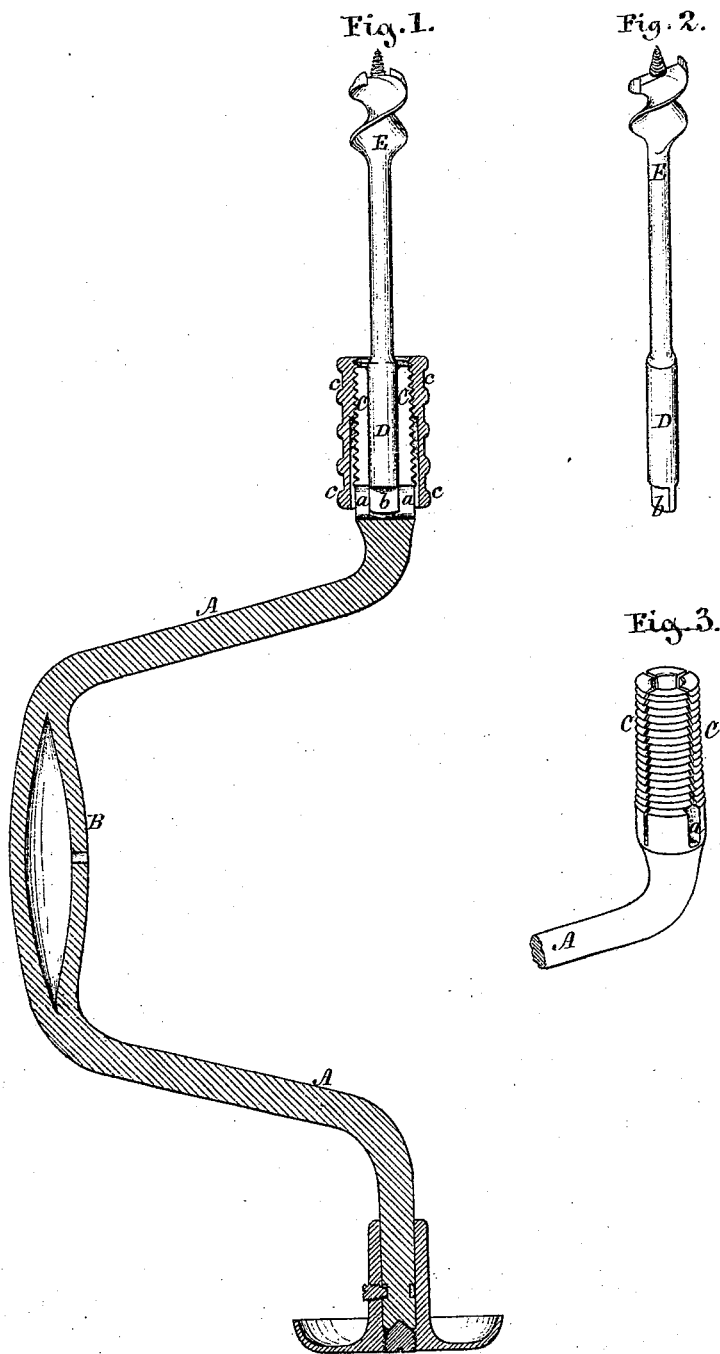


R. French,

Bit Brace,

No. 112,799.

Patented Mar. 21, 1871.



Witnesses.
Chas. C. Wilson
Edmund Masson

Raymond French.
By atty *A. B. Staughton.*

UNITED STATES PATENT OFFICE.

RAYMOND FRENCH, OF SEYMOUR, CONNECTICUT.

IMPROVEMENT IN BIT-BRACES.

Specification forming part of Letters Patent No. **112,799**, dated March 21, 1871.

To all whom it may concern:

Be it known that I, RAYMOND FRENCH, of Seymour, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in a Brace and Bit for boring and other purposes; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1 represents a section through the brace, with the bit in full and in place therein. Fig. 2 represents the bit in perspective and separate from the brace. Fig. 3 represents, in perspective, the socket of the brace, with a portion of the socket attached.

Similar letters of reference, where they occur in the separate figures, denote like parts in the drawing.

My invention consists in combining with a split socket in a brace a transverse opening at the bottom of the socket, for receiving a tenon or reduced portion of the bit and prevent it from turning in the socket.

My invention further consists in combining with a split socket and a recess below the socket a round opening in the socket, so as to receive, hold, and clamp a round-shanked and shouldered bit; as will be explained.

The handle A may be constructed in any of the usual well-known ways, and of wrought or malleable iron or other metal, preferring, however, to make the sweep portion B of the brace, or the "swell," as it is termed, hollow, for the sake of lightness.

The socket portion C of the brace has a round opening in it, extending far enough in from its end to receive a round shank, D, on a boring-bit, E, as seen in Fig. 2.

Below the bottom of the socket a transverse

mortise, *a*, is made through the socket-head, to receive a tenon or reduced or flattened portion, *b*, of the bit, to hold it from turning when in use.

The exterior of the head of the socket is slightly tapering from its heel toward its point or end, and has a screw-thread cut upon it, over which a screw-sleeve or boss, *c*, runs.

The socket-head is split with four radial kerfs cut through from the exterior to the round central opening. These kerfs, or rather one pair of them, is cut down as low as the bottom of the mortise *a*. The other pair runs into the top of the said mortise, the mortise being, as it were, a continuation of them on an enlarged scale. Slotting or splitting the head of the socket admits of bit-shanks of different sizes being introduced and clamped.

The mortise *a* through the socket and tenon *b* on the bit serves as centering devices, as well as holding devices, so that the bit is always straight and true in the socket.

A round hole in the socket is much more easily and cheaply made than the ordinary angular or cornered sockets. So, too, a round shank on a boring-bit may be more easily and cheaply made than a square or pyramidal-shaped one, it being in both cases simple lathe-work.

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

In combination with a split socket and screw-sleeve, the transverse mortise through the socket-head, as and for the purpose described.

RAYMOND FRENCH.

Witnesses:

CARLOS FRENCH,
S. C. TUCKER.