(No Model.)

J. L. BUCKINGHAM.

ROCK DRILL.

No. 436,558. Patented Sept. 16, 1890.

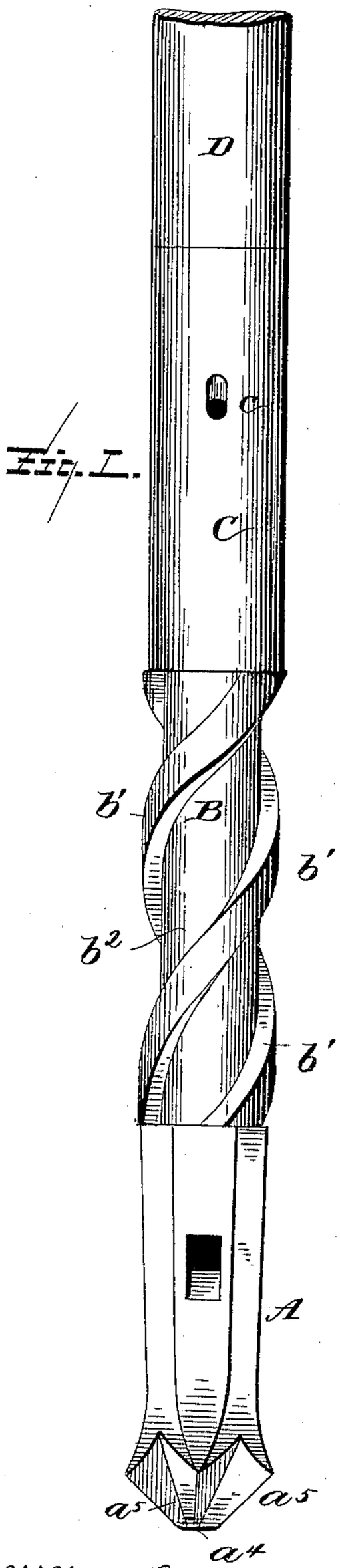

Fig. 1.

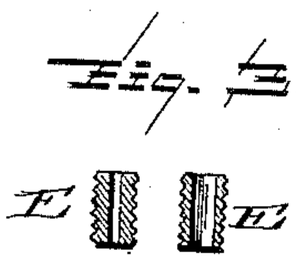

Fig. 3.

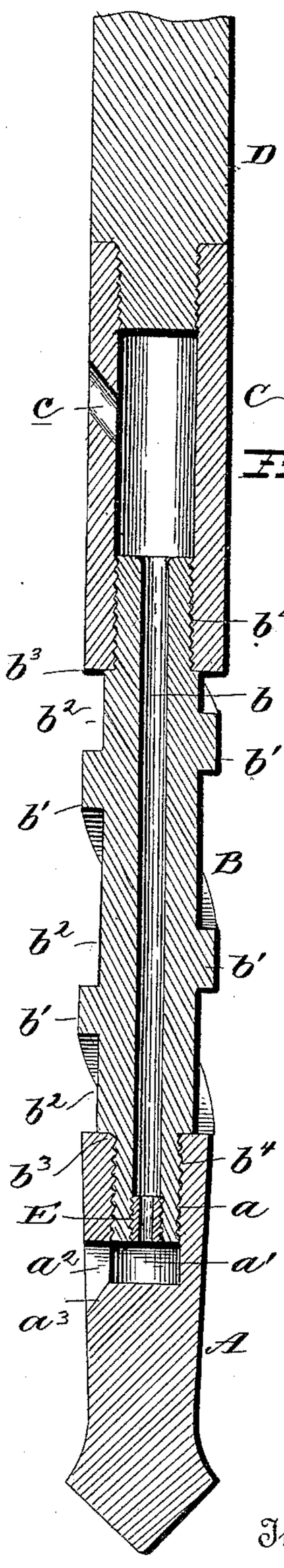

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN L. BUCKINGHAM, OF HERMOSA, SOUTH DAKOTA.

ROCK-DRILL.

SPECIFICATION forming part of Letters Patent No. 436,558, dated September 16, 1890.

Application filed June 5, 1890. Serial No. 354,367. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. BUCKINGHAM, a citizen of the United States, residing at Hermosa, in the county of Custer, State of South Dakota, have invented certain new and useful Improvements in Rock-Drills, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in drills; and it has for its object, among others, to provide a simple, cheap, and durable sectional or joint drill-stock with a detachable drill-point, the stock being provided with a receptacle, with a passage for the oil or any other unctuous substances used therefrom to a receptacle or chamber in the head of the drill-point, from which an outlet is provided through which the oil or any other unctuous substance passes to the point. I provide an adjustable and removable or interchangeable apertured plug within the head of the drill-point for regulating the flow of oil or any other unctuous substance. I form the acting point of the drill with a funnel-shaped taper to give greater circumference and increased cutting-edge and to force upward the chips as the rock is drilled.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of a drill and stock constructed in accordance with my invention. Fig. 2 is a central longitudinal section through the same. Fig. 3 shows in vertical section some of the removable and interchangeable regulating-plugs.

Like letters of reference indicate like parts in all the views.

Referring now to the details of the drawings by letter, A designates the drill-point, which is formed with a screw-threaded socket a at its upper end, which terminates and communicates with a chamber or recess a', from which there is an outlet a^2 at one side, the lower wall of said outlet being downwardly and outwardly inclined, as shown at a^3, to guide the lubricant down the side of the drill to the acting point. The acting point of the drill is formed with a horizontal chisel-point a^4, from which extend the cutting-edges a^5, which form a sort of funnel-shaped openings or passages. The said chisel-point being in substantially the center and in operation, first penetrates the rock and makes a small hole for the fore angle or funnel bits or points to follow up or cut out, cutting at all times a funnel-shaped hole at the bottom, which enables the drill when in operation to pump or force the chips or cuttings upward, the four cutting-edges providing greater area of cutting-edge than would be the case if the said cutting-edges were extended at right angles to the drill, as heretofore.

B is a tube having a small central passage-way b and exterior spiral ribs or extensions b', forming a spiral passage-way or channel b^2. At each end this tube is formed with a shoulder b^3, and beyond the shoulders with external screw-threaded reduced portions b^4, the lower end of which engages the screw-threaded socket a in the head of the drill-point. That at the opposite end engages screw-threads upon one end of the tube C, the opposite end of which has a large bore and forms a chamber or receptacle for the lubricant, which is introduced thereinto through the opening or passage-way c.

In the lower end of the tube B, I fit an apertured plug E, having an aperture of less diameter than that of the tube B, and serving to decrease the flow of lubricant from the tube. This plug is removably engaged with the tube—as, for instance, by a screw-threaded engagement—and is designed to be removed and replaced by one having a larger or smaller bore, according to the amount of feed required.

The parts are employed in the manner shown in the drawings, and may be readily disconnected for storing, transportation, or repairs.

What I claim as new is—

1. A sectional drill-stock having an oil or other lubricant receptacle, a passage through the stock from said receptacle to the drill-point, and a plurality of removable and interchangeable regulating-plugs having apertures of different sizes for insertion at the end of the passage within the head of the drill, substantially as specified.

2. As an improved article of manufacture, a drill-point having a chisel-point and beveled cutting-edges extending therefrom and forming funnel-shaped troughs, and an internal screw-threaded socket terminating in a recess having an outlet, the lower wall of which is inclined outwardly and downwardly, substantially as specified.

3. The combination, with a drill-point having screw-threaded socket terminating in a recess having side outlet, of the tube B, having exterior spiral ribs, and a central bore communicating with the recess of the drill-point, a removable apertured plug in said bore within the recess of the drill-point, the tube C, secured to the tube B and having larger bore with side inlets, and the portion D, detachably engaged with the tube C, all substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN L. BUCKINGHAM.

Witnesses:
JOHN F. YEATES,
NICHOLAS C. YEATES.