

No. 612,525.

Patented Oct. 18, 1898.

R. J. MILLER.
PIPE WRENCH.

(Application filed Feb. 7, 1898.)

(No Model.)

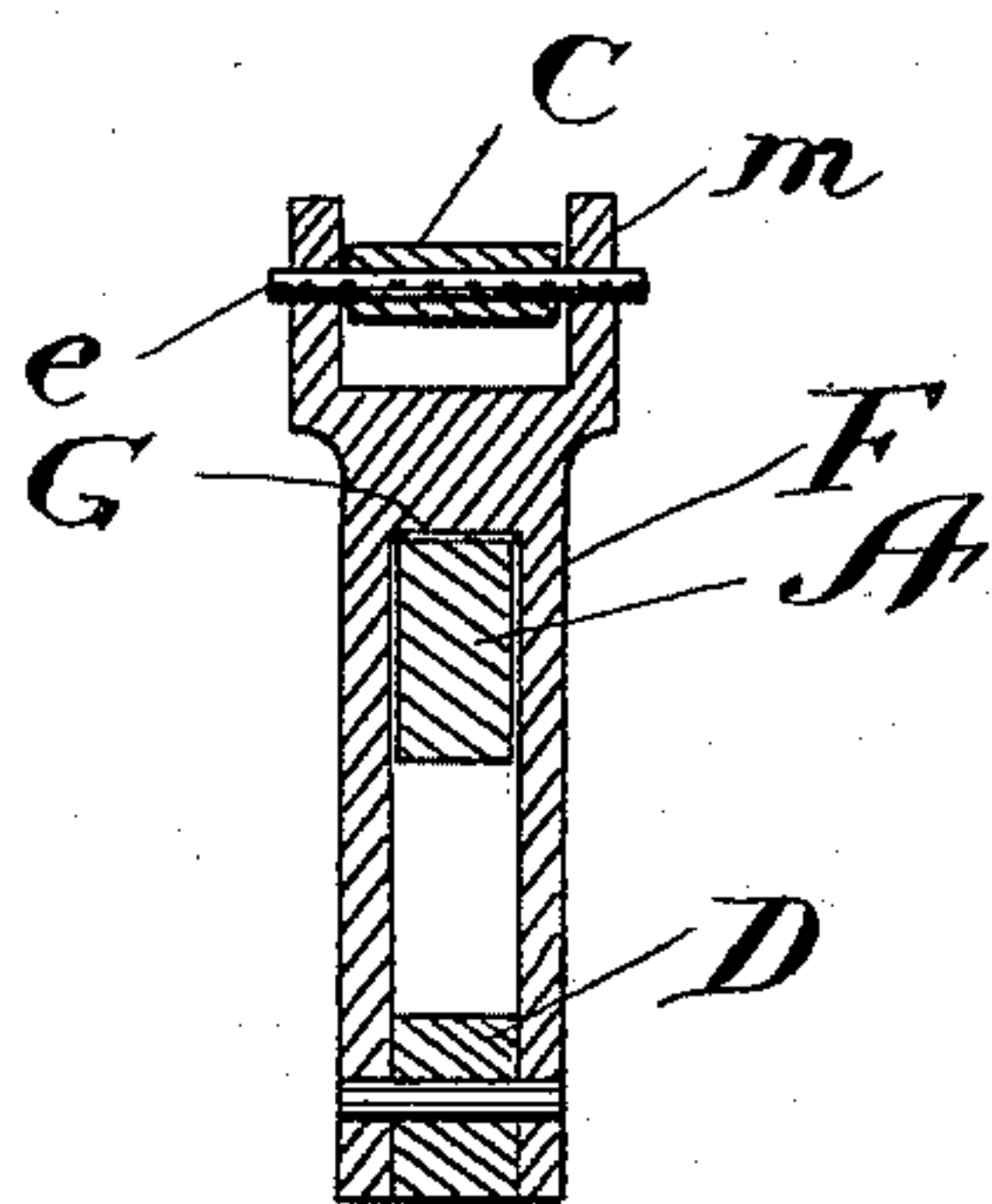
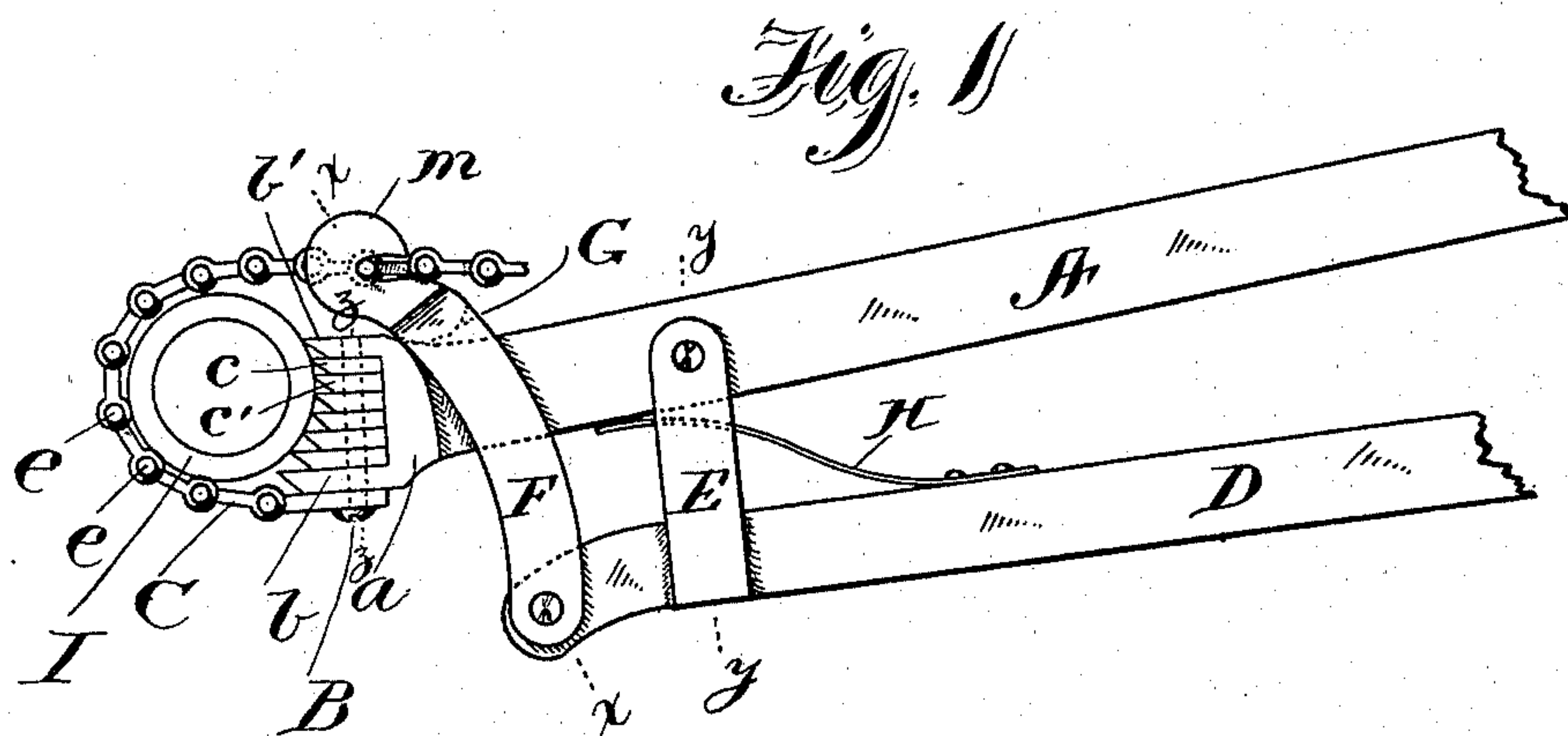


Fig. 2

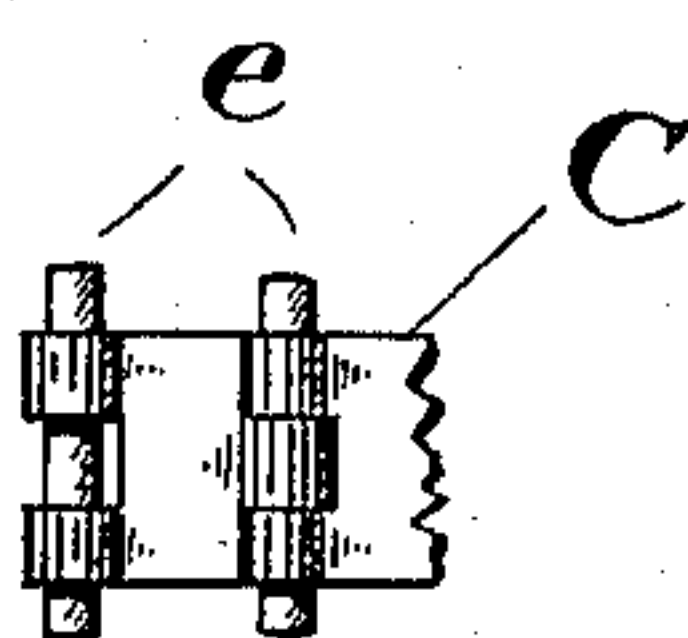


Fig. 3

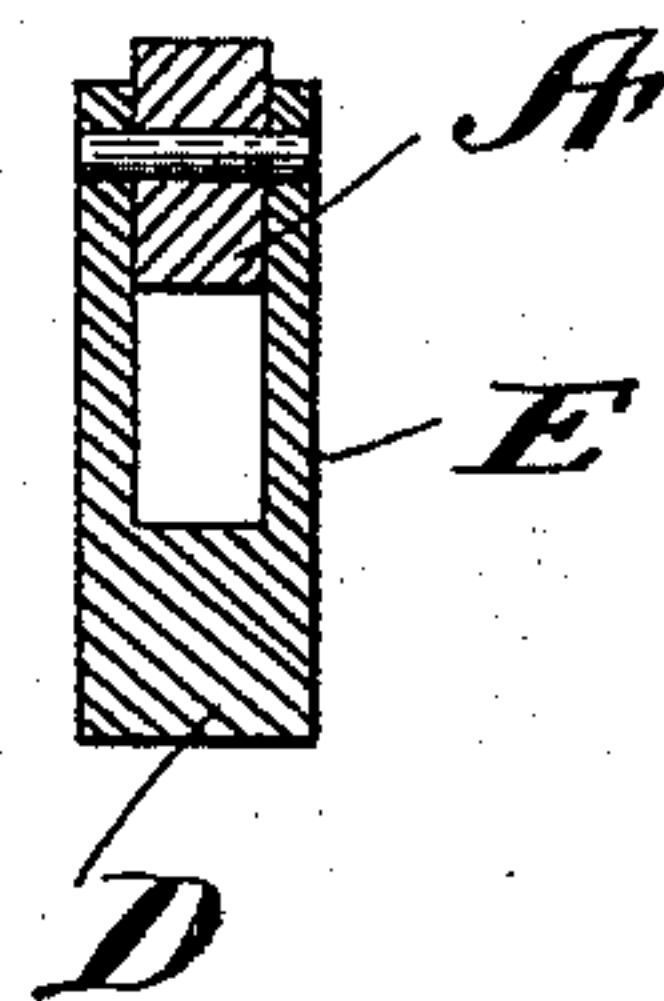


Fig. 4

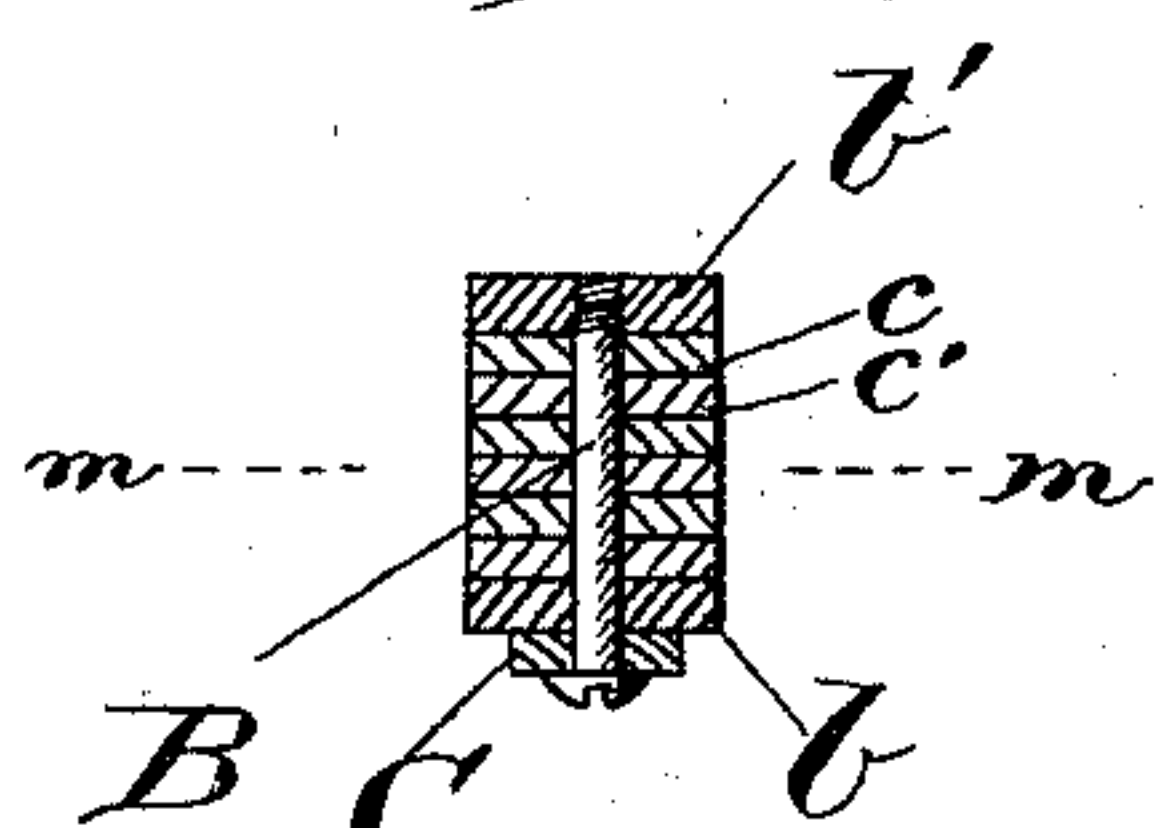


Fig. 5

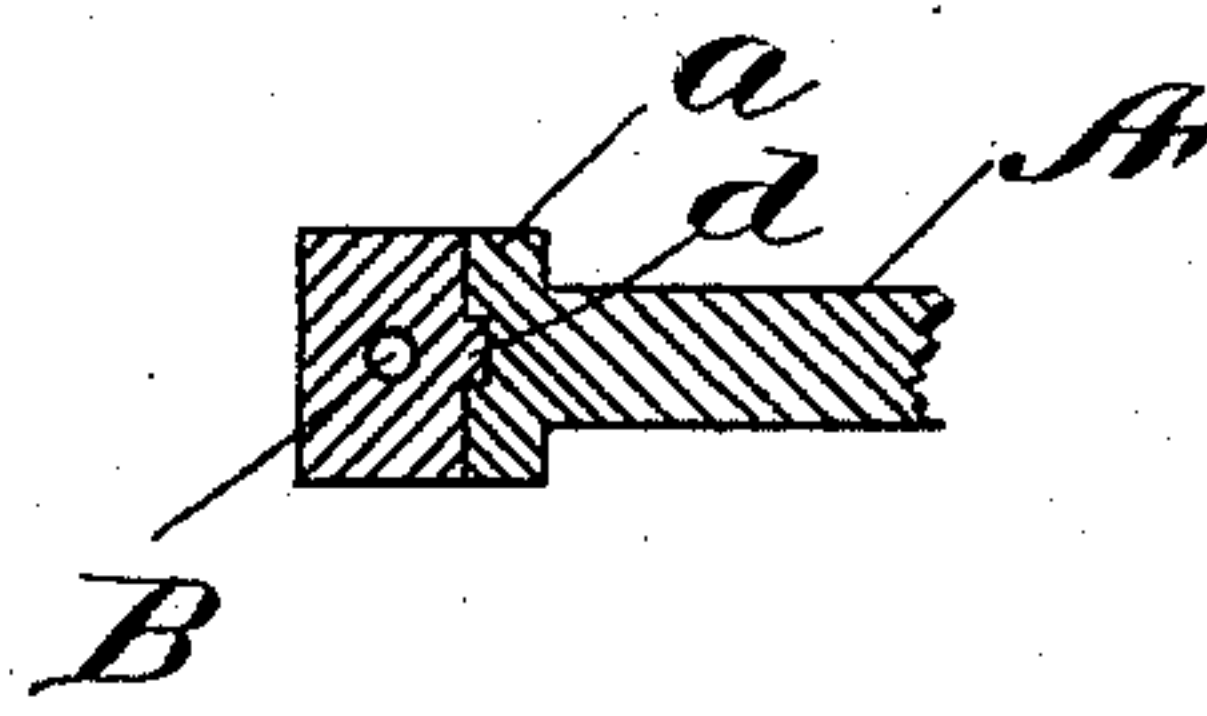


Fig. 6

Witnesses:
E. L. Kincaid.
A. L. Andrews.

Inventor:
Robert J. Miller.
by Kincaid & Co.
his attys.

UNITED STATES PATENT OFFICE.

ROBERT J. MILLER, OF BENICIA, CALIFORNIA.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 612,525, dated October 18, 1898.

Application filed February 7, 1898. Serial No. 669,443. (No model.)

To all whom it may concern:

Be it known that I, ROBERT J. MILLER, a citizen of the United States, residing at Benicia, in the county of Solano and State of California, have invented certain new and useful Improvements in Pipe-Wrenches; and I do hereby declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that class of devices known generally in the art as "pipe-wrenches," and more particularly to the subclass known as "chain pipe-wrenches," which are provided for the gripping and turning or otherwise manipulating of pipes, bars, or other similar objects.

The prime objects of my present invention are to provide a simple, compact, durable, and comparatively inexpensive wrench in which the gripping power is brought to a maximum degree and the interchangeable nature of the parts directed to prolong the life of the tool.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

I have clearly illustrated the invention in the accompanying drawings, and in the several views shown have employed like letters of reference to indicate like parts, and in which—

Figure 1 is a side elevation of my improved pipe-wrench in the act of gripping a pipe. Fig. 2 is a transverse section through the line *xx*, Fig. 1. Fig. 3 is a section through the line *yy*, Fig. 1. Fig. 4 is a section through the line *zz*, Fig. 1; and Fig. 5 is a section through the line *mm*, Fig. 4. Fig. 6 represents a portion of the chain.

Referring now to the above views by letter, A represents the main bar or lever of the implement and is formed with gradually-diverging edges, which terminate in an enlarged extremity *a*. This extremity *a* is cut out in the form of a fork, between the rigid legs *b b'* of which are positioned a plurality of sharp-edged teeth *c c'*, &c. These teeth *c c'*, &c., are arranged, in conjunction with the rigid legs *b b'*, in the form of a concave arc, which is adapted to practically conform with

the convex periphery of the pipe or object to be held.

The manner of retaining the teeth between the legs *b b'* and at the same time make it possible to readily remove one or more of them for purposes of repair or substitution is shown in Figs. 4 and 5 and consists in providing the bolt or screw B, which passes through both legs *b b'* and perforations in each tooth *c*. As a further means for insuring the rigidity of the teeth I have formed a projection *d*, which engages with a similar-shaped groove in the face of the bar A.

Attached to the lower edge of the bar A by means of the bolt B is the chain C, the pivotal connections *e* between successive links of which project slightly beyond both sides of the latter.

Extending in the same plane with the lever A and directly beneath it is the secondary lever D, which is provided with a rigid or integrally-formed arm or offset E, the latter passing on either side of and pivoted to the main lever A.

Pivoted to the inner extremity of the secondary lever D and with a leg on each side of the lever A is the forked member F, whose outer free extremity is formed with the hook *m*.

Connecting opposite legs of the member F and so situated as to rest against the upper edge or inclined surface of the lever A is the curved bearing G.

The spring H is adapted to keep the levers spread when pressure is released.

Having thus fully described the construction of my invention, I will now explain its operation. The chain C is first passed around the pipe I and one of the projecting pivots *e* engaged with the hook *m*. The parts will now assume the positions shown in Fig. 1, with the serrated extremity of the lever A in contact with the periphery of the pipe. It is manifest that as the levers are pressed together the member F will draw the chain tightly about the pipe and make it possible to turn or manipulate the pipe as desired.

I am aware that various changes can be made in the form and proportion of parts of the devices herein shown and described as an embodiment of my invention, and I therefore reserve the right to make such changes and

alterations as fairly fall within the scope of my invention.

What I claim, and desire to secure by Letters Patent, is—

5 1. In a device of the class described, the combination with a main lever, of a secondary lever provided with a rigid or integrally-formed offset, said offset being pivoted to said main lever, a linked chain secured to said
10 main lever, and a member pivoted to said secondary lever and adjustably engaging with the free extremity of said chain substantially as set forth.

2. A pipe-wrench consisting of a main and
15 a secondary lever, and an offset on said secondary lever and pivoted to said main lever, a forked member pivoted to said secondary lever and straddling and resting on said main lever, a chain connected to said main lever
20 and adjustably engaging with said forked member, and a series of teeth removably se-

cured to said main lever substantially as set forth.

3. A pipe-wrench consisting of levers A and D, arm E formed rigidly on said latter lever 25 and pivoted to said former, forked member F pivoted to said lever D and provided with friction-bearing G, said bearing being adapted to rest on the upper edge of lever A, chain C secured to lever A and formed with projecting 30 pivots, said pivots being adapted to engage with a hooked extremity of said forked member, and a series of teeth *c c'* &c. removably secured to lever A by means of bolt or pin B all for the purpose set forth. 35

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT J. MILLER.

Witnesses:

CHAS. M. PRINCE,
JAMES A. MALONE.