F. M. VAN SICKLE.

WRENCH.

APPLICATION FILED MAY 28, 1917.

1,265,144. Patented May 7, 1918.

Fig. 1.

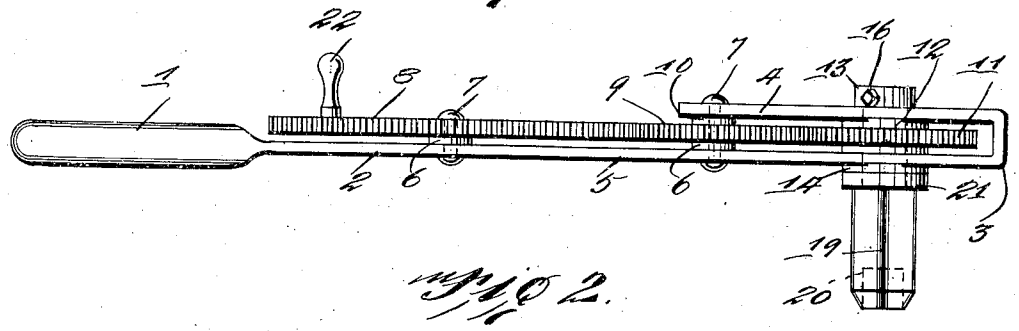


Fig. 2.

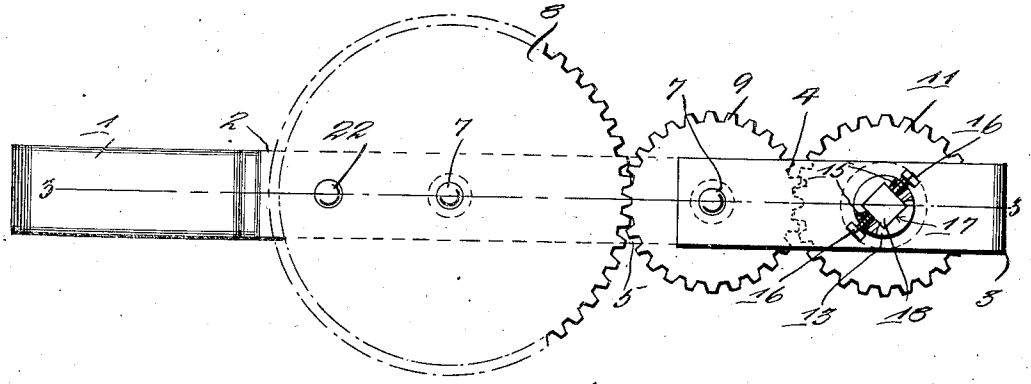


Fig. 3.

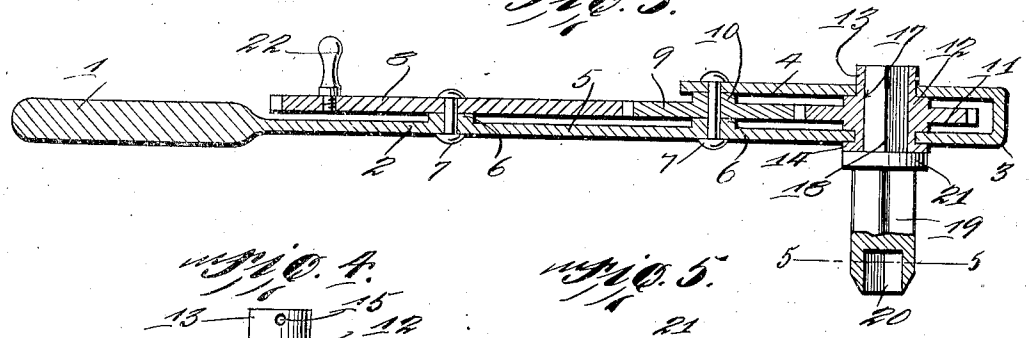


Fig. 4.

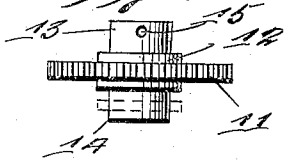
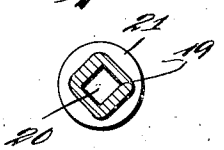


Fig. 5.



Inventor

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UNITED STATES PATENT OFFICE.

FRANK MEAD VAN SICKLE, OF LAYTON, NEW JERSEY.

WRENCH.

1,265,144. Specification of Letters Patent. Patented May 7, 1918.

Application filed May 28, 1917. Serial No. 171,526.

To all whom it may concern:

Be it known that I, FRANK M. VAN SICKLE, a citizen of the United States, residing at Layton, in the county of Sussex and State of New Jersey, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to a wrench and has for its principal object the production of a simple and efficient device of this nature which may be used in places where an ordinary wrench might not be rotated.

Another object of this invention is the production of a wrench comprising a shank portion having a plurality of cog wheels mounted thereon, and one of said cog wheels provided with nut engaging means.

With these and other objects in view this invention consists of certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

In the drawings:

Figure 1 is a side elevation of the device.

Fig. 2 is a top plan view of the device.

Fig. 3 is a longitudinal section taken through the device through line 3—3 of Fig. 2.

Fig. 4 is a top plan view of the secondary cog wheel used in connection with this device.

Fig. 5 is a section taken on the line 5—5 of Fig. 3.

Referring to the drawings by numerals it will be seen that 1 designates a handle which is integrally connected to the shank 2. This shank 2 is bent over upon itself at the portion 3 so as to form the parallel plate 4, constituting an integral U-shaped outer end. Upon the body portion 5 of the shank are provided the integral lug portions or bearings 6, which lug portions 6 are provided with apertures so as to receive the rivets 7, whereby the primary cog wheel 8 and the intermediate cog wheel 9 may be rotatably held upon the shank 2. It will be seen that the intermediate wheel 9 meshes with the primary wheel 8 and is held between the top plate 4 and the top portion of the shank 5. It should also be noticed that the intermediate wheel 9 is provided with a lug portion 10.

The intermediate wheel 9 is adapted to mesh with the secondary wheel 11. This wheel 11 is held between the top plate 4 and the body 5 of the shank 2. This wheel 11 comprises the hub portion 12 and the stub axle portion 13. This axle portion 13 is rotatably mounted within an enlarged aperture provided in the top plate 4. By referring especially to Fig. 4, it will be seen that this wheel 11 is first placed within the enlarged opening provided in the body portion 5 and the folded flange 14 is then forced so as to take the position as shown in Figs. 1 and 3 of the drawings, whereby the wheel will be efficiently held upon the body 5 of the shank. It should be noted that the stub axle portion 13 extends a little beyond the top plate 4 and is provided with apertures 15 which are provided with internal threads adapted to receive the set screws 16.

The secondary wheel 11 is provided with the well portion 17 which is substantially square in cross section and is adapted to receive the shank portion 18 of the nut engaging tool 19. The other end of this tool 19 is provided with the square opening 20 which will engage a nut for the purpose of tightening or loosening the same. Intermediate the end portions of the tool 19 is provided the annular flange 21 which will abut the folded flange 14. The shank 18 of the tool 19 extends so that its end will be flush with the end portions of the axle 13 whereby the set screw 16 may be tightened so as to bear upon the shank so as to efficiently hold the nut engaging tool in its proper position.

The primary wheel 8 is provided with the knob 22 whereby the wheel may be rotated which in turn will rotate the intermediate wheel 9 so as to turn the secondary wheel 11 which will operate the tool 19 so as to tighten or loosen a nut as may be desired.

From the above description, it will be seen that a wrench has been provided whereby a nut may be tightened or loosened without the necessity of rotating the handle portion of the wrench and it will be seen that this will be of great use in certain places on machinery and the like where it is quite impossible to efficiently use an ordinary wrench. It will also be seen that a wrench has been provided in which the handle and shank portions are formed integrally and said shank portion is bent over upon itself so as to steadily and efficiently hold the secondary wheel upon which most of the strain will be. It of course, should be understood that nut engaging tools 19 may be used of any size desired so as to accommodate different shape and different sized nuts.

What is claimed is:

As an improved article of manufacture, a wrench comprising a shank, said shank provided at one end with a handle and at its opposite end with an integral U-shaped portion, said U-shaped portion comprising a shank-portion and an outer plate portion, said shank-portion of the U-shaped end provided near the inner end of the U with an integral inwardly-extending bearing on its inner face, and an aperture formed in said bearing, and a registering aperture formed in the plate-portion of the U-shaped end, said last-mentioned aperture registered with the aperture of the bearing, an intermediate cog-wheel positioned between the plate-portion and the bearing of the shank-portion, means extending through said apertured portions of said plate portion and said shank-portion and through said intermediate cog-wheel, a secondary cog-wheel between the plate-portion and the shank-portion near the outer end of the U, said secondary cog-wheel being provided with a hub-portion extending through and beyond opposite sides of the U-shaped portion, a tool carried within the hub of said secondary cog-wheel, said shank being provided with an inwardly-extending integral bearing between the handle and the U-shape end, a primary cog-wheel engaging said last-mentioned bearing and meshing with said intermediate cog-wheel, means extending through the primary cog-wheel and said last-mentioned bearing of the shank, and constituting an axle for the primary cog-wheel, and a handle attached to said primary cog-wheel.

In testimony whereof I affix my signature in the presence of two witnesses.

FRANK MEAD VAN SICKLE.

Witnesses:

CLARENCE LAYTON,

LESTER T. SMITH.