

C. A. TERREY.
Method of Setting Diamonds in Drills.

No. 160,484.

FIG. 1.

Patented March 2, 1875.

FIG. 2.

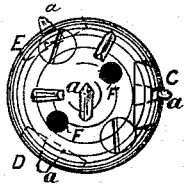


FIG. 3.

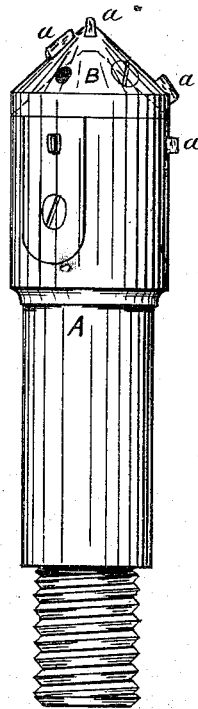
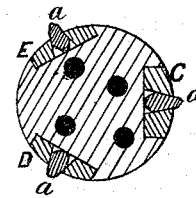


FIG. 4.

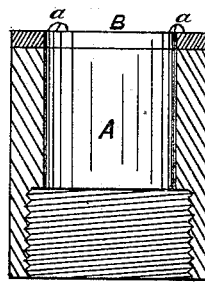


FIG. 5.

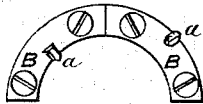


FIG. 6.

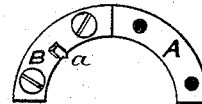


FIG. 7.

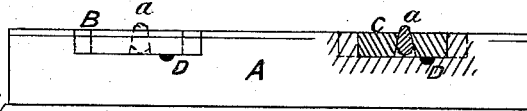
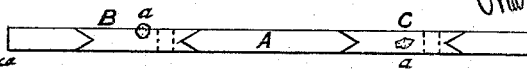


FIG. 8.



Witnesses:

William Herbert Maxwell

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UNITED STATES PATENT OFFICE.

CHARLES ANDREW TERREY, OF SOUTHWARK, ENGLAND.

IMPROVEMENT IN METHODS OF SETTING DIAMONDS IN DRILLS.

Specification forming part of Letters Patent No. 160,484, dated March 2, 1875; application filed August 14, 1874.

To all whom it may concern:

Be it known that I, CHARLES ANDREW TERREY, of Southwark, in the county of Surrey and Kingdom of England, have invented an Improved Method of Setting Diamonds in Drills and Cutting-Tools, of which the following is a specification:

The object of my invention is to rapidly set diamonds or carbon in drills and other boring and cutting tools so that they cannot escape from the tool unless accidentally broken, and that a broken diamond may be easily replaced by another of the same size.

I attain this object by making the drill or other tool with a cap or cover, following exactly the form of the solid part of the tool, and pierced, wherever it is desired to place a diamond, with orifices, decreasing in diameter from the inner to the outer surface of the cap.

Figure 1 of the accompanying drawing is a side view or elevation of a solid drill embodying my invention, Fig. 2 being a plan, and Fig. 3 a sectional plan, of same. Fig. 4 is a section of a hollow or tubular drill, also embodying my invention, Fig. 5 being a plan of same, and Fig. 6 a plan with portion of cap removed.

A indicates the drill; B, the cap; C D E, movable side pieces screwed onto A; F F, orifices for water; *a a*, diamonds.

The diamonds *a* cannot escape from the cap B or section unless broken, they being larger than the mouths of the orifices through which they project—a great improvement upon the ordinary setting of diamonds in drills and boring and cutting tools, in which the diamond,

being set from the outside into the solid, easily cuts its way out if loosened, enlarging the socket, so that it must be replaced by a larger diamond, and that by an operation occupying considerable time and requiring great care.

Should a diamond set according to my invention break and fall out, or need replacing, I unscrew the cap B, or only the section from which the diamond has escaped. If the cap be in several sections, lay another diamond in the empty orifice, screw the cap or section again close upon A, and the diamond is at once firmly held between the cap B or section and the solid body A of the drill or tool. It may, however, if desired, be further secured from movement in its socket by any suitable cement or otherwise.

Fig. 7 is a sectional elevation, showing the application of my invention to a diamond-saw; and Fig. 8, a plan view of same. A is the saw; B C, movable caps for carrying diamonds; D D, openings for forcing out caps B and C; *a a*, diamonds.

The drill or tool and its cap may be of any suitable metal, and the cap be made in any number of sections fitted to each other and fastened to the tool, as may be found most convenient.

I claim as my invention—

The combination of a perforated cap with a drill or other cutting or boring tool, substantially as and for the purpose specified.

CHAS. A. TERREY.

Witnesses:

WILLIAM HERBERT MAXWELL,
WILLIAM LA PENOTIERE.