

No. 735,768.

PATENTED AUG. 11, 1903.

P. HIGGINS.
HYDRAULIC DRILL.

APPLICATION FILED DEC. 17, 1902.

NO MODEL.

Fig. 1.

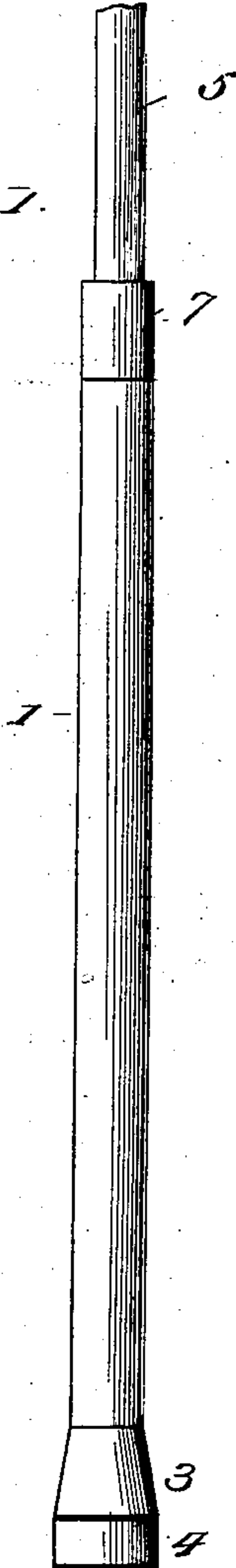


Fig. 2.

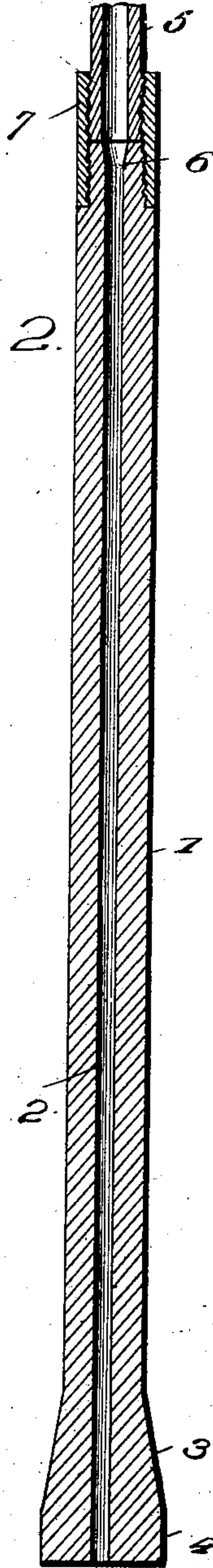
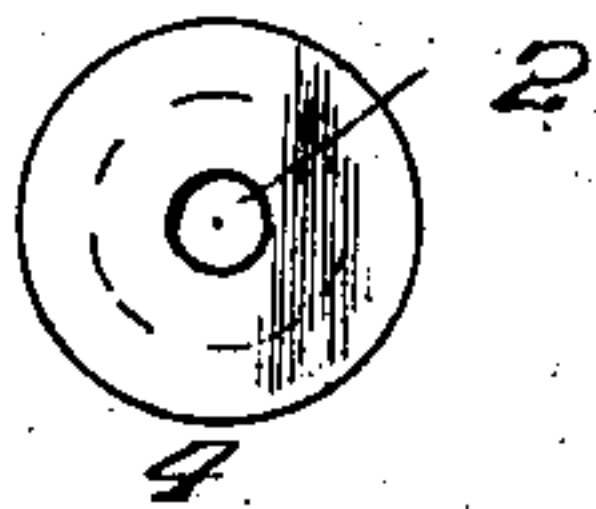


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

PATTILLO HIGGINS, OF BEAUMONT, TEXAS.

HYDRAULIC DRILL.

SPECIFICATION forming part of Letters Patent No. 735,768, dated August 11, 1903.

Application filed December 17, 1902. Serial No. 135,565. (No model.)

To all whom it may concern:

Be it known that I, PATTILLO HIGGINS, a citizen of the United States, residing at Beaumont, in the county of Jefferson and State of Texas, have invented certain new and useful Improvements in Hydraulic Drills, of which the following is a specification.

This invention relates to drills chiefly designed for boring openings into the earth in the formation of Artesian and oil wells, the chief object being the provision of a drill which will rapidly penetrate strata of clay, earth, sand, and like soft formations, the drill being operated in the usual manner well understood in the sinking of oil and analogous wells.

For a full description of the invention and the merits thereof, and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a drill embodying the invention. Fig. 2 is a vertical central section. Fig. 3 is an end view.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The drill 1 may be of any size, depending upon the character of work and formation to be penetrated thereby, and is centrally perforated, as shown at 2, for the passage therethrough of water to the bottom of the opening or well, so as to carry off the cuttings or detached particles of the strata as the well deepens. The point of the drill is enlarged and comprises a tapering portion 3 and a parallel-sided portion 4, the extremity of the latter receiving the impact of the drill when delivering the blow in the formation of the well.

By having the end of the drill of larger diameter than the body portion or the rod 5 the drill and rod are permitted to have free play in the well, thereby admitting of the force exerted being effectively and economically applied. The upper end of the drill is reduced, forming a shank 6, which is exteriorly threaded to facilitate coupling to the drill-rod 5, a coupling-sleeve 7 being employed for this purpose and being screw-threaded to the shank 6 and lower end of the drill-rod 5. Obviously the drill-rod may be secured to the drill in any convenient and substantial way.

In practice the drill is elevated and dropped in the accustomed way, the drill-rod being connected to a pump or other means for supplying water, which is conveyed through said rod to the drill and through the opening 2 of the drill to the point, so as to carry off loose particles of the strata or formation as the well is deepened. As the drill descends its blunt end drives the soft formation ahead of it, the sharp corners making a clean cut, and the inflowing and outflowing water takes up loose particles or cuttings and carries the same off to the surface. The tapering portion 3 prevents injury to the sides of the opening or well upon the ascent of the drill preliminary to making a drop.

Having thus described the invention, what is claimed as new is—

A drill for Artesian and oil wells, having its end enlarged and comprising a parallel-sided terminal portion circular in cross-section and a tapering portion of like cross-sectional outline intermediate of the body of the drill and said parallel-sided portion, the drill and point having a longitudinal opening to convey the water to the bottom of the bore, substantially as described.

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

PATTILLO HIGGINS. [L. S.]

Witnesses:

GENEVIEVE MATTHEWS,
GEORGE G. WATT.