

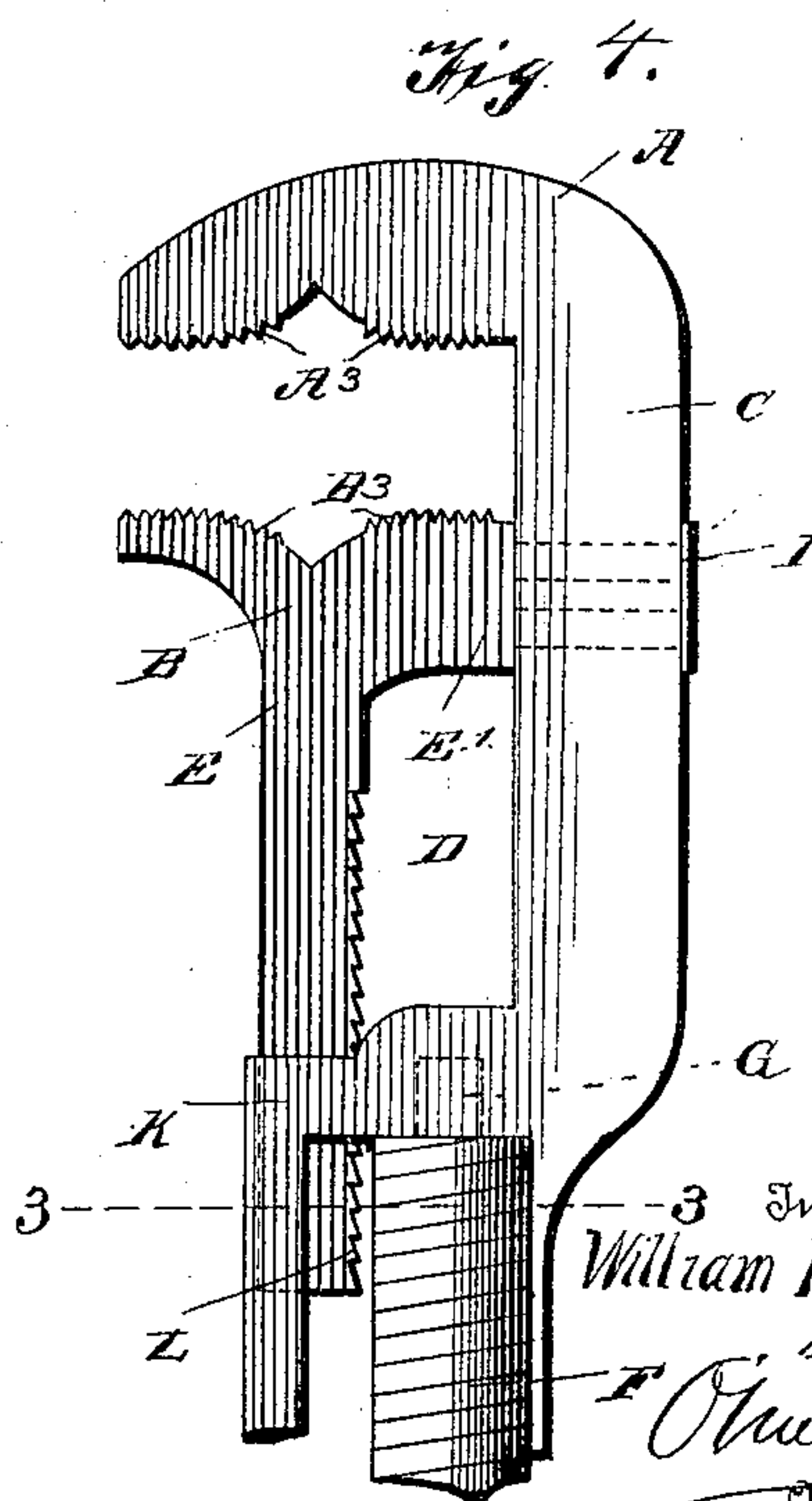
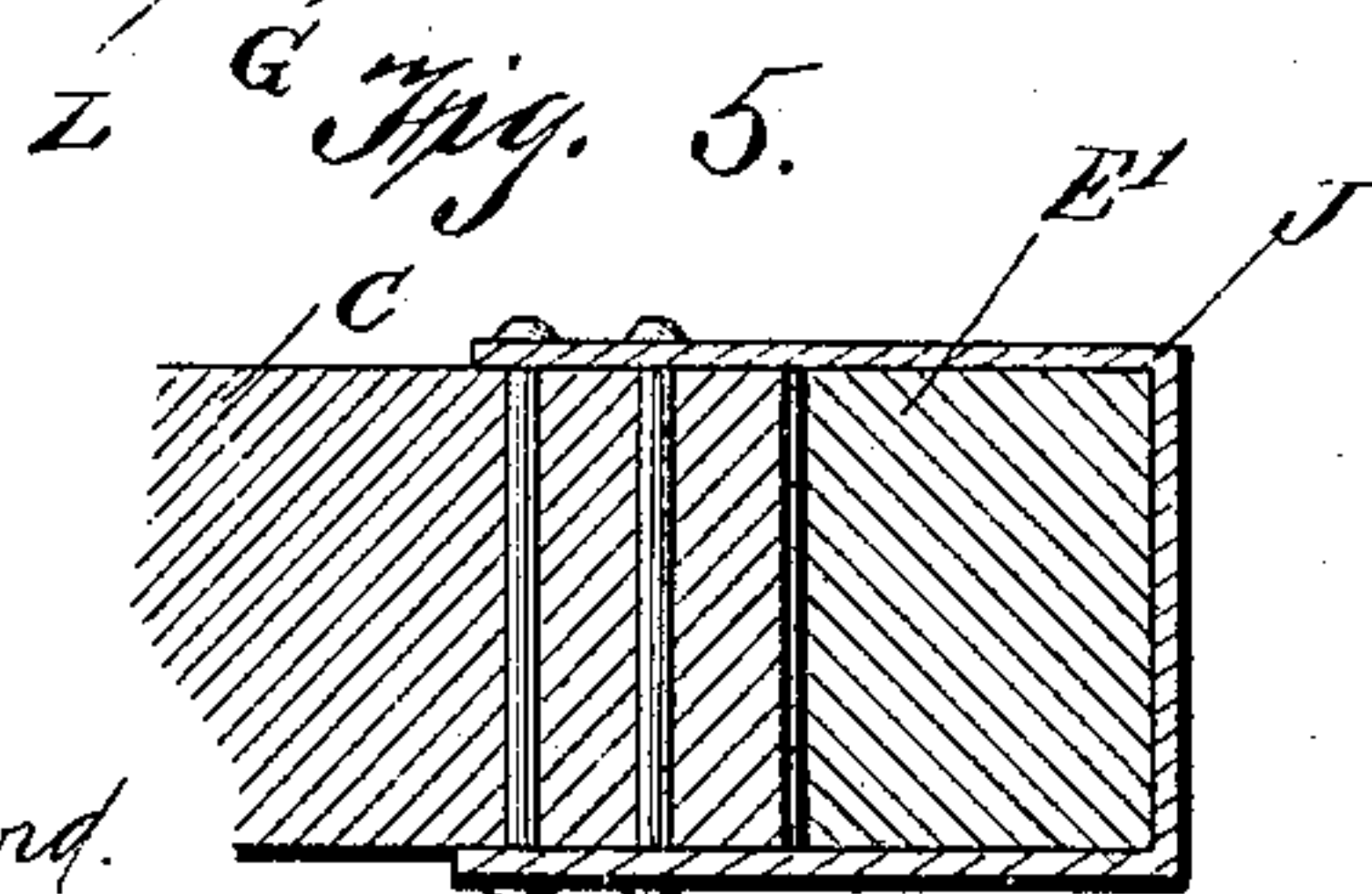
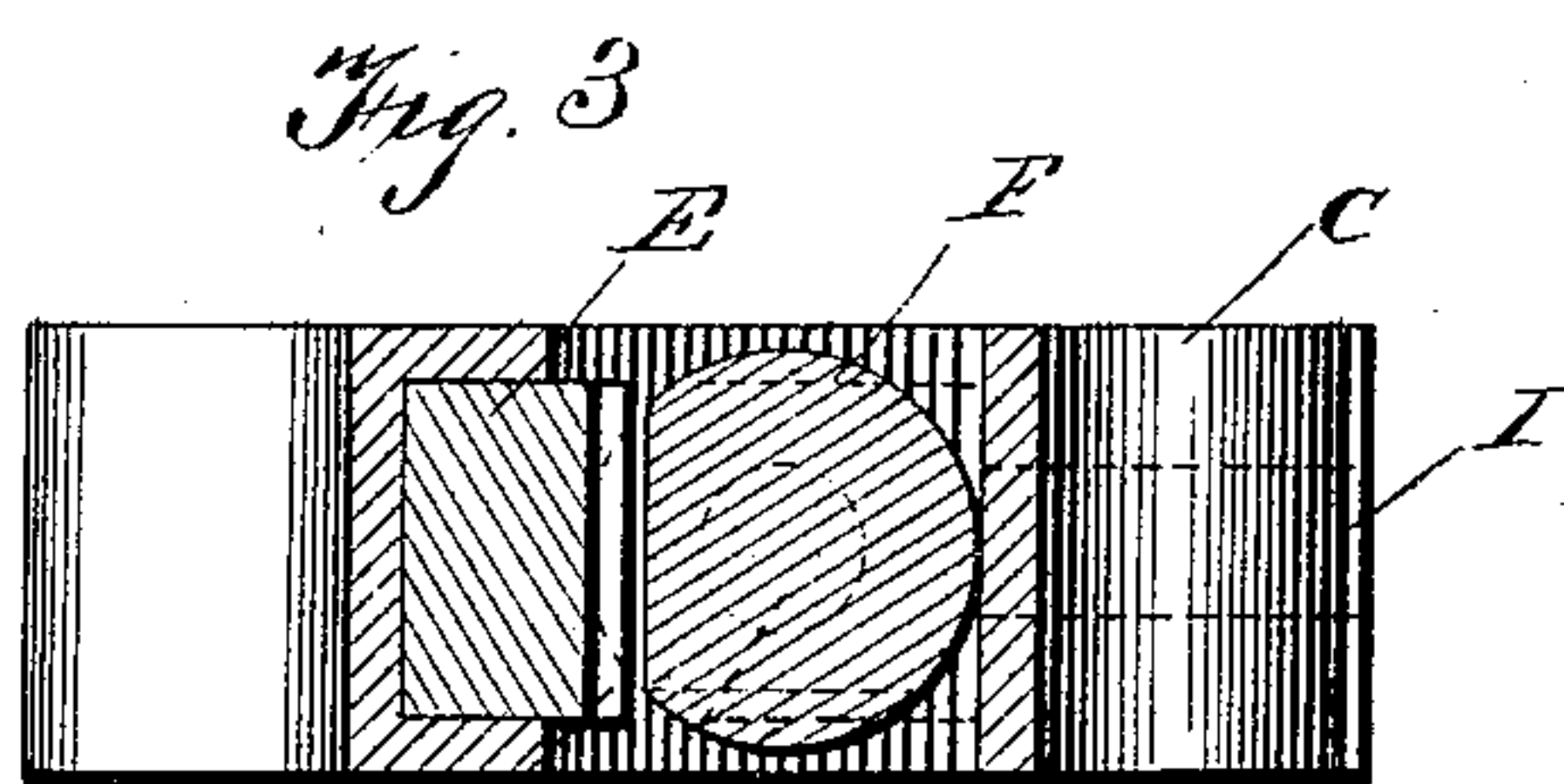
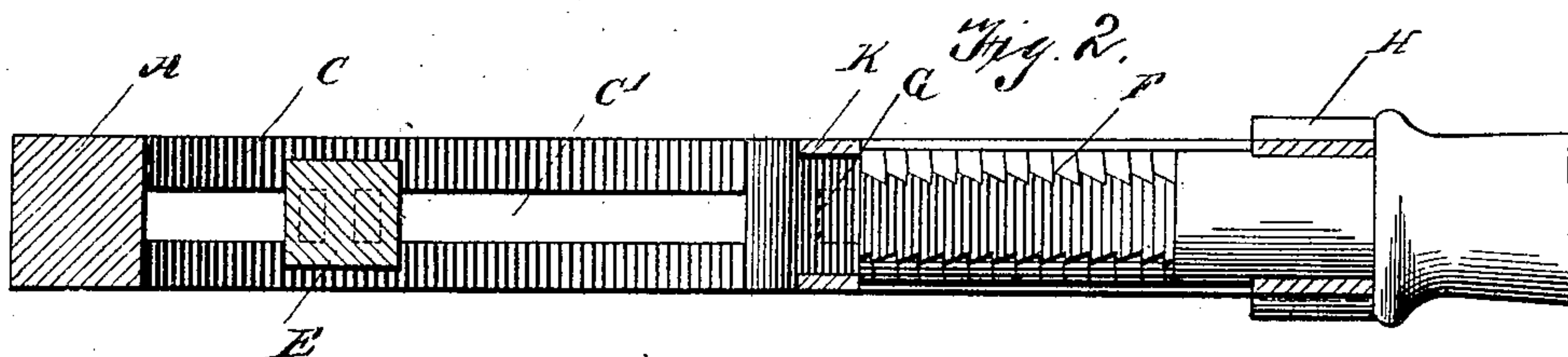
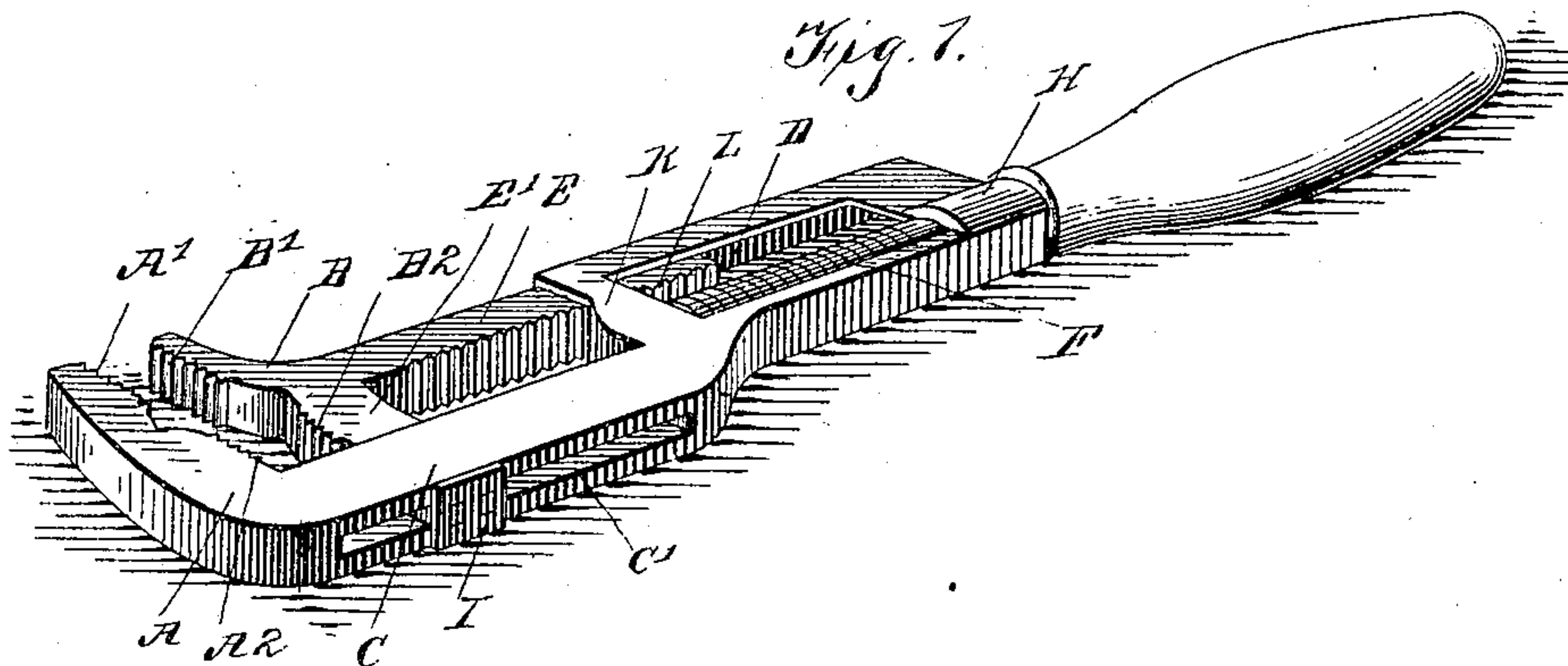
No. 641,292.

Patented Jan. 16, 1900.

W. HINTON.
WRENCH.

(Application filed May 13, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM HINTON, OF HINTON, WEST VIRGINIA.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 641,292, dated January 16, 1900.

Application filed May 13, 1899. Serial No. 716,725. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HINTON, a citizen of the United States, residing at Hinton, in the county of Summers and State of West Virginia, have invented a new and useful Wrench, of which the following is a specification.

My invention relates to wrenches for turning angular or round bodies—such as nuts, bolt-heads, and pipes—and has for its object to provide a simple, cheap, strong, and efficient wrench capable of use on all such bodies within an extended limit of size.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the claims.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a perspective view of a wrench constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view thereof on the plane indicated by the dotted line 2 2 of Fig. 4. Fig. 3 is a transverse sectional view on the plane indicated by the dotted line 3 3 of Fig. 4. Fig. 4 is a view in side elevation with the handle and part of the wrench broken away. Fig. 5 is a transverse sectional view showing a slightly-modified connection between the stationary-jaw bar and movable jaw.

Like letters of reference mark the same parts wherever they occur in the several figures of the drawings.

Referring to the drawings by letters, A indicates the fixed jaw, and B the movable jaw, which are provided with opposing straight faces $A^1 A^2 B^1 B^2$ near their ends, said faces curving inward at the center and forming on each jaw a central notch, as at $A^3 B^3$, with curved sides. The straight faces and the curves for a part of their lengths are provided with transversely-arranged V-shaped teeth. With an ordinary-sized wrench the straight faces will grip large angular nuts, which may also be gripped with opposite angles in the

notches $A^3 B^3$, and the teeth on the curves will give four points of contact on a pipe from the smallest size of the wrench.

The fixed jaw A is at the outer end of and formed with a bar C, which is provided with a longitudinal slot C' for a portion of its length. Beyond the slot, toward the handle, the bar C is made open, as at D, to receive the bar E of the movable jaw and a screw F, swiveled at one end in a cross portion G of bar C and at its opposite end in a barrel H, formed on the end of bar C, the handle forming a continuation of the screw.

A cross-arm E' from jaw B projects through slot C' of bar C and is held therein by a plate I, secured by riveting or otherwise.

If desired, the bar C may be solid, and a thin band or guide J may be passed around it and secured to jaw B, as shown in Fig. 5.

The bar E of the movable jaw is held slidably within flanges K and is provided with teeth L on its inner face, with inclined sides toward the jaws and perpendicular sides toward the handle.

The screw F is provided with a thread of corresponding but opposite shape in cross-section to engage teeth L. One side of the screw for about one-fourth of its circumference is cut away, as shown most plainly in Fig. 3.

In operation the screw will be turned to the position shown in Figs. 3 and 4, when the movable jaw B may be moved toward or from the fixed jaw A, as may be desired. Having moved jaw B as close to jaw A as desired, the screw is turned, when its thread will engage teeth L, finish the adjustment, and firmly hold the jaw in place.

The threads on the screw may be single or double and of any desired pitch.

A wrench constructed as herein described will be extremely simple, strong, durable, and efficient on round or angular bodies through the full limit of the adjustment of the jaws.

While I have illustrated and described what I consider to be the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact forms and constructions shown, as many slight changes therein or variations therefrom might suggest themselves to the

ordinary mechanic, all of which would be clearly included within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a wrench the combination with a fixed jaw, the shank of which is slotted longitudinally and carries a rotatable threaded bolt swiveled therein, of a movable jaw provided with a rearwardly-extending arm passing through said slot, a shank depending from said movable bar and designed to be engaged by the threaded bolt, and a handle on said bolt for turning the same, substantially as described.

2. In a wrench, the combination, with the rigid jaw having a slotted shank, a cross-arm projecting from the shank below the slot, a movable jaw provided with a rearwardly-projecting arm passing through said slot, a shank depending from said movable jaw and passing through an opening in the first-named arm

and a rotatable threaded bolt swiveled in the shank of the rigid jaw and designed to engage the depending shank of the movable jaw, substantially as described.

3. In a wrench, the combination with the rigid jaw and its bar slotted longitudinally and provided with a transverse space near the handle end bounded by cross-arms and the two parts of the jaw, of a movable jaw and bar, the bar sliding on the fixed bar, and the bar between flanges in the transverse space, and having teeth on its inner face, with perpendicular rear sides, and a screw connected with the handle swiveled in the fixed bar in the transverse space, having teeth to engage the teeth on the movable bar and cut away for about one-fourth of its circumference, substantially as described.

WILLIAM HINTON.

Witnesses:

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