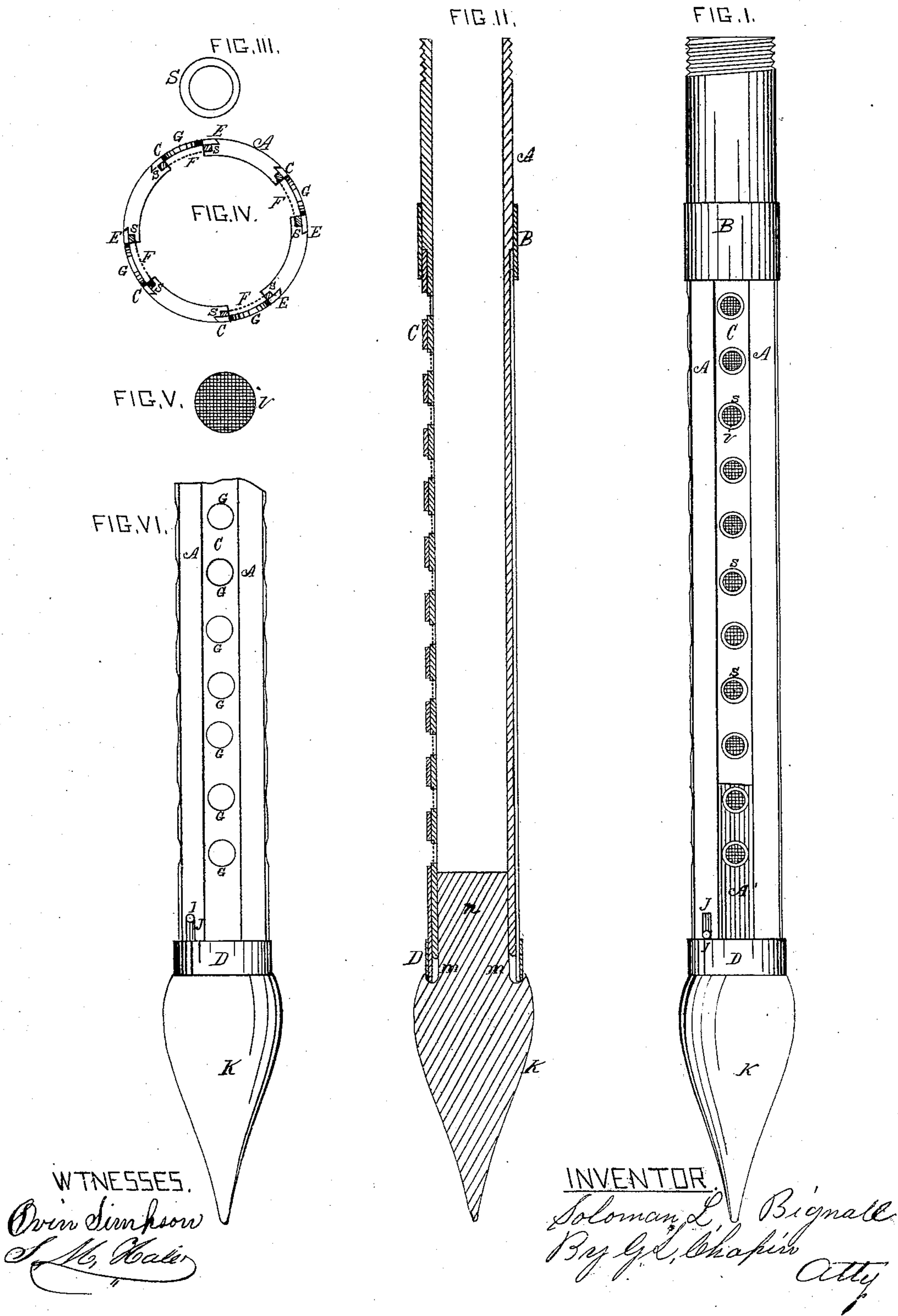


S. L. BIGNALL.
 Improvement in Tube-Well Points.
 No. 130,837. Patented Aug. 27, 1872.



UNITED STATES PATENT OFFICE.

SOLOMON L. BIGNALL, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN TUBE-WELL POINTS.

Specification forming part of Letters Patent No. 130,837, dated August 27, 1872.

SPECIFICATION.

I, SOLOMON L. BIGNALL, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Tube-Well Points, of which the following is a specification:

The present invention relates to an improvement in that class of tube-well points which is driven into the earth; and the object is to provide a point which can be driven down in rocky soils without its receiving any material injury. The point consists of an inner tube, which is provided with a sliding shield running in grooves, and arranged to cover the gauze or wire-cloth when the tube is being put down, and arranged so that by withdrawing the main tube a little after the proper depth is reached the wire-cloth will be uncovered to allow water freely to pass into it. The countersinks to receive the wire-cloth are made in the grooved parts of the main tube, and the cloth is held in place by annular rings swaged firmly to it. As additional security to the shield bands are made to encircle it and the tube, by means of which the device is made very strong and serviceable.

In the drawing, Figure 1 is an elevation of my improved drive-well point with a part of one of the sliding shields broken away to show one of the dovetail grooves; Fig. 2, a vertical section thereof; Fig. 3, one of the annular plates for holding the wire-cloth in the recesses of the tube; Fig. 4, a cross-section of Fig. 1 taken on line *xx*; Fig. 5, the wire-cloth for covering the hole through tube A; Fig. 6, a broken elevation of the tube, showing the shield closed over the wire-cloth.

A represents the tube of the point, which is usually perforated with holes to allow water to flow in. In this case the tube is provided with two or more dovetail grooves, as shown at E, Fig. 4, in which are fitted metal slides C C. These slides are perforated with a number of holes, corresponding to the number of holes made through the bottoms of the dovetail grooves in the tube A, and they are fastened securely to a band, D, either by solder or otherwise, and their upper ends slide under a band, B, which is securely fastened to the tube A, as shown in Figs. 1, 2; through the lower end of the tube A at J and through the opposite side of the tube are made slots to receive pins I, which pass through the slots and enter the shank *n* of the point K, the object of which is to hold the tube A to the point K, and allow the tube to slide far enough in the band D to bring the

holes in the tube below the holes in the slides or shield C, thereby preventing the earth from coming in contact with the wire-cloth *v* when the well is being sunk. Fig. 6 represents the shield in position as when the tube is being put down; and Fig. 1 represents the position of the shield when the wire-cloth is uncovered for water to flow into the tube; and the section, Fig. 2, shows the tube A raised out of the annular groove *mm*. This groove *mm* is made in the point K at the base of its shank *n*, to prevent the tube A from spreading when being driven down. Nearly all tubes burst at this point when there is no groove and when considerable force is used to drive the pipe down. In this case the ring or band D also fits into the groove *m*, and is soldered or riveted fast to the point K, and, also, as before stated, to the shield C. This arrangement is such that when the tube A is being sunk it will slide down on the pins I and bear in groove *mm*, and so that when the tube is raised a little the wire-cloth will be uncovered to admit water. The wire-cloth is first cut round and then inserted in countersinks made in the margins of the holes through the tube A. Annular rings S are then placed on the wire-cloth and also in the countersinks, and held there by being pressed down. This makes a secure fastening for the cloth, and if it becomes worn or injured it can be readily replaced.

The well-tube is sunk, in all respects, in the same manner, by driving, as other or ordinary tube-wells are put down; but before water will enter the tube in proper quantities it must be withdrawn far enough to bring the holes in the shields over the wire-cloth. The ordinary pump can then be used to raise water in the usual manner.

I claim—

1. The shield C C, of two or more pieces, arranged to run in the dovetailed grooves in the tube A, and protect the wire-cloth, as set forth.
2. The combination of the sliding shields C C, bands B D, tube A, and point K, as set forth.
3. The combination of the wire-cloth V, annular rings S, and countersunk tube A, substantially as described.

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Witnesses:

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