

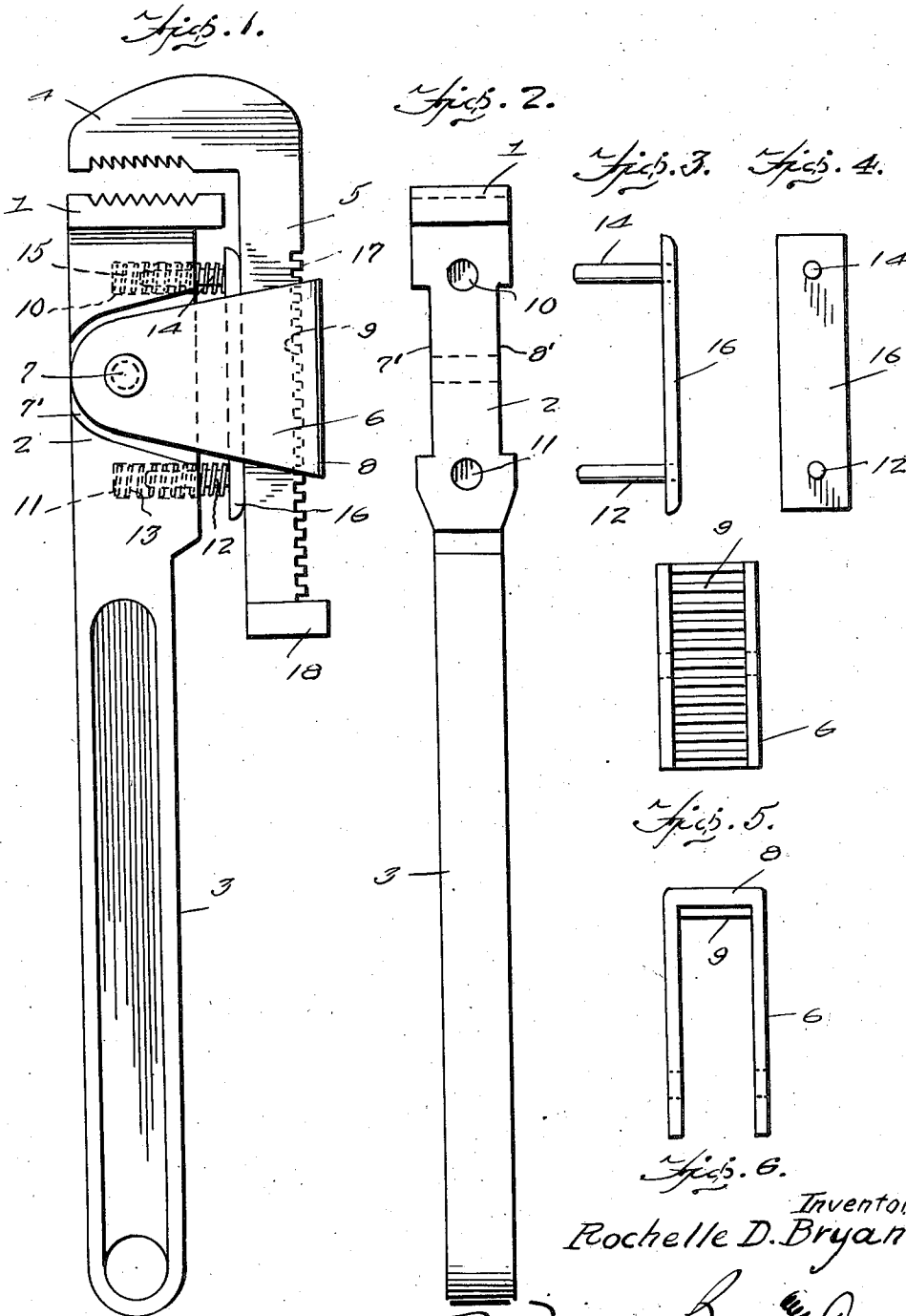
Nov. 30, 1948.

R. D. BRYAN

2,455,041

PIPE WRENCH HAVING A PIVOTED AND ADJUSTABLE OUTER JAW

Filed Aug. 14, 1945



Inventor  
Rochelle D. Bryan

McMorris, Brown & Reardon  
Attorneys

# UNITED STATES PATENT OFFICE

2,455,041

## PIPE WRENCH HAVING A PIVOTED AND ADJUSTABLE OUTER JAW

Rochelle D. Bryan, Glenmora, La.

Application August 14, 1945, Serial No. 610,799

1 Claim. (Cl. 81-103)

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It is an object of this invention to provide a pipe wrench having means whereby it may be speedily adjusted to grip pipes and the like of various sizes.

It is an object of this invention to provide a pipe wrench that can be constructed of few parts and at a low cost.

Other objects and advantages will be revealed in the detailed description made in connection with the accompanying drawings which forms a part of this specification.

In the drawings:

Figure 1 is a side elevation of my new pipe wrench.

Figure 2 is a rear elevation of one jaw of the wrench including its handle.

Figure 3 is a side elevation of a follower adapted to be spring actuated.

Figure 4 is a front elevation of the follower,

Figure 5 is a front elevation of a channel-shaped yoke or clevis showing the teeth on the inside of its transverse wall, and

Figure 6 is a plan view of the yoke.

In the drawings is an illustration of one embodiment of my invention and it is appreciated that modifications in detail may be resorted to without departing from the essential combination or the salient features thereof.

In the specification and drawings the reference characters identify the particular parts and features thereof.

The jaw 1 is provided with a shank or stock 2 and a handle 3. The jaw 4 is provided with a shank 5.

The shanks 2 and 5 extend in the same general direction in normally spaced parallel relation.

The shank 2 carries a yoke 6 rockably mounted thereon within recesses 7, 8' by a bolt or rivet 7 passing through aligned apertures in the shank 2 and the legs of the yoke 6. The transverse wall 8 of the yoke 6 is provided with inwardly directed teeth 9. The shank 2 is also provided with bores 10, 11 to slidably receive springs 13, 15 and pins 12, 14 and to guide and support the same axially in their reciprocating movements toward and from the other shank 5. The pins 12 and 14 are secured to and carry a follower member or saddle 16 located between the shanks 2 and 5.

The shank 5 is provided with outwardly directed teeth 17 adapted to cooperate movably and adjustably with the teeth 9 of the yoke 6.

The yoke 6 slidably and adjustably embraces the shank 5.

The follower 16 is urged toward the shank 5 by the helical compression springs 13, 15.

The shank 5 is provided with a transverse en-

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largement constituting a stop 18 to prevent the removal of the shank 5 and its jaw 4 from the embrace of the yoke 6.

The teeth 9 and 17 are substantially rectangular in section both longitudinally and transversely and are of such thickness that they will adjustably interengage without binding action. The longitudinal edges of the teeth may be slightly rounded off to facilitate the interengagement of the two sets of teeth. These rectangular teeth are capable of long wear since they have multiple engagement and since there are no sharp edges.

In order to assemble the wrench the springs 13, 15 and the pins 12, 14 of the follower are inserted in the bores 10, 11 of the shank 2. With these units in assembled position the yoke 6 is placed astride the shank 5 with the sets of teeth 9 and 17 in interfitting relation and then the yoke 6 and the shank 5 are pressed over the follower 16 against the tension of the springs 13, 15 until the apertures of the yoke 6 become aligned with the aperture of the shank 2. When such alignment is secured the rivet or bolt 7 is inserted and fastened against accidental displacement. In this connection attention is called to the fact that the shank 5 and its jaw 4 are in captive relation because of the enlargement 18 which constitutes a stop and prevents the accidental separation of the shank 5 and its jaw 4 from the remainder of the wrench.

In the operation of the wrench the user adjusts the spacing of the jaws by grasping remote portions of the shank 5 and pressing such shank toward the handle shank until the sets of teeth 9 and 17 become disengaged, whereupon the shank 5 and its jaw 4 can be moved to any desired position relative to the jaw 1 or to a pipe or rod located between the jaws 1 and 4. The movement of the follower 16 is always rectilinear, being so guided by its pins 12, 14 and its springs 13, 15 extending into the parallel bores 10 and 11.

Having thus described my invention, what I claim as new is:

A quick acting pipe wrench comprising a relatively stationary jaw element comprising a shank stock terminating at its lower end in a handle, a fixed jaw on the upper end of said stock having an upper toothed jaw face arranged at right angles to said stock, a pair of vertically spaced bores opening through one side of said stock, said bores being parallel to said fixed jaw, helical springs fitting said bores and projecting axially beyond said one side of said stock, pins axially inserted in the outer ends of said helical springs and extending into said bores whereby said pins are yieldably restricted to axial movement in said bores parallel

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to said fixed jaw and are permitted only limited lateral movement in said bores, a saddle extending between and fixed to the outer ends of said pins, said springs, pins and saddle being arranged relative to each other in a manner to maintain said saddle parallel to said stock and at right angles to said fixed jaw, a movable jaw element comprising a straight shank of rectangular cross-section having a jaw on its upper end projecting laterally therefrom and having a toothed gripping face on its underside confronting and co-extensive with said fixed jaw and extending at right angles to said straight shank, the side of said straight shank adjacent said shank stock of said stationary jaw element slidably engaging said saddle, the side of said shank of said movable jaw element remote from said shank stock being formed therealong with teeth, a U-shaped yoke having legs slidably engaging the opposite sides of said straight shank and pivotally engaging said shank stock, said yoke having a flat web portion, teeth on the inner surface of said flat web portion to interengage with the teeth on said movable jaw element shank and

prevent longitudinal movement of the jaw elements relative to each other, and a pivot pin extending through said yoke legs and said shank stock at a point intermediate said bores in said shank stock on an axis at right angles to said bores, said helical springs being compressed between the inner ends of said bores and said saddle whereby said saddle is constantly yieldably engaged with the adjacent side of said straight shank of said movable jaw element.

ROCHELLE D. BRYAN.

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