

April 7, 1925.

1,532,468

S. BAWDEN

ROCK DRILL BIT

Filed April 5, 1922

Fig. 1.

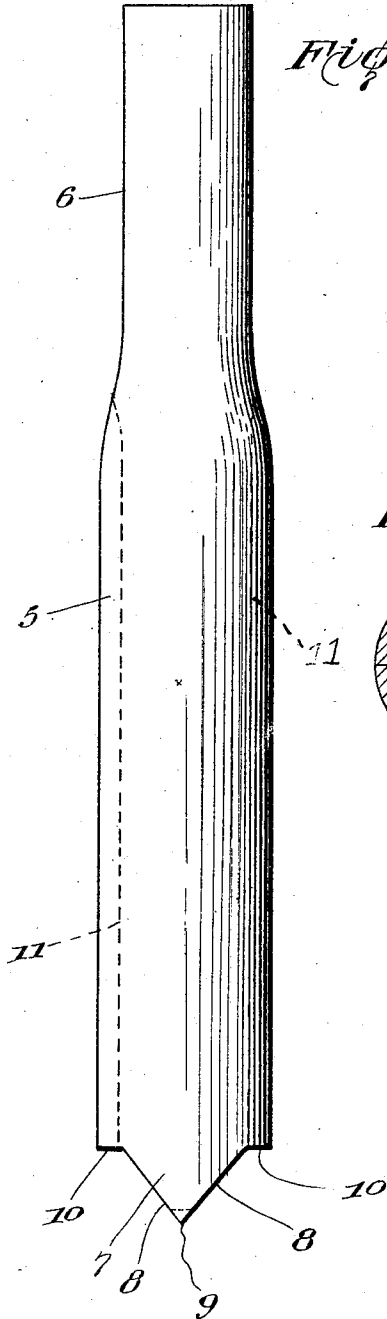


Fig. 2.

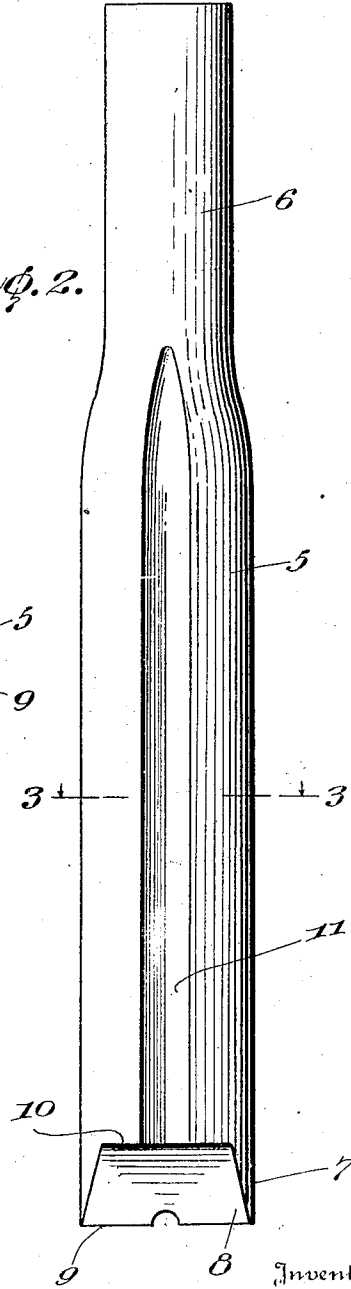
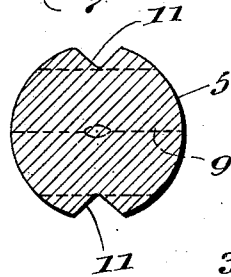


Fig. 3.



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SAMUEL BAWDEN, OF OAKLAND, CALIFORNIA.

ROCK-DRILL BIT.

Application filed April 5, 1922. Serial No. 549,926.

To all whom it may concern:

Be it known that I, SAMUEL BAWDEN, a citizen of the United States, residing at 1233 14th Street, Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Rock-Drill Bits, of which the following is a specification.

This invention relates to bits which are used in connection with rock-drilling machines, and its object is to provide a drill bit which will run true to its course, and make a hole of uniform diameter.

The object stated is attained by a novel and improved construction to be hereinafter described and claimed, and in order that the same may be better understood, reference is had to the accompanying drawing, wherein:

Figures 1 and 2 are elevations of the bit as viewed from different sides, and Fig. 3 is a cross-section on the line 3—3 of Fig. 2.

Referring specifically to the drawing, 5 denotes the elongated body portion of the drill bit, the same having a shank 6 at one end, and its other end having a cutting body 7 which is produced by beveling the end portion of the bit body on diametrically opposite sides and having the beveled surfaces 8 meeting to form a cutting edge 9 extending transversely of the bit body at a right angle to and intersecting its longitudinal axis. The beveled surfaces 8 do not start at the side of the bit body, but a short distance inwardly thereof, as shown in Fig. 1. This arrangement produces two diametrically opposite shoulders 10 on the bit body at the inner end of the cutting body 7, the beveled surfaces 8 starting from these shoulders. The bit body is also externally grooved longitudinally as shown at 11, said grooves being so located that at the forward end of the bit body they open through the shoulders 10 and to the beveled surfaces 8.

In drilling with an ordinary bit, the hole is started with a large bit, and every time the bit is changed, a smaller bit must be used, because as the bit wears down the drill hole necessarily becomes smaller, and hence every successive bit must be smaller

than the preceding one. This objection is entirely overcome by the bit construction hereinbefore described, for the reason that when the cutting edge of the cutting body 7 wears away to such an extent that the shoulders 10 cannot pass freely, they form a shoulder in the drill hole which prevents further advance of the bit, so that the operator will naturally remove the drill for replacement of the worn bit with a new bit. The new bit can be of the same size as the one which was removed, and hence the drilling operation continues without a reduction in the diameter of the drill hole. The shoulder 10 and the grooves 11 also operate to hold the bit true to its course in passing through a slip or seam in the rock, and the bit makes a hole of uniform diameter irrespective of the nature and character of the rock formations through which it passes.

I claim:

1. A rock drill bit comprising an elongated cylindrical body portion provided with a cutting end, a pair of diametrically opposite shoulders adjacent its cutting end, a cutting body having oppositely disposed beveled surfaces beginning at the inner ends of said shoulders and converging to form a cutting edge, and diametrically opposite longitudinal grooves in said body portion extending through said shoulders and terminating at the upper edges of said beveled surfaces.

2. A rock drill bit comprising an elongated cylindrical body portion provided with a cutting end, a pair of diametrically opposite and radially disposed shoulders adjacent its cutting end, a cutting body extending transversely across the cutting end of said drill body and between said shoulders and having oppositely disposed beveled surfaces merging with the inner ends of said shoulders and converging to form a cutting edge, and diametrically opposite longitudinal grooves in said body portions extending through the central portions of said shoulders and terminating centrally of the upper edges of said beveled surfaces.

In testimony whereof I affix my signature.

SAMUEL BAWDEN.