

No. 881,627.

PATENTED MAR. 10, 1908.

A. C. SMITH.
WRENCH.

APPLICATION FILED OCT. 14, 1907.

Fig. 1.

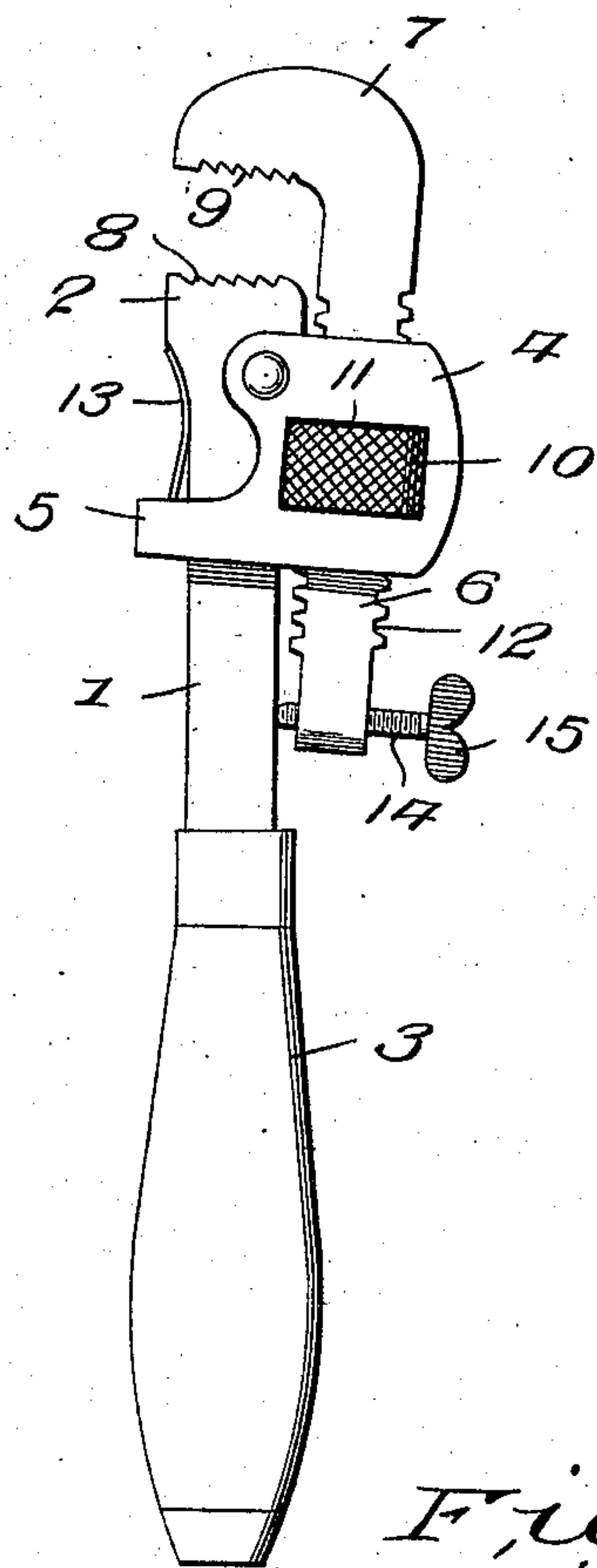


Fig. 2.

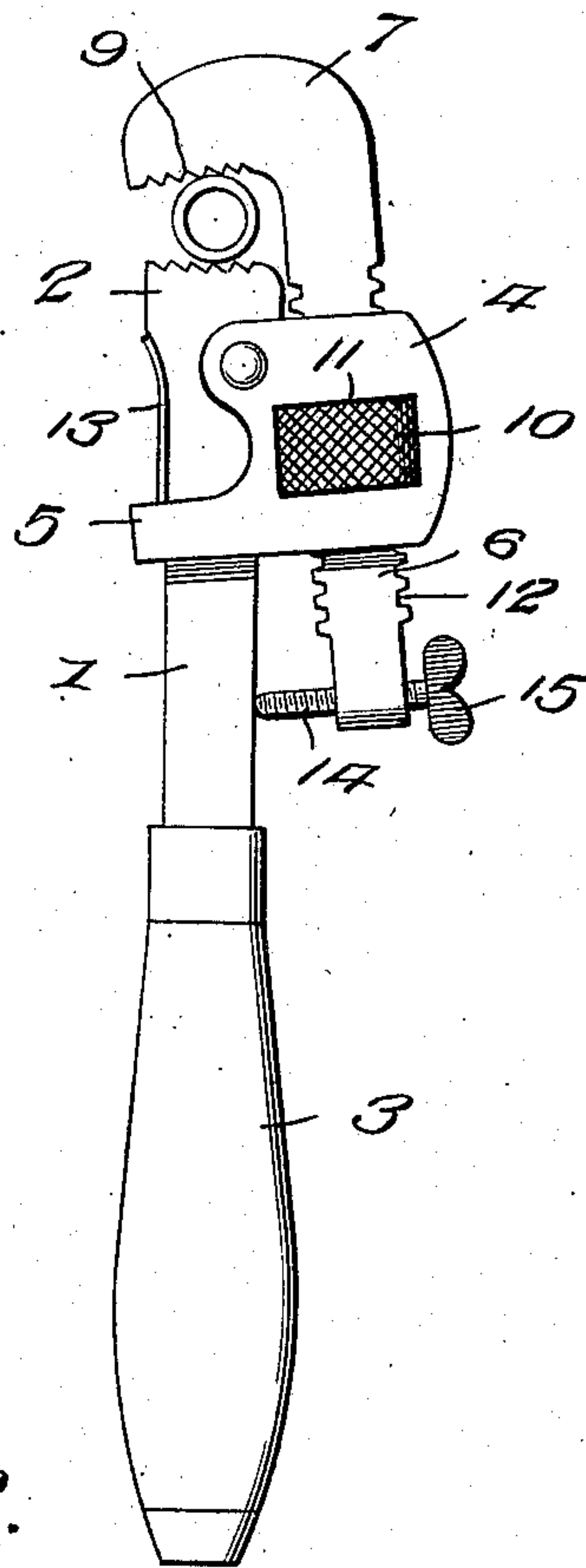
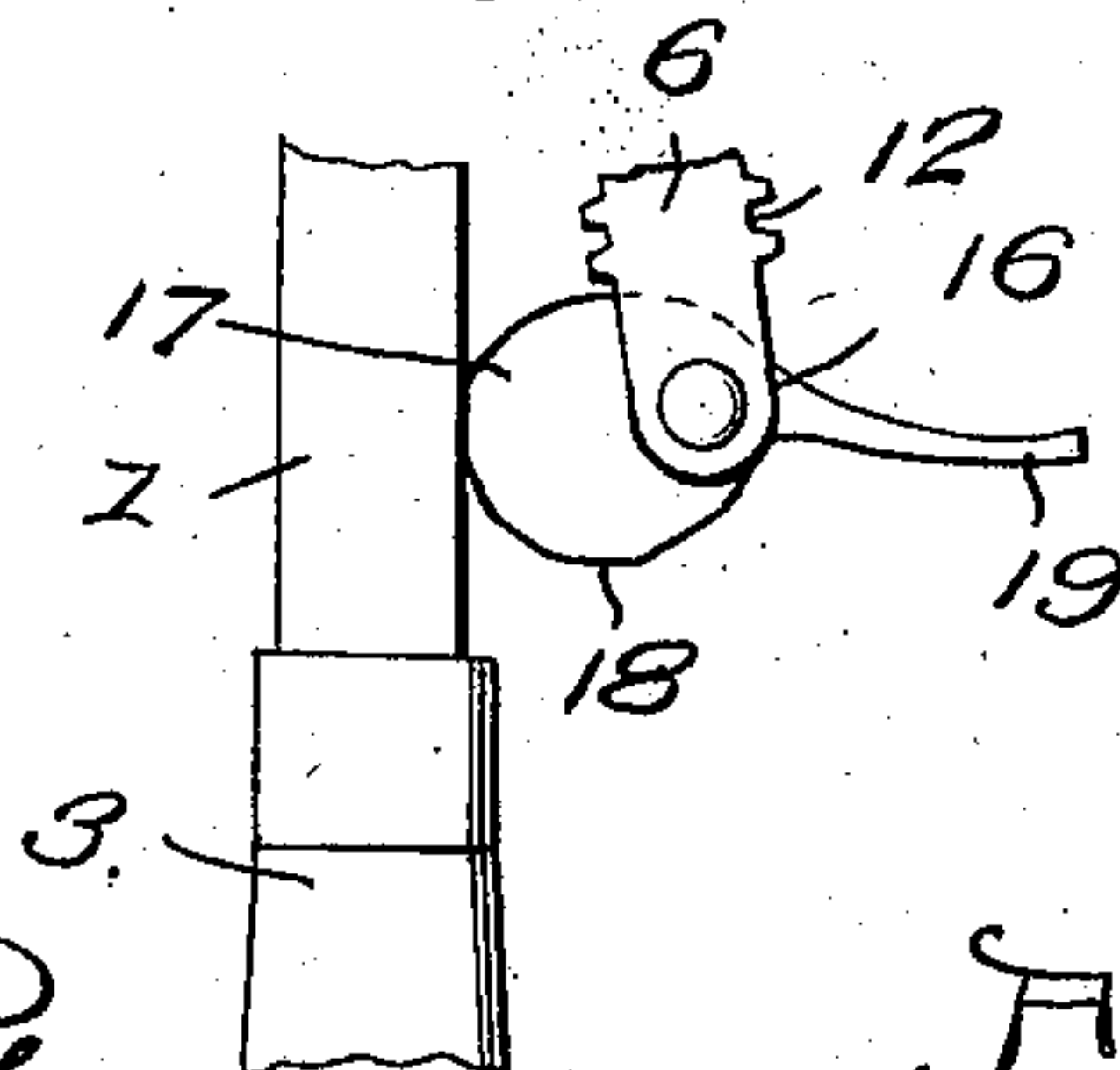


Fig. 3.



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WRENCH.

No. 881,627.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed October 14, 1907. Serial No. 397,396.

To all whom it may concern:

Be it known that I, ALFRED C. SMITH, citizen of the United States, residing at Dobbs Ferry, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Wrenches; 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.

My invention relates to new and useful improvements in wrenches and more particularly to that class known as pipe wrenches and my object is to provide means for clamping the swinging jaw into positive engagement with an object having a circular or curved exterior or limiting the swinging movement of the jaw, whereby the engaging faces of the jaw will be parallel with each other to receive a square object.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation of my improved form of wrench, showing the jaws in position to receive an object having a flat or squared surface. Fig. 2 is a similar view, showing the jaws of the wrench clamped in engagement with a pipe having a circular outer surface, and, Fig. 3 is a detail elevation, showing a slightly modified form of means for controlling the movable jaw.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the main shank of a wrench, on one end of which is formed a fixed jaw 2, while to the opposite end thereof is secured the usual form of handle 3.

Pivotally mounted upon the shank 1 adjacent the jaw 2, is a keeper 4, one edge of which is provided with a loop 5, through which the shank 1 extends, while the body of the keeper is adapted to receive the auxiliary shank 6 of the movable jaw 7 and in order to readily adjust the movable jaw with respect to the fixed jaw and move the meeting faces 8 and 9 towards or from each other, a bur 10 is introduced into a cavity 11 in the keeper 4, the auxiliary shank extending through said bur and having threads 12 on the inner and outer edges thereof, which are

adapted to engage threads in the bur, whereby, when the bur is rotated, the movable jaw will be adjusted with respect to the fixed jaw.

The object in pivoting the movable jaw with the shank 1, is to allow the engaging face of the movable jaw to swing away from the object with which it is engaged, whereby the wrench may be rotated on the object to gain a new purchase and a further object in so pivoting the movable jaw is to allow the wrench to be quickly engaged with the object, the movable jaw being normally held in the above-described position by securing one end of a spring 13 to the shank 1, adjacent the fixed jaw 2 and introducing the lower end thereof into the loop 5 between the loop and shank 1, the tension of said spring being such that it will be readily overcome when downward pressure is brought to bear on the handle 3.

It has been found in practice that wrenches of this class will sometimes slip, and, as the meeting faces 8 and 9 are provided with teeth, the surface of the object being turned, will be marred and to overcome this objectionable feature and prevent the wrench from slipping, a bolt 14 is introduced through an opening in the free end of the auxiliary shank 6, said bolt and opening being threaded, so that when the bolt is rotated, the free end of the auxiliary shank will be moved away from the main shank and the face 9 of the movable jaw clamped firmly into engagement with the object to be rotated, the plane of the face 9 being at an angle to the plane of the face 8, so that the narrowest point between the meeting faces of the two jaws will be at the outer ends thereof.

It has also been found that in view of the yielding feature of the movable jaw, the faces of a square object, such as nuts, or the like, will likewise be marred when using this form of wrench to turn or hold the same, as said jaws are permitted to move out of alignment with each other and to obviate this result, the bolt 14 is rotated until the face 9 is parallel with the face 8, so that said jaws will be held in a fixed relation with each other when engaging an object having a flat or squared surface, the outer end of the bolt 14 being provided with wings 15, whereby the bolt may be more readily operated.

In Fig. 3 of the drawings I have shown a slightly modified form of means for limiting

the swinging movement of the movable jaw and in this construction, a cam 16 is pivotally mounted in a recess formed in the free end of the auxiliary shank 6, the head 17 of the cam having stepped or flattened portions 18 on its engaging face, so that the cam will be prevented from casually slipping when adjusted at various angles, the tension of the spring 13 serving to hold the flattened portions 18 of the cam in engagement with the shank 1.

When the cam is not in use, the handle 19 thereof is lowered or swung towards the shank 1, thereby releasing the head 17 from the shank and permitting the auxiliary shank to swing inwardly and it will likewise be seen that when the meeting faces of the two jaws are to be disposed parallel to each other and held in this position, the handle 19 is elevated and it will also be seen that by increasing the elevation of the handle 19, the meeting face of the movable jaw will be disposed at an angle to the face of the fixed jaw.

It will thus be seen that I have provided a very cheap and economical form of means for regulating the plane of the engaging face of the movable jaw with respect to the engaging face of the fixed jaw, whereby the wrench will be firmly gripped into engagement with an object having a curved face or an object having flat or squared faces.

What I claim is:

A wrench of the character described, comprising a handled jaw-equipped member, a rocking yoke-member pivoted to said handled jaw-equipped member and formed with a loop-extension or formation having said handled member passing therethrough, a resilient member delivering its pressure or stress upon said yoke-member and applied to said handled jaw-equipped member, a movable jaw-equipped member having a screw-threaded shank-portion extending through said yoke-member, a nut arranged in an opening in said yoke-member and adapted to project laterally beyond the latter and to engage the screw-threaded shank-portion of said movable jaw-member, and a manually actuated retaining member for said movable jaw-equipped member, adapted to engage said handled jaw-equipped member and to cause the engaging face of said movable jaw-equipped member to effectively grip the engaged object.

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

ALFRED C. SMITH.

Witnesses:

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J. EDWIN BURCH.