

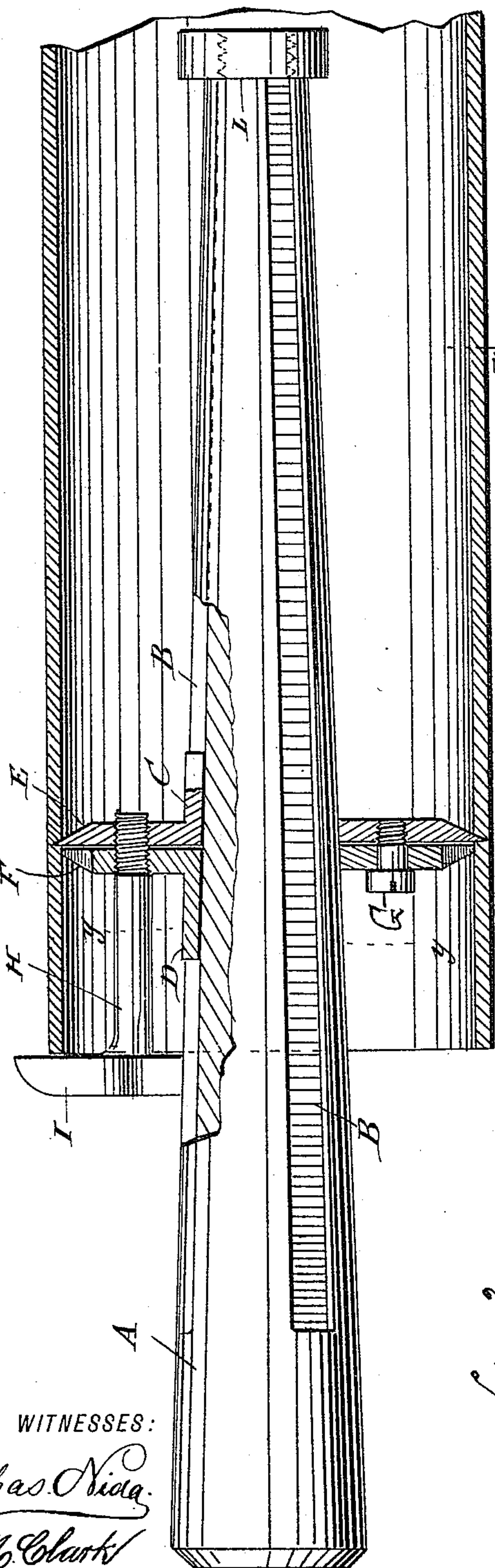
(No Model.)

J. WARREN.
PIPE OR FLUE CUTTER.

No. 440,982.

Patented Nov. 18, 1890.

Fig. 1.



WITNESSES:

Chas. Nida
E. M. Clark

Fig. 2.

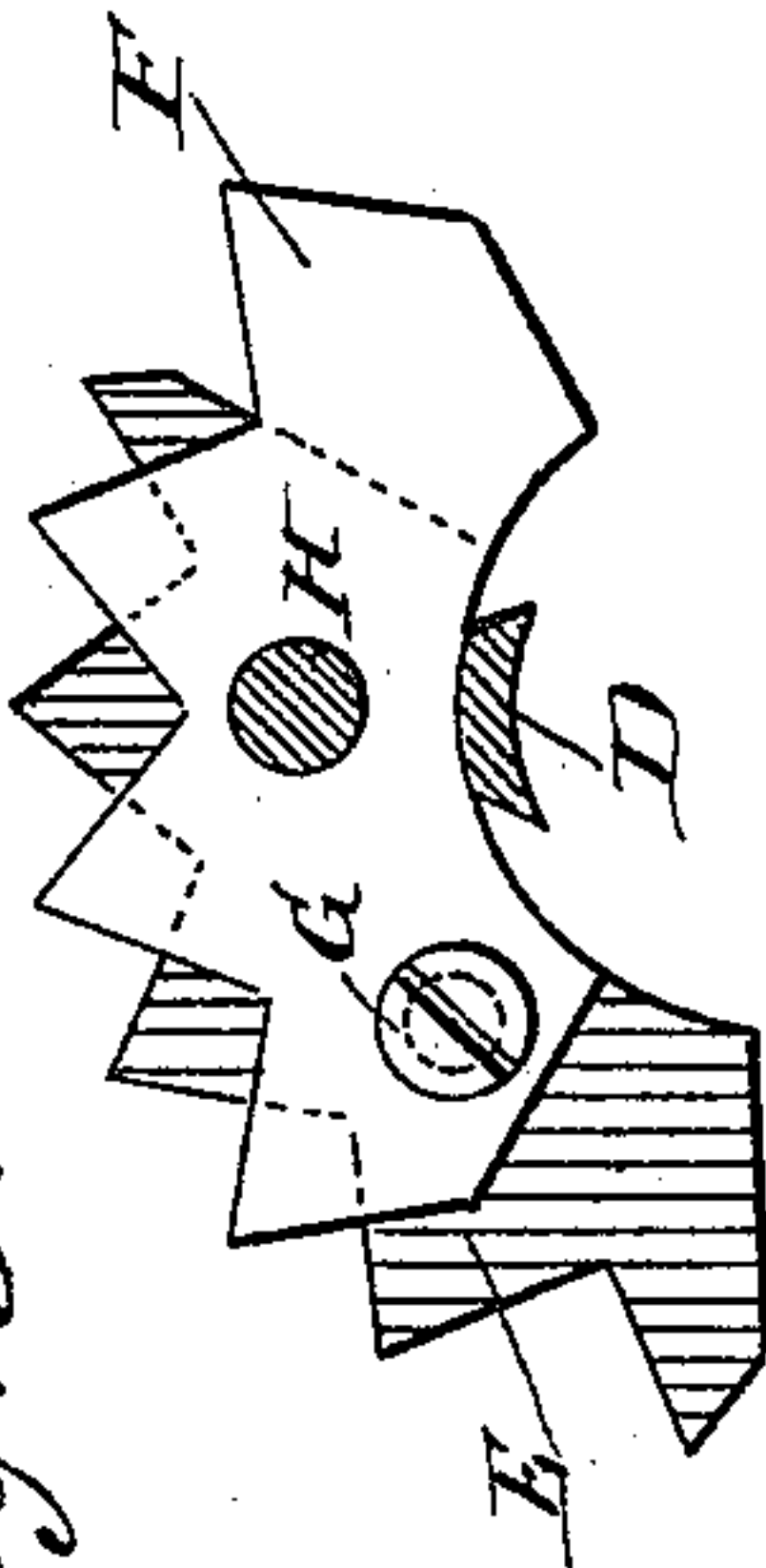


Fig. 4.

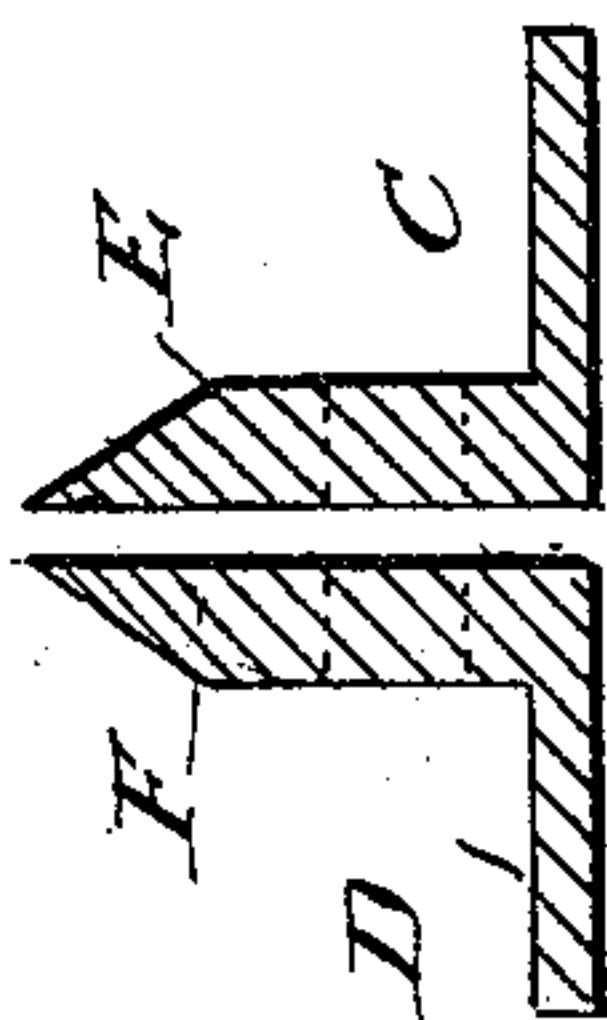


Fig. 3.

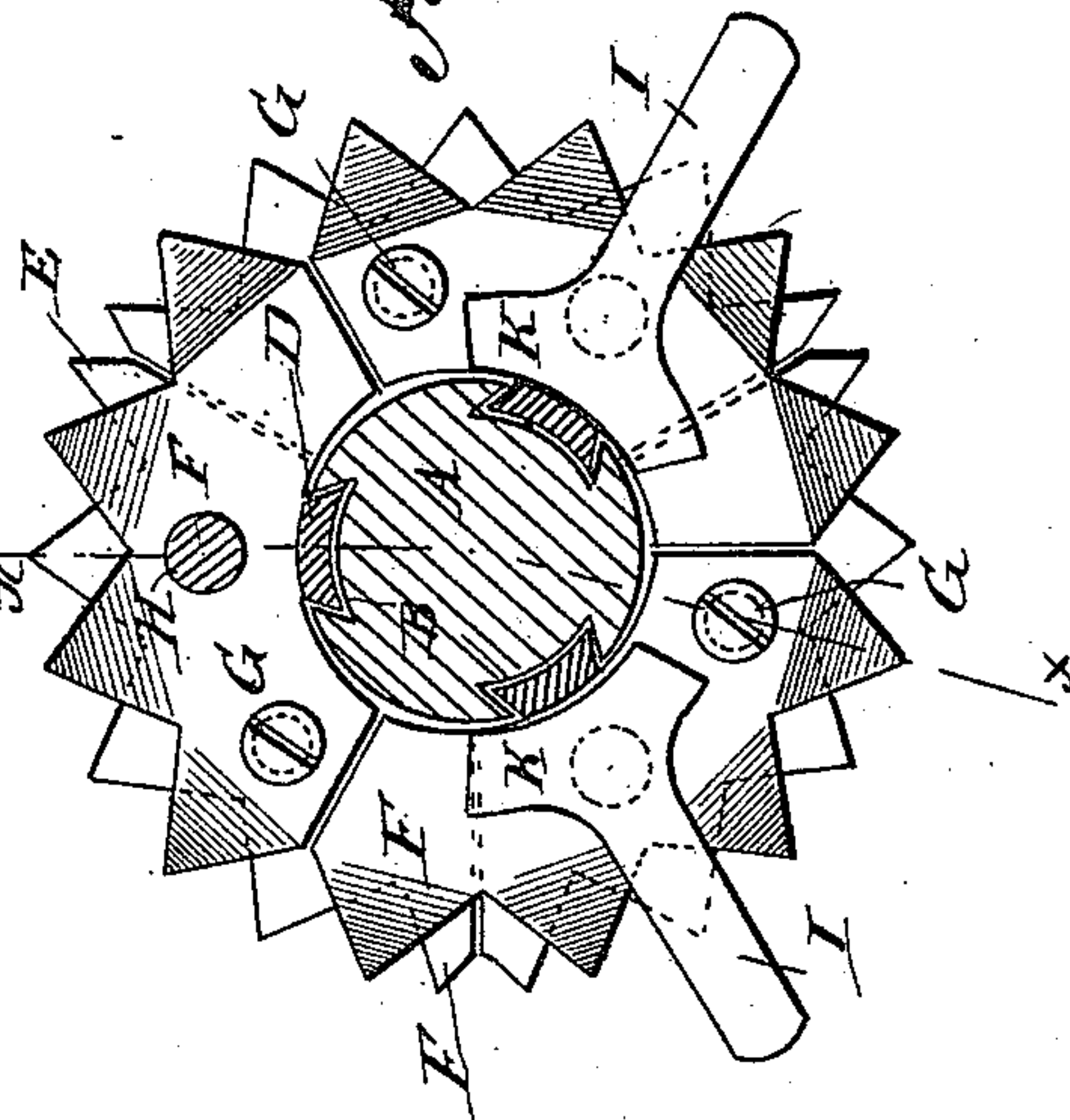


Fig. 5.

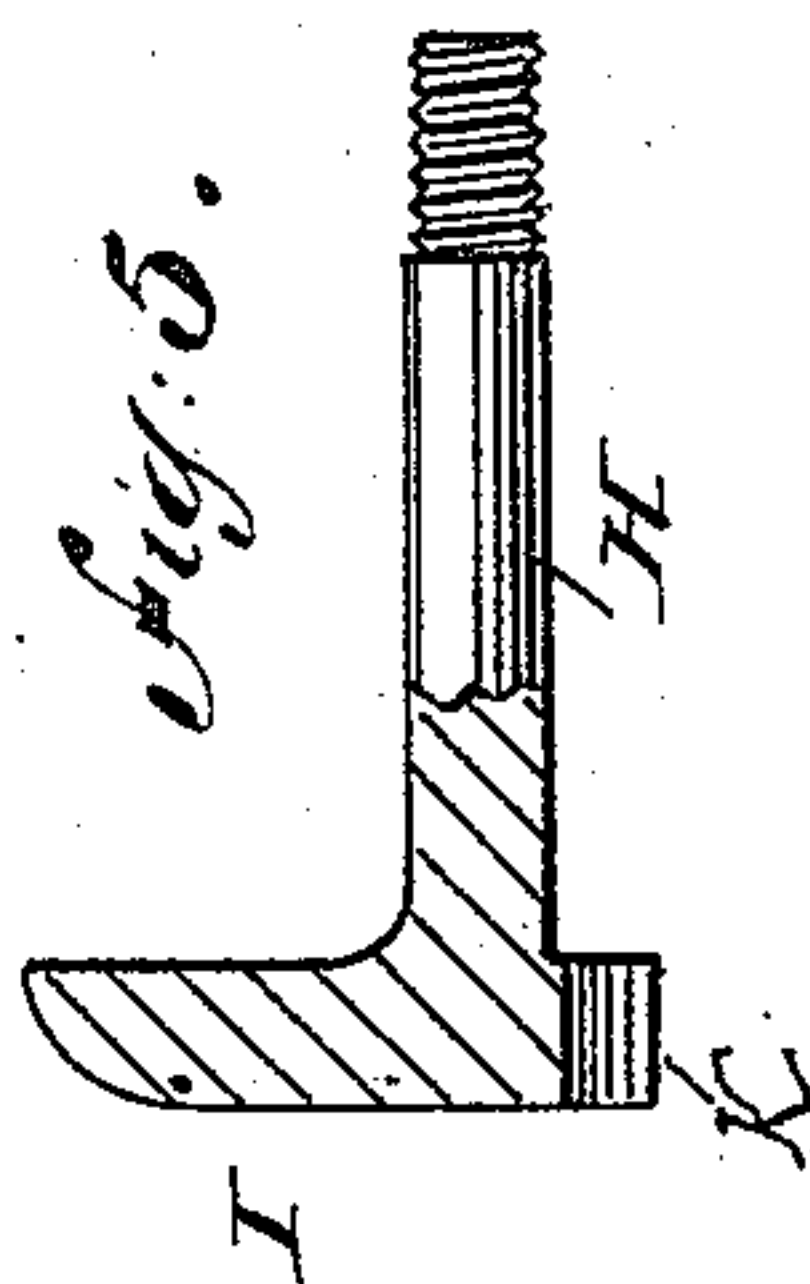
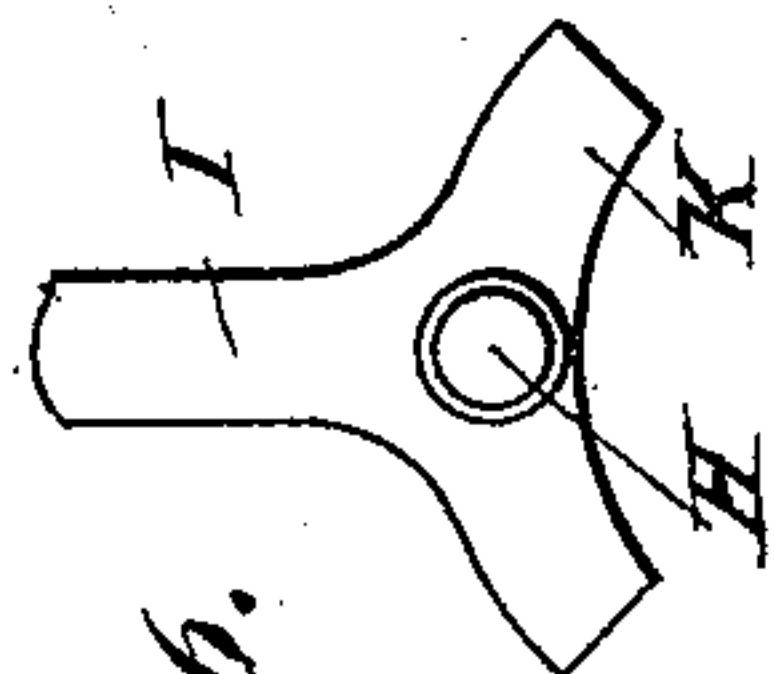


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH WARREN, OF BROOKLYN, N. Y.

PIPE OR FLUE CUTTER.

SPECIFICATION forming part of Letters Patent No. 440,982, dated November 18, 1890.

Application filed July 3, 1890. Serial No. 357,643. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH WARREN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Pipe or Flue Cutter, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pipe or flue cutter which is simple and durable in construction, very effective in operation, readily applied, and when actuated quickly cuts the pipe or flue at any desired point.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement as applied and on the line $x x$ in Fig. 2. Fig. 2 is a transverse section of the improvement on the line $y y$ of Fig. 1. Fig. 3 is a face view of part of the cutter. Fig. 4 is a transverse section of the same. Fig. 5 is a side elevation with parts in section of a bolt for holding the cutter in place, and Fig. 6 is an end elevation of the same.

The improved pipe or flue cutter is provided with a tapering bar A, having a series of longitudinally-extending dovetailed grooves B, in which are fitted to slide correspondingly-shaped dovetailed flanges C and D, supporting segmental cutter-sections E and F, respectively, each provided at its periphery with teeth placed alternately, as is plainly shown in Figs. 2 and 3. The cutter-sections E and F of one set overlap the sections of the adjacent sets and are fastened together by suitable screws G, and the two sections E and F are also fastened one to the other by a bolt H, provided with a head I, having its lower end formed in the shape of a segment of a circle K, adapted to rest on the bar A. The head I is adapted to engage the outer edge of the tube to be cut, as is plainly shown in Fig. 1, so as to hold the cutter-sections E and F in place at a suitable distance from the outer edge of the tube.

On the small end of the part A screws a nut L, which prevents the cutter-sections E

and F from sliding out of the longitudinal grooves B, thus preventing the said cutter-sections from getting lost.

The device is used as follows: The cutter-sections E and F are moved onto the small end of the bar A, and then are introduced into the tube to be cut, the bolts H resting with their heads against the outer edge of the tube or pipe. The operator then strikes with the hammer or other suitable tool on the outer large end of the bar A, so as to drive the same inward, whereby the cutter-sections E and F slide outward and with their sharp cutting-edges cut into the tube. By striking the bar A several times the cutter-sections E and F are driven sufficiently outward so as to cut the tube in two. Thus it will be seen that the device is very quickly applied, and by a few strokes of the hammer the tube is cut in two by the cutter-sections.

The circular blades when not applied are held in position by being interlocked, thus preventing any two connected blades from getting away from the others.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A pipe-cutter comprising a round tapering bar and a circular expansible peripherally-toothed cutter formed of a series of segmental sections overlapped at their ends, whereby when the cutter is expanded the continuity of its periphery will not be broken, substantially as set forth.

2. A pipe-cutter comprising a round tapering bar provided with longitudinal dovetail grooves and a circular expansible peripherally-toothed cutter formed of a series of segmental sections overlapped at their ends to preserve the continuity of the periphery of the cutter when expanded, the said sections being provided with dovetail flanges or lugs engaging the grooves in the bar, substantially as set forth.

3. In a pipe-cutter, the flat circular centrally-apertured expansible cutter consisting in two series of segments secured together face to face, arranged end to end, and toothed on their outer edges, the teeth of one series alternating with those of the other, substantially as set forth.

4. A pipe-cutter comprising a tapering bar,

an expansible sectional circular cutter, and a series of heads connected with said cutter-sections, curved at their inner edges to rest on said bar, and adapted at their outer ends to engage the end of the flue or pipe operated on.

5 5. In a flue-cutter, the head I, having lower or inner segmental or curved edge, and a bar H, projecting at right angles from one side and threaded at its free end.

10 6. In a flue-cutter, a cutter-section comprising two flat segments bolted together face to face and having alternating teeth or serrations on their outer edges, longitudinally-aligned dovetail tongues at right angles to
15 their lower edges, and a segmental head parallel with the said flat segments and having a threaded bolt or rod passing through said segments, substantially as described.

20 7. In a flue or pipe cutter, the combination, with a tapering bar having longitudinally-extending dovetailed grooves, of a series of cutter-sections arranged in a circle and each provided with dovetailed flanges engaging the said grooves, and bolts engaging the said

cutter-sections, and each bolt provided with a head adapted to engage the outer end of the tube or pipe to be cut, substantially as shown and described.

8. In a flue or pipe cutter, the combination, with a tapering bar provided with a series of longitudinally-extending dovetailed grooves and a nut secured on the small end of the said tapering bar, of a series of cutter-sections arranged in a circle around the said tapering bar and provided in their periphery with teeth, dovetailed flanges projecting from the said cutter-sections and engaging the said dovetailed grooves in the said tapering bar, and bolts connected with the said cutter-sections, and each bolt provided with a head adapted to rest on the said tapering bar and also adapted to engage the outer end of the pipe or tube to be cut, substantially as shown and described.

JOSEPH WARREN.

Witnesses:

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HENRY M. BIRKETT.