

W. P. SMITH.

Draw-Points for Driven Well-Tubes.

No. 135,016.

Patented Jan. 21, 1873.

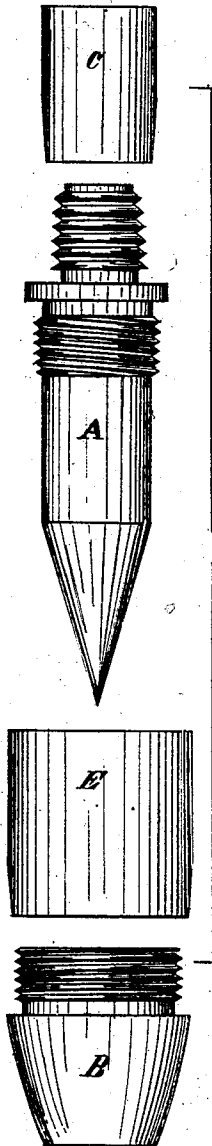


Fig. 2.

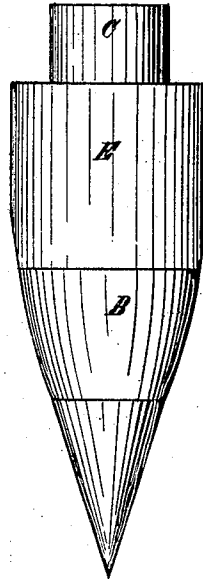


Fig. 1.

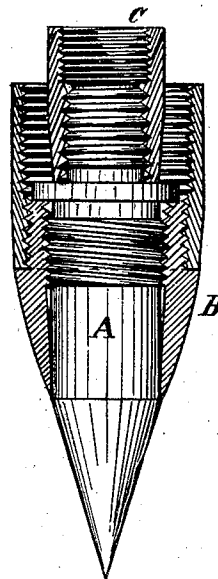


Fig. 3.

Witnesses.

James B. Murtagh
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Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM P. SMITH, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN DRAW-POINTS FOR DRIVEN WELL-TUBES.

Specification forming part of Letters Patent No. **135,016**, dated January 21, 1873.

To all whom it may concern:

Be it known that I, WILLIAM P. SMITH, of the city of New Orleans, parish of Orleans, State of Louisiana, have made certain new and useful Improvements in Draw-Points for Driven Well-Tubes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a full view of the draw-point in a vertical position, as attached to the driven well-tube. Fig. 2 is a detached view of the different parts of the draw-point, bearing the right and left hand screw-threads, also the chamfered end of the tube in which the point is screwed, and the ferrule or socket used to screw and unscrew the point from the chamfered or lower end of the tube. Fig. 3 is a longitudinal section of the draw-point, chamfered or lower end of the tube, and the different screw-threads used in connecting them together, and the disconnecting of the draw-point from the lower end of the tube when all have been driven down in the earth, &c.

This improvement relates to a draw-point for a driven well-tube; and has for its object the furnishing of a cheap, reliable, and simple means of combining a driven and drilled well, for the earthy strata are pierced through by driving the tube downward, when armed at its lower end with this improvement, until the rock formation has been reached. The point can then be unscrewed and drawn up through the tube, and a drill can then be lowered down through the tube and worked until the rock or other obstruction is pierced, as is done in any drilling of like nature and circumstances. The hole can then be reamed to any suitable size. The draw-point is again inserted and screwed on the lower end of the tube, and continued driving in this manner until the desired depth has been reached. This improvement also serves as a draw-point for sounding wells, to locate and determine the earthy formation preparatory to building the foundation for fortifications, bridge-piers, large buildings, coffer-dams, &c. In this case I would detach and draw up the point after the tube had been driven down to any depth, then shove down a rod with a hollow ferrule attached, and bring up a specimen of the earth formation for ex-

amination and test, thus giving economical, expeditious, and ocular results in sounding for a depth of eighty or more feet.

In reference to the drawing, A represents the draw-point. B represents the lower or chamfered end of the pipe or driven well-tube. E represents the pipe or driven well-tube as connected to the lower or chamfered end. C represents the ferrule or socket to engage with the shank or upper end of the draw-point.

The construction is as follows: The draw-point A is an elongated cylinder sharpened at its lower end, and has a raised left-hand screw-thread formed on its body, and above this raised screw-thread is a raised collar or stop, which is something larger in diameter than the raised screw-thread; and from the collar up a shank is turned, something smaller in its diameter, and bears on its outer circumference a right-hand screw-thread, all as shown in Fig. 2. The lower end of the driven well-tube B is made of thick material for the purposes of bearing strong screw-threads, and the better to enable the lower end, on its outer circumference, to be chamfered off until its lower end is brought to an acute-angled edge to correspond with the taper of the draw-point; it is also bored out in its internal diameter, and is prepared with a proper screw-thread to engage with the raised screw-thread on the body of the draw-point. The upper end of the chamfered pipe B is provided with a screw-thread, and fitted to couple on and engage with any suitable pipe or tubing, as shown in Fig. 2. The hollow ferrule or socket C is provided on its internal circumference with a screw-thread of a size and pitch to engage with the thread on the shank of the draw-point. The upper end of this ferrule is rigidly secured to a suitable rod to reach down to the draw-point and unscrew it from any depth which it may be driven.

The operation is as follows: The draw-point A, chamfered end B, and pipe E are screwed together; the point is then forced down in the ground, by driving on the top of the tube or pipe E, until any desired depth has been reached for soundings; then lower down the ferrule or socket rigidly attached to the rod, and engage the ferrule with the shank of the draw-point by screwing them together, and when they are screwed tightly together the

same continued turning will have the effect to unscrew the draw-point from the lower end of the tube; when this has been accomplished, then draw up the point and introduce a hollow-ended rod through the opening just made, and a sample of the earth formation at that depth will be brought up, sticking in the hollow end of the rod, for examination. The draw-point can then be attached to the lower end of the tube again by a reverse movement and turning of the rod and ferrule, which will screw the draw-point in place again, and the same continued motion to screw in the point will unscrew the ferrule or socket from the shank; then draw out the rod and continue to drive down the tube, repeating this right and left hand screwing to attach and detach the draw-point whenever desired.

It is obvious that the right-and-left hand screw-threads formed on the draw-point and shank, in combination with the screw-threads to correspond and formed on the inner circumference of the tube and ferrule, are the main essentials of this improvement; and

What I claim as new and useful, and desire to secure by Letters Patent, is—

1. The combination of the draw-point A, bearing on its outer circumference the right-and-left hand screw-threads, with the pipe B, which bears on its internal circumference a corresponding screw-thread, all constructed substantially as described, and for the purpose set forth.

2. The combination of the draw-point A with the pipes B E and ferrule or socket C, all constructed substantially as described, and for the purposes set forth.

3. As a new and improved article of manufacture, a draw-point for driven well-tubes constructed of metal, bearing a right-and-left hand screw-thread on its outer circumference, substantially as described, and for the purposes set forth.

WILLIAM P. SMITH.

Witnesses:

SAMUEL BROCK,
JAMES B. MURTAGH.