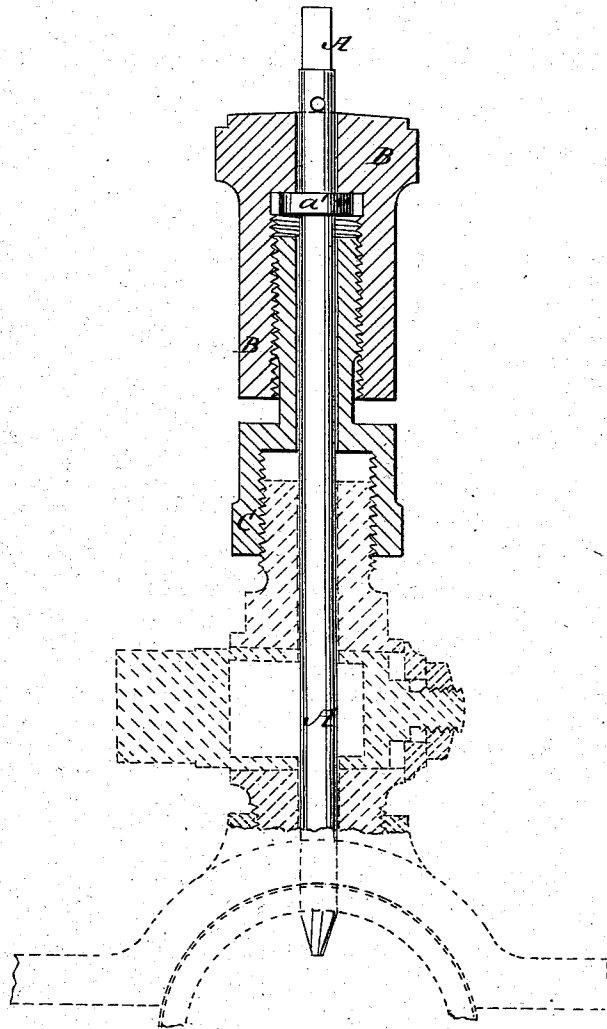


G. B. HAND & J. CARROLL

Devices for Drilling Water Mains.

No. 154,862.

Patented Sept. 8, 1874.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE B. HAND AND JOHN CARROLL, OF SCRANTON, PENNSYLVANIA.

IMPROVEMENT IN DEVICES FOR DRILLING WATER-MAINS.

Specification forming part of Letters Patent No. **154,862**, dated September 8, 1874; application filed August 15, 1874.

To all whom it may concern:

Be it known that we, GEORGE B. HAND and JOHN CARROLL, of Scranton, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Improvement in Gas and Water Pipe Drill, of which the following is a specification:

The figure is a detail longitudinal section of our improved device.

Our invention has for its object to improve the construction of machines for drilling holes in gas and water pipes, whether made of iron, cement, or wood, and which shall be so constructed as to prevent the gas or water from escaping around the drill when at work.

The invention consists in the tubular shouldered screw-cap and the lower part or piece, having a screw-thread cut upon the outer surface of its tubular upper end, and a screw-thread cut upon the inner surface of the enlarged cavity of its lower end, in combination with the collar formed upon the upper part of the drill, as hereinafter fully described.

A represents the drill, the point of which is formed as the material upon which it is to operate may require. The upper end of the drill A is squared off to receive the instrument by which it is operated. Upon the outer part of the drill A is formed a shoulder or collar, *a'*, upon which rests the shoulder of the cap B, the cavity of the upper part of which is made of such a size as to fit upon the upper part of the drill A, while the cavity of its lower part is made of such a size as to pass over the shoulder or collar *a'* of the said drill A. Upon the inner surface of the lower part of the cap B is formed a screw-thread, into which fits the screw-thread of the lower tubular part C, through the cavity of which the drill A passes. The lower part of the cavity

of the part or piece C is enlarged, and has a screw-thread cut upon its inner surface to receive the parts of the machine by which the forward part of the drill is ordinarily guided and kept in place upon the pipe to be drilled. The lower part of the piece C is enlarged and has a polygonal surface to receive a wrench for turning it. The upper part of the cap B is enlarged and has a polygonal surface to receive a wrench for turning it.

By this construction, by turning the cap B down upon the part C as the drill A is rotated, the said drill will be fed to its work. When the cap B has been turned down as far as it will go, the lower part C is turned down upon the part of the machine with which it is connected, which draws the part C out of the part B and allows the said part B to be again turned to feed the drill A to its work. The collar *a'* of the drill A all the time pressing against the shoulder of the cap B prevents gas or water from escaping around the drill.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

The combination, as herein described and shown, of the piece C, hollow throughout its length, with a screw-threaded socket at one end and a screw-threaded stem at the other, the screw-cap B, screwed onto said stem, the drill-spindle A, that passes axially through both the said socket-piece and cap, and the collar *a'* upon the drill-spindle, against which the cap is made to bear to feed the spindle to its work.

GEORGE B. HAND.
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Witnesses:

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