

No. 767,706.

PATENTED AUG. 16, 1904.

W. L. MUENDER & J. E. DE WITT.

DRILL BIT.

APPLICATION FILED OCT. 6, 1903.

NO MODEL.

Fig. 1.

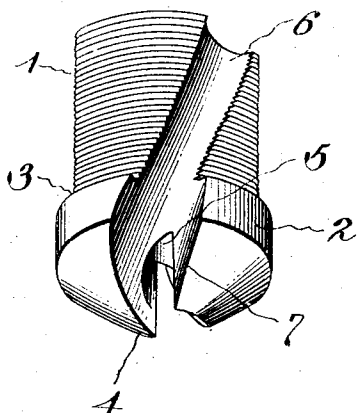


Fig. 3.

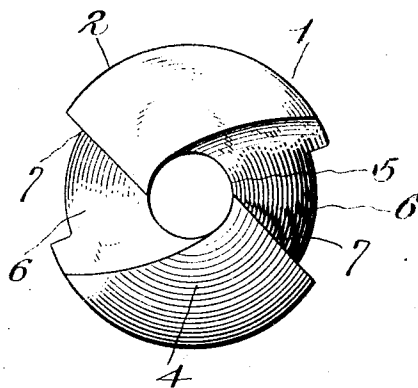


Fig. 2.

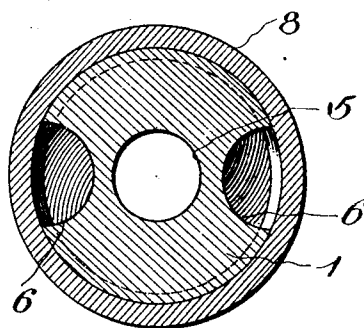
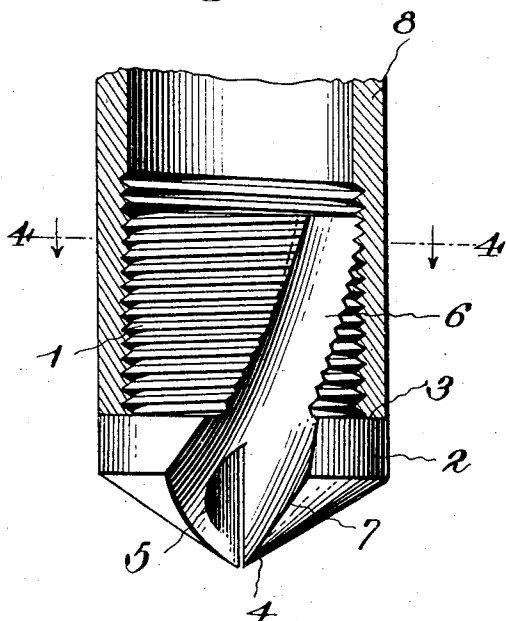


Fig. 4.

Witnesses
E. F. Stewart
Wm. Bagger

W. L. Muender and
J. E. DeWitt, Inventors.
by *C. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM L. MUENDER AND JOHN E. DE WITT, OF MONTFORT, WISCONSIN.

DRILL-BIT.

SPECIFICATION forming part of Letters Patent No. 767,706, dated August 16, 1904.

Application filed October 6, 1903. Serial No. 175,932. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM L. MUENDER and JOHN E. DE WITT, citizens of the United States, residing at Montfort, in the county of Grant and State of Wisconsin, have invented a new and useful Drill-Bit, of which the following is a specification.

This invention relates to drill-bits of that class which are used in connection with core-drills; and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity, durability, and general efficiency.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of our improved drill-bit. Fig. 2 is a side elevation, partly in section, showing a tubular drill-rod equipped with our improved bit. Fig. 3 is an end view of the bit. Fig. 4 is a horizontal sectional view taken on the line 4 4 in Fig. 2.

Corresponding parts in the several figures are indicated by similar numerals of reference.

Our improved drill-bit, which is designated 1, is provided near its lower end with a flange 2, forming a shoulder 3, which extends beyond the perimeter of the cylindrical portion or body 1. Below the flange 2 the point of the bit is conically tapered, as shown at 4.

Extending axially through the bit is a perforation 5, the lower end of which communicates with the lower ends of grooves 6 6, formed spirally in opposite sides of the bit and coöperating with the bit-body to form the cutting edges 7.

8 designates a tubular drill-rod, which is the lowermost one of a plurality of similar rods which are to be suitably connected or coupled together, so as to enable the drill-bit to be operated at any desired depth. The lower end of this drill-tube is interiorly screw-threaded to receive the exteriorly-threaded body portion of the drill-bit 1, the lower edge of the drill-tube abutting upon the shoulder 3 of the flange 2, so as to form a smooth connection.

In operation a rotary motion is imparted to the drill, which is at the same time fed down-

wardly by machinery of any suitable approved kind. The earth thus loosened by the drill-bit will partly pass upwardly through the perforation 5 and into the drill-tube; but a greater portion will follow along the spiral grooves 6 and pass into said drill-tube, in which it is fed upwardly by the downward action of the drill. When the extent of the core within the drill-tube causes a degree of friction sufficient to interfere with the effective operation of the drill, the latter is withdrawn and the drill-bit is removed, thus enabling the core to be removed from the tube. The operator is thus enabled to examine and acquaint himself with the nature of the material bored through.

Our improved core-drill bit, as will be seen, is extremely simple in its construction and may be readily applied to drill-tubes of ordinary construction.

Having thus described our invention, we claim—

1. As an improvement in drill-bits, an axially-perforated, cylindrical exteriorly-screw-threaded body provided near its lower end with a shoulder or offset and a tapering conical point, said body being provided with exterior spiral grooves extending throughout the entire length thereof, including the screw-threaded portion and the shoulder or offset.

2. A drill-bit comprising an axially-perforated, cylindrical, exteriorly-screw-threaded body provided near its lower end with a shoulder or offset and a tapering conical point, said body being provided with exterior spiral grooves extending throughout its entire length, including the screw-threaded portion and the shoulder or offset, in combination with a drill-tube exteriorly engaging the screw-threaded portion of said bit, abutting upon the shoulder or offset and coöperating with the grooves therein to form passages auxiliary to the axial perforations for the upward displacement and discharge into the drill-tube, of matter loosened by the bit.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM L. MUENDER.
JOHN E. DE WITT.

Witnesses:

WILLIAM NICHOLS,
L. H. STEVENS.