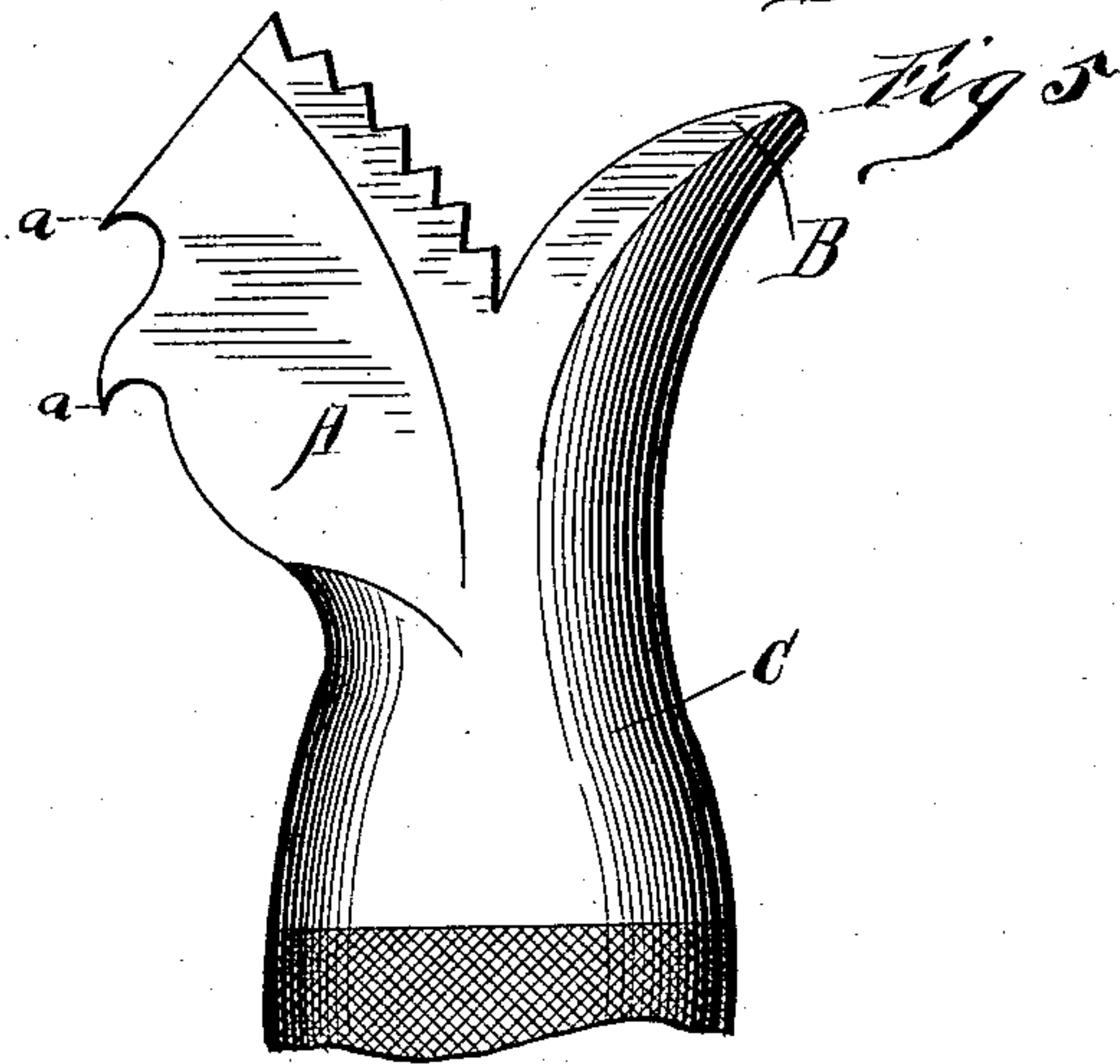
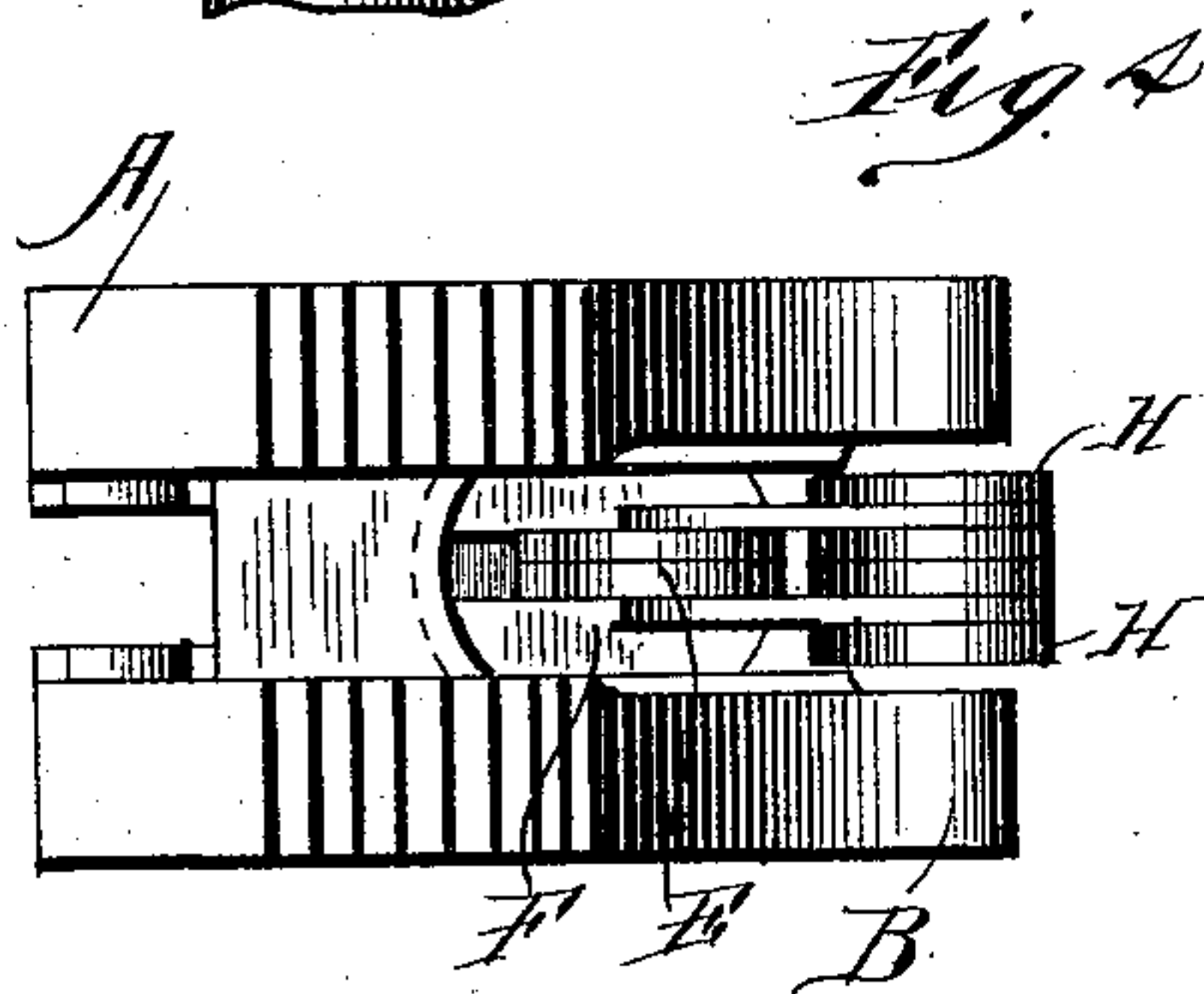
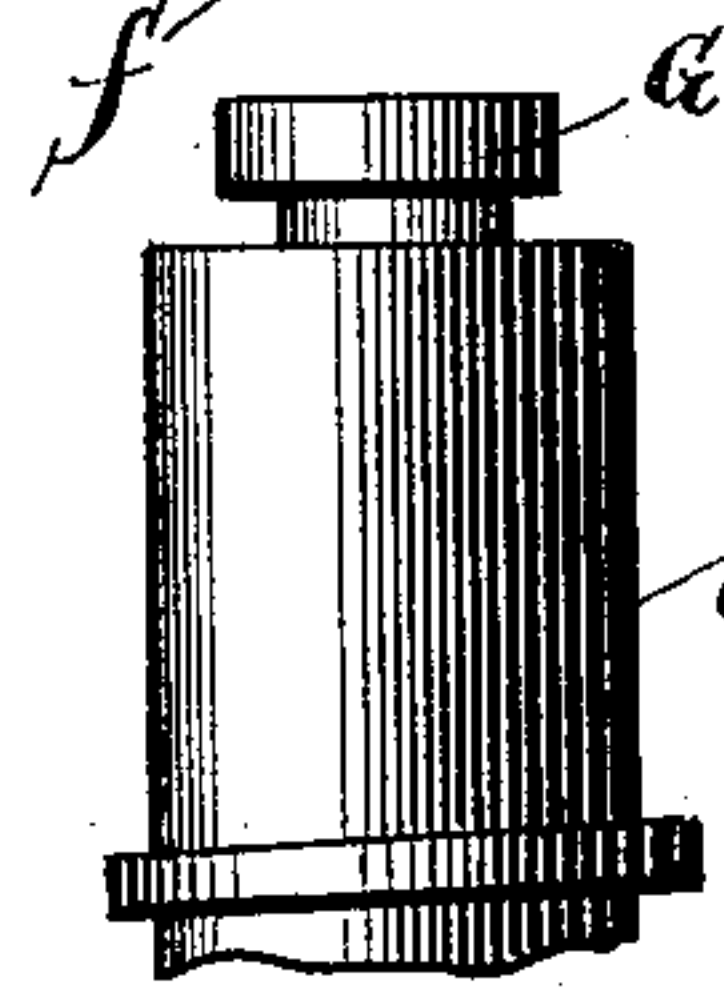
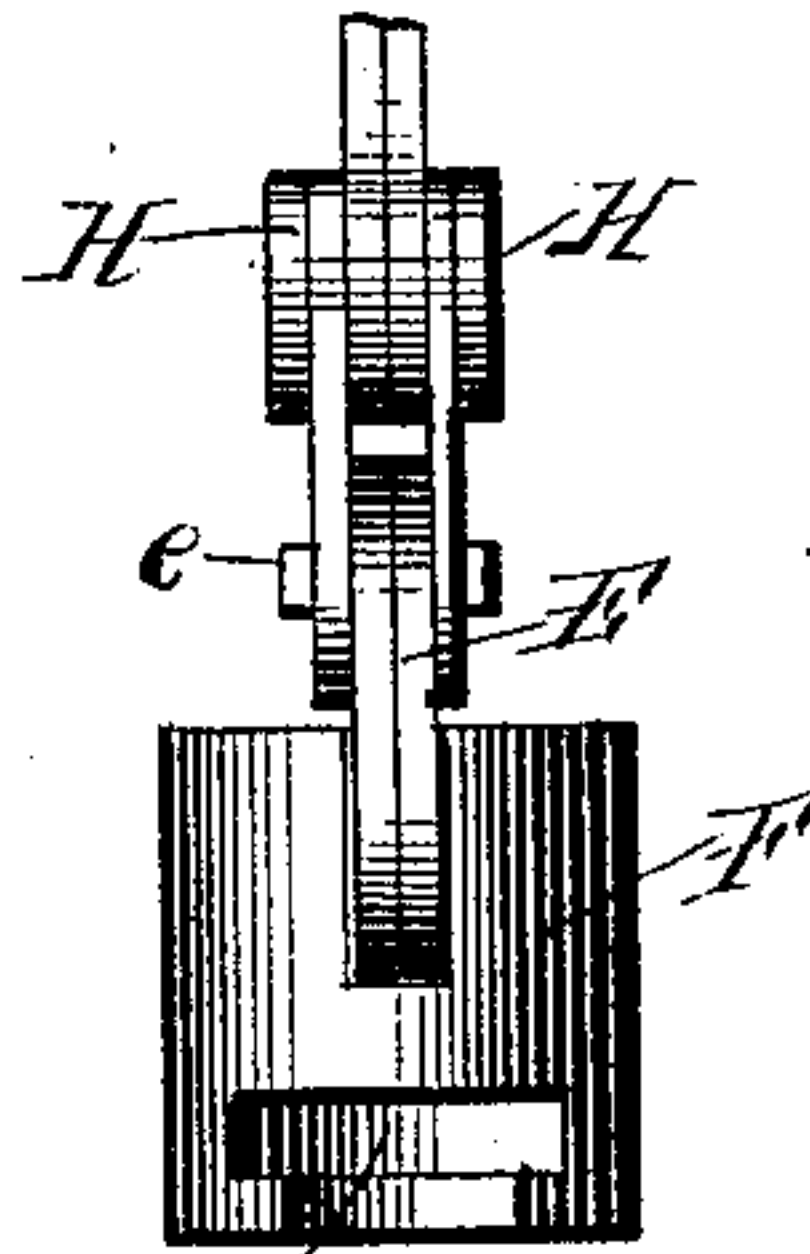
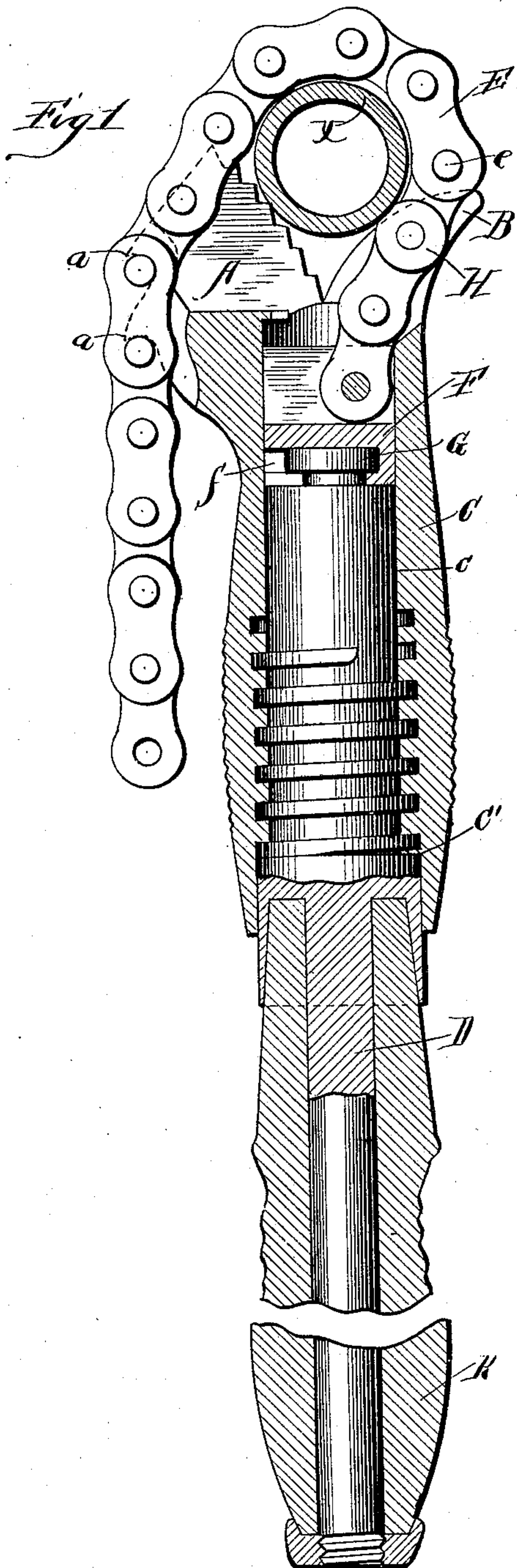


(No Model.)

J. K. SHEFFY.
PIPE WRENCH.

No. 589,038.

Patented Aug. 31, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

JAY K. SHEFFY, OF CHICAGO, ILLINOIS.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 589,038, dated August 31, 1897.

Application filed January 7, 1897. Serial No. 618,228. (No model.)

To all whom it may concern:

Be it known that I, JAY K. SHEFFY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pipe-Wrenches; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The invention relates to that class of pipe-wrenches in which a chain is used in coöperation with a serrated jaw; and its object is to provide a simple, durable, and strong construction whereby the chain may be used to bring the jaw firmly to the work.

The invention consists in the various parts and arrangements, as hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a central longitudinal section of the wrench. Fig. 2 is a detail elevation of the swivel-block by means of which the chain is secured to the handle-bar of the wrench. Fig. 3 is a detail elevation of the end of the handle-bar which engages the swivel-block. Fig. 4 is an end elevation of the wrench, looking toward the jaws. Fig. 5 is a side elevation of the jaws.

The jaws A B are in fixed relation and diverge in V form, both jaws being bifurcated, and the jaw A having its contacting face transversely serrated. These jaws are formed integrally with a tubular shank C, which fits upon the handle-bar D. A chain E is secured to the end of the handle-bar and protrudes from the end of the shank C, so as to play between the two members of each of the jaws A B, so that it may encircle a pipe, as X, to which the jaws may be applied and be locked thereto by being caught upon suitable notches *a a*, formed on the back of the jaw A. The links of this chain consist of short plate-sections pivoted together, the ends of the pivot-pins *e* projecting beyond the plates, so as to form studs which will engage the notches *a a*.

The chain E is secured to the handle-bar by means of a swivel-block F, transversely slotted at one end for the reception of the first link of the chain, which is secured therein

by means of a suitable pivot-pin, and having at its other end a T-socket *f*, with which a T-shank formed on the end of the handle-bar D coöperates, thereby forming a swiveled joint, so as to permit of the rotation of the handle-bar within the shank C without turning the chain.

It will be seen that the T-shank may, if desired, be formed upon the swivel-block and the T-socket in the end of the handle-bar and accomplish the same result. This construction is so obvious that I have not deemed it necessary to show it in the drawings.

The handle-bar D and shank C are in screw-threaded connection, the screw-threads, however, being formed only in the middle section of their contacting surfaces, leaving smooth contacting surfaces at each end, as shown at *c c'*, thereby providing for ample bearing-surfaces to carry the strain to which the wrench is subjected without throwing this strain upon the screw-threaded portion. The diameter of the section *c* of the handle-bar and of the socket of the shank C is less than the maximum diameter of their screw-threaded sections, and that of the sections *c'* is as great as the maximum diameter of these screw-threaded sections, so that the handle-bar may be withdrawn from the shank.

The end of the bore of the shank C as it issues between the jaws A B is somewhat contracted in line with the bifurcating slot of the jaws, and the second joint of the chain E is thickened by the application to the ends of its pivot-pin of suitable nuts or lagging-blocks H H, which prevent this joint from entering the throat of the bore of the shank until the chain has been turned one-quarter of a revolution, thereby preventing a careless operator from drawing the chain too far within the bore of the shank in using the wrench.

In using the wrench the jaws are held to the pipe with the chain turned backwardly between the members of the smooth-faced jaw B, the chain then being turned about the pipe and drawn up as tight as possible and caught by means of its laterally-projecting studs in the notches *a a*. The handle-bar being now turned backwardly within the shank C, so as to draw the chain within the bore of the latter, the jaws are forced firmly to the

pipe and grip it securely. To permit the wrench to be turned backwardly upon the pipe for a new grip, the handle-bar is slightly turned within the shank, so as to loosen the hold of the chain, being turned in the opposite direction as power is again applied to the wrench. This turning of the handle-bar to release and tighten the chain is so slight that the operator accomplishes it by a slight movement of the wrist and without delaying his work.

A suitable wood handle-piece, as K, is preferably applied to the handle-bar, as is usual in implements of this character.

The smooth-faced jaw B is of service only in applying the implement to a pipe and serves also as a bearing as the wrench is drawn backward.

I claim as my invention—

1. In a pipe-wrench the combination with a handle-bar, and a chain attached to the end of the bar by a swiveled joint, of a shank sleeved upon the handle-bar and in screw-threaded engagement therewith, and a serrated jaw carried by the shank and having its back adapted to engage the chain.

2. In a pipe-wrench, the combination with a handle-bar, and a chain attached to the handle-bar by a swiveled joint, of a shank sleeved upon and in screw-threaded engagement with the handle-bar, the shank and handle-bar having smooth cooperating bearing-surfaces upon each side of their cooperating screw-threaded portions, and a jaw fixed upon the shank for cooperating with the chain and having its back adapted to engage the chain.

3. In a pipe-wrench, the combination with a handle-bar, and a chain attached to the end of the handle-bar by a swiveled joint, of a shank sleeved upon and in screw-threaded engagement with the handle-bar and carrying a jaw for cooperating with the chain, the

throat of the shank-aperture being oblong in cross-section, its major diameter being parallel with the plane of action of the chain, the chain having a thickened portion near its attached end to limit its inward movement.

4. In a pipe-wrench, the combination with a tubular jaw-carrying shank, and a handle-bar adapted to fit within the shank and being in screw-threaded engagement therewith, of a chain and a swivel-block attached to the chain, such block being attached to the end of the handle-bar by means of a T-shank on one of said members and a cooperating T-socket in the other of said members.

5. In a pipe-wrench, the combination with a tubular jaw-carrying shank, and a handle-bar adapted to fit within the shank and being in screw-threaded engagement therewith, of a chain, a swivel-block attached to the chain, and having a transverse T-socket in one end, and a T-shank on the end of the handle-bar for engaging the socket.

6. The combination with a handle-bar, a chain attached to the handle-bar by a swiveled joint, and a tubular shank sleeved upon the bar and in screw-threaded engagement therewith, the shank and bar having cooperating smooth bearing-surfaces upon each side of their screw-threaded sections, of a pair of relatively flaring bifurcated jaws mounted upon the end of the shank, one of such jaws having a serrated face, hooks or notches on the back of such jaw, and laterally-projecting studs carried by the chain for engaging such hooks or notches, all substantially as described and for the purposes set forth.

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

JAY K. SHIEFFY.

Witnesses:

LOUIS K. GILLSON,
W. S. BARTHOLOMEW.