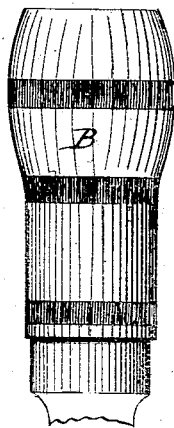


*William A. Ives' Inpt in Bit Brace.*

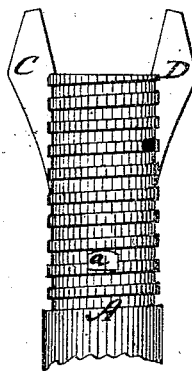
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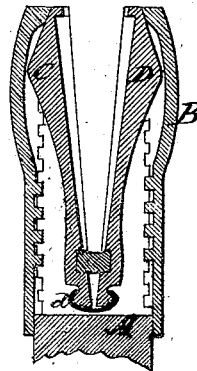
*fig. 1.*



*fig. 2.*



*fig. 3.*



*Witnessed*  
*J. H. Shumway*  
*A. J. Tibbitts*

*William A. Ives*  
*Inventor*  
*By his Attorney*  
*John E. Earle*

# United States Patent Office.

WILLIAM A. IVES, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 111,649, dated February 7, 1871.

## IMPROVEMENT IN BIT-BRACES.

The Schedule referred to in these Letters Patent and making part of the same.

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-Brace; 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 part of this specification, and represents in—

Figure 1, a side view;

Figure 2, a side view with the sleeve removed; and in

Figure 3, a vertical central section.

This invention relates to an improvement in the construction of the socket for holding the bit in bit-braces, the object being to make the brace adjustable to different-sized shanks of bits; and

The invention consists in the arrangement of a pair of vertical jaws, each set into a recess in the opposite side of the brace-socket, each arranged upon a bearing and combined with a spring below the bearing, the tendency of which is to open the jaws, and with a sleeve which passes onto the socket over the jaws, by the turning of which the jaws are closed or permitted to open.

A is the socket of the bit-brace, threaded to receive a sleeve, B, and constructed with a recess upon opposite sides to receive the two jaws, C D.

Near the inner end of the said jaws a notch is formed in each, and through the socket a pin or bear-

ing, *a*, is passed, setting into the notch in each of the said jaws.

The said pin *a* is made concave on its upper surface, as seen in fig. 3, and the notch in each jaw correspondingly hooked to prevent the jaws from being thrust from the pin.

At the extreme end of the jaws, or at other convenient point, I arrange a suitable spring, *d*, as seen in fig. 3, the tendency of which is to force the jaws open.

The sleeve B is formed upon its inner surface to permit the jaws to open to their fullest extent, as in fig. 3; the mouth of the sleeve being of less diameter than at a distance back, and the outer surface of the jaws inclined, it follows that the turning of the sleeve onto the socket, the mouth of the sleeve passing down over the incline, will close the jaws upon the bit inserted therein.

I do not wish to be understood as broadly claiming the two jaws and closing-sleeve, as such, I am aware, is not new.

I claim as my invention—

The combination of the jaws C and D, the bearing *a* within the socket A, spring *d*, and sleeve B to close the jaws, the whole constructed and arranged to operate substantially in the manner and for the purpose set forth.

W. A. IVES.

Witnesses:

JOHN E. EARLE,  
A. J. TIBBITS,