(No Model.)

H. W. LIBBEY.

TWIST DRILL AND AUGER BIT.

No. 354,155. Patented Dec. 14, 1886.

FIG. 1.

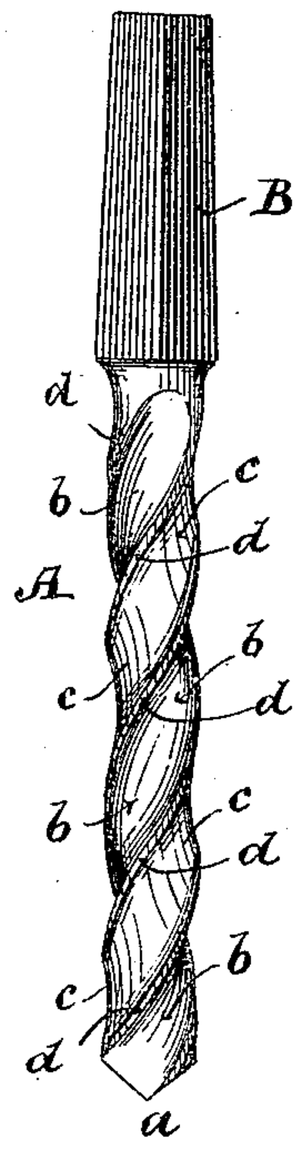
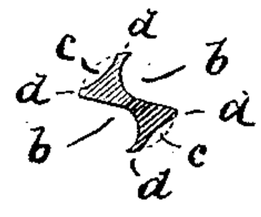


FIG. 2.



Witnesses.

E. Planta.

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UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, MASSACHUSETTS.

TWIST-DRILL AND AUGER-BIT.

SPECIFICATION forming part of Letters Patent No. 354,155, dated December 14, 1886.

Application filed Setempber 2, 1886. Serial No. 212,460. (No model.)

To all whom it may concern:

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Twist-Drills and Auger-Bits, of which the following is a specification.

The nature of my invention consists in constructing the drill with a wide shallow groove or recess made in the space on each side of the spiral-clearing groove, which space is flat in twist-drills of ordinary construction, by which means the friction of the drill is very much reduced when in use, and the heating of the drill, which frequently results in its breaking, is to a great extent prevented.

Referring to the accompanying drawings, Figure 1 represents a twist-drill embodying my invention. Fig. 2 is a front view of the point.

A, Fig. 1, represents the body of a twist-drill, *a* the drill-point, *b* the clearing-groove, and B the shank, all of which are of ordinary construction. *c* is a shallow groove or recess in the space between the spirals of the groove *b*.

It will be seen that when the drill enters the metal to be bored, only a narrow portion of flat surface *d* on each side of the clearing-groove *b* will come into contact with the interior surface of the hole bored, thereby reducing the friction and preventing the drill from becoming heated as quickly as in drills of ordinary construction, where the whole surface between the clearing-groove is in contact with the interior surface of the hole. By thus reducing the friction the temper of the drill is better retained, and it is not liable to break, as is the case with ordinary drills. The recessed or grooved portion *c* also aids in clearing the hole and carrying off the chippings.

My invention may also be applied to augers.

I am aware of the patent of T. V. Boyden, No. 112,115, which shows a small groove on the outer edge of the drill for the reception of oil. This I do not claim; but

What I claim as my invention is—

A twist-drill constructed with a wide shallow groove or recess in the space on each side of the spiral-clearing groove, as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HOSEA W. LIBBEY.

Witnesses:
J. H. ADAMS,
E. PLANTA.