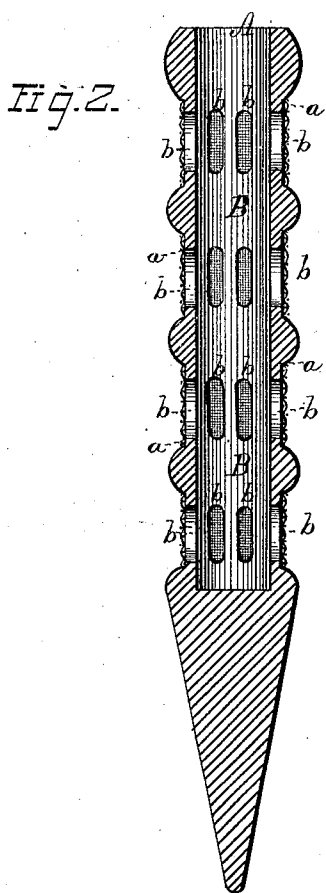
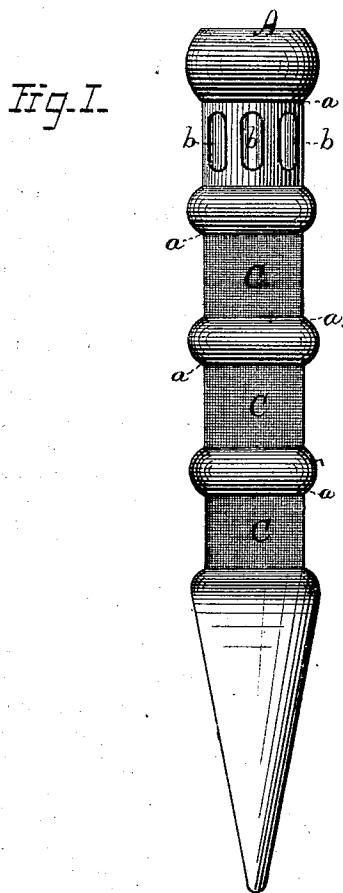


G. A. HAWLEY.
Filtering-Points for Well-Tubes.

No. 146,902.

Patented Jan. 27, 1874.



WITNESSES.

INVENTOR.

*Jas. E. Hutchinson
 John R. Young*

*Geo. A. Hawley, by
 Prindle and Deane, his Attys*

UNITED STATES PATENT OFFICE

GEORGE A. HAWLEY, OF NEW YORK, N. Y.

IMPROVEMENT IN FILTERING-POINTS FOR WELL-TUBES.

Specification forming part of Letters Patent No. **146,902**, dated January 27, 1874; application filed November 13, 1873.

To all whom it may concern:

Be it known that I, GEORGE A. HAWLEY, of New York, in the county of New York, and in the State of New York, have invented certain new and useful Improvements in Filtering-Points for Driven-Well Tubes; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a side elevation of my improved device, and Fig. 2 is a central longitudinal section of the same.

Letters of like name and kind refer to like parts in each of the figures.

In the formation of driven wells much difficulty has been experienced in so constructing the filtering-point of the well-tube as to enable the same to be driven to place or removed from the well without injury to its screens, the means ordinarily used to protect the latter from injury affording, in most instances, a lodgment for sand, dirt, &c., which operate to obstruct said strainers, and thus render the well in a measure useless.

To obviate this difficulty is the design of my invention; which consists in a filter-point having its strainers arranged within grooves formed in its periphery, which grooves are separated and said strainers protected by means of transversely-rounded ribs or bands, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A represents a well-tube point, provided interiorly with an opening, B, which extends longitudinally and centrally from its upper end downward nearly to its lower end, while exteriorly said device is conical or pointed at its lower or solid end, and between the same and its upper end is provided within its periphery with a number of annular grooves, *a*, that are separated by means of ribs *a' a' a'*, which have, transversely, a half-round shape. At the outer sides of the upper and lower grooves the point A extends upward and outward in a curve similar to the curves of said ribs. Within the bottom of each groove *a* are provided a number of openings, *b*, which extend radially inward from equidistant points, and enable communication to be had between the interior and exterior of the pipe or point A. Screens of wire-cloth, reticulated sheet metal, or other similar material, C, are now fitted closely around the tube within the bottom of each

groove, and completes the device, which is used in the ordinary manner, by being attached to the end of a pipe and driven downward into the ground until a water-vein is reached, when the water will pass inward through said screens, and can be drawn upward through said pipe.

As these devices have heretofore been made, in some instances the ribs have been parallel with the axis of the point, and the wire-gauze in a single sheet placed over them, or circumferential bands have been used with the wire-gauze, filling the entire space (in a single sheet) between the head and point; and, again, the body of the point has been made with expanding or contracting ring-sections, the perforated or upper parts of which are covered with wire-gauze; but my device differs from all these in placing the wire-gauze in depressions formed by the circumferential ribs of the particular form described, whereby they are almost completely protected, as is above clearly set out.

The advantages obtained by this construction are as follows: First, by making the dividing ribs and the portions of the tube contiguous to the outer side of the upper and lower grooves semicircular, but slight resistance is offered to the downward passage of said tube through the soil, or its withdrawal therefrom whenever occasion may require. Second, the point can be driven into or removed from the ground without injury, while, as ordinarily constructed, the points are seldom intact when driven to any distance, and their removal is certain to destroy their usefulness.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

The well-tube point A, having its strainers or screens C arranged within grooves, *a*, formed in its periphery, which grooves are separated and said strainers or screens protected by means of the ribs or bands *a' a' a'*, which have, transversely, a half-round shape, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 27th day of October, 1873.

GEORGE A. HAWLEY.

Witnesses:

JOHN C. HESTER,
W. F. RAYMOND.