WILLIAM A. IVES.

Improvement in Bit-Braces.

No. 126,395. Patented May 7, 1872.

fig. 2

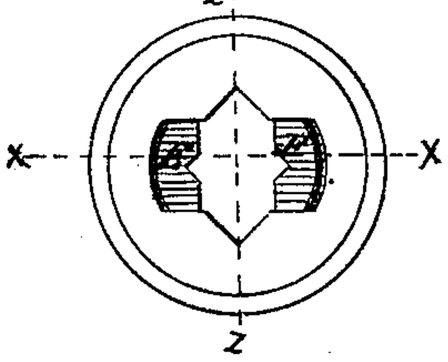


fig. 1

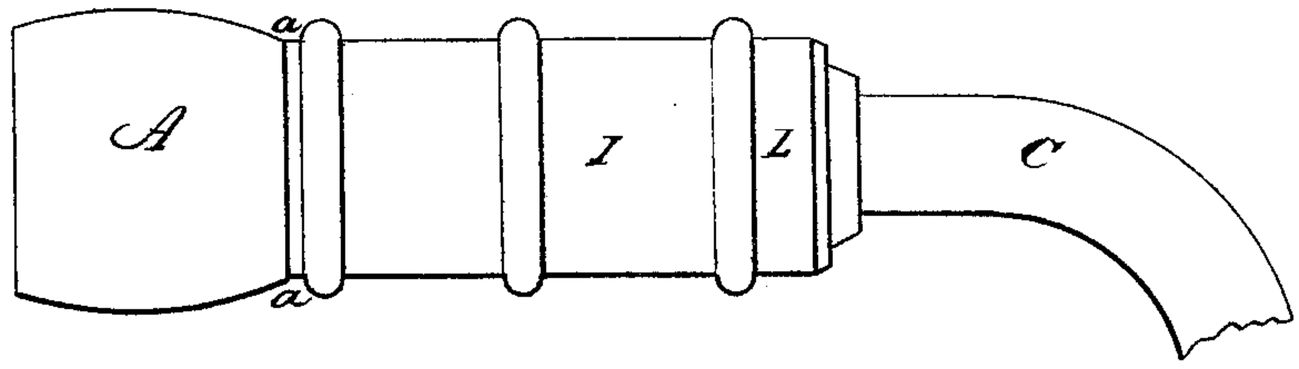


fig. 3

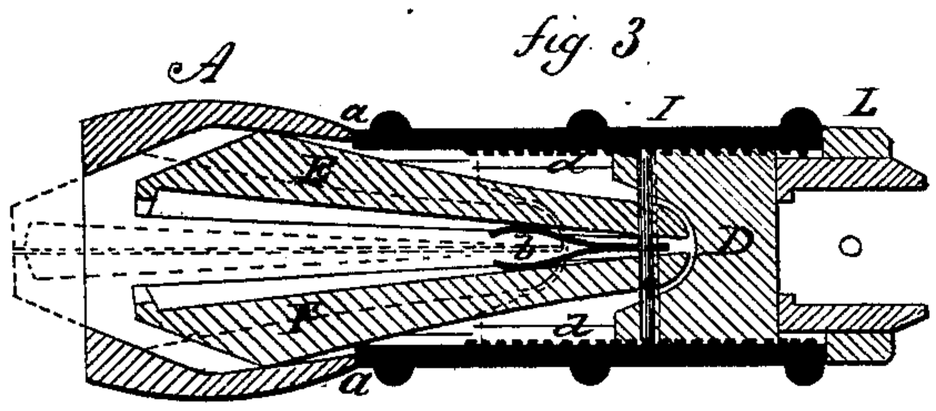


fig. 5

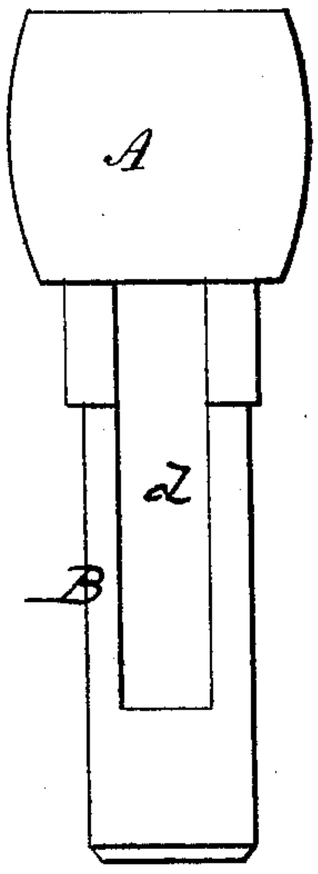
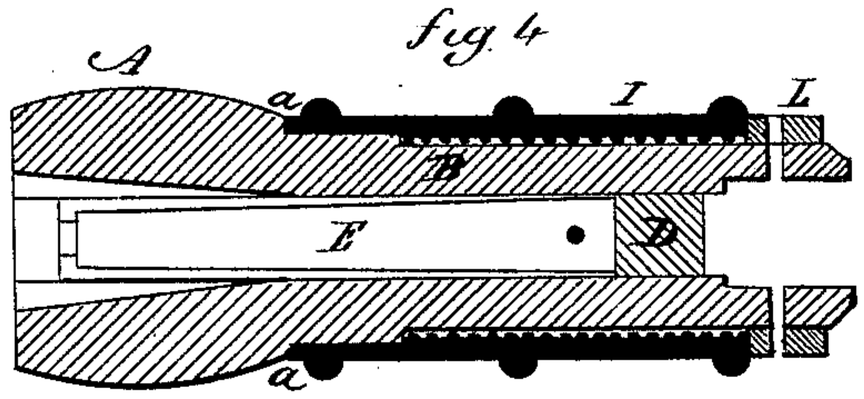


fig. 4



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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. 126,395, dated May 7, 1872.

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 drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes a part of this specification, and represents, in—

Figure 1, a side view of the socket-end of the brace; Fig. 2, an end view of the same; Fig. 3, a longitudinal section on line *x x;* Fig. 4, a longitudinal section on line *z z;* and in Fig. 5, a view of the socket detached.

This invention relates to an improvement in that portion of a bit-brace in which the bit is confined, and commonly termed the socket; and it consists in the construction and combination of the several parts of which the socket is composed, as hereinafter described and claimed.

A is the head or end of the socket, constructed to form a shoulder at *a;* B, the barrel portion of the socket, which extends up to the crank part C of the brace, and secured thereto or made a part of the same. Longitudinally through the barrel portion of the socket a slot, *d*, is formed, within which is fitted a follower, D, so as to move freely longitudinally therein. Into this follower two jaws, E F, are set, as seen in Fig. 3, the lower or outer ends of the jaws being inclined, and the head A chambered out to permit the jaws to set therein, so that, when the follower carries the jaws outward, the internally-inclined sides of the head will cause the jaws to approach each other, as seen in Fig. 3. To separate the jaws, I arrange a spring or other suitable device, *b*, between them; and to give to the jaws a self-adjustment to adapt them to tangs of different angles, I secure them to the follower upon a pin which passes through both jaws, and so that they may move to or from each other on the said pin. The head A and the barrel are stationary, and the jaws are closed by forcing them toward the mouth or end of the socket. To thus move the follower I arrange a sleeve, I, denoted in solid black, Figs. 3 and 4, around the barrel of the socket above the head A and resting against the shoulder *a;* then around the barrel at the other end of the sleeve I fix a collar, L, so that while the sleeve may be rotated freely around the barrel it can have no longitudinal movement. The interior of the sleeve is threaded, and the follower D extends through the slot of the barrel, its edges threaded corresponding to the threads on the sleeve, as seen in Fig. 3, so that, by turning the said sleeve I, the follower is moved longitudinally, according to the turning of the sleeve to carry the jaws out or in.

I claim as my invention—

The bit-brace socket herein described, consisting of the stationary head A and its slotted or grooved barrel B, in combination with the follower D, the jaws E F, and sleeve I, substantially as and for the purpose specified.

W. A. IVES.

A. J. TIBBITS,
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