

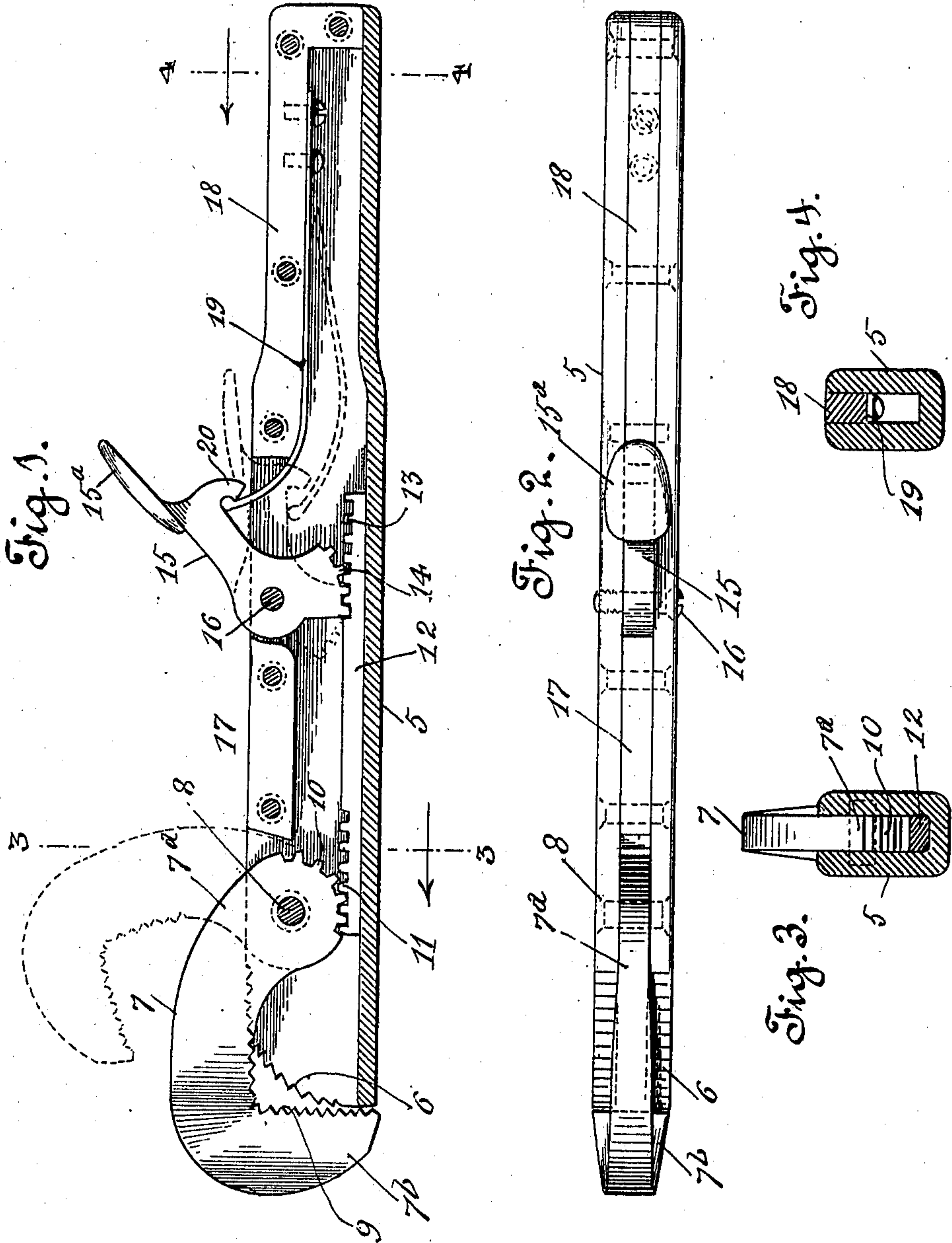
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PIPE WRENCH.

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970,731.

Patented Sept. 20, 1910.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

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## PIPE-WRENCH.

970,731.

Specification of Letters Patent. Patented Sept. 20, 1910.

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*To all whom it may concern:*

Be it known that I, AUGUST L. MELCHERT, a citizen of the United States, residing in the city of Santa Ana, county of Orange, and State of California, have invented new and useful Improvements in Pipe-Wrenches, of which the following is a specification.

The object of my invention is to provide a pipe wrench that will automatically adjust itself to a pipe of any size within the capacity of the wrench, and which will cause the movable jaw to bite the pipe and move toward the fixed jaw when the wrench is turned in one direction and will allow it to slip on the pipe when the wrench is turned in the other direction.

Another object is to provide means whereby the operator may open the movable jaw to enable it to be placed over a pipe with the same hand by means of which he operates the wrench.

I accomplish these objects by the wrench described herein and illustrated in the accompanying drawings in which:

Figure 1 is a side elevation with one of the sides of the body removed for clearness of illustration. Fig. 2 is a top plan view of the wrench. Figs. 3 and 4 are sections on the lines 3 and 4 respectively of Fig. 1.

In the drawings 5 is the body member of the wrench which is preferably formed of tool steel bent into the shape of a U with the front end rounded and notched with teeth 6, thereby forming the fixed jaw. At a suitable distance back of the teeth 6 the movable jaw 7 is secured to the body by bolt or rivet 8 which passes through the shank of the movable jaw and the sides of the body. The front end 7<sup>b</sup> of the movable jaw is preferably wider than the shank, as best shown in Fig. 2, being preferably of a width equal to the width of the body. The inner surface is notched forming teeth 9. The shank 7<sup>a</sup> may also have the inner surfaces notched to form teeth as shown in Fig. 1. The inner end of the shank of the movable jaw is circular and is provided with cog teeth 10 which mesh with cog teeth 11 on the front end of rack bar 12. The rear end of rack bar 12 is also provided with cog teeth 13 which mesh with cog teeth 14 on the inner end of operating lever 15 which is pivoted by bolt 16 to the body intermediate the ends thereof. Between the movable jaw and the operating lever a closure piece 17 is riveted

to the body. A handle closure piece 18 is riveted to the body member back of the operating lever. This rear closure piece carries a spring 19 whose free end bears against the under side of the operating lever. The under side of the operating lever is provided with a downwardly projecting lug 20 which protects the upper end of the spring when the wrench is in its inoperative position and is shown in Fig. 1.

In the operation of my wrench the rear end of the body which forms the handle is grasped by the operator who may seize it with either hand. He then places his thumb upon the thumb piece 15<sup>a</sup> of the operating lever and by pressing downwardly thereon he can open the movable jaw to its full capacity, when he can place the wrench upon the pipe to be operated upon. He then removes his thumb from the thumb piece when spring 19 will throw the movable jaw into engagement with the pipe and cause the same to grip the pipe. He can then turn the pipe in the desired direction and operate the wrench in the usual manner. To release the wrench from the pipe he again applies pressure to the thumb piece and opens the movable jaw. By this construction a cheap and efficient pipe wrench is provided which automatically adjusts itself to any size of pipe within the capacity of the wrench, and which can be operated with a single hand.

Having described my invention what I claim is;

1. A pipe wrench comprising a body member, the front end of which forms a fixed jaw and the rear end a handle; a movable jaw pivoted to said body member near the fixed jaw, said movable jaw having the inner end of the shank circular and provided with teeth; a rack bar having teeth on its front end meshing with the teeth on the shank of the movable jaw, said rack bar also having teeth on the rear end thereof; an L-shaped operating lever having teeth on its inner end meshing with the teeth of the rear end of the rack bar, said operating lever being pivoted in the body member and having a thumb piece on the other end thereof; and a spring bearing on the under side of the operating lever.

2. A pipe wrench comprising a U-shaped body member, the front end of which forms a fixed jaw and the rear end a handle; a movable jaw pivoted to the body member



near the fixed jaw thereof, said movable jaw being provided at its pivoted end with a segment of a pinion; an L-shaped operating lever pivoted to said body member between the movable jaw and the handle, said operating lever being provided at its inner end with a segment of a pinion, and on its outer end with a thumb piece; a rack mounted in the body member having teeth engaging with the movable jaw and the operating

lever; and a spring mounted in the handle and bearing against the under side of the operating lever.

In witness that I claim the foregoing I have hereunto subscribed my name this 10th day of January, 1910.

AUGUST L. MELCHERT.

Witnesses:

W. FRANK GREENLEAF,  
R. Y. WILLIAMS.