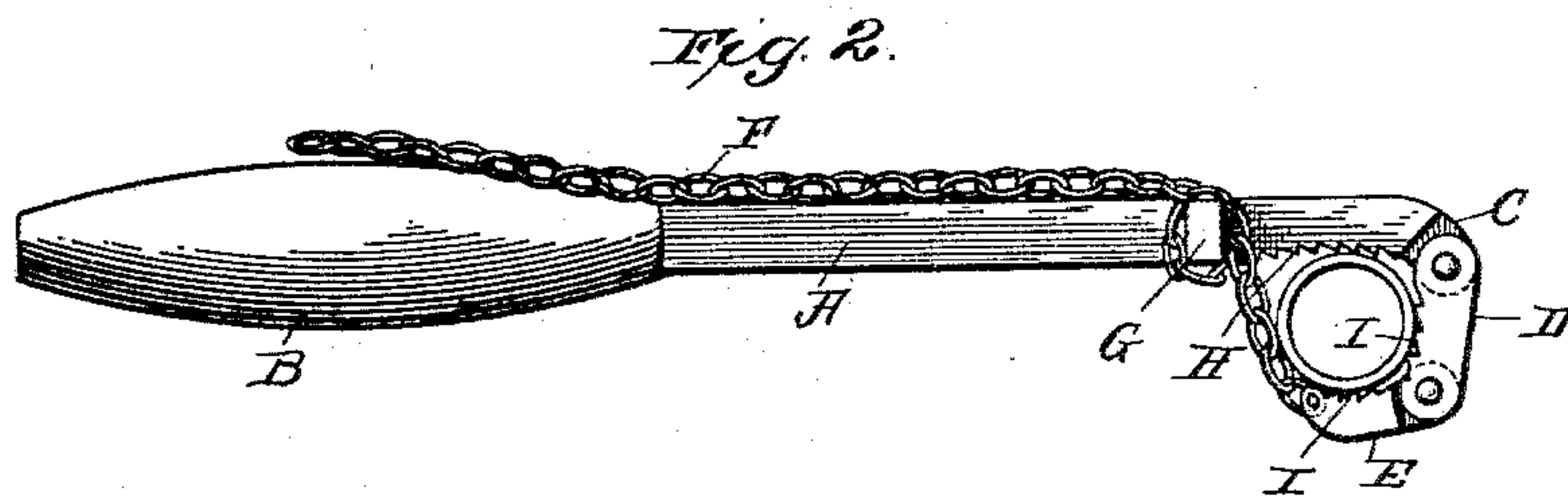
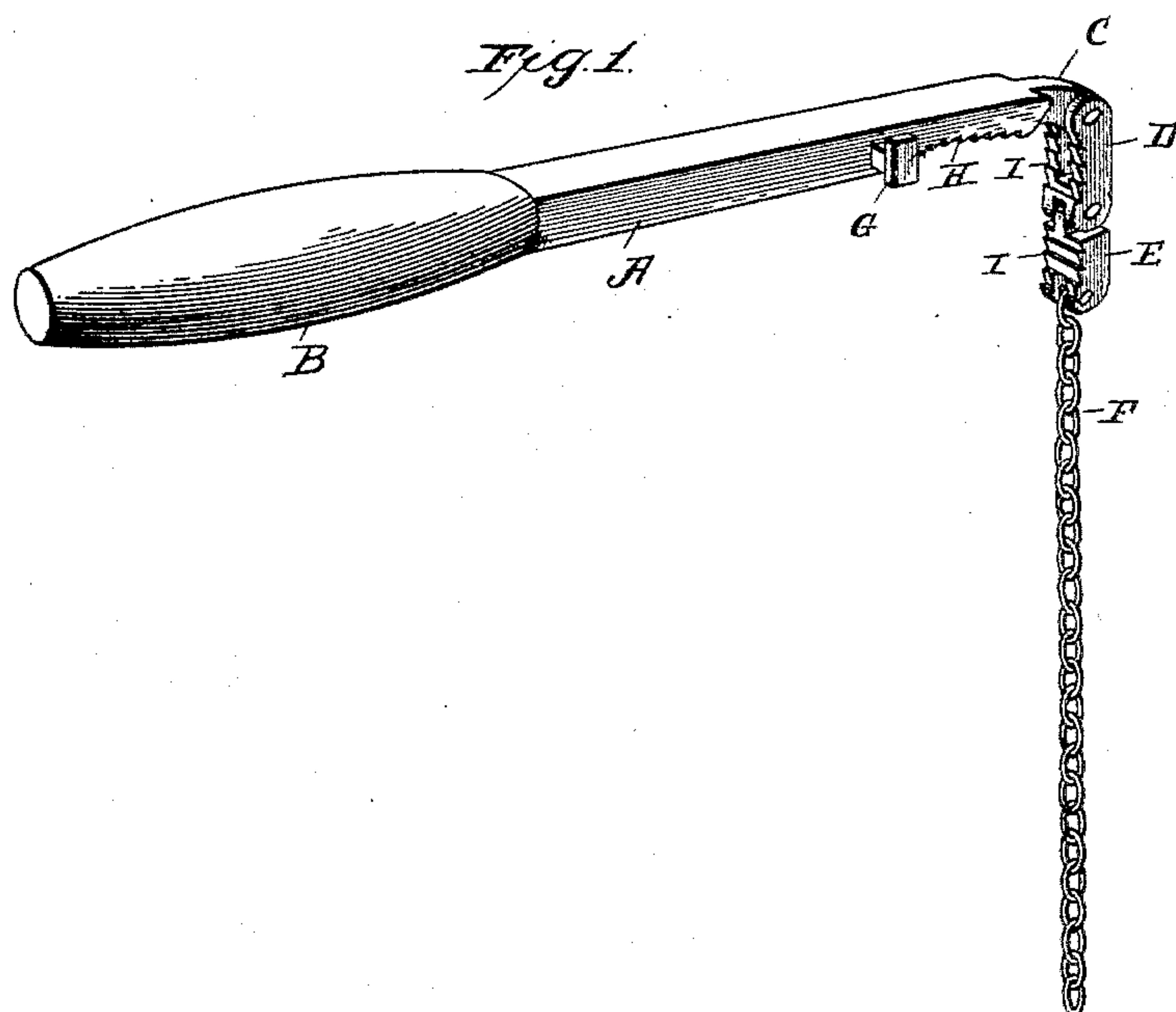


(No Model.)

R. A. RYRIE..  
PIPE WRENCH.

No. 583,947.

Patented June 8, 1897.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ROBERT A. RYRIE, OF CAMDEN, NEW JERSEY.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 583,947, dated June 8, 1897.

Application filed January 11, 1897. Serial No. 618,823. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT A. RYRIE, a citizen of the United States, residing at Camden, in the county of Camden and State of New Jersey, have invented a certain new and useful Improvement in Pipe-Wrenches, of which the following is a specification.

My invention relates to a new and useful improvement in pipe and similar wrenches, and has for its object to provide a simple, cheap, and effective device of this description which shall be adapted for grasping a cylindrical object and turning it upon its axis by increasing the grip thereon as the rotary strain is applied thereto; and a further object of my invention is to attach a wrench of this description to varying sizes of work and make it quickly changeable from one size to another.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective of my improvement when not in use; and Fig. 2, a side elevation of the same, illustrating it applied to a pipe for turning the same upon its axis.

In carrying out my invention as herein embodied I provide a bar A of suitable material, preferably steel or malleable iron, upon which is secured a suitable handle B, or, if desired, this handle may be formed with the bar and of the same material. The outer end of the bar is reduced sidewise to form a tongue, as shown at C, which latter has pivoted thereto the link-jaw D, formed of two side plates lying parallel with each other, and this jaw has in turn pivoted thereto the jaw E, as clearly shown. To the last-named jaw is attached the chain F, which is of sufficient length to partly embrace the work to be operated upon and at the same time serve as a hold by means of which the operator may

grasp and retain the chain in active position, as hereinafter set forth. A headed stud G projects from one side of the bar, and the latter has formed upon its under side a curvature which is provided with the teeth H, and similar teeth I are formed upon the jaws D and E, so that in practice the wrench is applied to a pipe or similar object by placing the teeth H against said pipe, passing the chain around upon the opposite side thereof and drawing it upward so as to bring the jaws D and E into firm contact therewith, and finally wrapping the chain around the stud G and leading it rearward upon the handle, where it is grasped by the hand of the operator. Now it is only necessary to exert sufficient downward pressure upon the handle to cause the teeth H and I to grip the pipe, and this grip will be increased as the pressure is increased in this direction, since the teeth H act as a fulcrum to the bar while the jaws are drawn upward and thereby tightened upon the work.

One of the advantages of my improvement is that the slightest variance in the size of the work may be compensated for by the chain being drawn farther around the stud, and when the work has been performed the chain need only be released by the hand to sufficiently slip upon the pipe to permit the removal of the wrench therefrom.

Another object of my improvement is its exceeding simplicity and cheapness and the fact that it may be operated by any one with little or no skill in the mechanical arts and serves all the purposes of any of the more expensive and complicated wrenches.

It is obvious that to turn the work in an opposite direction it is only necessary to apply the wrench to the opposite side thereof.

Having thus fully described my invention, what I claim as new and useful is—

1. As a new article of manufacture, a pipe-wrench, consisting of a bar, teeth formed upon one end thereof, link-jaws pivoted thereto, a chain attached to the outer jaw, and a stud around which said chain may be wrapped, as specified.

2. A pipe-wrench, consisting of a bar, a handle carried thereby, teeth formed upon

one end thereof, a jaw D pivoted to said bar,  
a jaw E pivoted to the first-named jaw, teeth  
formed upon said jaws, a chain attached to  
the last-named jaw, and a stud projecting  
5 from the bar around which the chain may be  
wrapped, substantially as and for the pur-  
pose set forth.

In testimony whereof I have hereunto af-  
fixed my signature in the presence of two sub-  
scribing witnesses.

ROBERT A. RYRIE.

Witnesses:

S. S. WILLIAMSON,  
ALLISON W. McCURDY.