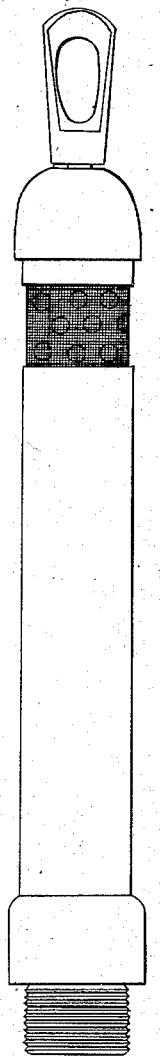
R. Cornelius.

Sand Pump.

No. 54,867. Patented May 22, 1866.

Fig. 1.



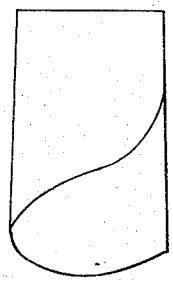
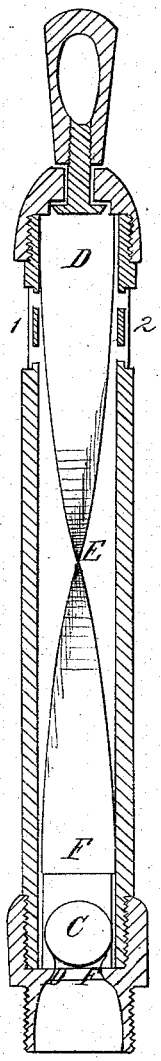


Fig. 2.



Witnesses;
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UNITED STATES PATENT OFFICE.

ROBERT CORNELIUS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SAND-PUMPS.

Specification forming part of Letters Patent No. **54,867**, dated May 22, 1866.

To all whom it may concern:

Be it known that I, ROBERT CORNELIUS, of the city of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Sand-Pumps, for removing the sand and detritus from Artesian and other wells; and I hereby declare the following to be a full and exact description of the same, reference being had to the annexed drawings, in which—

Figure 1 is an exterior view, and Fig. 2 is a sectional view thereof. Fig. 3 is a drill which can be secured to the pump.

My improvement consists, first, in attaching to the upper part of the sand-pump a wire-gauze or perforated plate, through which the water can escape, leaving only the sand within.

My sand-pump has within it a spiral plate, whereby it will be constantly revolved. This is especially advantageous when the sand-pump is used as a drill-stock.

In Fig. 2, A B represent the sand-pump. C is a ball-valve over the bottom aperture, D E. F is a metallic plate twisted about half a turn. Figures No. 1 and 2 is a recess surrounding the pump. A series of holes (shown in Fig. 1) are bored through the walls of the pump at this recess, and a strip of wire-gauze or perforated metal is secured over them. To the top of the pump a swivel is attached, by which the pump is secured to the rope.

The operation of the improvement is as follows: The sand-pump is suspended by a rope and raised and lowered at the bottom of the well. The descent of the pump forces the water and sand and detritus up into the body of pump and past the ball-valve at C. The water flows off through the apertures at the perforated metal or gauze at the top and leaves the detritus in the pump. Hence a greater amount of detritus can be drawn out. The water as it passes up through the body of the pump forces the spiral plate D E, which is attached to the tube above and below, to constantly revolve the pump in the same direction. If a drill be attached by a screw to the bottom of the sand-pump the effect of this spiral plate will be to obviate the necessity of revolving the drill by hand through the medium of the rope.

This sand-pump may be used as a drill-stock either with a drill perforated through its length, or a perforation may be made in the lower part of the sand-pump immediately above the drill.

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

1. The employment of wire-gauze or perforated metal in the sand-pump in the manner and for the purpose substantially as described.

2. The employment of the turning-plate D E F in the interior of the sand pump.

3. The combination of the sand-pump, having an interior turning plate, with the drill.

ROBERT CORNELIUS.

Witnesses:

J. E. SHAW,

G. E. BUCKLEY.