C. H. AMIDON.
Bit-Brace.

No. 201,379. Patented March 19, 1878.

Fig. 1

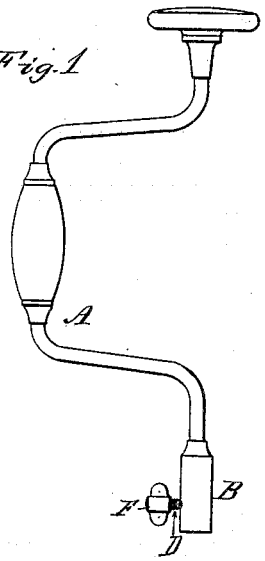

Fig. 2

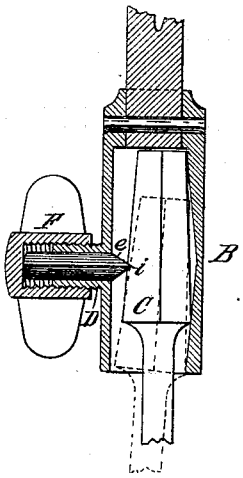

Fig. 3.

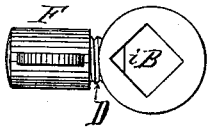

Fig. 4

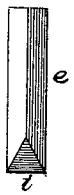

Fig. 5.

Witnesses
Chas. J. Buchheit
John Tyler.

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UNITED STATES PATENT OFFICE.

CHARLES H. AMIDON, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO ELIJAH R. SAXTON, OF SAME PLACE.

IMPROVEMENT IN BIT-BRACES.

Specification forming part of Letters Patent No. **201,379**, dated March 19, 1878; application filed February 4, 1878.

To all whom it may concern:

Be it known that I, CHARLES H. AMIDON, of the city of Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Bit-Braces, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate more especially to the construction of the socket of the brace, so that the bit can be readily centered; and also to the means for securing the bit in the socket, so that bits having square or round shanks are securely held therein.

The nature of my invention will be fully understood from the following description.

In the accompanying drawing, Figure 1 is an elevation of a bit-brace provided with my improvements. Fig. 2 is a sectional view of the socket and connecting parts on an enlarged scale. Fig. 3 is an end view of the socket. Fig. 4 is a side view of the chisel or bolt bearing against the shank of the bit. Fig. 5 is an end view thereof.

Like letters of reference designate like parts in each of the figures.

A represents the brace, of ordinary and well-known construction, and B the socket thereof, in which the shank C of the bit is secured. The socket B is made curved or concave on the side against which the shank of the bit is pressed, as clearly shown in Fig. 2, so that the bit will change its position by inserting its shank, which is of the ordinary tapering form, to greater or less depth into the socket, as indicated by dotted lines in Fig. 2, thereby permitting the bit to be centered by simply loosening the shank and pushing it farther into the socket, or withdrawing it therefrom to a greater or less distance, as circumstances may require.

D is a lateral extension of the socket B, provided with an external screw-thread, and a square central opening, arranged at right angles to the socket and extending from end to end of the extension D, so as to communicate with the socket B. *e* is a square sliding bolt or chisel, arranged in the opening of the extension D, so as to bear with its inner end upon the shank C of the bit. F is a hollow thumb-nut, working upon the thread of the extension D, so as to press the sliding bolt *e* against the shank of the bit.

The inner end of the bolt *e* is formed with an edge, *i*, preferably arranged diagonally on the bolt, as shown in Figs. 4 and 5.

When a bit having a square shank is to be secured in the socket of the brace, the bolt *e* is arranged with its edge *i* at right angles to the edge of the shank, as shown in Fig. 2; but when the bit is provided with a round shank, the bolt *e* is arranged with its edge *i* parallel with the side of the shank, so as to bear against the shank with the entire length of its edge.

In this manner bits having square or round shanks are securely held in the socket of the brace.

My improved brace is very simple in construction, efficient in its operation, and not liable to get out of order.

I claim as my invention—

1. A bit-brace provided with a socket, B, made curved or concave on the side against which the shank of the bit is pressed by the screw-fastening, substantially as and for the purpose hereinbefore set forth.

2. The combination, with the socket B, provided with threaded extension D, of the sliding bolt or chisel *e* and hollow thumb-nut F, substantially as and for the purpose set forth.

3. The combination, with the socket B, provided with threaded extension D, having a square opening, of the square bolt *e*, provided at its inner end with an edge, *i*, substantially as and for the purpose set forth.

CHARLES H. AMIDON.

Witnesses:

EDWARD WILHELM,

JNO. J. BONNER.