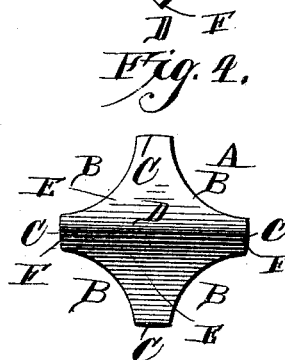
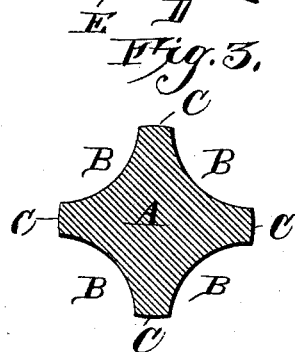
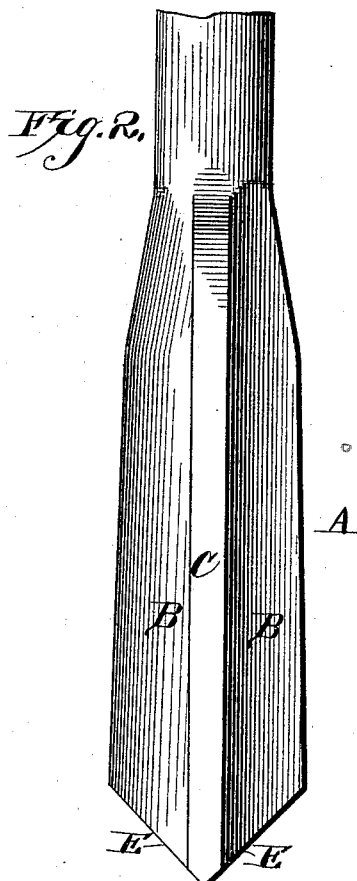
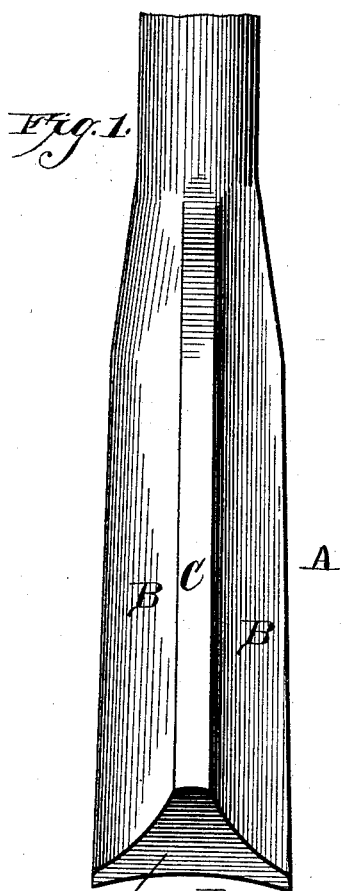


(No Model.)

J. GRUBBS.
COMBINED BIT AND REAMER.

No. 422,771.

Patented Mar. 4, 1890.



Witnesses

Henry J. Dietrich

By *his* Attorneys,

Wm. Bagger

Inventor

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UNITED STATES PATENT OFFICE.

JOHN GRUBBS, OF MARBLE, PENNSYLVANIA.

COMBINED BIT AND REAMER.

SPECIFICATION forming part of Letters Patent No. 422,771, dated March 4, 1890.

Application filed May 18, 1889. Serial No. 311,233. (No model.)

To all whom it may concern:

Be it known that I, JOHN GRUBBS, a citizen of the United States, residing at Marble, in the county of Clarion and State of Pennsylvania, have invented a new and useful Combined Bit and Reamer, of which the following is a specification.

This invention relates to drill-bits for drilling artesian and other wells; and it has for its object to construct a bit which shall jointly perform the functions of a bit and a reamer and which shall be so constructed as to make a true hole without danger of slanting or getting out of line while working in shell, as bits of the ordinary construction are more or less liable to do, thereby frequently causing the bits to stick or become fastened in the hole, and in which ample provision shall be made for the passage and escape of the drillings.

The detailed construction of my improved combined drill and reamer will be hereinafter fully described with reference to the drawings, in which—

Figure 1 is a side view of my improved bit. Fig. 2 is an edge view of the same. Fig. 3 is a horizontal sectional view. Fig. 4 is an end view.

The same letters refer to the same parts in all the figures.

A designates the stock or body of my improved bit, which is substantially square in cross-section and the four sides of which are provided with the vertical flutes or grooves B B, while the four corners C C are rounded concentrically, as shown. The cutting-edge D is formed diagonally across the face of the bit at the junction of the inclined faces E E, which extend to diagonally-opposite corners. The corners F F at the outer ends of the faces E E form the reaming-corners of my improved tool. The cutting-edge D may be slightly curved or concaved, if desired, and the faces E E may be either flat or slightly concaved, as desired. The latter construction

may be found preferable, inasmuch as the operation of the reaming-corner will thereby be rendered more effective.

In operation the cutting-edge D constitutes the drill, and the reaming-corners F F serve to enlarge and to round the hole formed by the said drill. The convexed edges or corners C C serve to guide the bit in the hole and to retain it in a true vertical position and prevent it from slanting, while the concave flutes or grooves admit of the escape of the drillings in an upward direction.

My improved combined drill and reamer is simple in construction, durable and effective in operation, and may be constructed at a small expense. It is also, as will be seen, constructed in such a manner as to admit of its being conveniently sharpened.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A drill and reaming bit comprising a stock or body which is substantially square and provided with a cutting-edge formed diagonally across its face by the slanting or inclined faces, which extend to diagonally-opposite corners of the stock, substantially as set forth.

2. A drilling and reaming bit comprising the stock or body, which is substantially square and provided at its four sides with concave flutes or grooves, having concentrically-rounded corners and provided with a cutting-edge formed diagonally across its face by the inclined faces extending to diagonally-opposite corners of the stock, substantially as herein described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN GRUBBS.

Witnesses:

JOHN SUTTER,
JOSEPH LOWREY.