

I. R. Knight,

Driving Well Tubes.

No. 94,007.

Patented Aug 24, 1869.

Fig 1.

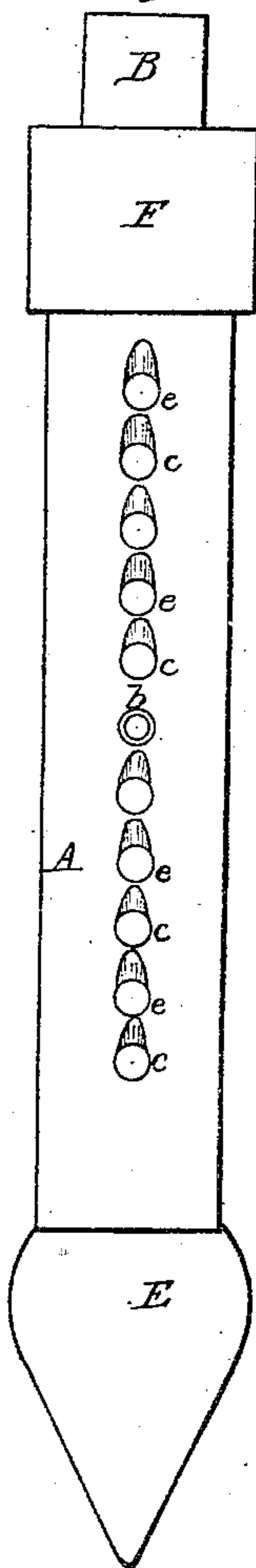


Fig 2.

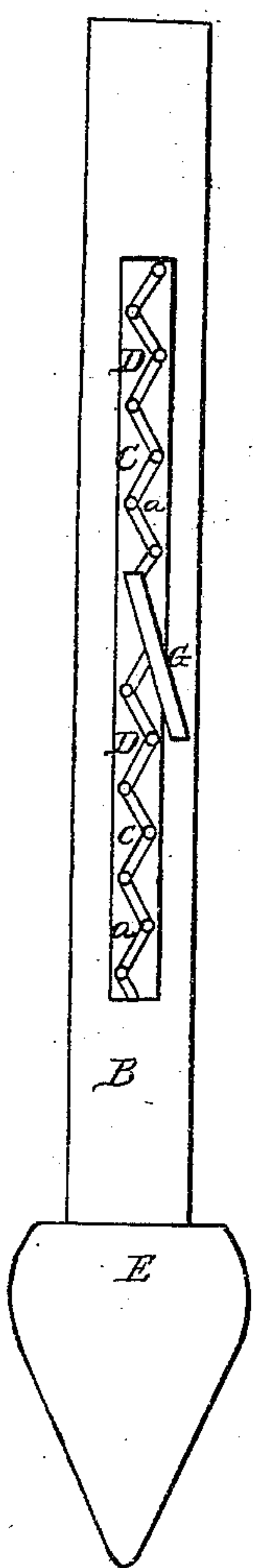
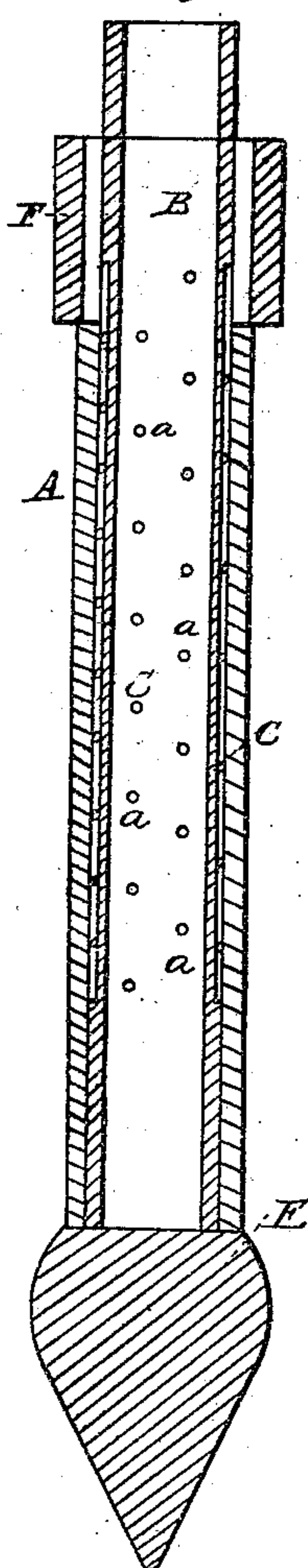


Fig 3.



Witnesses:
J. H. Burridge.
E. E. Waite

Inventor:
I. R. Knight

United States Patent Office.

D. R. KNIGHT, OF AKRON, OHIO.

Letters Patent No. 94,007, dated August 24, 1869.

IMPROVEMENT IN DRIVING WELL-TUBES.

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, D. R. KNIGHT, of Akron, in the county of Summit, and State of Ohio, have invented certain new and useful Improvements in Driving Pump-Tubing; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an outside view of the pump.

Figure 2, a detached section.

Figure 2, a vertical transverse section.

Like letters of reference refer to like parts in the several views.

This invention relates to a combination of tubing, arranged, one within the other, and armed with a sharp, rounded point, for penetrating the ground into which it is driven, thereby saving the expense of boring or digging for water.

In fig. 1—

A represents a shell, or the outer tube, which consists of a section of ordinary iron tubing or pipe, in which is fitted closely, but not tight, a tube, B, a detached view of which is shown in fig. 2.

In each four sides of said tube is sunk a recess or chamber, C, the bottom of which is pierced with a series of holes, *a*, fig. 3, and which are connected to each other by oblique shallow grooves D, the purpose of which will presently be shown.

The lower end of said tube is armed with a sharp, rounded point, E, the largest diameter of which being a little more than the diameter of the collar F, whereby the splicing together of the several sections of tubing is made, and which follows the point into the ground without crowding.

G, fig. 2, is a slot, cut, in a spiral direction, in the side of the tubing.

Into said slot is projected the end of the pin *b*, penetrating the shell or outer tube A, thereby connecting the two sections to each other.

One side of the outer tube is pierced with a series of holes, *c*.

From the upper side of each hole proceeds an inclined tapering groove, *e*, the purpose of which will hereinafter be shown.

The practical operation of this arrangement of tubing is as follows :

The holes *c*, in the outer tube or shell, are closed by that part of the inner tube left between the chambers C referred to, when the two sections are in the relation to each other as shown in fig. 1. In this condition, it is driven into the ground, a succession of length of pipes being added, by means of the collar F, as fast as the descent of the lower section may require, until the desired depth is obtained. The closed holes *c* are then brought in open relation to the holes *a* of the inner tube, by drawing upward the outer tube, or by driving down the inner one, by inserting a rod therein of sufficient length to reach down to the point, the result of which will be to either turn the outer tube, or the section to which the point is attached, by virtue of the pin *b* moving in the spiral slot above described, the length of said slot being just sufficient to bring the series of holes in each section in open relation to each other, thereby allowing the water to flow in from the outside, thence upward in the tube.

The inclined tapering grooves *e* are for the purpose of preventing the dirt, sand, &c., from lodging in the holes while the tubing is being driven into the ground. Their slanting nature allows the dirt to slide upward from the holes. The grooves also permit the water to flow into the tube with greater facility in the event the holes become obstructed with dirt, &c.

The oblique grooves in the inner tube, connecting the series of holes *a*, admit the inflowing of the water with greater freedom should the chambers and holes become charged with obstructions.

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

1. The recesses or chambers C, oblique grooves D, and inclined tapering grooves *e*, combined and arranged, in relation to the tubes A and B, substantially as and for the purpose specified.

2. The spiral slot G, as arranged in relation to and in combination with the tubes A and B, in the manner as and for the purpose set forth.

Witnesses:

D. R. KNIGHT.

W. H. BURRIDGE,
J. H. BURRIDGE.