No. 861,719. PATENTED JULY 30, 1907.

D. F. GATES.

PIPE WRENCH.

APPLICATION FILED APR. 24, 1907.

Fig. 1.

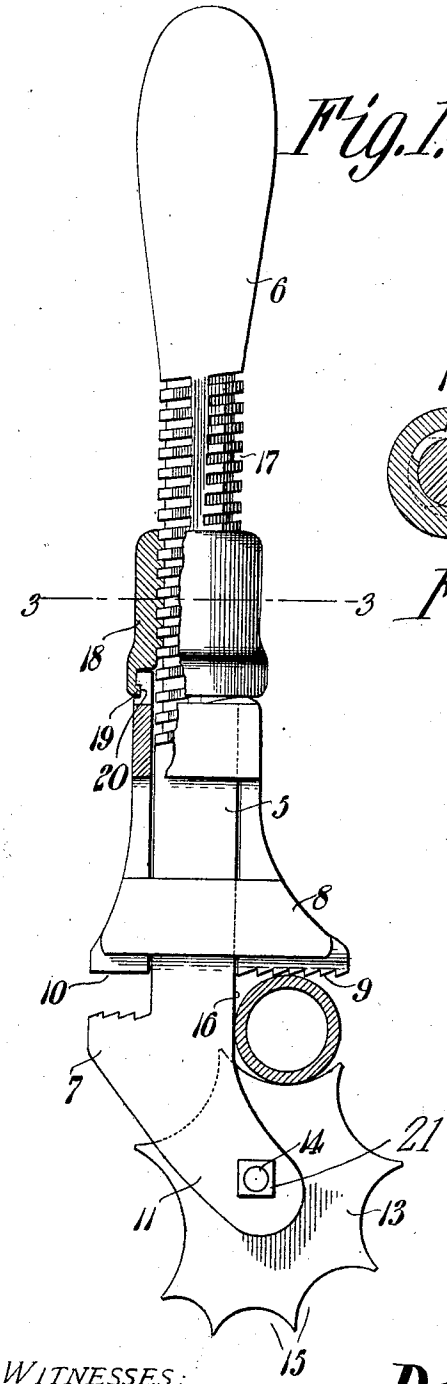


Fig. 3.

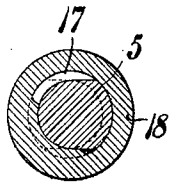
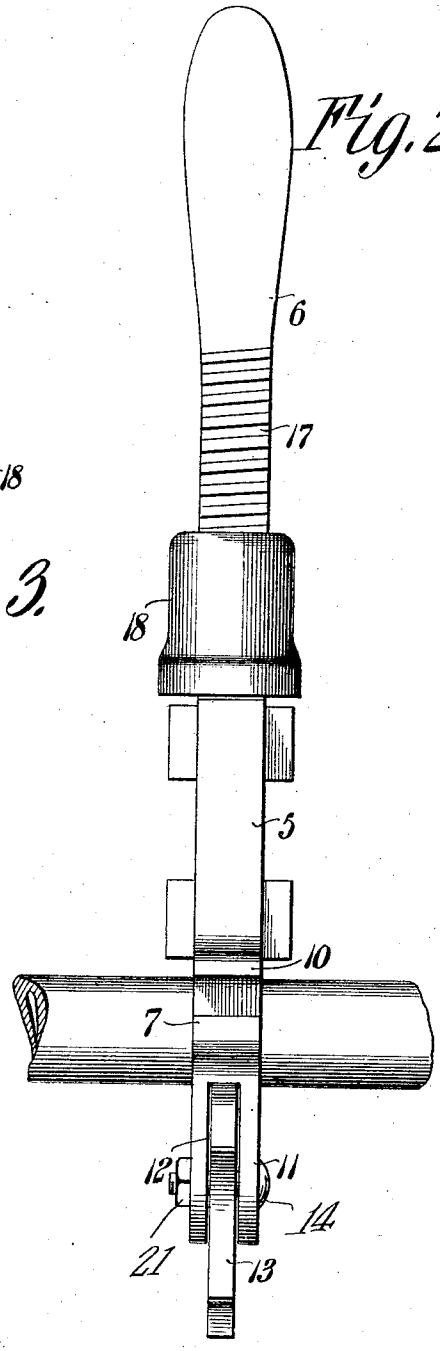


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DANIEL FINIS GATES, OF CROFTON, KENTUCKY.

PIPE-WRENCH.

No. 861,719. Specification of Letters Patent. Patented July 30, 1907.

Application filed April 24, 1907. Serial No. 370,060.

To all whom it may concern:

Be it known that I, DANIEL FINIS GATES, a citizen of the United States, residing at Crofton, in the county of Christian and State of Kentucky, have invented a new and useful Pipe-Wrench, of which the following is a specification.

This invention relates to a combined pipe and nut wrench and has for its object to provide a comparatively simple and inexpensive device of this character having oppositely disposed gripping jaws whereby the wrench may be used for gripping both cylindrical and angular objects.

A further object of the invention is to provide a wrench having a disk or plate mounted for rotation thereon and co-acting with one of the gripping jaws, said disk being provided with a plurality of peripheral sockets or recesses gradually increasing in depth and width whereby the wrench may be used for gripping pipes of different sizes.

A further object is to provide means for limiting the lateral movement of the pipe or other object so as to prevent the same from becoming wedged between the co-acting faces of the gripping jaws.

A still further object of the invention is to generally improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a side elevation of a wrench constructed in accordance with my invention. Fig. 2 is a front view of the same. Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 1.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved wrench forming the subject matter of the present invention includes a shank 5 having one end thereof provided with a handle 6 and its opposite end formed with a stationary jaw 7.

The shank 5 is preferably rectangular in cross section and slidably mounted on said shank is a movable jaw 8, the latter being provided with a serrated face 9 and a smooth face 10 which co-acts with the stationary jaw 7 for gripping nuts and similar angular bodies.

One end of the shank 5 is provided with a laterally extending arm 11 the end of which is bifurcated at 12 for the reception of a disk or plate 13.

The disk or plate 13 is mounted for rotation on a pin or stud 14 piercing the bifurcated end of the arm or extension 11 and is provided with a plurality of peripheral recesses or sockets 15 gradually increasing in width and depth so as to accommodate pipes or other cylindrical bodies of different sizes.

The recesses or sockets 15 are adapted to successively register with the serrated face of the sliding jaw 8, as best shown in Fig. 1 of the drawings, whereby when a pipe is placed in position in any one of the sockets and the sliding jaw adjusted the pipe will be securely gripped so as to permit the same to be screwed on or unscrewed from an adjacent section of pipe.

Attention is here called to the fact that the center of the serrated face 9 and the center of the socket 15 are off-set with respect to the pivotal axis 14 of the rotary disk 13 so as to prevent accidental displacement of the pipe or other object being operated upon.

By arranging the pivot 14 in the manner described a forward turn of the wrench will cause the pipe or other object to engage the shoulder and firmly grip the pipe while a backward movement of the wrench will release the pipe without the necessity of adjusting the nut 18.

It will also be observed that the inner face 16 of the shank forms a stop or shoulder for engagement with the adjacent surface of the pipe thus preventing the pipe from wedging between the gripping faces of the jaws and denting or otherwise mutilating said pipe.

The walls of the sockets 15 are preferably smooth and unobstructed so as to cause the pressure exerted by said jaws to be uniformly distributed over the surface of the object to be gripped.

The intermediate portion of the shank 5 is provided with circumferential threads 17 having an adjusting screw 18 mounted for rotation thereon and provided with an inwardly extending lip 19 which engages a correspondingly shaped groove 20 formed in the lower end of the sliding jaw 8 so that by manipulating the collar or screw 18 the movable jaw 8 may be adjusted with respect to the rotary jaw or disk.

It will thus be seen that one side of the wrench may be used for gripping pipes and other cylindrical objects while the co-acting jaws 7 and 10 on the opposite sides of the wrench afford a means for gripping nuts and other angular objects.

In order to operate the wrench it is merely necessary to rotate the disk or member 13 until any one of the sockets or recesses 15 register with the serrated face 9 of the sliding jaw when the pipe may be readily inserted between the same and the sliding jaw adjusted in contact with the pipe so as to firmly grip said pipe.

By reversing the wrench and manipulating the

sliding jaw 8, the latter may be adjusted with respect to the stationary jaw 7 so as to grip a nut in the manner before described.

The disk 13 is preferably secured in position on the pin 14 by a nut or similar fastening device 21 so that said disk may be readily removed and replaced by a larger or smaller disk when desired.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive and efficient device admirably adapted for the attainment of the ends in view.

Having thus described the invention what is claimed is:

1. A wrench including a shank having a gripping jaw slidably mounted thereon, and a disk mounted for rotation on one end of the shank and provided with a plurality of peripheral sockets co-acting with the movable gripping jaw, the pivotal axis of the disk being off-set with respect to the center of the jaw.

2. A wrench including a shank having one end thereof bifurcated, a disk mounted for rotation in the bifurcated end of the shank and provided with a plurality of peripheral sockets, a jaw slidably mounted on the shank and co-acting with the disk, and means for adjusting the jaw.

3. A wrench including a shank having a stationary jaw and provided with a lateral extension the end of which is bifurcated, a disk mounted for rotation in the bifurcated end of the extension and provided with a plurality of peripheral sockets, and a movable jaw slidably mounted on the shank and provided with oppositely disposed gripping faces one of which co-acts with the stationary jaw and the other with the revolving disk.

4. A wrench including a shank having a stationary jaw and provided with a lateral extension the end of which is bifurcated, a disk mounted for rotation in the bifurcated end of the shank and provided with a plurality of peripheral sockets varying in depth and width, a movable jaw slidably mounted on the shank and having oppositely disposed faces one of which co-acts with the stationary jaw and the other with the disk, and means for operating the movable jaw.

5. A wrench including a shank having one end thereof provided with a handle and its opposite end formed with a stationary jaw terminating in a stationary extension the end of which is bifurcated, the intermediate portion of the shank being threaded, a disk mounted for rotation in the bifurcated end of the extension and provided with a plurality of peripheral sockets, a movable jaw slidably mounted on the shank and provided with oppositely disposed gripping faces one of which co-acts with the stationary jaw and the other with the disk, and a collar threaded on the intermediate portion of the shank and engaging the movable jaw for adjusting the latter.

6. A wrench including a shank having a stationary jaw and provided with a lateral extension, the end of which is bifurcated, a disk mounted for rotation in the bifurcation of the extension and provided with a plurality of peripheral sockets adapted to receive the object to be operated upon, a movable jaw slidably mounted on the shank and provided with oppositely disposed gripping faces one of which is serrated and adapted to co-act with the disk and the opposite face arranged to co-act with the stationary jaw, the center of the serrated jaw being off-set with respect to the pivotal axis of the disk, and means for adjusting the movable jaw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

DANIEL FINIS GATES.

Witnesses:
JNO. P. PROWSE,
JNO. P. PROWSE, Jr.