

(No Model.)

J. C. MIDDLETON.
BORING BIT.

No. 407,868.

Patented July 30, 1889.

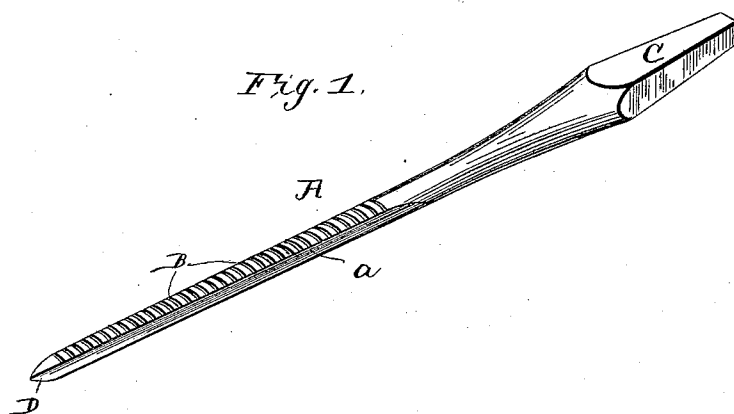


Fig. 2.

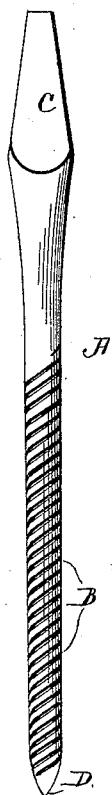
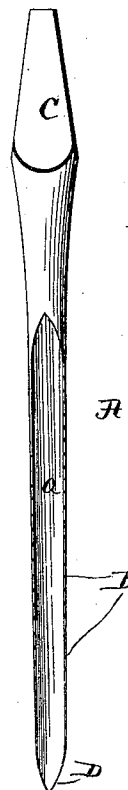


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH C. MIDDLETON, OF NORRISTOWN, PENNSYLVANIA.

BORING-BIT.

SPECIFICATION forming part of Letters Patent No. 407,868, dated July 30, 1889

Application filed May 29, 1888. Serial No. 275,444. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. MIDDLETON, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented new and useful Improvements in Boring-Bits, of which the following is a specification.

The invention relates to improvements in boring-bits such as are used with a brace, being particularly adapted to bore into hard wood; and it consists in the construction and novel combination of parts hereinafter described, illustrated in the drawings, and pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a bit embodying the invention. Fig. 2 is a face view thereof. Fig. 3 is a back or outside view of the said bit.

Referring to the drawings, A designates the bit, which is a spoon or pod bit, having one side *a* longitudinally concave, as shown. On the outer or rear side of the bit are the shallow parallel inclined grooves B, which, if the bit were cylindrical and the said grooves were continuous thereon, would form screw-threads on the shank of the bit. The said grooves, when the bit is in use, draw the latter into the wood, similarly to the threads of a screw, and also give clearance by conveying the wood-dust into the concavity *a*, whence it passes to the outside of the piece being bored.

The shank or upper end C of the bit is squared for insertion into an ordinary brace.

Boring-bits of this kind are usually made with screw-threaded points at their lower ends to engage the wood and draw the bit therein; but the point of any bit is liable to break off in use, and when a screw-threaded point breaks the bit is useless. Therefore, I have formed the point D of this improved bit smooth by simply tapering the extremity of the latter; and therefore, if by accident it is broken off or injured, it may be repaired or renewed by resharpening the end of the bit; also, a point which is not provided with the screw-thread is less liable to be broken.

In the present practice the clearing or cut-

ting groove or cavity is usually made spirally; but I prefer to form it straight, with the screw-threads on the opposite side of the bit extending to the upper extremity of the groove or cavity.

I am aware of the patent, No. 172,377, granted to B. F. Bee January 18, 1876; but it will be observed that in this bit the point is screw-threaded, whereas in my improved bit the point is smooth, as described.

On account of the clearance furnished by the concavity *a* and by the groove B, hard wood can be bored very easily with this bit.

It must be observed that the threaded portion of the shank is of equal diameter throughout, that the smooth tapered point D is below said threaded portion, and that the clearance-groove extends to the end of said point.

The point of the bit has no power of driving the tool in, nor does it produce dust or cuttings, except at its edges, the groove being intended more particularly for easy clearance than for cutting the wood.

The cuttings from all portions of the threads empty themselves immediately into the groove at the end of each thread, thus making the work much more easy.

Having described my invention, I claim—

The herein-described bit, consisting of the straight semi-cylindrical shank A, provided with a clearance-groove *a*, extending from near the butt of the shank to its extremity, the edges of the groove being parallel for a portion of their lengths and converged to form an entering-point D, and semi-spiral threads B, formed in the convex surface of the shank and extending from near the upper end of the groove to near the tip and from edge to edge of the groove, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOSEPH C. MIDDLETON.

Witnesses:

HAROLD CORSON,
E. B. HELFFENSTEIN.