

No. 825,874.

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F. WILLIAMS & J. DAVIS.
WRENCH.

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Fig. 1

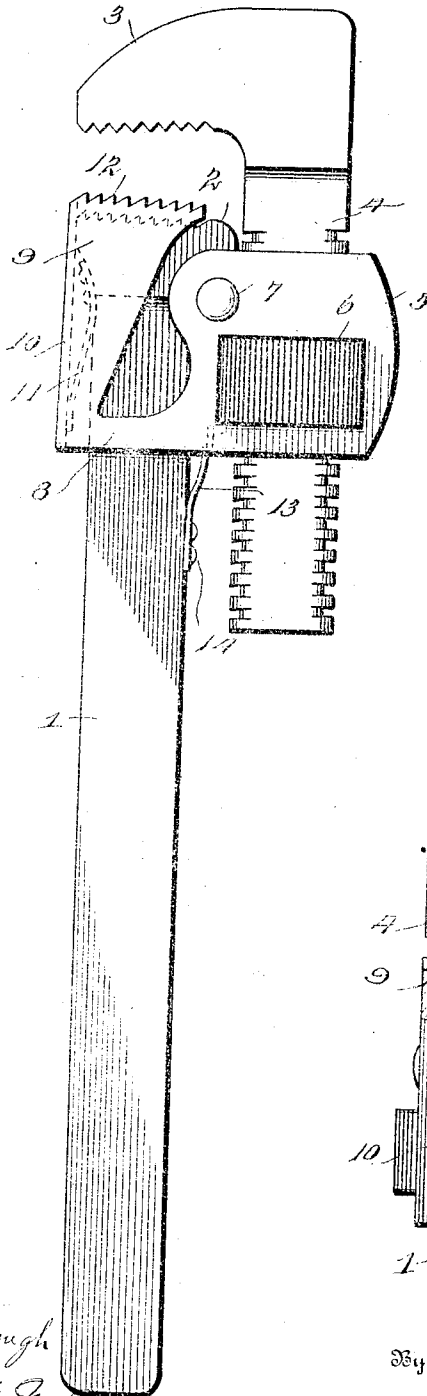


Fig. 2.

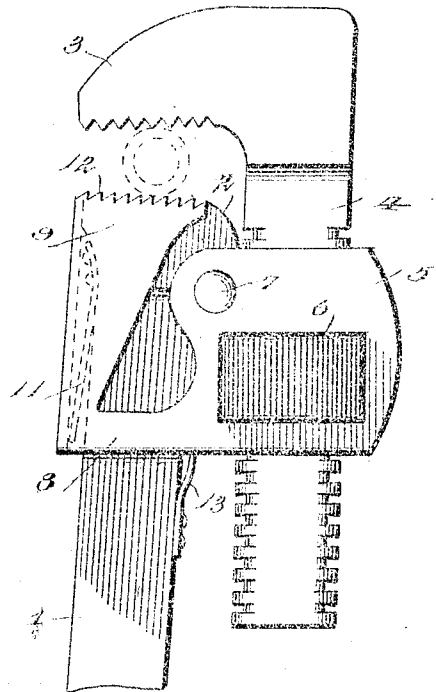
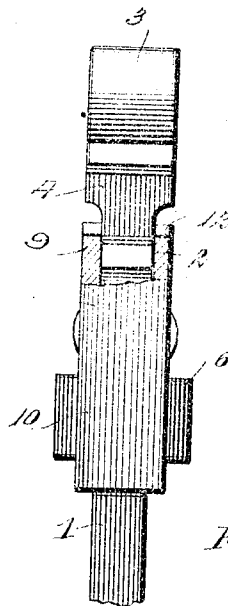


Fig. 3.



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UNITED STATES PATENT OFFICE.

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WRENCH.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, FRANK WILLIAMS and JOHN DAVIS, citizens of the United States, residing at Kelvin, in the county of Pinal, Arizona Territory, have invented new and useful Improvements in Wrenches, of which the following is a specification.

This invention relates to wrenches, and particularly that class of wrenches known as the "Stillson," the object of the present invention being to provide means whereby the gripping action of the jaws on a pipe, rod, or the like is insured without the necessity of the mechanic grasping the movable or swinging jaw with one hand while the stationary or fixed jaw is operated by the other hand, which grasps the handle or stock of the wrench, the wrench thus being adapted to be used by one hand and to effectually grip the pipe, rod, or other object intermittently as the wrench is swung back and forth.

With the above object in view the invention consists in the novel construction, combination, and arrangement of parts, herein after more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a side elevation of a Stillson wrench embodying the present invention. Fig. 2 is a similar view showing the swinging jaw moved to its gripping position. Fig. 3 is a front edge view of the wrench looking toward the outer ends of the jaws.

Referring to the drawings, 1 designates the handle or stock of the wrench, which is provided at its outer end with the stationary jaw 2.

3 designates the swinging jaw, provided with the usual threaded shank 4, which passes through the pivoted yoke 5 and is adjustable therein and therethrough by means of the usual adjusting-nut 6. The yoke 5 is pivotally connected at 7 to the handle or stock 1 close up to the stationary jaw 2 and comprises a loop portion 8, which embraces and is movable laterally on the handle or stock 1 to admit of a limited relative movement between the swinging and stationary jaws, the construction thus far described being that of the Stillson wrench at present in common use. In carrying out the present invention we equip the yoke 5 with an actuating or tilting device for the swinging jaw 3, which under the preferred embodiment of this invention consists of auxiliary jaws 9, extending from the bottom or loop portion 8 of the

pivoted yoke upward on opposite sides of the stationary jaw 2, as clearly shown in the drawings, the said auxiliary jaws normally extending slightly above the toothed gripping-face of the stationary jaw 2, as shown in Fig. 1. The auxiliary jaws 9 are connected at their outer side by a cross-web or connecting portion 10, so as to brace and reinforce said auxiliary jaws, and between said side portion or web 10 and the adjacent face of the handle or stock 1 there is arranged a spring 11, which is secured to the handle and bears outwardly against the inner face of the connecting portion or web 10; the tendency of said spring being to throw the jaws open to receive the object to be operated upon and also to hold the toothed upper edges 12 of the auxiliary jaws elevated slightly above the toothed working face of the stationary jaw, as shown in Fig. 1.

The usual jaw-closing spring 13 is connected with the rear edge of the handle, as shown at 14, and extends upward within the yoke 5, pressing said yoke rearwardly away from the handle 1, and thereby pressing the swinging jaw 3 forward and in closer relation to the stationary jaw for obtaining the initial grip on the pipe, rod, or other object.

From the foregoing description it will be seen that when the jaws are placed over a pipe or similar object and the handle 1 moved in the proper direction to grip the object said object will be grasped by the teeth of the swinging jaw and the auxiliary jaws sufficiently to cause the auxiliary jaws to move in a direction away from the swinging jaw, and this movement is continued until the pipe or other object depresses the toothed edges of the auxiliary jaws into the plane of the working face of the stationary jaw, whereupon the said pipe or other object becomes firmly gripped between the stationary and swinging jaws. It will be understood that the auxiliary jaws do not obtain an operative grip on the pipe or other object and do not in reality constitute the gripping stationary jaw or any portion of said jaw, but are merely used to insure a frictional engagement of the wrench with the pipe or other object and rock the yoke 5, and thereby the swinging jaw 3, until said swinging jaw 3 in moving toward the stationary jaw causes the pipe or other object to be firmly gripped between the main stationary jaw 2 and the swinging jaw 3.

The arrangement described enables the wrench to be manipulated with one hand,

leaving the other hand free, and the gripping of the pipe or other object between the stationary and swinging jaws of the wrench is insured.

5 The springs 11 and 13 to a certain extent counterbalance each other; but the spring 11 is made slightly stiffer than the spring 13, so as to normally hold the jaws open in readiness to receive the pipe, with the toothed
10 edges of the supplemental jaws 9 extended slightly beyond the toothed working face of the stationary jaw.

We claim—

1. A wrench for application to a pipe or
15 other device comprising a handle, a stationary jaw, a swinging jaw, and means movably mounted adjacent to one of said jaws adapted to be engaged by the pipe or other device to move the swinging jaw toward the sta-
20 tionary jaw to grip said pipe.

2. A wrench for application to a pipe or other device comprising a handle having a stationary jaw and a swinging jaw, and means carried by the swinging jaw and movable adjacent to the stationary jaw and
25 adapted to be engaged by the pipe or other device which acts to move the swinging jaw toward the stationary jaw to grip the pipe or other device between the same.

30 3. A wrench for application to a pipe or other device comprising a handle having a stationary jaw, a yoke pivoted thereto, a

swinging jaw carried by the yoke, and means on the yoke adapted to be engaged by the pipe or other device for swinging the yoke
3 and throwing the swinging jaw toward the stationary jaw.

4. A wrench for application to a pipe or other device comprising a handle having a stationary jaw and a swinging jaw, a pivoted
40 yoke connecting said jaws, and an auxiliary jaw carried by the yoke and adapted to project slightly beyond the working face of the stationary jaw to be engaged by the pipe or other device, whereby the pipe acts on the
45 auxiliary jaw and thereby causes the swinging jaw to move toward the stationary jaw.

5. A wrench for application to a pipe or other device, comprising a handle having a stationary jaw and a swinging jaw, a pivoted
50 yoke connecting said jaws, and connected auxiliary jaws carried by said yoke and having toothed edges which project beyond the working face of the stationary jaw to be engaged by the pipe or other device, said pipe
55 acting on the auxiliary jaws to move the swinging jaw toward the stationary jaw.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK WILLIAMS.
JOHN DAVIS.

Witnesses:

W. H. MARQUIS,
J. W. BEEBE.