

No. 889,194.

PATENTED JUNE 2, 1908.

R. Y. BOVEE.
WRENCH.

APPLICATION FILED JULY 24, 1907.

FIG. 1.

FIG. 2.

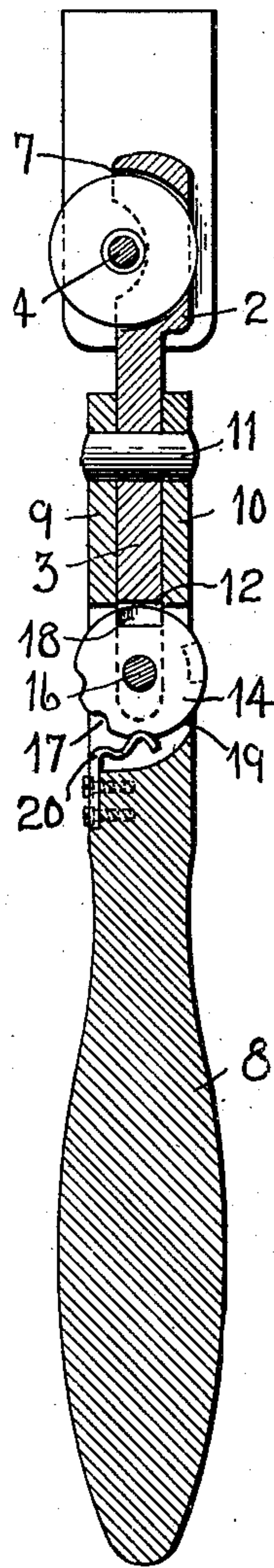
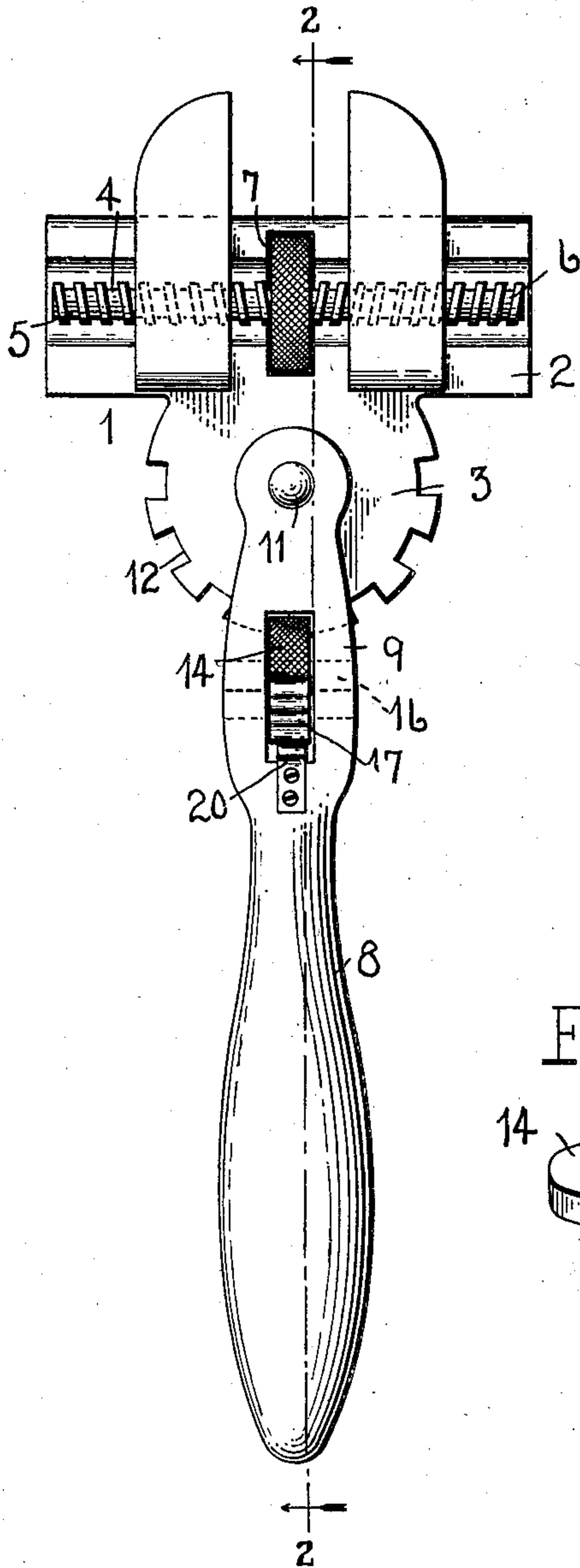
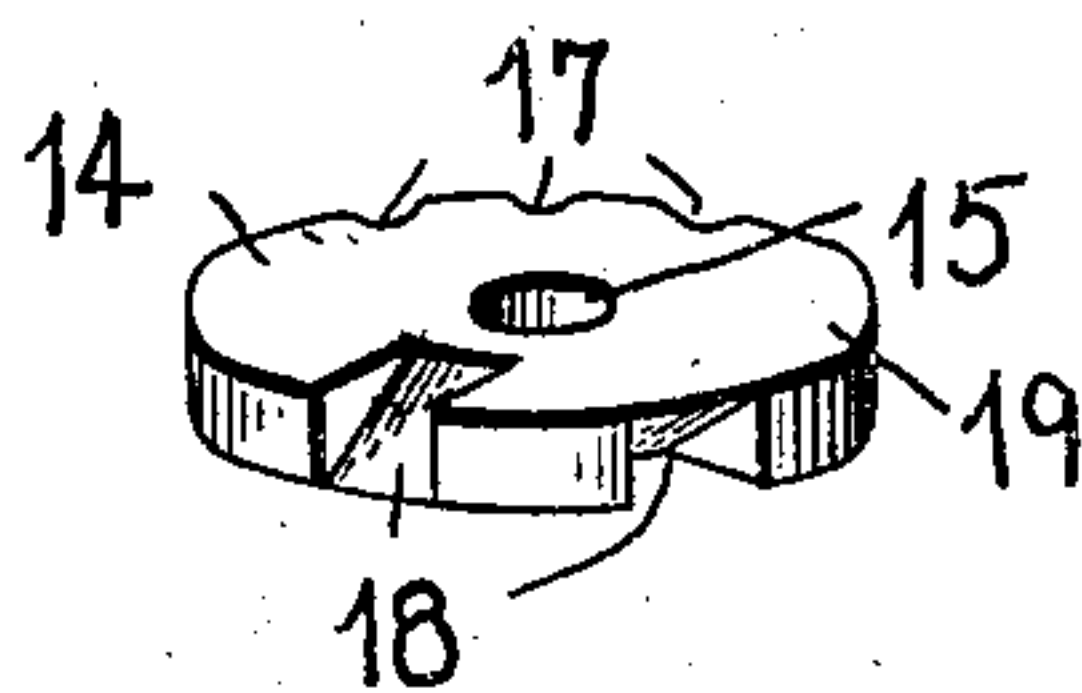


FIG. 3.



Ransom Y. Bovee Inventor

Witnesses

L. B. James
Charles E. Garwood

UNITED STATES PATENT OFFICE.

RANSOM Y. BOVEE, OF DENVER, COLORADO, ASSIGNOR OF ONE-FOURTH TO WILLIAM M. HARDISON AND ONE-FOURTH TO JOHN S. SETTLE, JR., OF DENVER, COLORADO.

WRENCH.

No. 889,194.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed July 24, 1907. Serial No. 385,274.

To all whom it may concern:

Be it known that I, RANSOM Y. BOVEE, a citizen of Denver, Colorado, residing at No. 772 South Grant avenue, in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to improvements in wrenches, and particularly the type of adjustable-jaw wrenches in which the relation of the handle to the jaws is variable, to the end that the wrench may be used in the manipulation of nuts which would be inaccessible to the ordinary wrench in which the relation of the handle to the jaws is fixed.

More specifically my invention consists in an improved connection and controlling device between the handle and the jaws.

Exactly what constitutes the invention will be fully described in the following specification, and succinctly defined in the appended claims.

In the accompanying drawings, which are to be taken as a part of this specification, and in which I have shown a merely preferred form of embodiment of the device, Figure 1 is an elevation of a wrench exemplifying the invention; Fig. 2 is a sectional view on the lines 2—2 of Fig. 1; and Fig. 3 is a detail perspective of the ratchet disk.

Referring to the numerals on the drawings, 1 indicates in a general way the solid frame of a wrench, comprising an oblong jaw-carrying member 2 and a circular member 3. Mounted to slide longitudinally of said jaw-carrying member is a pair of movable jaws, the said jaws, for the sake of rigidity in operation, preferably substantially surrounding said member 2. The said jaw-carrying member is preferably grooved or recessed at one side to accommodate a jaw adjusting screw 4, which is oppositely threaded as indicated at 5 and 6 on the opposite sides respectively of a medially disposed thumb-nut, which, taking into a cavity 7 in the member 2 transverse to the screw 4 holds the latter against transverse movement relative to the member 2, while permitting free rotation thereof. The jaws, being shaped to correspond to the transverse contour of the member 2 are made to closely embrace the same as aforesaid, and are respectively provided with opposite screw threads to corre-

spond to the opposite threading of the two ends of the adjusting screw 4.

Pivotaly attached to the member 3 of the frame is a handle 8. The latter is preferably bifurcated, having legs 9 and 10 adapted to straddle the member 3, and to be pivotally connected therewith as by means of a pin 11 extending through apertures in the ends of said legs and a corresponding aperture in the member 3. The said member 3, on its circular periphery, is provided with a series of notches 12, with which is adapted to cooperate means next described for holding the handle and frame in locked relations, for permitting relative pivotal movement thereof, and for determining the direction in which such movement may be made. The said means comprises preferably a disk 14 apertured as at 15, so that it may be rotatably held upon a pin 16 which is securely held in the handle 8 between the bifurcations thereof, so that the disk may project beyond the outer surface of each leg of the handle, in order that it may be manipulated.

The disk is so relatively mounted with respect to the circular member 3 that the circular periphery of the disk will engage the notches 12, of the member 3, as clearly shown in Fig. 1. For the attainment of the objects heretofore stated, the said disk 14 is provided with a series of radial recesses 17, on one flat face, extending from points adjacent the center and with their bottom walls inclining downwardly towards the circumference, and a series of similar radial recesses 18 on the other flat face, with their bottom walls inclining oppositely from the inclination of the bottom walls of recesses 17. The recesses 17 and 18 are alternately arranged around the peripheral edge of disk 14, with a separating spur 19 between each two adjacent recesses.

Secured to the handle 8 is a suitable means for yieldingly maintaining the disk 14 in any position to which it may be rotated, said means preferably comprising a spring rigidly secured to the handle at one end and having a bow or hump adjacent the other end adapted to spring into the recesses 17 and 18. In operation, the jaws being adjusted to a nut by manipulation of the thumb screw, if it is desired to maintain the handle in any fixed relation to the wrench frame, the disk 14 is manipulated by means of a milling on the circular periphery until one of the

spur portions 19 is in engagement with one of the notches 12 of the member 3. In this relation there can be no relative movement between the handle and the wrench frame.

5 If it be desired to permit a ratchet movement of the handle relatively to the wrench frame in one direction or the other, it is only necessary to turn the disk 14 until a recessed portion 17 or 18 shall be engaged with a
10 notch 12 of the member 3, whereupon ratchet movement of the handle may be accomplished in one direction or the other, according to the direction of inclination of the recess with which the notch 12 of the member
15 3 is engaged, the parts being locked against relative movement in the opposite direction by the engagement of the outside face of the bottom wall of the said recess with the wall of the straight notch 12 in the member 3, as
20 will be readily understood.

The particular advantage of my invention lies in the use of the disk 14 having the peculiar recesses and spurs, whereby the relative movement between the handle and wrench
25 frame may be permitted, prevented, or its direction controlled, by simply giving the disk a partial rotation.

To one skilled in the art further description of the advantages and mode of operation
30 appears to be superfluous and it is therefore omitted.

What I claim is:—

1. In combination, a wrench frame having a circular portion provided with peripheral notches, a handle pivoted to said circular member, and a disk mounted in said handle and adapted to permit or prevent relative pivotal movement between said handle and circular member as desired, and to determine the direction of pivotal movement, if any by engagement with the peripheral notches aforesaid, having alternately arranged radial recesses, provided with oppositely inclined bottom walls respectively, and a spur portion between the alternate recesses. 45

2. In combination, a wrench frame, having a circular portion provided with peripheral notches, a handle pivoted to said circular portion, and a disk mounted in said handle having alternately arranged radial recesses, provided with oppositely inclined bottom walls respectively, a spur portion between the alternate recesses, and a series of notches; and a spring mounted on said handle and provided with a hump adapted to engage one of said last named notches. 55

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

RANSOM Y. BOVEE.

Witnesses:

C. B. KAUFFMAN,
W. J. BOVEE.