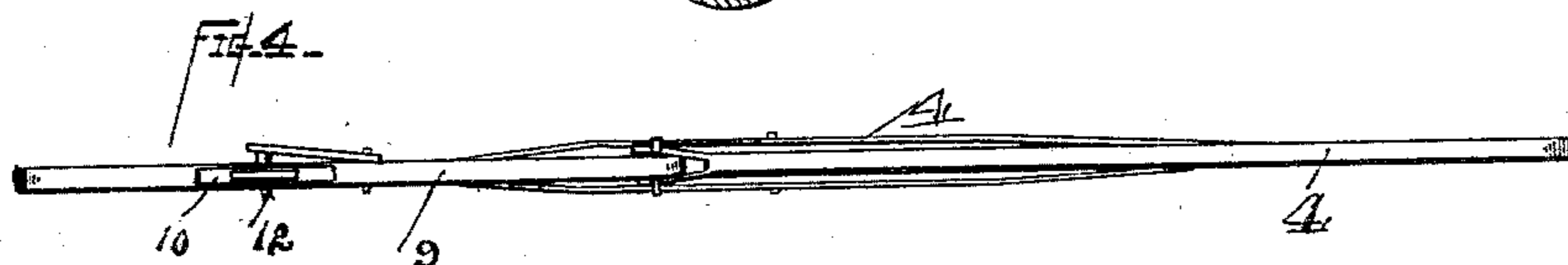
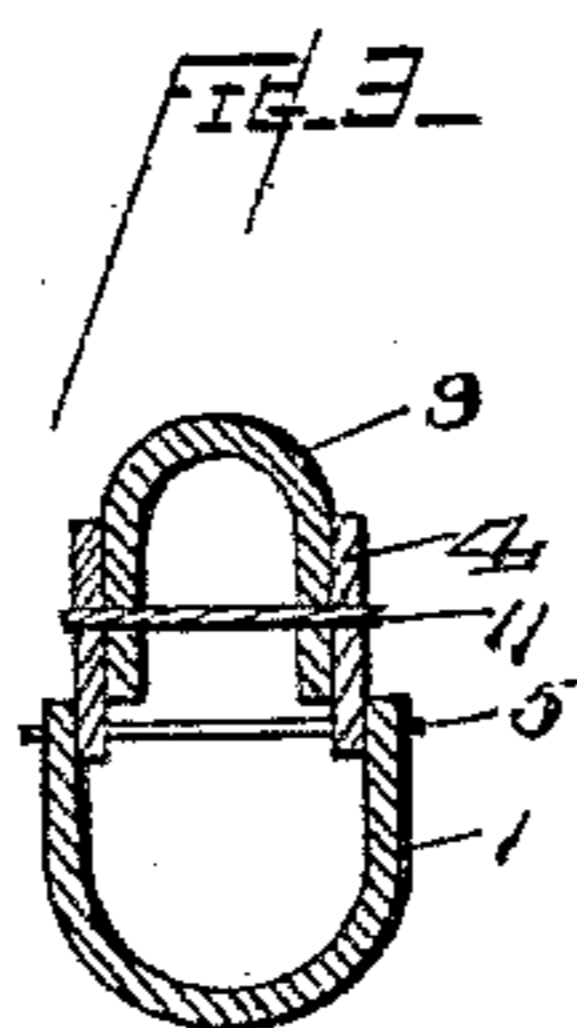
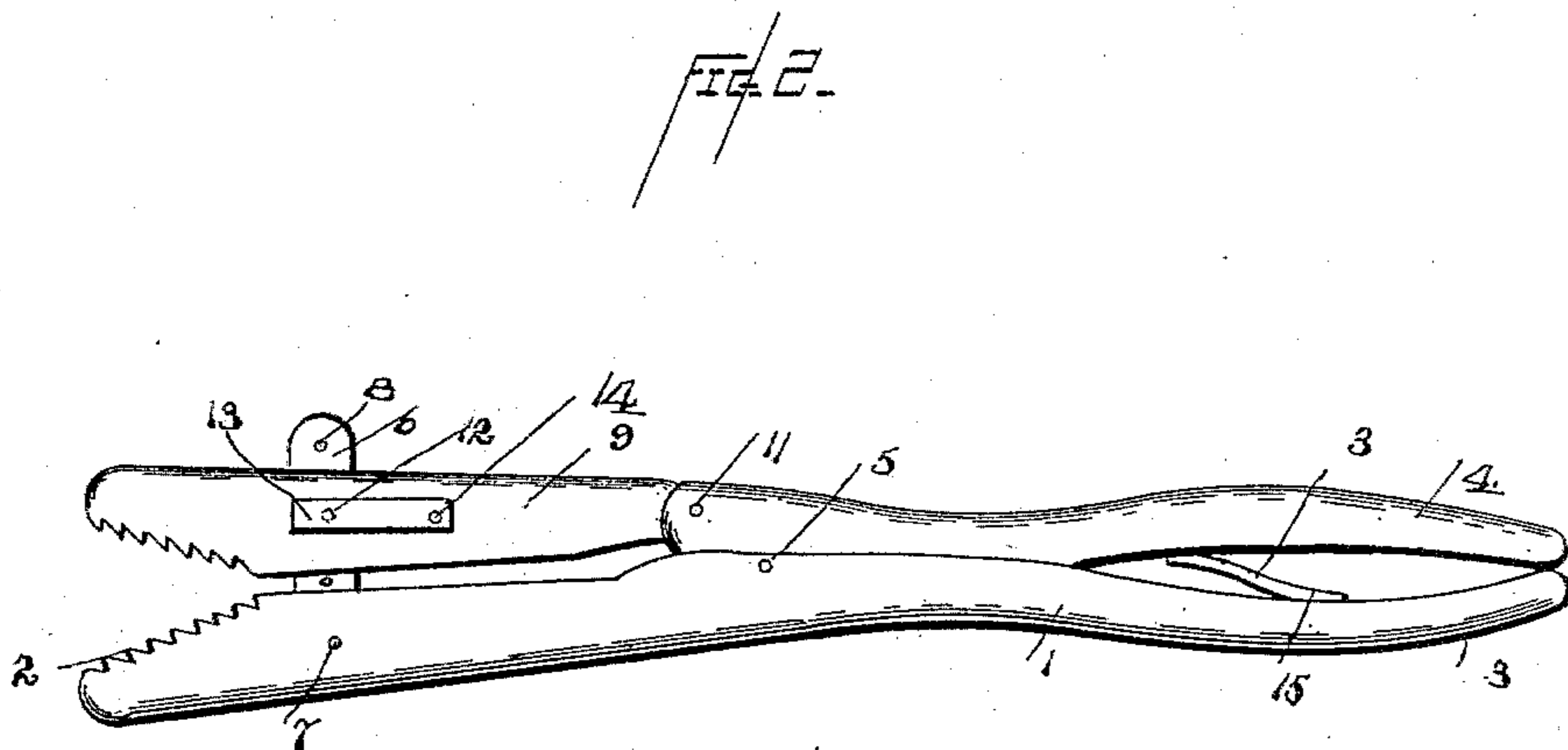
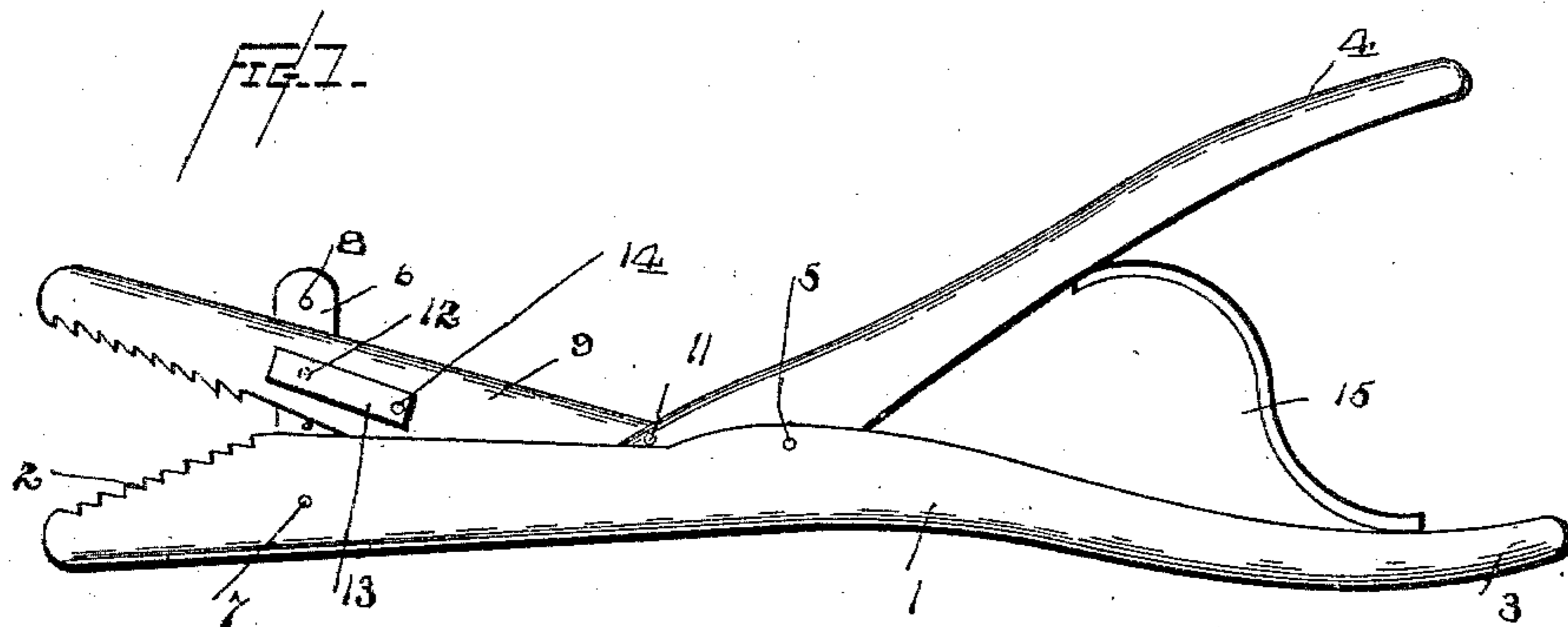


(No Model.)

S. D. ROBINSON & B. M. DOUD.  
WRENCH.

No. 597,743.

Patented Jan. 25, 1898.



Witnesses  
W. S. Evans & Co.,  
Victor J. Evans

Inventors  
Stephen D. Robinson  
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By John Wedderburn  
Attorney

# UNITED STATES PATENT OFFICE.

STEPHEN D. ROBINSON AND BENNIE M. DOUD, OF FARMINGDALE,  
SOUTH DAKOTA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 597,743, dated January 25, 1898.

Application filed July 12, 1897. Serial No. 644,218. (No model.)

*To all whom it may concern:*

Be it known that we, STEPHEN D. ROBINSON and BENNIE M. DOUD, of Farmingdale, in the county of Pennington and State of South Dakota, have invented certain new and useful Improvements in Wrenches; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to wrenches; and its object is to provide an improved form of wrench made from sheet metal and adapted more especially for use as a pipe-wrench.

Our invention consists of certain novel features of construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of our device with the jaws open. Fig. 2 is a side elevation of the same with the jaws closed, and Fig. 3 is a section of our device on the line of junction of the movable jaw with its operating-lever. Fig. 4 is a top plan view.

The numeral 1 indicates the fixed part of our wrench, which is formed from a plate of metal and bent to U shape, as shown. Teeth 2, formed on the edge of this plate, serve to form one jaw of the wrench when the same is bent to the proper shape, and a handle 3 is also formed thereon. A lever 4, pivoted at 5, forms the handle of the movable jaw of our wrench. A bar 6 is pivoted between the two sides of the fixed member of our wrench, as at 7. The bar 6 is further provided with a series of openings 8 therethrough. A movable jaw 9 is formed of sheet metal provided with teeth and bent to U shape, as shown. An opening 10 is formed in the back of this U-shaped jaw, and the bar extends between the sides of the U and through this opening. This jaw is pivoted to the handle, as at 11. A pin 12 extends through this jaw and one of the openings in the bar. A spring 13 is attached to the jaw, as at 14, and serves to hold this pin in place. We provide a spring 15 between the handles in order to normally keep the jaws in an open position.

It will be readily seen that by shifting the pin 12 from one to the other of the holes in the adjusting-bar the opening of the jaws may be regulated at will.

It is obvious that many minor changes may

be made in the form of our device without departing from the spirit of our invention; and we do not, therefore, desire to limit ourselves to the exact construction herein shown and described, but wish to include all such as properly come within the scope of this invention.

Having thus described the invention, what is claimed as new is—

1. In a wrench, the combination with a fixed member formed of sheet metal, provided with teeth and bent to form a U-shaped jaw, of a movable member comprising a handle portion pivoted to said fixed member, and a jaw portion pivoted to said handle portion and attached to said fixed member by a pivoted bar.

2. In a wrench, the combination with a fixed member formed of sheet metal bent to U shape and provided with a toothed jaw and a handle portion, of a lever pivoted thereto forming the handle of the movable jaw, a bar pivoted to said fixed jaw and provided with a series of openings therethrough, a movable jaw pivoted to said handle-lever and said bar, and a spring between said handle-lever and the handle portion of said fixed member.

3. In a wrench, the combination with a fixed member formed of sheet metal U-shaped in cross-section, of a toothed jaw formed thereon, a handle portion formed thereon, a lever pivoted thereto, a handle portion formed on said lever, a spring held between said handle portions, adapted to force them apart, a bar provided with a series of openings therethrough pivoted to said fixed member, a movable jaw formed of sheet metal U-shaped in cross-section and provided with an opening at the back of the U, a pin extending through the sides of said jaw and through one of the openings in the aforesaid bar, a spring adapted to hold said pin in position, and a pin adapted to afford pivotal connection between the end of said movable jaw and the aforesaid lever, substantially as described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

STEPHEN D. ROBINSON.  
BENNIE M. DOUD.

Witnesses:

ROBERT LEE PLATT,  
ALBERT KIRKPATRICK.