J. Shelley,

Rock Drill.

No. 111,689. Patented Feb. 7. 1871.

Fig. 2.

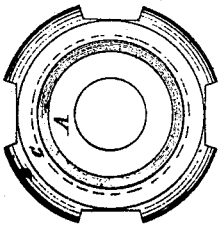


Fig. 1.

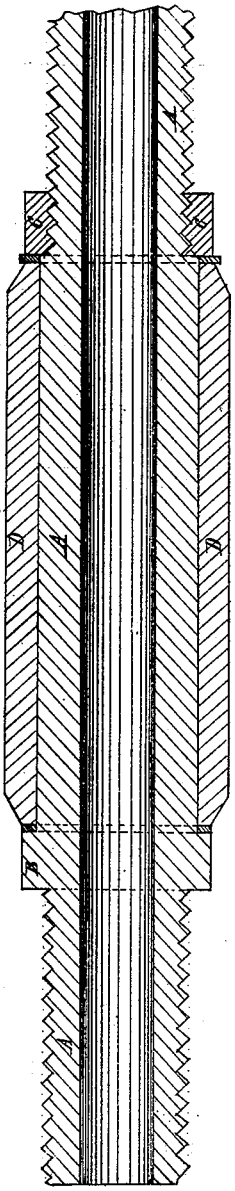


Fig. 3.

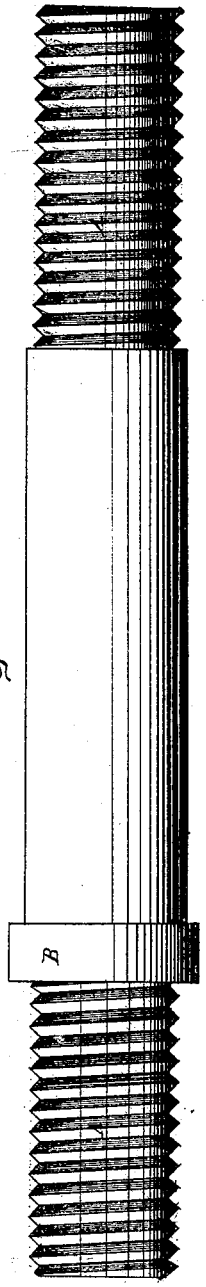
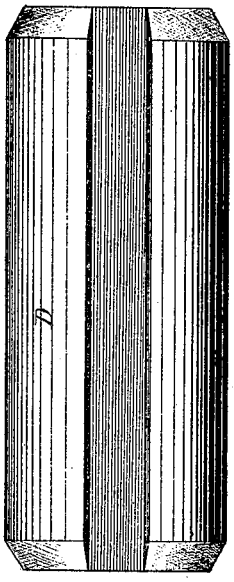


Fig. 4.



Witnesses. George E. Buckley
Charles. Green

Inventor.
Jacob Shelley,
by his atty,
Horace Binney, 2nd.

United States Patent Office.

JACOB SHELLEY, OF MAHANOY TOWNSHIP, PENNSYLVANIA.

Letters Patent No. 111,689, dated February 7, 1871.

IMPROVEMENT IN ROCK-DRILLS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JACOB SHELLEY, of Mahanoy Township, Schuylkill county, Pennsylvania, have invented a new and useful Improvement in Rock-Drill; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use my invention, reference being had to the accompanying drawing which forms a part of this specification, and in which—

Figure 1 is a longitudinal section of my invention;

Figure 2, an end view thereof;

Figure 3, a side view of the spindle; and

Figure 4, a side view of the sleeve.

The same parts are denoted by the same letters in all the figures.

A in the drawing represents a hollow cylinder or spindle, whose ends outside of the collars B C are made with screw-threads, so as to be screwed into the adjoining ends of two sections of a drill-rod, and connect them firmly together.

The collar B I prefer to attach rigidly to the spindle, or to make it in one piece therewith.

The collar C has a thread on its interior surface, so as to be screwed onto the spindle.

The outer ends of the collars, against which the drill-rod sections abut, may be either plain or countersunk.

Between each of the collars and the sleeve D is interposed a washer of gum, leather, metal, or other suitable material.

The sleeve D may be constructed of any desirable length, with grooves or columns on its exterior surface, or with other equivalent devices, to permit the upward passage of the water which washes out the cuttings. I prefer to make the grooves straight or spiral.

The interior surface of the sleeve may be either smooth, or made with small grooves to retain water for lubrication, the water being admitted through one or more small perforations in the spindle, through the interior of which a constant stream is passed while the drill is in operation.

The sleeve D is of the same diameter as the hole to be bored by the drill-head, or as much smaller as may be desirable.

In operation it bears against the wall of the boring, and prevents the vibration or surging of the drill-rod in the hole, thereby not only preserving the drill-rod from the abrasion and wear which it would otherwise undergo, but also enabling it to be revolved with considerably less expenditure of power.

By this means the frequent and serious difficulties arising from the bending of the drill-rod are also avoided.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The combination of the sleeve D and hollow spindle with the adjoining sections of a drill-rod.

JACOB SHELLEY.

Witnesses:

SAMUEL CHRISMAN,

SAM. E. GRISCOM.