Feb. 6, 1923.

1,444,305

W. G. CHRISTIAN.

DRILL BIT.

FILED JULY 18, 1921.

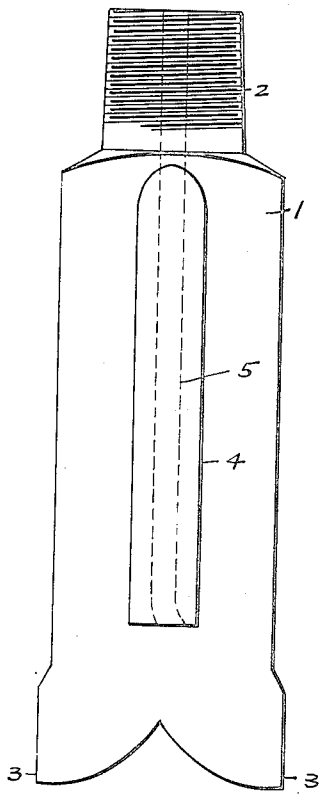


Fig. 1.

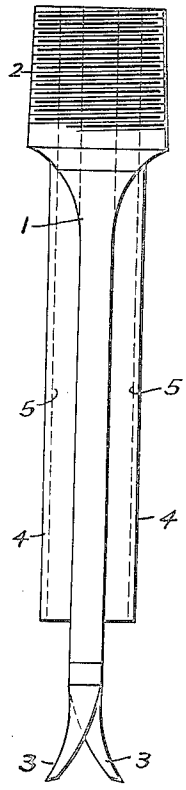


Fig. 2.

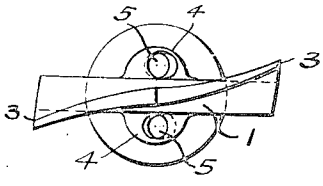


Fig. 3.

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Patented Feb. 6, 1923. 1,444,305

UNITED STATES PATENT OFFICE.

WALTON G. CHRISTIAN, OF HOUSTON, TEXAS.

DRILL BIT.

Application filed July 18, 1921. Serial No. 485,564.

To all whom it may concern:

Be it known that WALTON G. CHRISTIAN, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, has invented certain new and useful Improvements in a Drill Bit, of which the following is a specification.

This invention relates to new and useful improvements in a drill bit.

One object of the invention is to provide a bit of the character described which has specially formed water courses, which will cast the water onto the cutting points of the blades.

Another object is to provide a bit which is so formed that it may be easily sharpened, as it wears away, and thus renewed for reuse, and the life of the bit thus materially lengthened.

With the above and other objects in view the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:—

Figure 1, is a side view of the bit.

Figure 2, is an edge view, and

Figure 3, is a point view, thereof.

Referring now more particularly to the drawings the numeral 1, designates the body of the bit whose upper end is reduced and formed into an outwardly threaded neck 2 for attachment to the drill stem.

The lower end of the bit is formed with slightly flared, oppositely curved cutting blades 3, 3. The body 1 is flat and of substantially uniform thickness. On each side it is formed with a vertical integral rib 4 which extends down to the blades. Said ribs are centrally located and oppositely disposed and add strength to the blades where it is needed. Water courses 5 extend down through the body from the upper end, said water courses continuing on down lengthwise through said ribs to near the cutting edge of the bit. The lower ends of these water courses are curved, or deflected, toward the cutting points of the respective blades so that the water will be conducted down from the stem and thrown directly onto said cutting points under strong hydraulic pressure to carry away the cuttings. As the blades wear away, and the bit becomes shorter, the lower ends of the ribs may be cut off and the blades reformed and sharpened, thus producing a practically new bit. This process may be repeated as often as desired until the body of the bit is worn away. When the lower ends of the ribs are cut off the lower ends of the water courses may be deflected, as above described, to throw the water to the cutting points of the blades for the purpose set forth.

What I claim is:

1. A drill bit including an elongated flat body having a centrally located vertical rib on each side formed integrally therewith and whose lower end is formed into cutting blades, said bit having vertical water courses which extend from the upper end thereof and continue on down through said ribs.

2. A drill bit including a flat body having a centrally located vertical rib on each side and whose lower end is formed into cutting blades, said ribs being integral with the body, said bit having vertical water courses which extend from the upper end thereof and continue on down through said ribs, the lower ends of said water courses being deflected toward the cutting points of the blades.

3. A drill bit including a neck and a relatively flat elongated body whose lower end is formed into cutting blades, and oppositely disposed vertical ribs centrally located on each side thereof extending from said neck to near the cutting edge of said bit, said ribs being integral with the body, said bit having water courses extending through said neck, and ribs adapted to carry water to the edges of said cutting blades under pressure.

4. A drill bit including a neck, an elongated relatively flat body whose lower end is formed into cutting blades, a vertical rib centrally located on each side thereof and integral therewith, said bit having water courses extending through said neck and ribs and provided to carry water to the point of said cutting blades under pressure, the lower ends of said water courses being outwardly curved.

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

WALTON G. CHRISTIAN.

Witnesses:

E. V. HARDWAY,

W. H. DUNLAY.