W. H. White,

Well Tubing.

No. 77,941. Patented May 12, 1868.

Fig. 1.

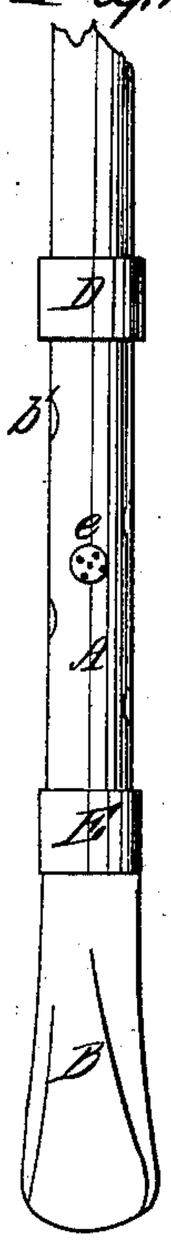


Fig. 2.

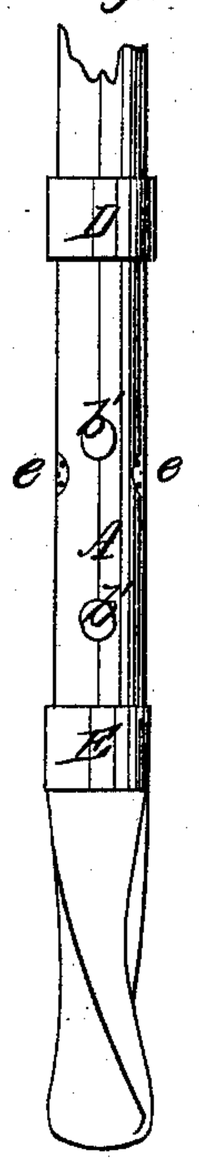


Fig. 6.

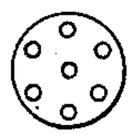


Fig. 3.

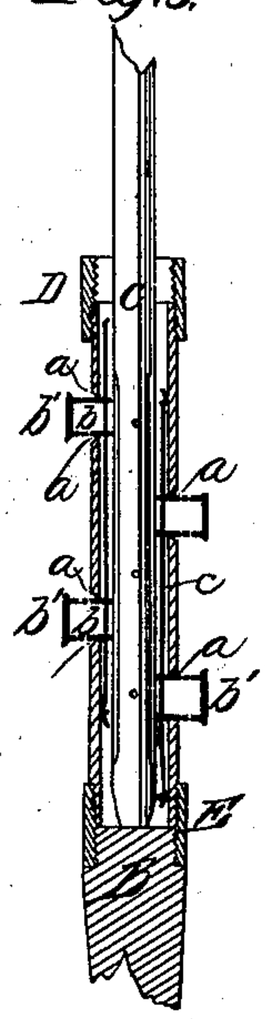


Fig. 5.

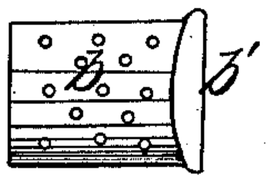
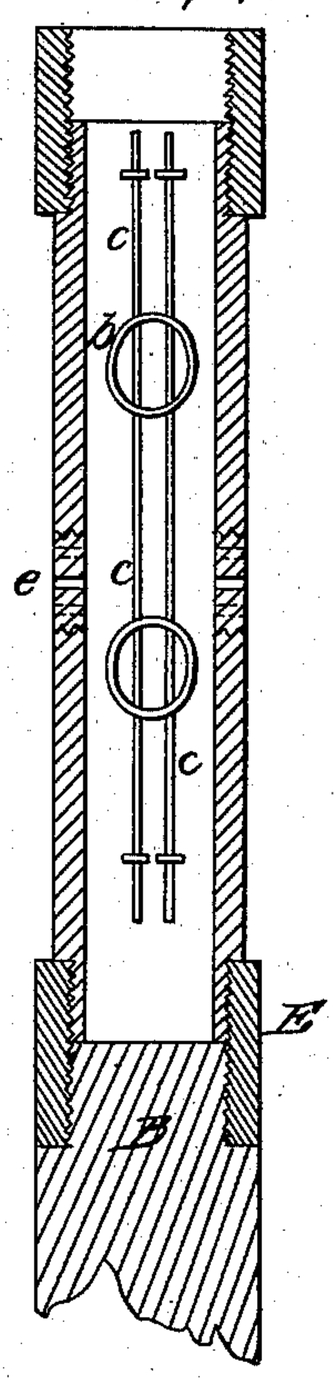


Fig. 4.



Witnesses:

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Inventor:

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United States Patent Office.

WILLIAM H. WHITE, OF LYNN, MASSACHUSETTS.

Letters Patent No. 77,941, *dated May* 12, 1868.

IMPROVEMENT IN TUBE-WELLS.

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, WILLIAM H. WHITE, of Lynn, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in Tubing for Wells; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable others skilled in the art to which the invention appertains to understand and use the same, reference being had to the accompanying drawings, which are made a part of this specification, and in which—

Figures 1 and 2 are side elevations of the lower section of a well-tube and its appurtenances, illustrating my invention.

Figure 3 is a central longitudinal section of the same.

Figure 4 is a longitudinal section in a plane at right angles to the plane of section of fig. 3, and drawn upon an enlarged scale.

Figure 5 is a detached view of one of the strainers hereinafter referred to.

Figure 6 is a front view of one of the ordinary strainers.

Similar letters of reference indicate corresponding parts in the several figures.

The water-inlet openings in the lower section of the tubing of a tubular or driven well are liable to be choked up with sand, mud, and various other substances, in the act of lowering or driving said tube to the depth where water exists; and this choking occurs whether the inlets consist of an aggregation of small perforated holes, or of a large hole guarded by a wire-gauze strainer.

The object of my invention is to prevent the choking up of the inlets, and insure the free entrance of water into the tube, when the latter has been driven or lowered to the point where water exists.

I prefer to attach to the lower section A of the well-tube, a point or drill, B, constructed and applied in a manner to be hereinafter described. This point makes the tube a self-sinking one, yet the invention is equally applicable to tubes for which a hole is made by a separate instrument and separate operation, whether the bottom of the tube A be closed by the permanent attachment of the drill B, or otherwise. I provide the sides of said tube with openings *a a*, into which are fitted the induction-tubes *b b*. These tubes, (see fig. 5,) are provided with peripheral perforations, and are adapted to slide in and out of the well-tube A. In figs. 1 and 2, said tubes *b* are shown as retracted within the well-tube A, in which position the solid disks *b'*, which close the outer ends of said tubes *b*, occupy countersunk or counter-drilled recesses around the openings *a a*, and are thus caused to be flush with the outer surface of the well-tube A. The tubes *b* are held within the well-tube A, as in figs. 1 and 2, by the springs *c*, to which they are attached in any suitable manner. After the tube A has been sunk to the desired depth, the tubes *b* are all protruded or made to project, as shown in fig. 3, by depressing a rod, C, within the well-tube, said rod being either hollow and perforated peripherically, or cross-shaped in transverse section, or otherwise constructed so as to admit of the upward passage of the water in tube A, after said rod has been fully depressed.

From the above it will be seen that the water-inlet perforations in the tubular inductions *b* are effectually protected against choking while the well-tube A is in process of sinking, and when the latter has reached the point where the water exists, the projection of the tubes *b* by the introduction and depression of rod C, insures the free entrance of water into the well-tube.

The tube A is provided with perforations *e e*, in one or more places, or with any constantly open strainer or strainers, to indicate when water is reached by admitting the same to the well-tube.

The sections of tubing are connected together by the couplings D.

The point or drill B, I make in a solid and substantial manner, with its upper part, at least, of the full diameter of the coupling E above it, so that said coupling as well as those higher up, D, and also the whole of the tube between, shall be, as far as possible, relieved from the pressure and frictien of the earth through which they pass.

The general form of the point or drill B is that of a wedge, with a circular extremity, and after flattening it, I twist it along its length after the manner of a bit or auger, but only to the extent of about one-quarter

of a revolution, so that the greatest strength for sustaining longitudinal pressure shall be preserved, consisten- with a sufficient twist to produce a decided rotary movement of the tnbe, as it descends into the earth.

By this rotation of the tube it is intended to assist the descent of the tube in soils through which it can be pressed or driven, and it is also intended, in soils of a harder character, that the tube thus pointed may be turned about and made to act as its own drill, without being lifted from its place.

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

The combination, with a well-tube, A, of the movable strainers or induction-tubes, applied and operating substantially as described.

To the above I have signed my name, this 25th day of March, 1863.

WM. H. WHITE.

Witnesses:

JOHN A. WIEDERSHEIM,

HENRY A. NOLEN.