April 30, 1940. C. L. ROUSH ET AL 2,198,951

WRENCH

Filed Feb. 23, 1939 2 Sheets-Sheet 1

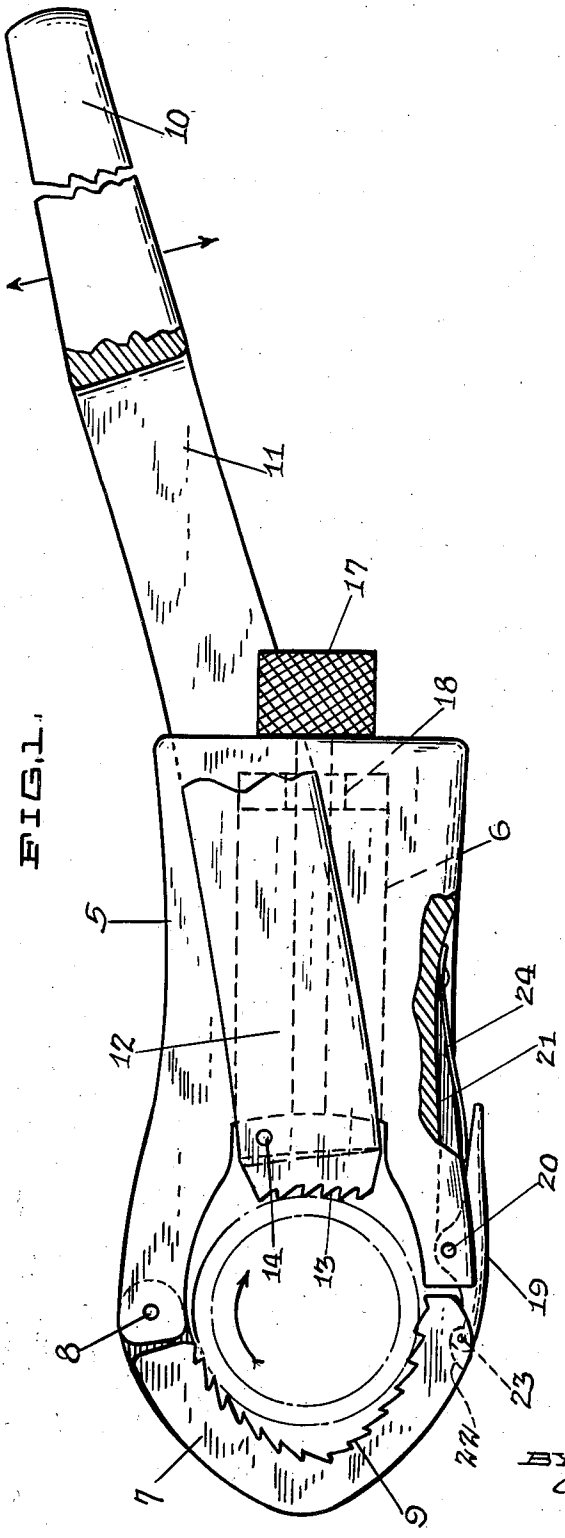


FIG. 1.

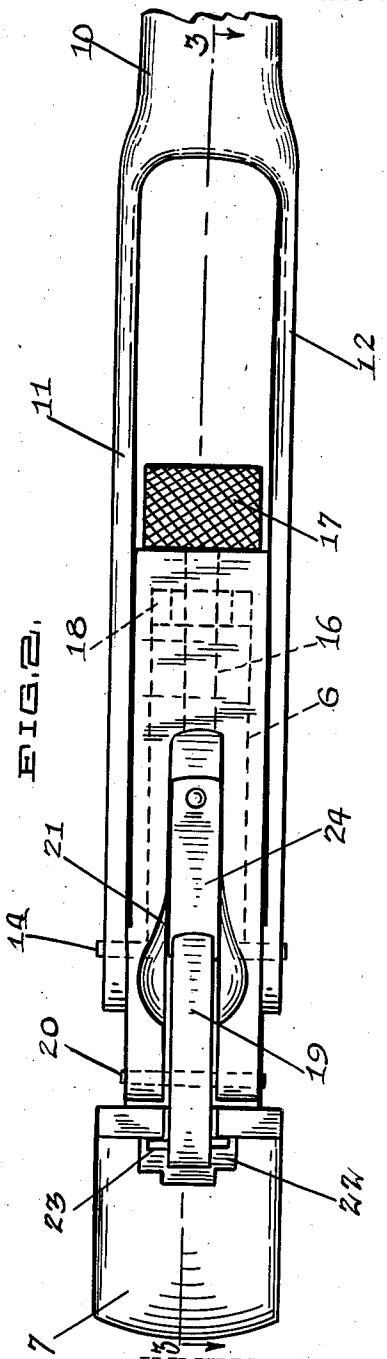


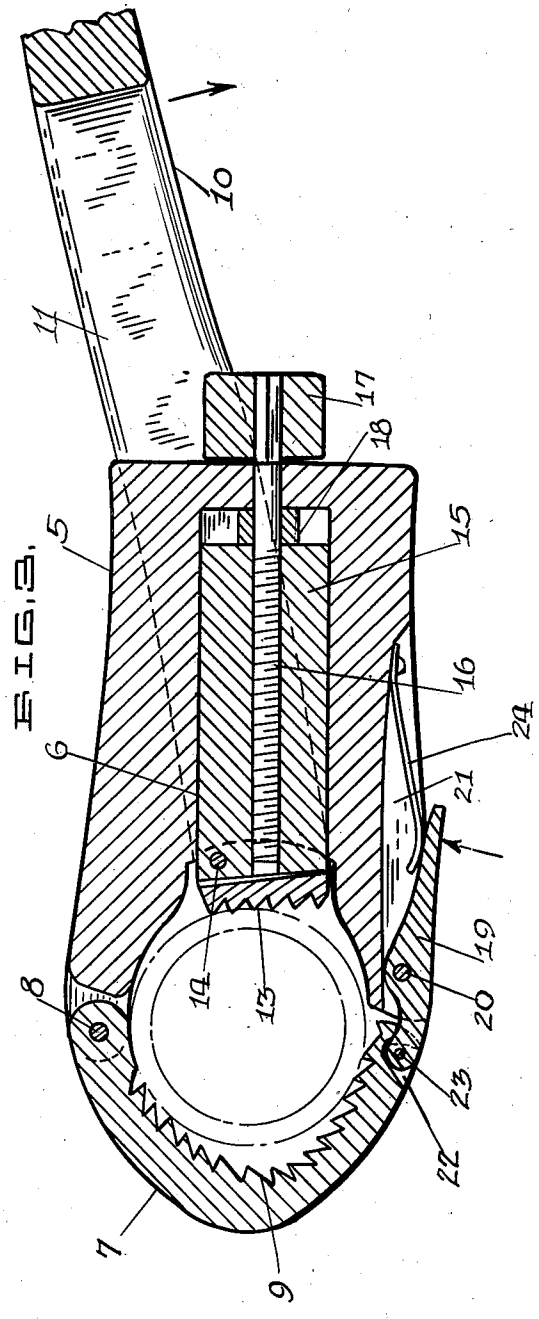
FIG. 2.

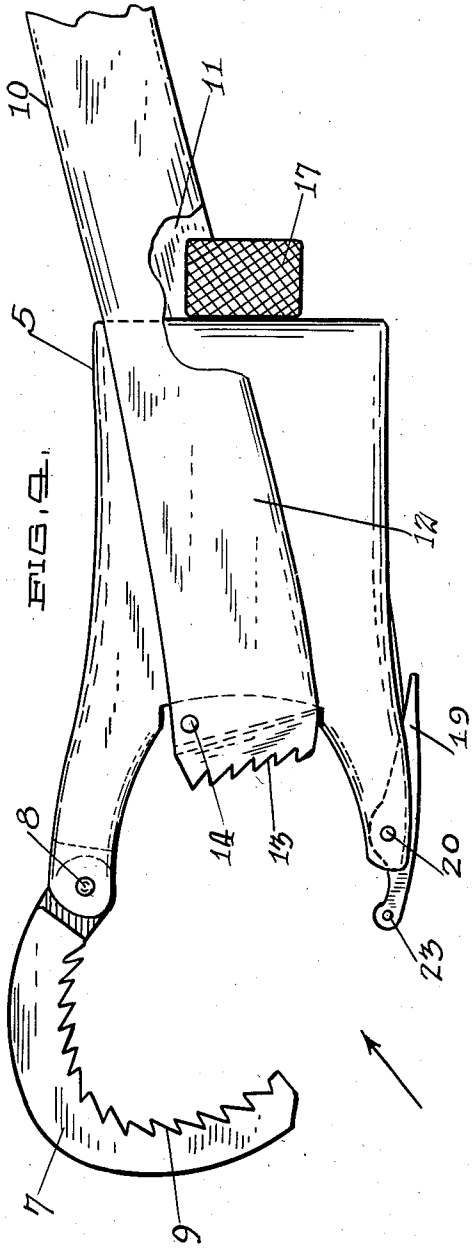
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WRENCH

Filed Feb. 23, 1939 2 Sheets-Sheet 2





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Patented Apr. 30, 1940 2,198,951

UNITED STATES PATENT OFFICE

2,198,951

WRENCH

Charles L. Roush and William B. Roush, Hilts, Calif.

Application February 23, 1939, Serial No. 258,027

1 Claim. (Cl. 81—92)

This invention relates to improvements in wrenches and has particular reference to improvements in pipe wrenches having a novel gripping jaw arrangement so arranged that a three point contact is secured in the manipulation of ordinary sized pipe.

The principal object of the invention is to provide a pipe wrench of the character described that embodies a swingable jaw having gripping teeth arranged in substantially V-shaped formation and an adjustable jaw having cooperating gripping teeth capable of cooperating with said swingable jaw teeth and adjustable relative thereto by means of a screw adjusting mechanism whereby the wrench may be readily adjusted to pipes of varying diameters.

Another object of the invention is the provision of a pipe wrench of the character set forth that is especially adapted for use in connection with small diameter pipe and one that is also applicable to and capable of being utilized in small areas where the ordinary "Stillson," or other similar wrench of the "Stillson" or chain type wrench, cannot be effectively manipulated.

A further object of the invention is the provision of a pipe wrench of this character that includes a positive adjusting mechanism, whereby the swingable jaw and the movable jaw may be adjusted to fit any sized pipe of medium capacity.

A still further object of the invention is to provide a pipe wrench of the character set forth that is comparatively simple in construction, one that may be easily and quickly adjusted to pipes, nipples, L's, or T's, and one that will fit the general sizes of these fittings.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a side elevation of our improved wrench with portions thereof broken away to illustrate the operation thereof;

Fig. 2 is a bottom plan view of Fig. 1;

Fig. 3 is a vertical sectional view, showing the various parts of the wrench and taken on the line 3—3 of Fig. 2; and

Fig. 4 is a side elevation of the wrench, showing the gripping jaw in open position.

We are aware of the fact that various wrenches are at the present time available, but to our knowledge none of these are capable of gripping small diameter pipes in close spaces. It is our object to produce a wrench which may be utilized to grip small pipes of varying diameters and in small spaces.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of our invention, the numeral 5 designates the head of the wrench, in which head is provided a guideway 6. A swingable jaw 7 is attached to the head 5 by means of a pin 8, said swingable jaw having gripping teeth 9 formed in a substantially V-shaped configuration within the interior of the jaw, as clearly indicated in Fig. 3. An operating handle 10 is associated with the head 5 and is bifurcated, as indicated in Fig. 2, and by the numerals 11 and 12. In the end of this operating handle 10 is provided a toothed jaw section 13. The handle 10 is pivoted by means of a pin 14 to a sliding block 15 arranged within the guideway 6 of the head and capable of movement therein. Means for moving the block 15 within the guideway consists of a threaded spindle 16 extending through the block and the head and having a knurled nut 17 mounted on its outer end and capable of rotating the threaded spindle 16 in either direction to move the jaw 13 toward or against a pipe of any desired diameter that may be inserted between the jaw 7 and the jaw 13.

A stop member 18 is mounted upon the spindle 16 and retains the spindle against longitudinal movement when rotated by the knurled nut 17.

The means for retaining the jaw 7 in contact with the pipe consists of a pawl 19, pivoted at the point 20 to the head 5, and a slot 21 is formed in said head to allow the pawl to be retracted within the head, as hereinafter set forth. As is more clearly shown in Fig. 2, the pawl enters a slot 22 formed in the jaw 7, and said pawl 19 is provided with a pin 23 which normally fits within said slot and holds the jaw 7 in the position shown in Figs. 1 and 3—that is, when a pipe is in position between the jaws.

It will be observed that the pin 14 is pivoted at a point considerably above the center line of the block 15 and, therefore, is eccentric thereto.

A flat spring 24 is riveted within the head 5 and normally bears against the dog 19 and tends to hold the jaw 7 in the position shown in Fig. 3, which position is the pipe gripping position of the wrench. As shown in Fig. 4, with the jaw 7 open a pipe of any desired diameter may be inserted within the wrench head and then locked in position by means of the pawl 19 when it is desired to turn the pipe in any pipe fitting operation.

It will thus be seen that we have provided a

wrench which may be easily and quickly applied to pipes of small diameters, and which will tend to grip these pipes from three points upon the circumference thereof, which is not possible with the usual wrench of this character, including the "Stillson" wrench. Furthermore, the present wrench may be operated in much more smaller areas than is possible with the usual pipe wrench.

It is to be understood that the form of our invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described our invention, we claim:

In a wrench of the character described, comprising a head, a swinging jaw connected to said head and having teeth within the interior and arranged in substantially V-shape configuration, a latch for holding the jaw closed on the head, a sliding block arranged within said head, a screw for adjusting said block within the head, an operating handle having a bifurcated end straddling said head and pivoted to the block eccentrically beyond the head, a tooth jaw carried by the outer end of the handle whereby the adjustment of the block moves the handle and its tooth jaw relative to the swinging jaw.

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