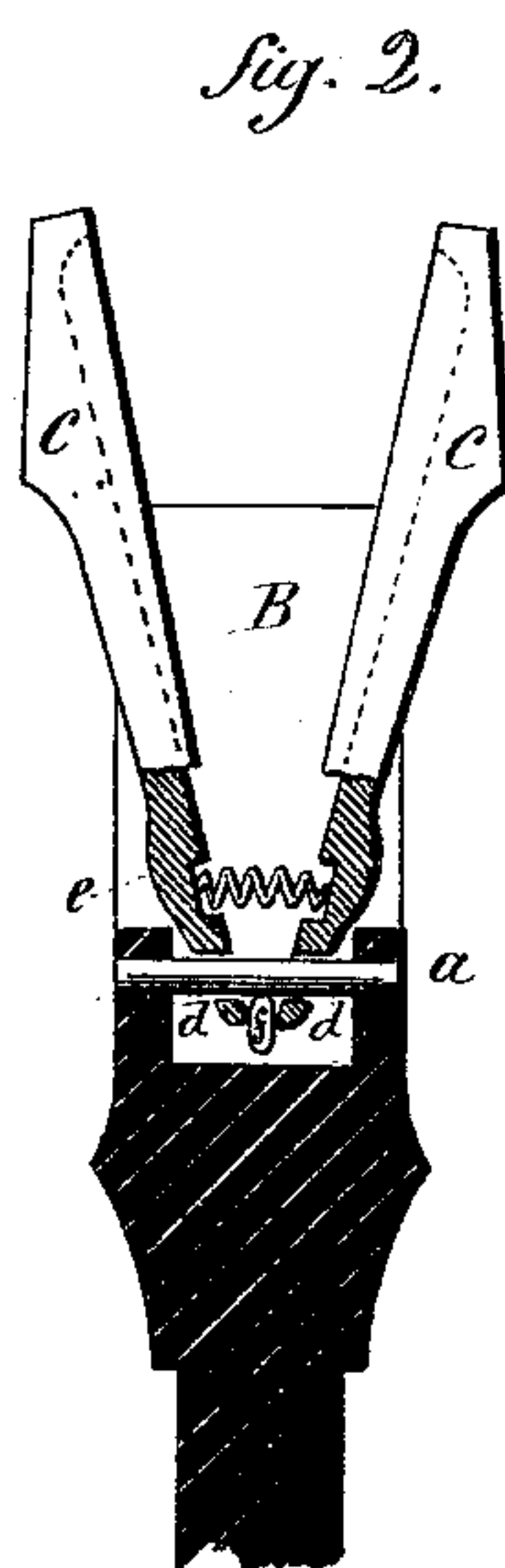
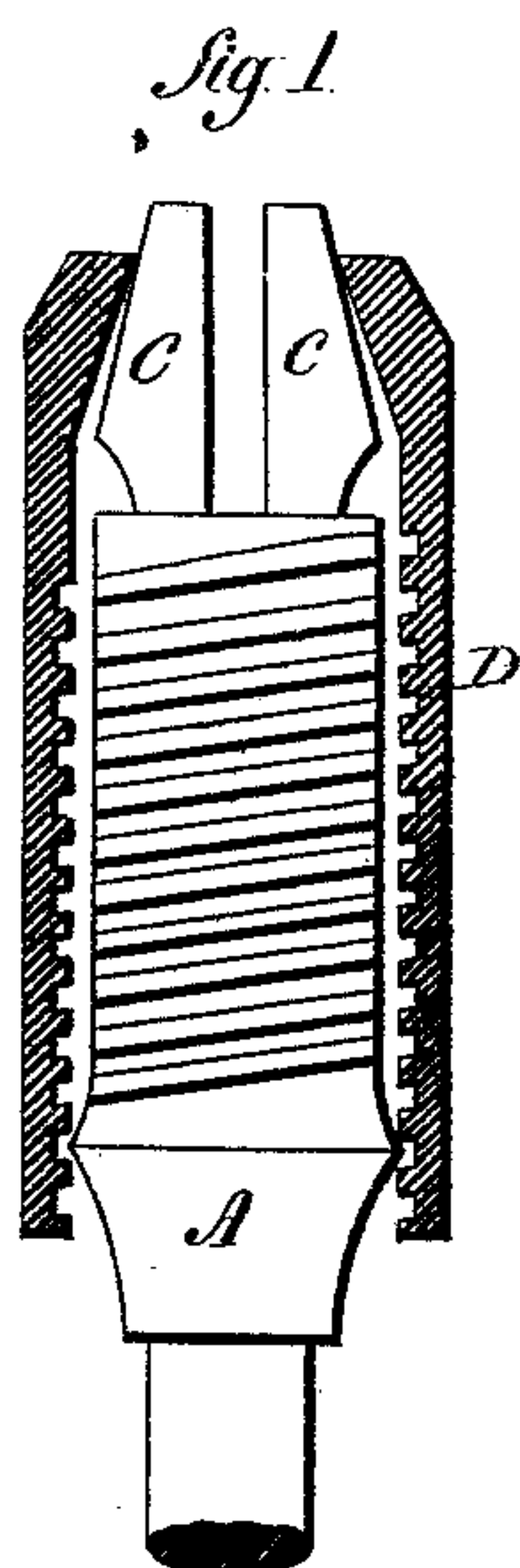


W. A. IVES.
BIT-BRACES.

No. 195,373.

Patented Sept. 18, 1877.



Witnesses:
J. H. Channing
Clara Broughton.

Wm. A. Ives.
By *Attys.* *Inventor.*
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UNITED STATES PATENT OFFICE.

WILLIAM A. IVES, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN BIT-BRACES.

Specification forming part of Letters Patent No. **195,373**, dated September 18, 1877; application filed March 14, 1877.

To all whom it may concern:

Be it known that I, WILLIAM A. IVES, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Bit-Braces; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a sectional side view, and in Fig. 2 a sectional view.

This invention relates to an improvement in that class of bit-braces which are provided with a pair of gripping-jaws, adjusted to different-size taper tangs or bits by means of a screw-sleeve working over the socket within which the jaws are arranged.

It consists in combining with such a sleeve and socket a pair of gripping-jaws arranged upon a bar transversely through the socket and through the jaws, so as to leave the jaws free at their lower end to move toward and from each other on the said bar, with a spring between the two jaws and a lug on the socket centrally between the two jaws, to limit the movement of the jaws toward each other, so that they may not pass the center.

A is the socket, formed with a transverse slot, B, through its end, in width corresponding to the thickness of the two jaws C C. The exterior surface of the socket is threaded, as seen in Fig. 1, to receive the sleeve D. The two jaws extend down into the socket, and transversely through the socket a bar, *a*, is arranged, passing through a perforation, *d*, near the lower end of each jaw, and so as to leave the jaws free to move thereon out from or in toward each other. Between the two jaws a spring, *e*, is placed, the tendency of which is to force the jaws asunder, and on one or both sides of the opening in the socket a lug, *f*, is formed near the bar, and in the

central line of the socket, so that the two jaws are prevented from passing beyond the center—that is to say, neither jaw can move inward beyond the point where it strikes the said lug *f*.

The face of the jaws is formed with cavities to gripe the angles of the tang in the usual manner. When the tang is placed between the jaws the sleeve D is turned onto the socket, and, because of the taper of the outside of the jaws and similar taper of the sleeve, the upper ends of the jaws will first gripe the larger portion of the tang, and then force in the lower ends until the tang is grasped throughout its length.

The spring *e* may be omitted, and substantially the same result accomplished; yet the spring is preferable, because it insures the opening of the jaws when left free for the action of the sleeve.

I claim—

1. The combination, in a bit-brace, of a transversely-slotted socket, threaded upon its exterior surface, a correspondingly-threaded sleeve internally contracted at its outer end, a pair of gripping-jaws fitted to receive the tang of the bit arranged loosely on the stationary transverse bar, and the central lug stationary in the socket, all substantially as described.

2. The combination, in a bit-brace, of a transversely-slotted socket, threaded upon its exterior surface, a correspondingly-threaded sleeve internally contracted at its outer end, a pair of gripping-jaws fitted to receive the tang of the bit arranged loosely on the stationary transverse bar, the central lug stationary in the socket, with the spring between the jaws, the tendency of which is to force asunder the lower end of the jaws, substantially as described.

WILLIAM A. IVES.

Witnesses:

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