J. T. BENNETT.

ADJUSTABLE RATCHET WRENCH.

APPLICATION FILED APR. 19, 1919.

1,334,432. Patented Mar. 23, 1920.

Fig. 1.

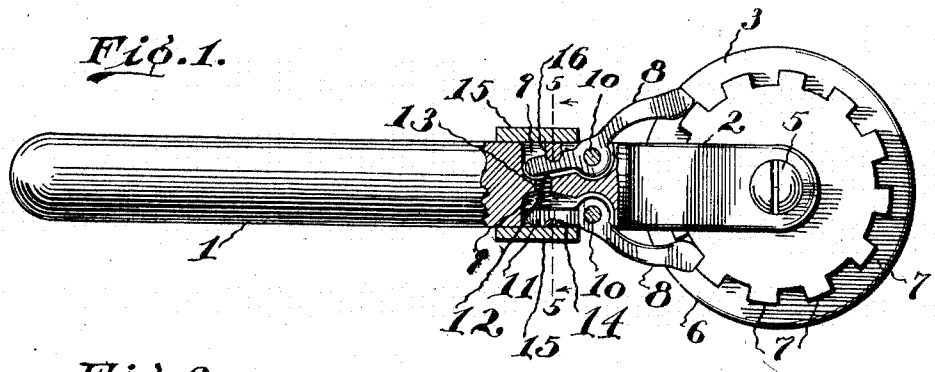


Fig. 2.

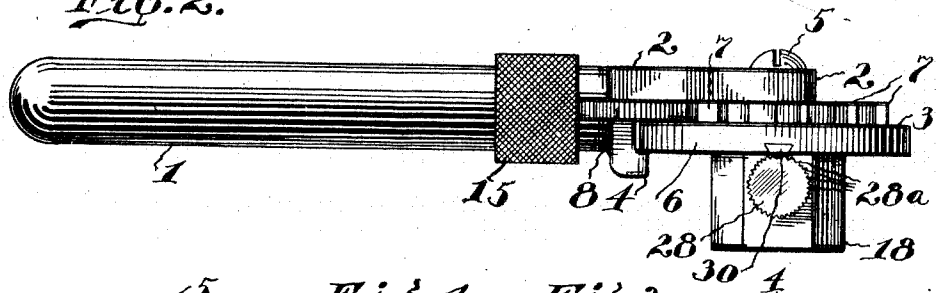


Fig. 4.

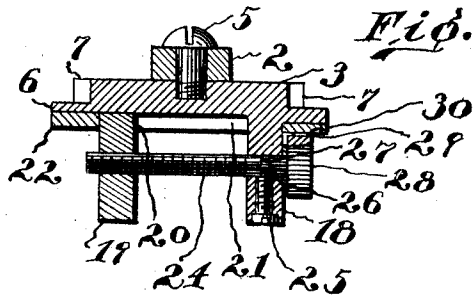


Fig. 3.

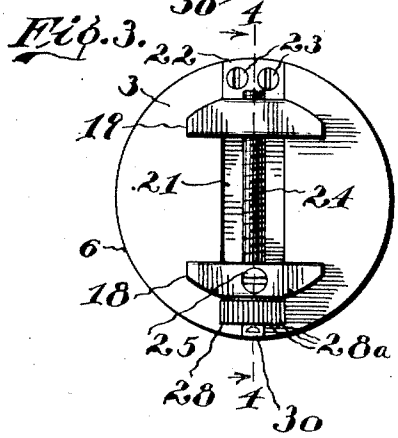
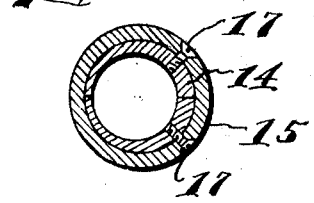


Fig. 5.



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ADJUSTABLE RATCHET-WRENCH.

1,334,432. Specification of Letters Patent. Patented Mar. 23, 1920.

Application filed April 19, 1919. Serial No. 291,180.

To all whom it may concern:

Be it known that I, JOHN T. BENNETT, a citizen of the United States, residing at Scappoose, in the county of Columbia, State of Oregon, have invented a new and useful Adjustable Ratchet-Wrench; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a ratchet wrench, and has for its object to provide a device of this character which embodies novel features of construction whereby it is susceptible of adjustment for use upon nuts and bolts of different sizes.

Further objects of the invention are to provide an adjustable ratchet wrench which is comparatively simple and inexpensive in its construction, which can be quickly reversed to operate in either direction, which can be readily adjusted to fit different sizes of nuts, and which can be held in an adjusted position.

With these and other objects in view, the invention consists in certain novel combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a top plan view of a ratchet wrench constructed in accordance with the invention, portions being broken away and shown in section.

Fig. 2 is a side elevation of the same.

Fig. 3 is a bottom plan view of the circular head upon which the jaws are mounted.

Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 3.

Fig. 5 is a transverse sectional view through the handle on the line 5—5 of Fig. 1.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Specifically describing the present embodiment of the invention, the numeral 1 designates the handle which is substantially circular in cross section and has a bifurcated end, the arm 2 of the bifurcation being comparatively long and extending across the back of the ratchet disk 3, while the arm 4 is comparatively short and projects over the front of the ratchet disk at the periphery thereof. The ratchet disk 3 is circular in shape and has the back thereof pivotally connected to the arm 2 of the bifurcation by a screw 5 so that the head is free to rotate in either direction, the short arm 4 of the bifurcation serving as a guide to engage the peripheral flange 6 of the disk and hold the same in position as it rotates. The disk or head 3 is provided at a point back of the flange 6 with a peripheral series of ratchet teeth 7 which are adapted to be engaged by either one of a pair of pawls 8. The pivot ends of the pawls are received within recesses 9 formed in the sides of the handle 1 and are engaged by pivot pins 10. Arms or extensions 11 project rearwardly from the pivot ends of the pawls and have a coil spring 12 interposed between the same, said spring being housed within a transverse opening 13 in the handle. The arms 11 are arranged to be engaged by a cam ring 14 carried by a collar 15 so that by rotating the ring either one of the pawls can be thrown into an inoperative position and the other pawl permitted to engage the ratchet teeth 7. As indicated by Fig. 5, the cam ring 14 may be formed in two complemental sections which can be applied to the handle from opposite sides thereof and received within an annular groove 16 therein. After the cam ring has thus been positioned within the groove the collar 15 can be slipped over the same and secured to the cam ring sections by suitable fastening members such as the screws 17. This construction provides for readily assembling the parts, and it will be obvious that by properly rotating the collar and shifting the position of the cam ring either one of the pawls 8 can be held in inoperative position, depending upon whether it is desired to use the wrench for screwing a nut or bolt into or out of position.

The lower face of the circular disk or head 3 is provided at one side thereof with a fixed jaw 18 and at the opposite side thereof with a movable jaw 19. The base of the movable jaw is formed with a dove-tail tongue 20 which slides in a dove-tail or undercut groove 21 in the face of the disk 3. This undercut groove 21 is disposed diametrically upon the disk and extends from the fixed jaw 18 through the opposite edge of the disk, the end of the groove being nor-

mally closed by a plug 22 which is fitted therein and held removably in position by suitable means such as the screws 23. An adjusting screw 24 connects the jaws 18 and 19, being swiveled in the fixed jaw 18 and having a threaded engagement with the movable jaw 19. A retaining screw 25 extends into the fixed jaw 18 from the outer end thereof and terminates in a nose 26 which is loosely received within a groove 27 in the adjusting screw 24, thereby holding the adjusting screw against longitudinal movement through the fixed jaw without interfering with the rotation thereof. The end of the adjusting screw which projects from the outer side of the fixed jaw is provided with a finger piece 28 which provides a convenient means for manipulating the screw to shift the movable jaw 19 and bring the same into an adjusted position. The periphery of the finger piece 28 is roughened and formed with a peripheral series of grooves 28^a, any selected one of which is adapted to be engaged by a rib 29 on a short locking slide 30 which is mounted within a groove in the lower face of the disk 3. When this locking slide 30 is moved outwardly the rib 29 is disengaged from the finger piece 28 and the screw can be freely rotated to adjust the movable jaw, although when the slide is moved inwardly the rib 29 is caused to interlock with one of the depressions 28^a of the finger piece and the parts are held securely in an adjusted position. It will thus be obvious that the wrench can be used effectively upon different sizes of nuts by properly adjusting the jaws, and that the ratchet action is reversible by properly manipulating the collar 15.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

A ratchet wrench including a handle provided with recesses in the side thereof and formed with an annular groove intersecting the recesses, a ratchet head pivotally mounted upon the handle, a pair of spring pressed pawls pivotally mounted upon the handle and formed with extensions projecting into the recesses of the handle, a cam ring formed in complemental sections which are adapted to be assembled from opposite sides of the handle, said sectional cam ring fitting in the annular groove of the handle and engaging the extensions of the pawls, and a collar surrounding the handle and secured to the sections of the cam ring whereby the cam ring is held in position by the collar and is rotatable thereby, the rotation of the said cam ring serving to move either one of the pawls into inoperative position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN T. BENNETT.

Witnesses:

B. BLATCHFORD,

ASA D. HOLADAY.