

R. N. Bennett,

Well Tubing.

No. 70,154.

Patented Oct. 29, 1867.

Fig. 1.

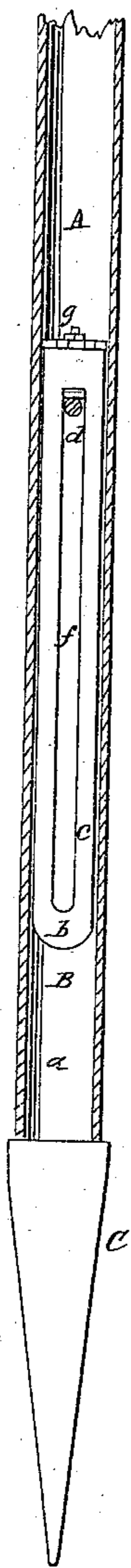


Fig. 2.

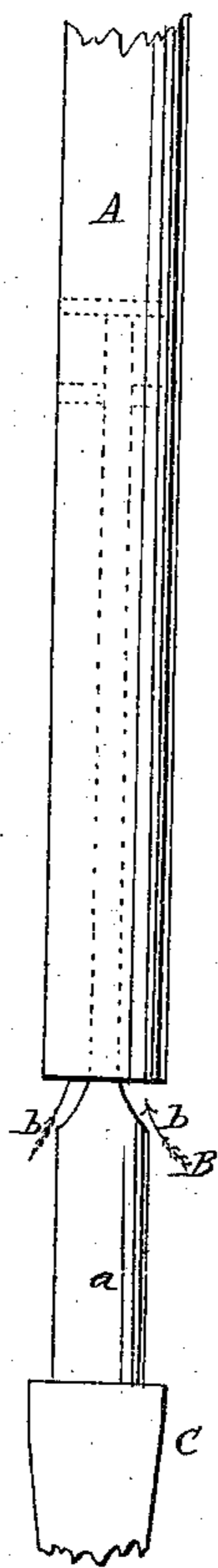
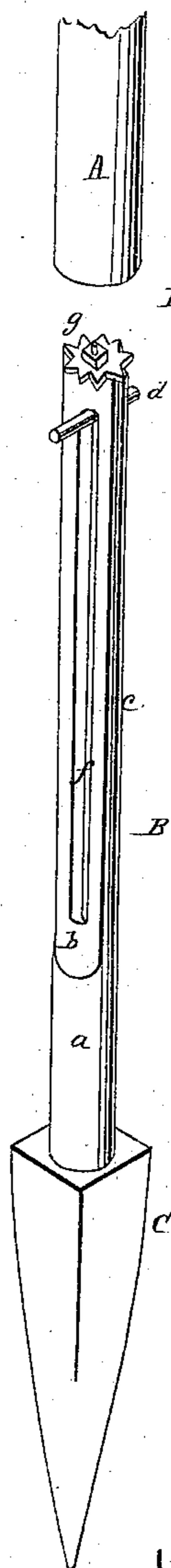


Fig. 4.



Fig. 3.



Witnesses:

J. Davis
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Inventor:

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United States Patent Office.

R. N. BENNETT, OF BRANCHPORT, NEW YORK.

Letters Patent No. 70,154, dated October 29, 1867.

IMPROVEMENT IN SINKING WELL-TUBING.

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, R. N. BENNETT, of Branchport, in the county of Yates, and State of New York, have invented a certain new and useful Improvement in Sinking Well-Tubing; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a section of the lower end of my improved tubing.

Figure 2, an elevation of the same, with the tubing proper elevated from the point, in the position for testing.

Figure 3, a perspective view, showing the point detached from the tubing proper.

Figure 4, a plan of the star-shaped diaphragm.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists in the peculiar form and construction of the point and its shank, whereby the well is easily tested without admitting sand, and the outside of the tubing is free and unencumbered, and whereby the point may be raised again with the tubing, and not be lost; also in the employment of a star-shaped diaphragm attached to the top of the shank, cutting off the passage in the centre of the tubing, thereby having a tendency to precipitate the sand or bring it in contact with the sides of the tubing, where the friction will prevent it from rising.

As represented in the drawings, A is an ordinary length of tubing, which is driven into the earth by positive force. In this fits the shank B of the opening point C. The point is made square, in cross-section, instead of round, as usual, the advantage of which is that it retains its position better in driving, and holds more firmly in place when the end of the tubing is elevated to admit water. The shank is of peculiar construction. For a suitable length above the point it is made cylindrical, filling the tubing, as shown at *a*. Above this it is bevelled or chamfered off, as shown at *b b*. It then continues upward the proper length, forming a flat thin bar, *c*, and at the top is secured by a pin, *d*, which rests in a longitudinal slot, *f*, of the bar, and is secured in the sides of the tubing. On top of the shank is secured a star-shaped diaphragm, *g*, which cuts off the passage in the centre of the tube, and causes the contents to pass up around the diaphragm, on the outside, through the star openings.

A device is now in use in which the end of the tubing proper rests in or over a hollow shank, forming the point, and when the same is driven the tubing is raised to open holes in the periphery to admit water. In driving it is necessary to stop frequently and open the tubing to test for water. In this device the holes in the periphery draw in sand laterally, which soon fills the lower end of the tubing, so that the parts cannot be properly closed again. My invention is specially designed to obviate this difficulty. In testing I simply raise the tubing just above the chamfers *b b*, as shown in fig. 2, which admits water at that point. In this manner, drawing upward from the hole just made by the opening point, but little sand is drawn in, and that settles back again when the suction is removed.

Devices have before been used in which the point is driven down to admit water at the end of the tubing, but the point has been disconnected from the tubing so that the point could not be raised again, and consequently testing could not be accomplished. While I can test at any time I can also withdraw the point with the tubing. By this arrangement the shank is situated compactly inside the tubing, so as not to interfere in the least with driving, and so as not to create undue friction. The star-shaped diaphragm *g* serves as a check to the sand in the centre of the tubing, where the current is strongest, and precipitates it or throws it to the outside, next the sides of the tubing, where the great friction will prevent it from passing upward. It will be noticed that by securing the diaphragm to the top of the shank it will always stand at the same height from the water, no matter how much the tubing itself may be adjusted up and down. This is a matter of much importance, to prevent the deposit of sand near the induction. Were the diaphragm attached stationary the tube above the shank, it might be raised to such a height as to be useless in preventing the ingress of sand at the bottom.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The point C, with its shank B, provided with the cylindrical portion *a*, the chamfers *b b*, and the flat portion *c*, and attached by the slot and pin *f d*, when combined with the tubing A in the manner and for the purpose herein set forth,

2. The combination, with the shank B, of the star-shaped diaphragm *g*, arranged and operating in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

R. N. BENNETT.

Witnesses:

B. F. OSGOOD.

J. A. DAVIS.