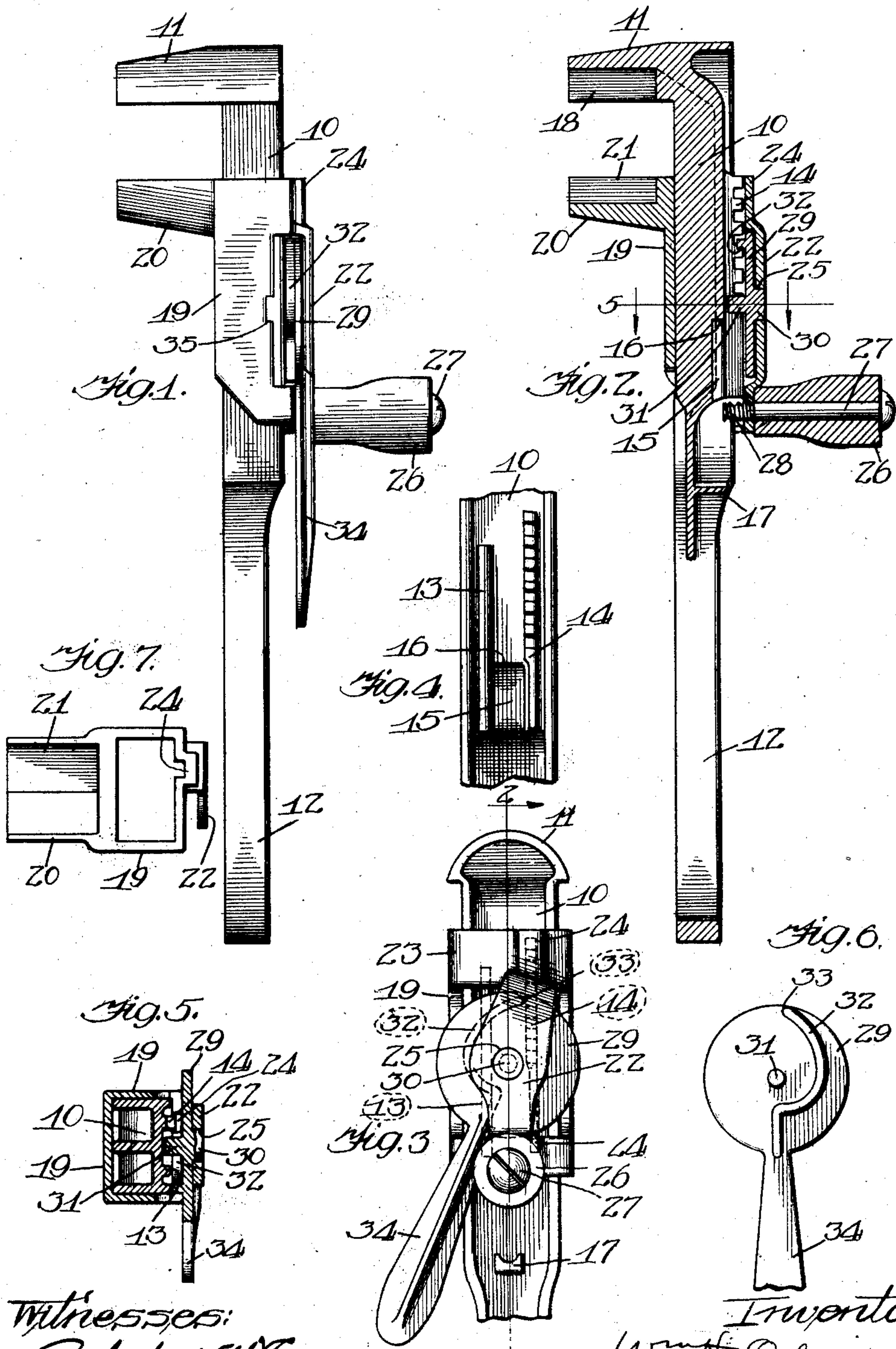


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W. H. OLIVER.
WRENCH OR NUT JACK.
APPLICATION FILED SEPT. 22, 1906.



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UNITED STATES PATENT OFFICE.

WILLIAM H. OLIVER, OF CHICAGO, ILLINOIS.

WRENCH OR NUT-JACK.

No. 879,305.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM H. OLIVER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wrenches or Nut-Jacks, of which the following is a full, clear, and exact specification.

This invention relates to improvements in wrenches or nut jacks, as they are sometimes designated, and the primary object of the invention is to produce an improved device of this character which may be easily and quickly adjusted, and locked in its adjusted position; the locking means serving also as a means for securing a still further or finer adjustment.

A further object is to produce an improved device of this character which will be simple, durable and cheap in construction and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawing illustrating an exemplification of the invention, and in which:

Figure 1 is a side elevation of a wrench or jack constructed in accordance with the principles of this invention; Fig. 2 is a longitudinal sectional view on line 2—2 of Fig. 3; Fig. 3 is a detail rear elevation of Fig. 1; Fig. 4 is a detail rear elevation of a portion of the shank or body of the wrench; Fig. 5 is a sectional view on line 5—5 of Fig. 2; Fig. 6 is a detail of the adjusting member and cam; Fig. 7 is a top plan view of the movable jaw and collar or sleeve.

In this exemplification of the invention, the numeral 10 designates the shank or body of the wrench, on one end of which is an outer rigid jaw 11, the other end 12 being shaped to form a suitable handle. The shank 10 is preferably angular in form and of any desired shape, and is provided on its rear face with spaced longitudinal projecting parallel ribs 13—14, which are located preferably remote from the sides of the body of the shank and terminate short of the end thereof. The rib 14 is slightly higher than the rib 13 and is provided with a series of teeth constituting a rack. The shank 10 is recessed or grooved as

at 15 between the ribs 13—14 and adjacent the lower ends thereof to form a shoulder 16, and below the adjacent ends of the ribs the shank or body is channeled out or depressed so that the adjacent end of the groove 15 will be open. Located within the channeled or depressed portion of the shank, and in a direct line with the groove 15, is a lug or stop 17.

The above described parts may be formed in any desired manner, preferably by casting the same, and the jaw 11 may be formed with a rounded outer face and an angular inner face 18; the jaw being preferably disposed at a right angle to the shank.

A sleeve or collar 19 surrounds and slides on the shank 10, and projecting from the end thereof, preferably the end adjacent the jaw 11 is a similar jaw 20, which is arranged at a right angle to the sleeve or collar and parallel with the jaw 11. This jaw is also preferably provided with a rounded outer periphery and an angular inner face 21 corresponding to the angular face 18 of the jaw 11. A portion 22 of the rear wall 23 of the sleeve or collar 19 is spaced from the sides thereof and the shank 10, and said wall is provided adjacent the ends of the spaced portion with alined grooves or recesses 24, adapted to receive the projecting portion of the rib 14. The spaced portion 22 is provided with an aperture 25, preferably disposed in line with the space between the ribs 13 and 14.

A handle 26 is secured to the sleeve or collar 11, preferably adjacent the end opposite to the jaw 11, in any suitable manner, preferably by means of a removable bolt 27 having a threaded end 28, adapted to extend beyond the inner face of the sleeve or collar 19, and between the lug or projection 17 and the shoulder 16, so that when the sleeve or collar 19 is moved to separate the jaws 21 and 11, the end of the bolt 27 will engage the lug or projection 17 to limit the movement of the sleeve to prevent accidental displacement of the parts, and when moved to close the jaws, the projecting end will enter the space between the ribs 13—14 and the groove 15 to permit the jaws to be brought into close proximity.

A suitable locking and adjusting member is provided for the movable jaw 19, which preferably comprises a body portion 29 provided with a centrally disposed laterally projecting trunnion or lug 30, extending from the outer face thereof, and a similar lug or trun-

nion 31 extending from the inner face thereof and preferably in alinement with the lug or trunnion 30. Projecting also from the body portion 29 and beyond the plane of its inner face is a cam shaped rib or fin 32 one end 33 of which terminates adjacent the periphery of the body portion. This member 29 may be provided with a suitable operating handle 34, by means of which the member 29 may be rotated upon the trunnion or projection 30, which latter is adapted to be seated and journaled in the aperture 25 in the spaced portion 22 of the rear wall 23 of the sleeve or collar 19. When thus assembled and with the sleeve or collar 19 surrounding the shank 10, the lug or trunnion 31 will enter the space between the ribs 13—14 to prevent lateral displacement of the member 29.

The handle 34 is so arranged as to project beyond the side of the sleeve or collar 19, and when the member 29 is rotated by the handle the cam shaped rib or fin 32 will pass between the teeth on the rib 14 and draw the jaw 20 towards the jaw 11; the rotation of the member 29 being limited by the handle 34, engaging the sides of the spaced portion 22.

When the handle 34 is in a position to cause the cam shaped rib or fin 32 to disengage the teeth on the rib 14, the sleeve or collar 19 may be quickly adjusted by moving the same upon the shank 10 until the jaws 21 and 11 have been brought into engagement with the sides of the nut to be adjusted; after which the handle or lever 34 may be moved to rotate the member 29, thereby causing the cam shaped rib or fin 32 to pass between the teeth on the rib 14, which will further adjust the jaw 20 to firmly grip the nut; the cam shaped rib or fin being of such a pitch as to lock the sleeve or collar 19 against retrograde movement, when pressure is exerted upon the jaw 20, and when the member 29 is in any of its operative positions.

In order to permit the ready insertion of the member 29 and the lug or trunnion 30 into the aperture 25 in the spaced portion 22 of the wall 23, the sides of the sleeve or collar 19 are cut away or recessed as at 35, preferably in line with the aperture 25, to permit the lug or trunnion 31 to pass therethrough. The sides of the sleeve or collar 19 in which the cut away portion or recess 35 is located is preferably of a width less than the width of the shank 10, so that when the sleeve or collar 19 surrounds the shank, the latter will form a closure for the said recesses 35.

The member 29 may be placed in position in the sleeve or collar 19 before the latter is placed upon the shank 10, if desired, or the sleeve or collar first placed over the handle portion 12 and then the member 29 inserted.

After the handle 26 has passed the lug or projection 17, the bolt 27 may be adjusted to cause its threaded end 28 to project beyond the inner face of the sleeve or collar and

in a position to strike the lug or projection 17, to prevent accidental displacement of the parts.

In order that the invention might be fully understood, the details of an embodiment thereof have been thus specifically described, but

What I claim is:

1. In a device of the class described, the combination of a shank, teeth carried thereby, a slide, an operating member rotatably carried by the slide, means carried by said member for engaging the teeth to move the slide and lock the same in its adjusted position, an operating handle for rotating the member, and a stop adapted to be engaged by the handle to limit the rotation of the said member.

2. In a device of the class described, the combination of a shank provided with a jaw, teeth carried by the shank, a sliding jaw, a rotatable operating member housed within and carried by the sliding jaw, a cam shaped rib projecting from the member and adapted to engage the teeth, and a journal on said member removably engaging the wall of the housing, said member being provided with a radially projecting portion to form an operating handle.

3. In a device of the class described, the combination of a shank having a jaw, spaced ribs on said shank, one of said ribs being provided with teeth, a slide slidable on the shank and provided with a bearing, a jaw on the slide, a rotatable adjusting and securing member, said member being provided with a projecting trunnion adapted to enter the bearing, means on the member adapted to engage the teeth to adjust the slide, and means also on the said member adapted to stand between the ribs to prevent lateral displacement of said member.

4. In a device of the class described, the combination of a shank having a jaw, spaced ribs on said shank, one of said ribs being provided with teeth, a sleeve or collar slidable on the shank and provided with a bearing, a jaw on the sleeve, a rotatable adjusting and securing member, said member being provided with a projecting trunnion adapted to enter the bearing, means on the member adapted to engage the teeth to adjust the sleeve or collar, and a projection also on said member adapted to move between the ribs to prevent lateral displacement of said member.

5. In a device of the class described, the combination of a shank having a jaw, spaced ribs on said shank, one of said ribs being provided with teeth, a sleeve or collar slidable on the shank and provided with a bearing, a jaw on the sleeve, a rotatable adjusting and securing member, said member being provided with a projecting trunnion adapted to enter the bearing, means on the member adapted to engage the teeth to adjust the

sleeve or collar, means also on the said member adapted to stand between the ribs to prevent lateral displacement of said member, and an operating handle for rotating the member.

6. In a device of the class described, the combination of a shank having a jaw, spaced ribs on said shank, one of said ribs being provided with teeth, a sleeve or collar slidable on the shank and provided with a bearing, a jaw on the sleeve, a rotatable adjusting and securing member, said member being provided with a projecting trunnion adapted to enter the bearing, means on the member adapted to engage the teeth to adjust the sleeve or collar, means also on the said member adapted to stand between the ribs to prevent lateral displacement of said member, and means adapted to be engaged by the handle to limit the rotation of the member.

7. In a device of the class described, the combination of a shank having a jaw and a rack, a sliding jaw on the shank, a support connected with the sliding jaw and having a journal bearing, a rotary adjusting and securing member having a journal in said bearing, one face of said member being provided with a projecting cam shaped portion adapted to engage and disengage the rack, and means for preventing displacement of said member.

8. In a device of the class described, the combination of a shank provided with a jaw and a rack, a sliding jaw on the shank, a support connected with the sliding jaw and having a journal bearing, a rotary adjusting and securing member, a lateral projection extending from each face of the member, one of said projections being removably journaled in the bearing, means coöperating with the other projection to prevent displacement of the member, and means on said member adapted to engage the rack.

9. In a device of the class described, the combination of a rigid jaw, rack teeth carried

thereby, a movable jaw, a sleeve carried by the jaw and provided with a wall adjacent to and spaced from the rack, said wall being provided with an aperture therein, an adjusting and securing member comprising a disk, a trunnion carried by one face thereof, a projection on the opposite face, a cam-shaped rib or projection on the last said face, said disk being mounted in the sleeve with its trunnion journaled in the aperture so that the cam-shaped rib or projection may be moved into engagement with the rack-teeth, and means coöperating with the first said projection to prevent displacement of the disk, the sides of the sleeve being provided with cut away or recessed portions to permit the insertion or removal of the disk.

10. In a device of the class described, the combination of a rigid jaw, rack-teeth carried thereby, a movable jaw, a sleeve carried by the jaw and provided with a wall adjacent to and spaced from the rack, said wall being provided with an aperture therein, an adjusting and securing member comprising a disk, a trunnion carried by one face thereof, a projection on the opposite face, a cam-shaped rib or projection on the last said face, said disk being mounted in the sleeve with its trunnion journaled in the aperture, so that the cam shaped rib or projection may be moved into engagement with the rack-teeth, the sides of the sleeve being provided with cut-away or recessed portions to permit the insertion or removal of the disk, and means for closing said portions to prevent accidental displacement of the disk.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 19th day of September A. D. 1906.

WILLIAM H. OLIVER.

Witnesses:

FRANCIS A. HOPKINS,
J. H. JOCHUM, Jr.