

(No Model.)

J. S. HAYE & F. M. HUMPHREY.
WRENCH.

No. 597,611.

Patented Jan. 18, 1898.

Fig. 1.

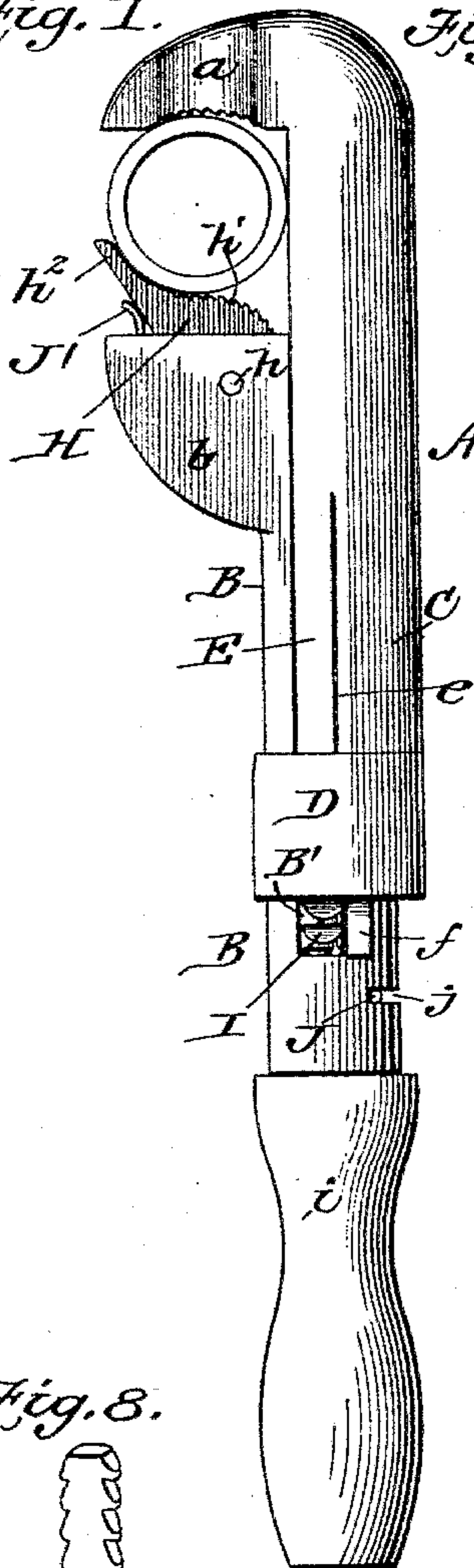


Fig. 2.

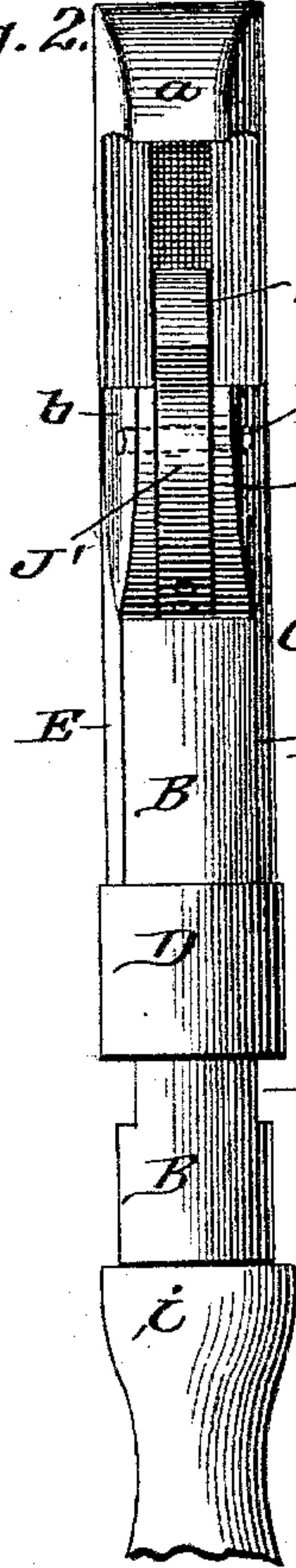


Fig. 3.

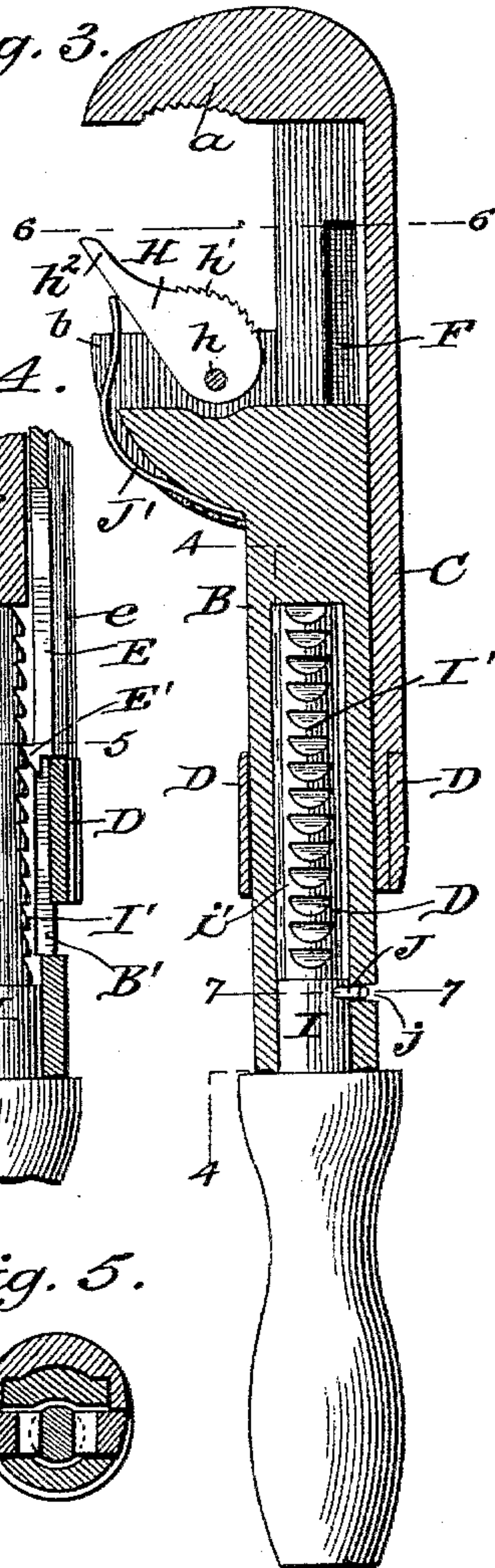


Fig. 4.

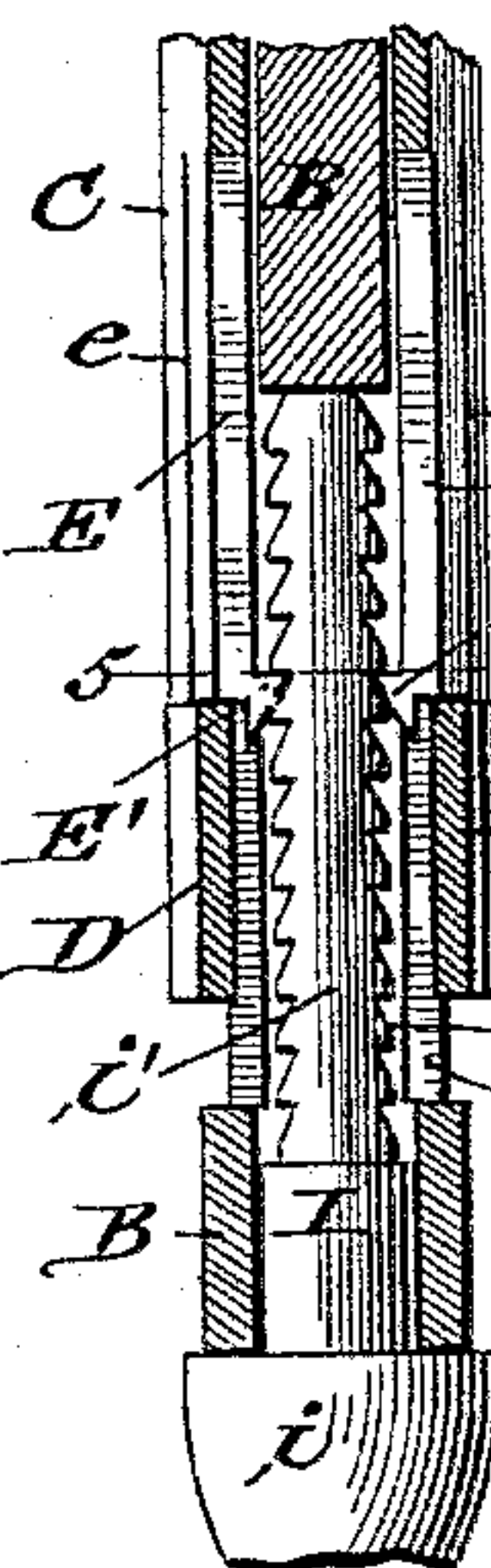


Fig. 5.

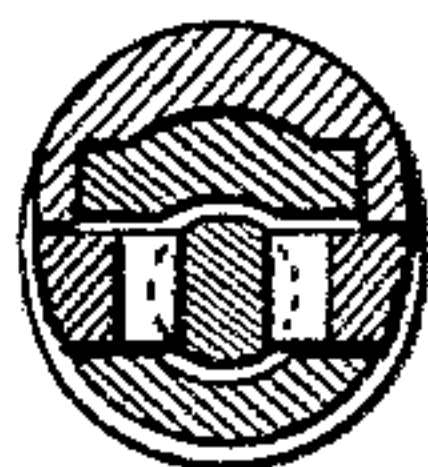


Fig. 8.

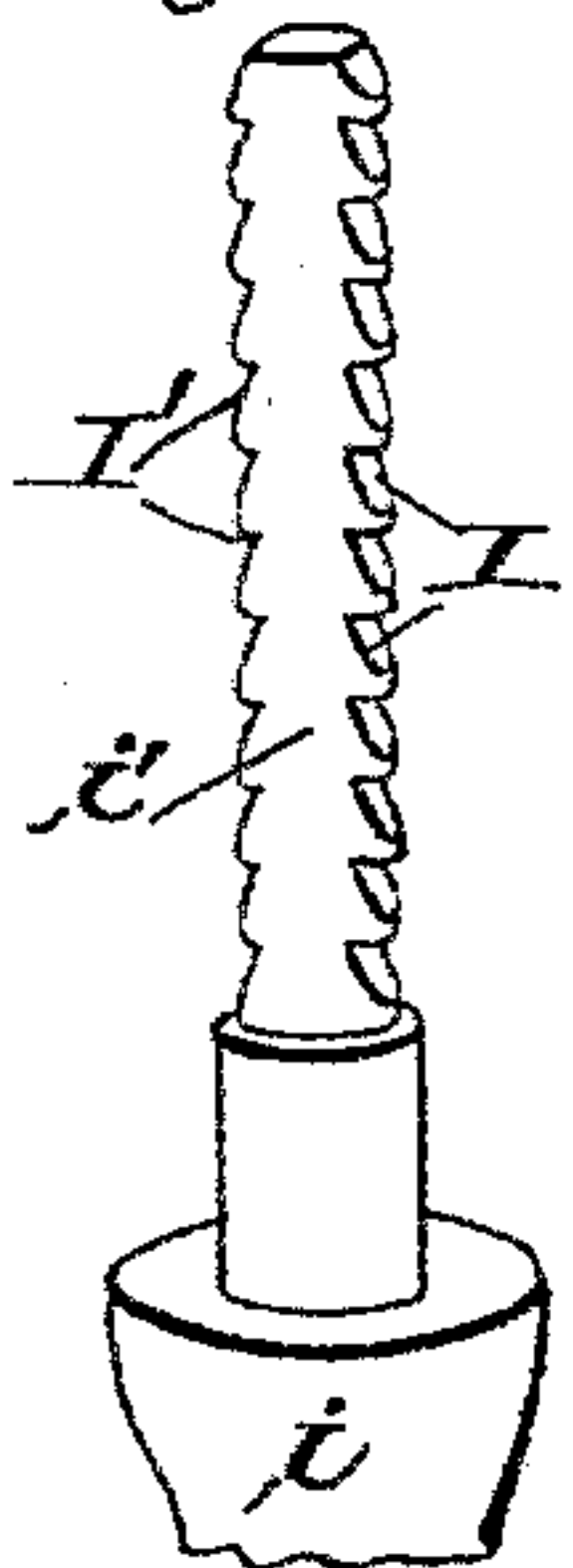


Fig. 9.

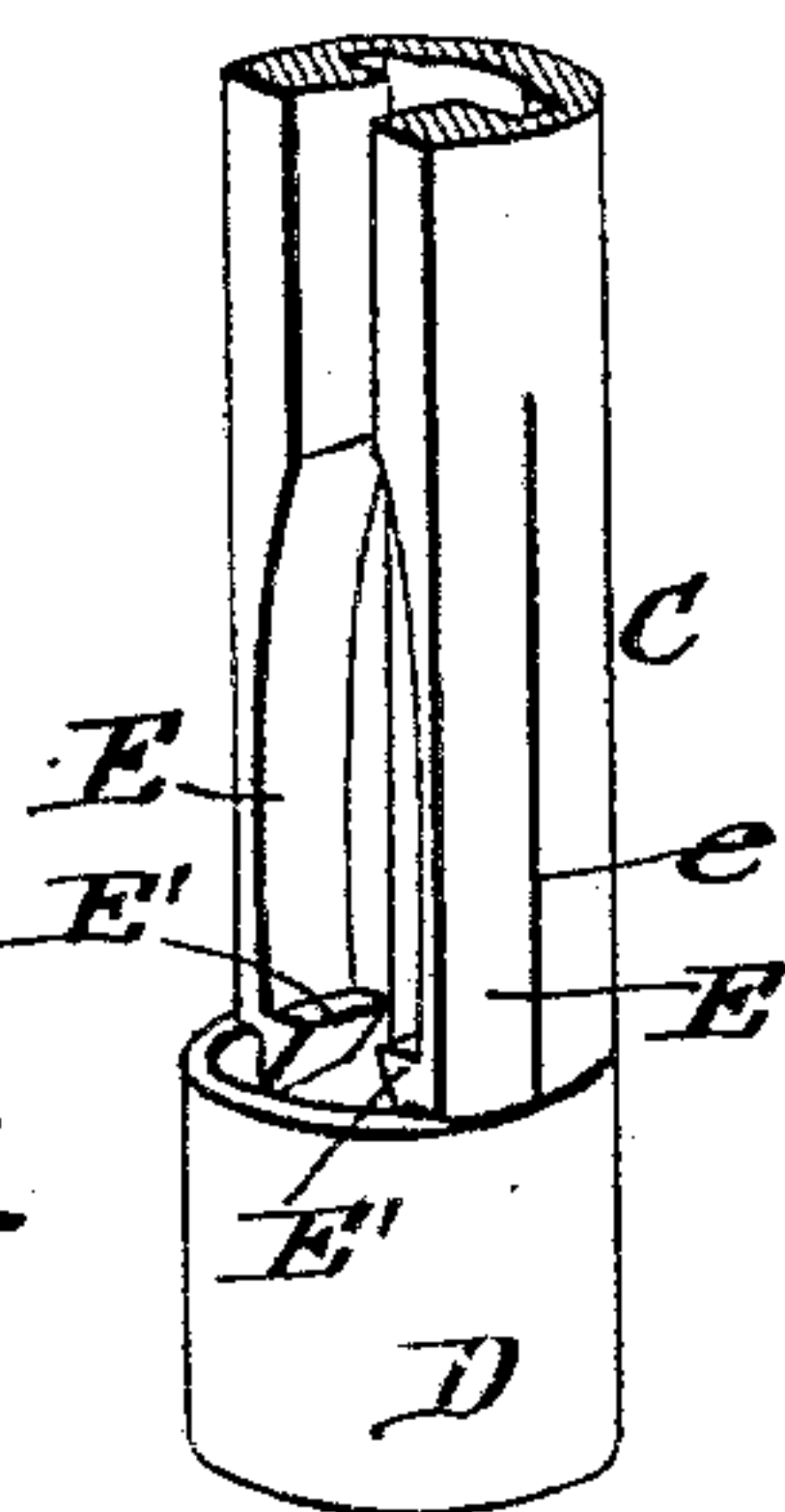


Fig. 10.

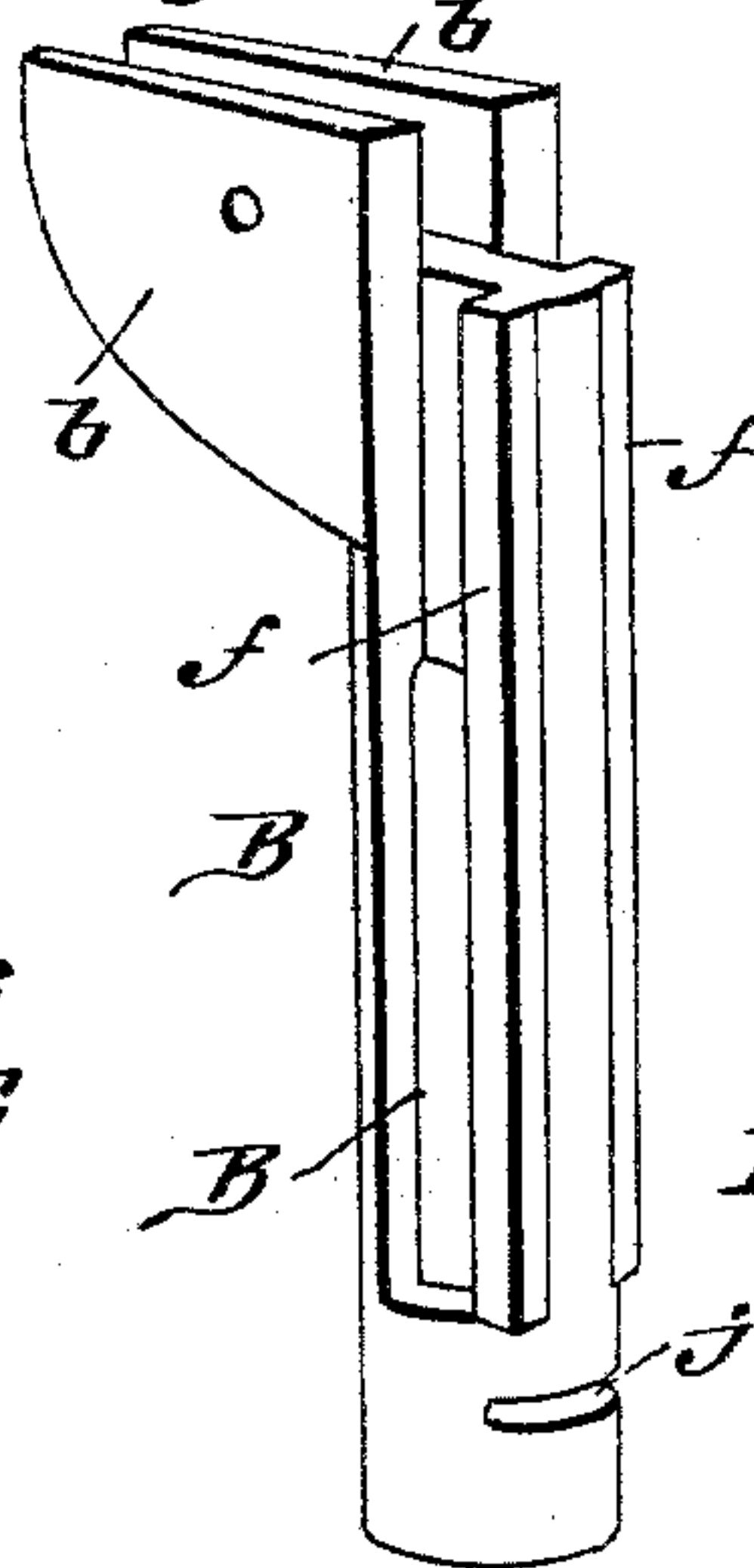


Fig. 6.

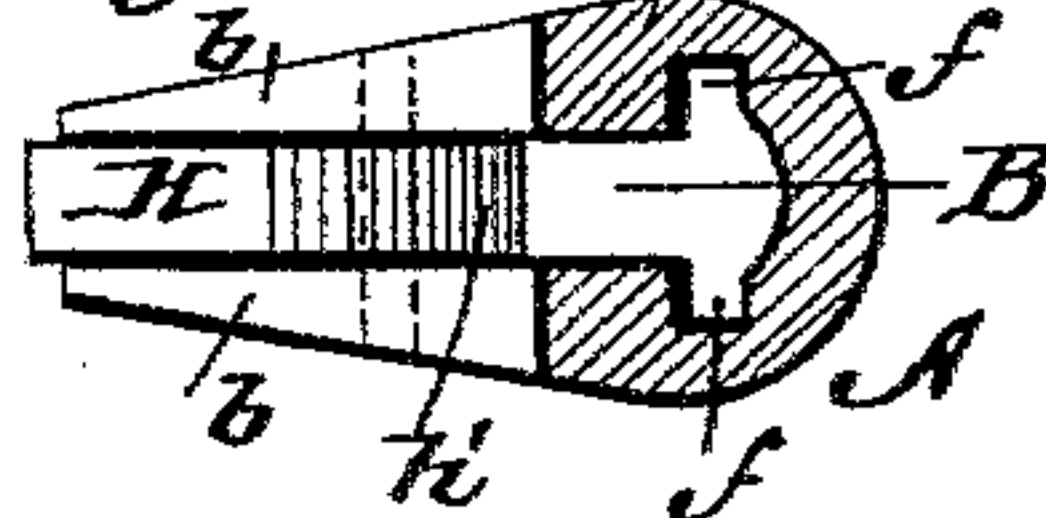
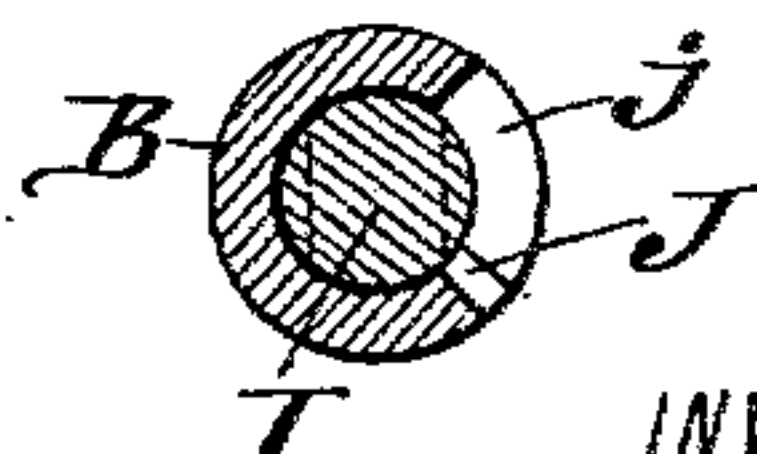


Fig. 7.



WITNESSES:

M. D. Blundell
Amos N. Hart

INVENTORS

Jacob S. Haye.
Francis M. Humphrey.
BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JACOB S. HAYE AND FRANCIS M. HUMPHREY, OF PENDLETON, OREGON.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 597,611, dated January 18, 1898.

Application filed July 8, 1897. Serial No. 643,793. (No model.)

To all whom it may concern:

Be it known that we, JACOB S. HAYE and FRANCIS M. HUMPHREY, of Pendleton, in the county of Umatilla and State of Oregon, have
5 invented a new and useful Improvement in Wrenches, of which the following is a specification.

This invention is a combined nut and pipe wrench; and it consists in certain novel constructions and combinations of parts, as will
10 be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a side view of our improved wrench. Fig. 2 is a face view
15 of same. Fig. 3 is a longitudinal section. Fig. 4 is a detail longitudinal section on the line 4 4, Fig. 3. Fig. 5 is a detail cross-section on the line 5 5, Fig. 4. Figs. 6 and 7 are detail cross-sections on the lines 6 6 and
20 7 7, respectively, of Fig. 3; and Figs. 8, 9, and 10 are perspective views of details of construction.

The wrench is shown as formed with a body-section A and a handle-section B. The section A has a jaw *a* and a shank C, made tubular, slotted along its inner face from the jaw
25 *a* nearly to its lower end and provided at its lower end with the collar-ring D. This shank is provided with the spring-tongues E, formed, preferably, by slitting the tube at *e*, such
30 tongues being free at their lower ends and provided at such ends with teeth or projections E', which are arranged opposite each other, press inward, and engage with the serrations of the handle-shaft, presently described.
35

Within the shank C we form guides at F for rails *f* on the handle-section B, which slides longitudinally in the shank, as shown.
40 The handle-section has the jaw *b*, provided with the pivoted toothed block H, and is formed with longitudinal side slots B', in which the teeth or projections E' extend into position to engage the serrations of the shaft I. This shaft I is connected with the handle
45 *i* and extends within and turns in the handle-section B, its turning being limited by a pin J, operating in slot *j*. We form this shaft with longitudinal rows of teeth or serrations

I', which alternate with plain untoothed spaces
50 *i'*, and it may be turned to bring the serrations into engagement with the spring-tongues or to bring the plain spaces *i'* opposite such tongues, as may be desired, facilitating the adjustment of the sliding jaw and the locking thereof in any desired adjustment by the
55 simple turning of the handle.

The block H is pivoted at *h* to the jaw *b* and has a rounded toothed portion *h'* and a projecting point or beak *h''*, beneath which
60 bears the free end of the spring J', which tends to press the block H firmly in contact with the pipe or other object being turned.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A wrench comprising the body-section having a jaw and a tubular shank provided with spring-tongues having teeth or projections, and the handle-section having a shaft
70 provided with serrations for engagement by said projections substantially as described.

2. A wrench comprising the body-section having a jaw and a tubular shank provided with guideways and with longitudinal tongues
75 having teeth or projections at their free ends, and the handle-section having portions fitting the ways of the body and formed with side slots and provided with the shaft exposed through said slots and serrated substantially
80 as described.

3. A wrench consisting of a body-section having a jaw and a shank provided with spring-tongues and a handle-section sliding longitudinally in said shank and provided
85 with a shaft having rows of serrations and journaled whereby it may be turned to set the serrations into and out of engagement with the tongues substantially as described.

4. A wrench comprising the body having
90 a jaw and a shank provided with a spring-supported tooth portion, and the handle-section having a shaft provided with serrations and rotatable to set such serrations into and out of engagement with the spring-supported
95 tooth portion substantially as shown and described.

5. A wrench comprising the body having

a jaw and a shank provided with a spring-supported tooth and the handle having a shaft provided with a series of ratchet-teeth or serrations the shaft being capable of being turned whereby its ratchet-teeth may be set into and out of engagement with the spring-supported tooth, and the handle being freely movable longitudinally in one direc-

tion when engaged with said tooth substantially as described.

JACOB S. HAYE.

FRANCIS M. HUMPHREY.

Witnesses:

E. D. BOYD,

FRANK B. CLOPTON.