No. 752,510. PATENTED FEB. 16, 1904.

W. J. BERRYMAN.

WRENCH.

APPLICATION FILED JULY 1, 1903.

NO MODEL.

Fig. 1.

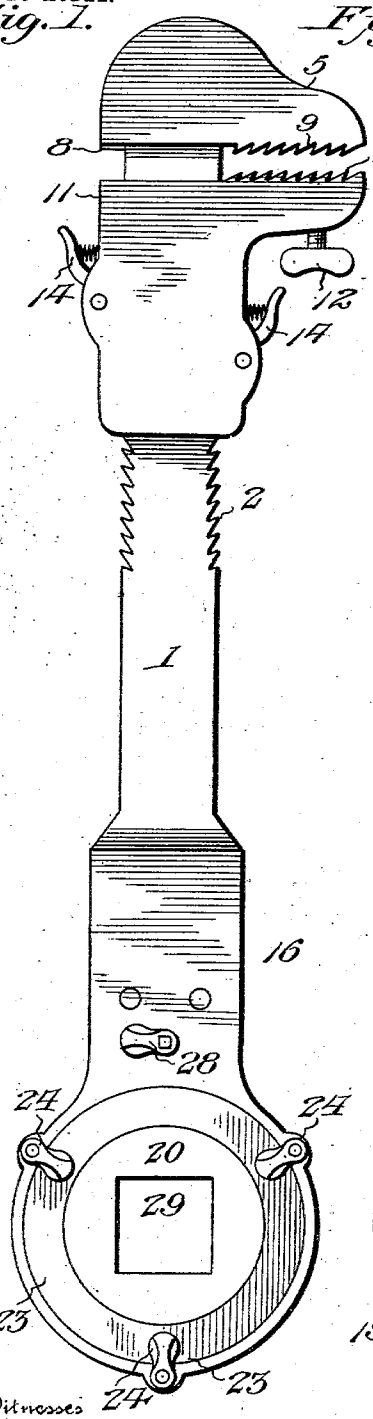


Fig. 2.

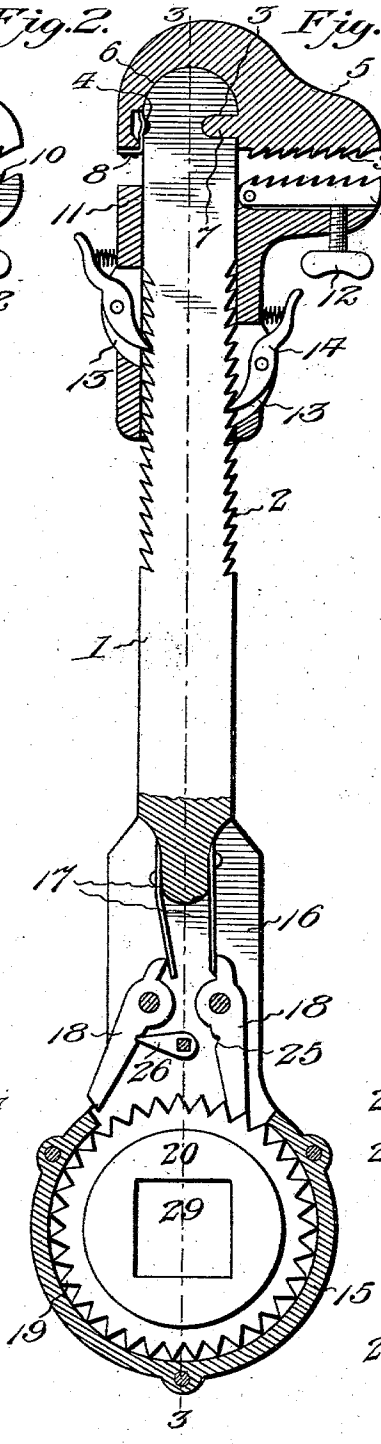
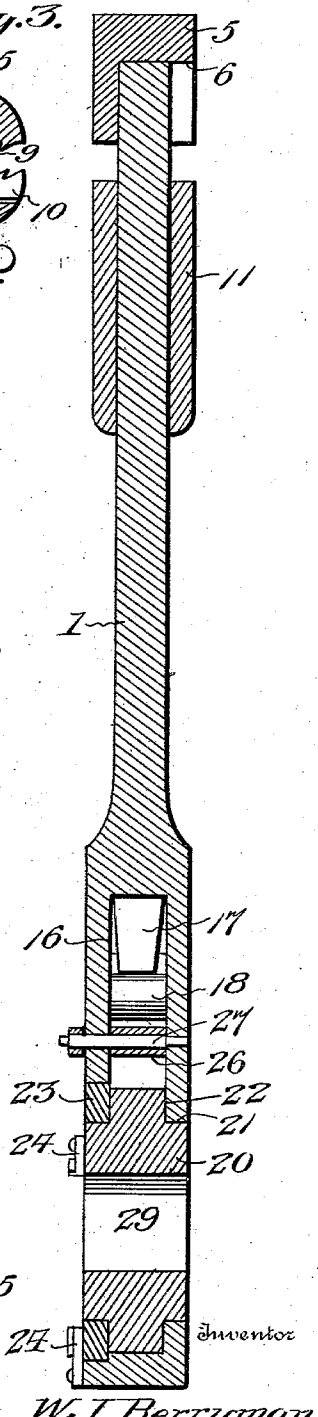


Fig. 3.



Witnesses

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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UNITED STATES PATENT OFFICE.

WILLIAM J. BERRYMAN, OF TYNER, NORTH CAROLINA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 752,510, dated February 16, 1904.

Application filed July 1, 1903. Serial No. 163,916. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM JAMES BERRYMAN, a citizen of the United States, residing at Tyner, in the county of Chowan and State of North Carolina, have invented new and useful Improvements in Wrenches, of which the following is a specification.

My invention relates to new and useful improvements in wrenches. Its object is to provide a compound tool which can be used either as a nut or pipe wrench.

A further object is to provide novel means whereby nuts of various size may be rotated by means of this wrench, said means being so constructed as to be rotated in either direction by the oscillation of the handle.

A further object is to so construct the wrench as to permit the parts thereof to be readily detached for the purpose of making repairs or for replacing portions thereof.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved compound tool. Fig. 2 is a longitudinal section therethrough; and Fig. 3 is a section on line 3 3, Fig. 2.

Referring to the figures by numerals of reference, 1 is a shank having teeth 2 at the opposite sides thereof at a point between its ends, and one end of the shank has a transversely-extending groove 3 in one side, while the opposite side is provided with a notch 4. The head 5 of a pipe-wrench is adapted to be moved laterally upon this end of the shank, said head being provided with a recess 6, which extends thereinto from one side and has a tongue 7 projecting from one wall and adapted to engage the groove 3. Within the recess 6 and directly opposite the tongue 7 is a spring-catch 8, which is adapted after the head has been moved into proper position upon the shank 1 to engage the recess 4 and lock the head in place. The working face of the head 5 is preferably toothed or serrated, as shown at 9. This face is in alinement with a block 10, which is pivoted at its inner end to a sliding jaw 11, mounted on shank 1. An adjusting-screw 12 is swiveled to the block 10 and extends through the outer end of jaw 11. By means of this screw the block 10 can be adjusted to any desired angle in relation to the inner face of the jaw 11. Apertures 13 are formed in opposite sides of the sliding jaw 11, and within each is pivoted a spring-pressed pawl 14. These pawls normally engage the teeth 2 on shank 1 and serve to lock the jaw 11 in any position to which it may be adjusted. In order to release the jaw, so as to move it away from the jaw 5, it is necessary to depress the outer ends of the pawls 13, so as to swing them out of engagement with the teeth 2.

The end of shank 1 which is removed from jaw 5 is enlarged and substantially cylindrical in form, as shown at 15, forming a head, and a slot 16 extends through the shank adjacent the head, and spring-strips 17 are secured within this slot and bear upon the inner faces of oppositely-disposed dogs 18, which are pivoted within the slot at points between their ends. These dogs project into the head 15 of the shank and are adapted to engage teeth 19, which are arranged upon the periphery of a hub 20. This hub is revolubly mounted within a circular aperture 21, formed within the head 15, and its side faces are provided with annular grooves 22, one of which receives a ring 23, which fits within one face of the head 15 and is adapted to be locked in position by means of thumb-pieces 24, which are pivoted to the head 15. The inner edge of each dog 18 is preferably notched, as shown at 25, and these notches are arranged at opposite sides of a tumbler 26, which is preferably wedge-shaped in form and is secured to a stem 27, which projects through the shank 1, and is provided with an operating-knob or thumb-piece 28. By means of this knob the tumbler 26 can be moved into engagement with the notch 25 in either dog, so as to throw said dog out of engagement with the teeth on the hub 20. Hub 20 has a rectangular aperture 29 therein, which is adapted to be placed over the nut to be turned. One of the dogs 18 is then removed from engagement with the teeth 19 by swinging tumbler 26 thereagainst. Shank 1 is then oscillated backward and forward, so as to cause the other dog 18 to

alternately press and slip backward over said teeth, so as to rotate the hub and nut engaged thereby. Should the nut be too large or too small to permit the use of the hub 20, ring 23 is removed by first swinging the thumb-pieces or buttons 24 from position thereover. The hub is then removed and another one placed in position, this second one having an opening 29 of sufficient size to grip upon the nut to be turned. Ring 23 is then replaced and locked in position. It will be understood that when it is desired to turn the nut in the opposite direction it is merely necessary to reverse the position of the tumbler 26, when the spring will return the released dog into engagement with the teeth 19, while the tumbler will remove the other dog from engagement therewith. As hereinbefore stated, when it is desired to adjust the jaw 11 upon a pipe or other cylindrical objects it is merely necessary to slide the same forward, so as to cause the pawls 14 to slip over the teeth 2. The toothed block 10 can be adjusted forward to a desired angle, so as to bind tightly upon the object to be turned.

It will be understood that all of the parts of this tool can be readily inspected, detached, and replaced.

The tool is very convenient, durable, and compact and can be quickly adjusted to nuts or pipes of different sizes.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as may suggest themselves from time to time and fairly fall within the scope of my invention.

Having thus described the invention, what I claim as new is—

1. In a device of the character described, the combination with a toothed shank having a transversely-extending groove in one face thereof and a notch in the opposite face; of a stationary jaw having a recess in one side thereof for the reception of the end of the shank, a tongue within said recess adapted to engage the groove, a spring-catch within the head for engaging the notch, and a jaw adjustably mounted upon the shank.

2. In a device of the character described, the combination with a toothed shank having a transversely-extending groove in one face thereof, and a notch in the opposite face; of a stationary jaw having a recess in one side thereof for the reception of the shank, a tongue within the recess adapted to engage the groove, and a locking device within the head for automatically engaging the notch.

3. In a device of the character described, the combination with a toothed shank having a stationary jaw detachably connected to one end thereof, and means for automatically locking said jaw to the shank; of a jaw slidably mounted on the shank, spring-pressed pawls pivoted to the sliding jaw and normally engaging the teeth on the shank, a block pivotally mounted on the sliding jaw, and means for adjusting the block in relation to the jaw.

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

WILLIAM J. BERRYMAN.

Witnesses:

REUBEN H. BACHMAN,

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