(No Model.)

C. C. COLEMAN.

PIPE WRENCH.

No. 429,719. Patented June 10, 1890.

Fig. 2.

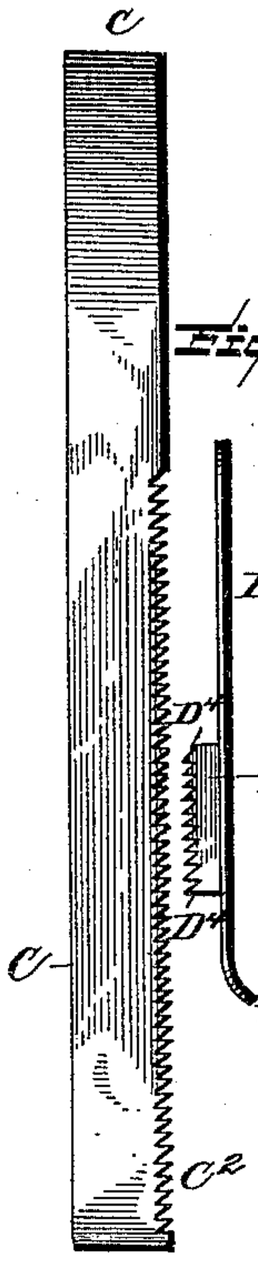


Fig. 1.

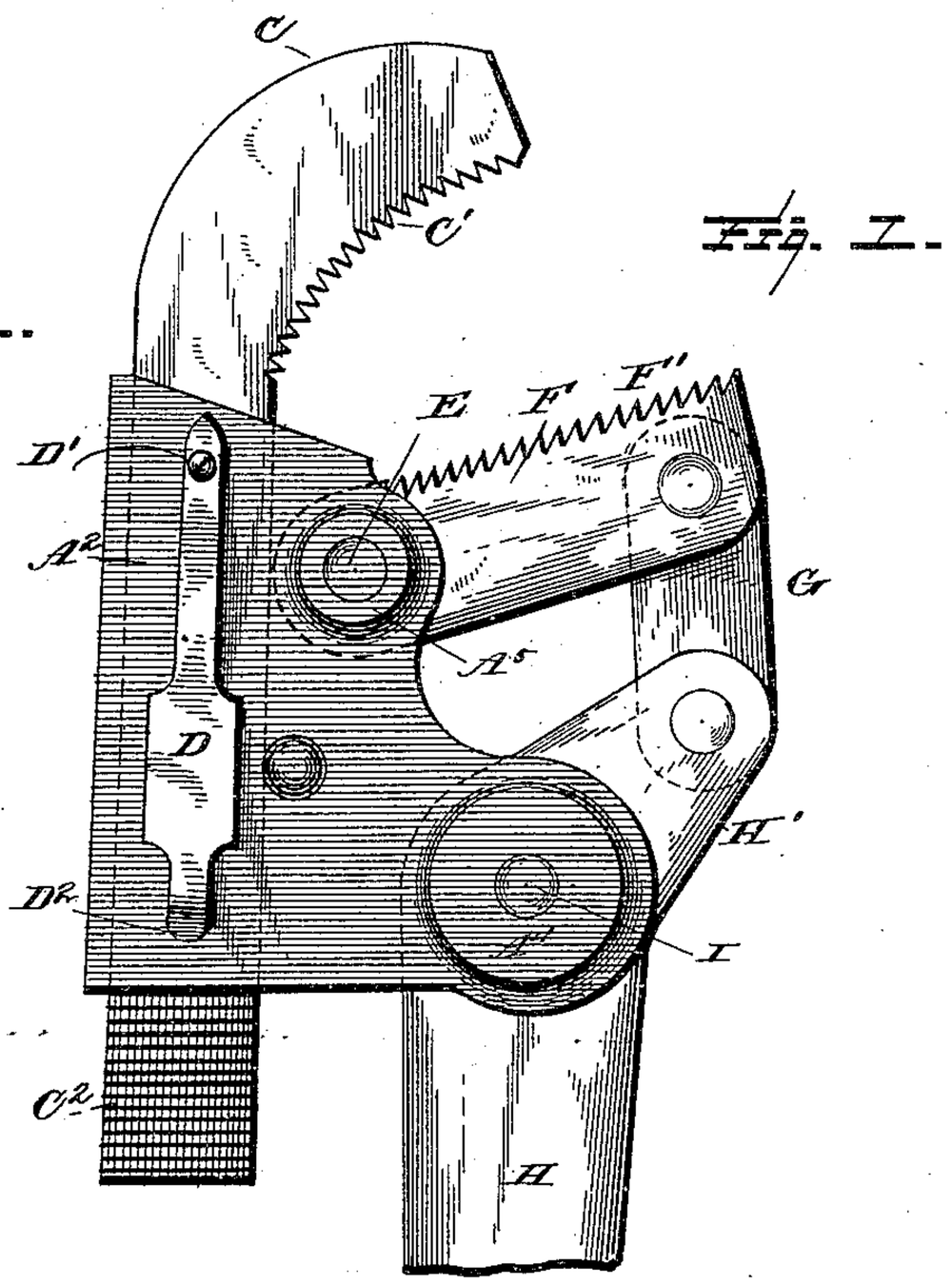
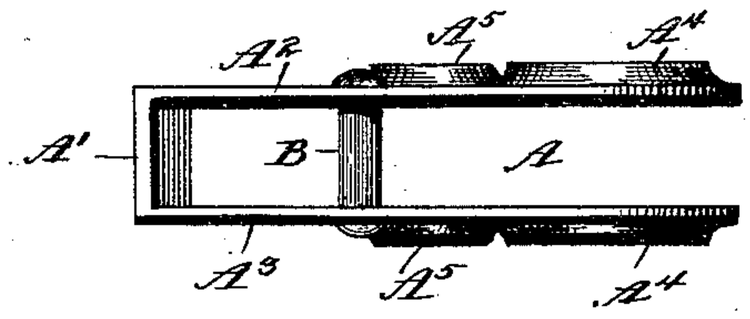


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES C. COLEMAN, OF BIRMINGHAM, ALABAMA.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 429,719, dated June 10, 1890.

Application filed August 13, 1889. Serial No. 320,600. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. COLEMAN, a citizen of the United States, residing at Birmingham, in the county of Jefferson, State of Alabama, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in pipe-wrenches; and it has for its object among others to provide a simple and strong device of this character wherein shall be embodied ready means for adjustment and simple means for obtaining a firm grip upon the article being operated upon with the exertion of minimum strength and power.

The invention consists in the peculiarities of construction and the combination, arrangements, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation illustrating my improvement. Fig. 2 is an edge view of the curved jaw and its engaging-spring. Fig. 3 is a bottom plan of the socket-frame detached.

Referring to the drawings by letter, A designates a casting forming the socket-frame, to which the parts are connected, and in which they operate. This frame consists of the vertical inclined rib or portion A′, from which extend the two parallel arms A^2 and A^3, said arms being provided with enlargements A^4 and A^5 upon their outer faces, as shown more clearly in Fig. 3, said enlargements being for the purpose of adding strength at the bearings for the pivots of the operating-levers, there being two sets of these enlargements arranged in different vertical planes, as shown in Fig. 1, to provide for the better operation of the parts. Transversely through these parallel arms A^2 and A^3 is passed a shaft, upon which is arranged between the arms a roller B, free to revolve loosely on said shaft. C is a curved jaw which passes through between these arms A^2 and A^3, in the spaces formed between the portion A′ and the roller B, the inner face of the jaw having a bearing against the roller, which lessens the friction and resistance, allowing the jaw to move freely. The inner face of the curved portion of this jaw is serrated, as shown at C′, to afford a better grip upon the pipe and upon one of the sides. The shank of this jaw is toothed, as shown at C^2.

D is a spring-arm held at one end to the arm A^2 of the socket-frame by means of a screw or other similar connection D′, with its other end formed with a curved bend D^2, to form a hold by which the spring may be manipulated when desired. This spring-arm D is formed with a lateral toothed portion D^3, which extends through an opening in the arm A^2 and engages the tooth C^2 of the shank of the curved jaw. By this arrangement the curved jaw is readily held in its adjusted position, being free to move in either direction in its socket when the toothed latch D^3 is disengaged from the tooth of the jaw.

E is a pin or shaft having bearings in the enlargements A^5 of the arms A^2 and A^3, and on this shaft or pin is one end of the movable jaw F, the clamping-face of which is serrated, as shown at A′, the other end of said movable jaw being connected by means of the link G with the short arm H′ of the operating-lever H, which lever is fulcrumed on the pin I, having bearings in the enlargements A^4 of the parallel arms A^2 and A^3. The portion D^3 of the spring-arm D is formed with square shoulders D^4, which engage the square shoulders or walls of the opening in the arm A^2.

The operation will be readily understood. The toggle-joint connection between the operating-lever and the movable jaw allows of easy and ready movement with little power and forms a self-locking connection. The parts are easily assembled and not liable to get out of order; but should it for any cause be necessary to replace any of the parts, it can be easily and readily done.

What I claim as new is—

1. The combination, with the socket-frame and the curved jaw sliding through an opening in said frame, of the movable jaw pivoted at one end to said frame, the operat-

ing-lever also pivoted to the frame, and a pivoted connection, as the link G, between the lever and movable jaw, as set forth.

2. The combination, with the socket-frame and the curved jaw sliding through an aperture in said frame, of the movable jaw pivoted at one end to said frame, the operating-lever having a long and short arm and also pivoted to said frame, and the link pivotally connected at one end with the free end of the movable jaw and at the other end with the short arm of the operating-lever, substantially as shown and described.

3. The combination, with the socket-frame formed with parallel arms having exterior enlargements in different planes, an operating-lever pivoted in the other set of enlargements, and a curved jaw having a shank working through an aperture in said frame, of the movable jaw journaled on a shaft having bearings in the other set of enlargements, and the link pivotally connecting the operating-lever with one end of the movable jaw, substantially as shown and described.

4. The combination, with the socket-frame formed with parallel arms having two sets of exterior enlargements upon different vertical planes, of the jaw having a serrated curved end and a shank working in the space between the parallel arms of the frame, the movable jaw journaled on a shaft having bearings in one set of said enlargements, the operating-lever having a long and short arm and fulcrumed on a shaft having bearings in the outer set of said enlargements, and the link pivotally connecting the short arm of the lever with the outer end of the movable jaw, substantially as shown and described.

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

CHARLES C. COLEMAN.

Witnesses:

L. A. DICKEY,

B. L. HIBBARD.