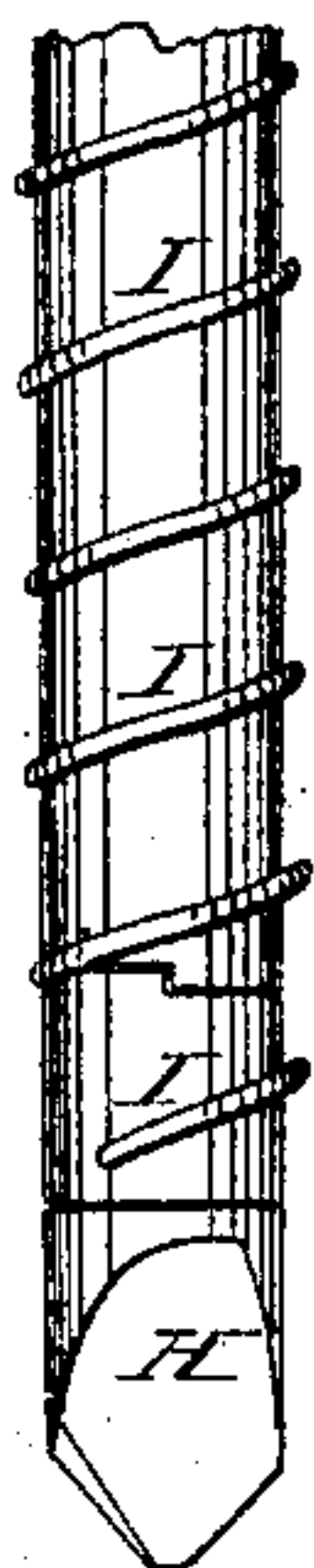


*C. C. Cole,  
Well Tubing.*

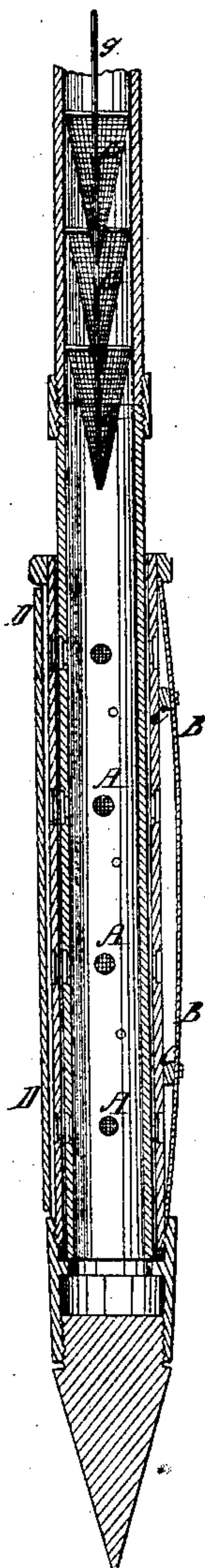
*N<sup>o</sup> 61,400,*

*Patented Jan. 22, 1867.*

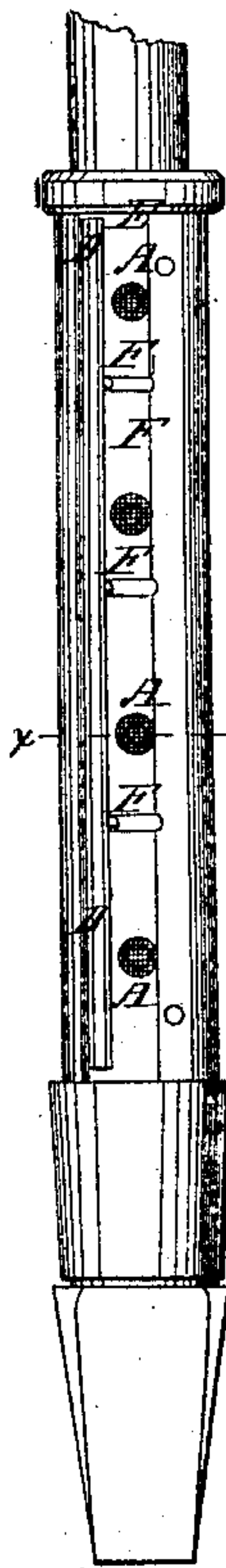
*Fig. 5.*



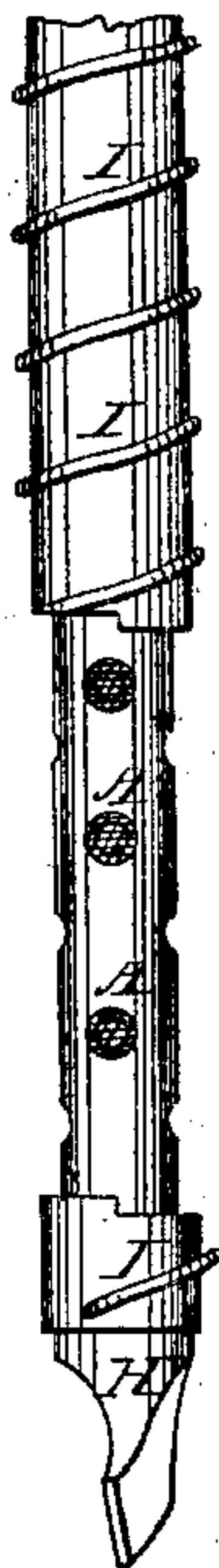
*Fig. 2.*



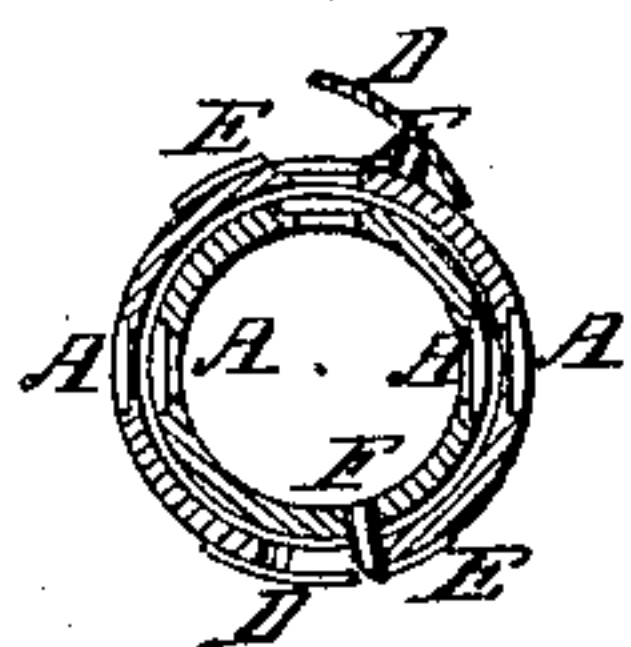
*Fig. 1.*



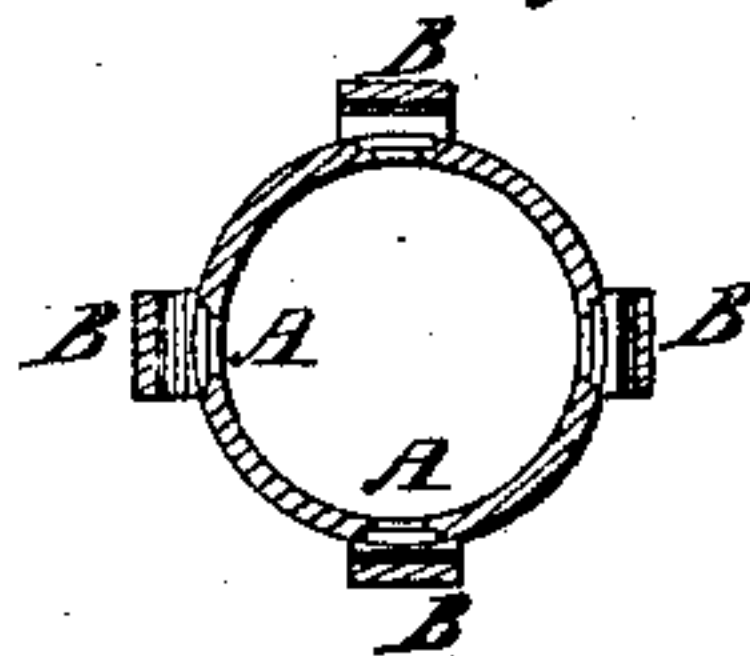
*Fig. 6.*



*Fig. 3.*



*Fig. 4.*



*Witnesses.  
Thos. Tusch  
J. A. Service*

*Inventor  
C. C. Cole  
Per Munn & Co  
Attorneys*



# United States Patent Office.

CHARLES C. COLE, OF NORTHFIELD, VERMONT.

*Letters Patent No. 61,400, dated January 22, 1867.*

## IMPROVED FILTERING TUBE FOR WELLS.

*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, CHARLES C. COLE, of Northfield, in the county of Washington, and State of Vermont, have invented a new and useful improvement in Filtering Tubular Wells; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of the lower part of the well tube, the hinged plate being turned up or opened.

Figure 2 is a vertical longitudinal central section of the same, showing two ways of protecting the countersunk strainers.

Figure 3 is a cross-section of the same, taken through line *x x*, fig. 1, showing the countersunk strainers protected by hinged plates.

Figure 4 is a cross-section of the same, showing the countersunk strainers protected by stationary plates.

Figure 5 is a side view of a modification of my invention, illustrating the manner of protecting the countersunk strainers when the tube is bored into the ground.

Figure 6 is a side view of the same, showing the countersunk strainers uncovered.

Similar letters of reference indicate like parts.

My invention relates to the construction of the lower sections of tubing to be used for obtaining water cheaply and readily in clay or sandy regions without the expense and trouble of digging wells. And it consists in forming countersunk strainers in the sides of the lower section or sections of the tubing, in protecting said countersunk strainers with hinged or stationary plates, in the combination of adjustable cone or cup-shaped strainers with the tubing, and in the combination of an interior section having countersunk strainers, with an exterior section having screw-threads formed upon it; the whole being constructed and arranged as hereinafter more fully described. In the lower section or sections of the lower part of the tubing are formed holes for the ingress of the water. These holes are countersunk, as shown in the drawings, and in the countersinks thus formed are placed strainers *A*, which are secured in place by solder, or in any other convenient and substantial manner. This construction prevents the strainers from being injured by coming in contact with the interior or exterior tubing, with the protecting plates, or with the ground. When the tubing is driven into the ground the strainers *A* are covered and protected by plates *B*, which are secured to the sides of the tubing by screws, and kept from covering the strainers too closely by blocks *C* placed between said plates and the side of the tubing and held in place by the screws that hold the said plates. Or the strainers *A* may be protected by plates *D* hinged at one end to the side of the tubing, and the other edge shutting down at the side of a stationary bar, *E*, securely attached to the side of the tubing. When the hinged plates *D* are used, the lower section or sections in which the countersunk strainers *A* are placed must be made double; that is to say, must consist of an exterior and interior tube, both of which are provided with countersunk strainers. The movement of the exterior and interior tubes upon each other is regulated by stop-pins *F* attached to the inner tube, and working in slots formed in the outer tube, as shown in figs. 1 and 3. The ends of the pins *F* project through the outer tube, and are inclined, so that when the inner tube is revolved to bring its strainers opposite to the strainers in the outer tube, the ends of which pins may raise or open the hinged plates *D*, so that the water may enter the tubes and be raised by the pump. This construction may be used when the tubing is driven into the ground, when it is bored into the ground, or when it is placed in a hole bored by a separate auger. *G* are cone or cup-shaped strainers attached to a central rod, *g'*, and placed wherever desired between the sections that contain the countersunk strainers *A* and the pump. The upper ends of the mouths of the strainers *G* are kept distended by coiled wire springs, as shown in fig. 2; and a loop or eye is formed upon the upper end of the rod *g'* for convenience in removing or adjusting the strainers *G*, as may be required. In figs. 5 and 6 an auger, *H*, is represented as being formed upon, or attached to, the lower end of the interior tube, so that the tube may be made to force a passage for itself into the ground; and the exterior tube is represented as having a screw-thread, *I*, formed upon it; which screw-thread is continued downward to the auger by passing around a band placed upon, and securely attached to, the lower end of the interior tube. Upon the upper edge of this band, and upon the lower edge of the exterior tube are formed shoulders, which take hold of each other in the manner of a clutch to force the auger into the ground. When the tube has been forced to the required depth, the outer

tube is turned in the other direction, which raises the outer tube and uncovers the countersunk strainers so that the water can flow into the tube and be raised by the pump.

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

1. Protecting the countersunk strainers A by hinged plates D, or stationary plates B, substantially as represented and described.
2. The combination of the cone or cup-shaped strainers G with the tubing substantially as herein shown and described.

The above specification of my invention signed by me this 6th day of November, 1866.

CHARLES C. COLE.

Witnesses:

WM. F. McNAMARA,

JAMES T. GRAHAM.