W. LOUDON.
Pump.

No. 217,126. Patented July 1, 1879.

Fig. 1

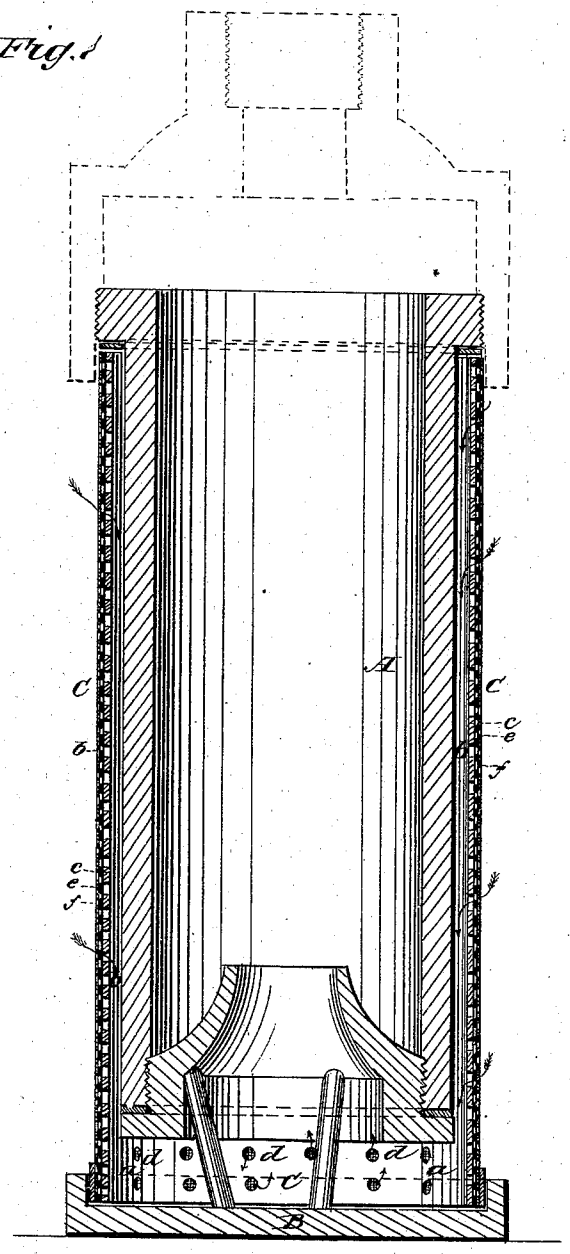
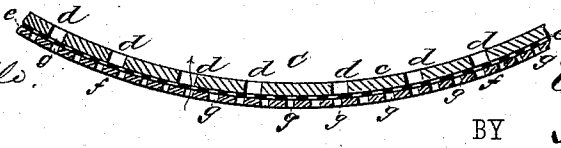


Fig. 2.



WITNESSES:
F. McAndls.
C. Sedgwick

INVENTOR:
W. Loudon
BY Munn & Co
ATTORNEYS.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM LOUDON, OF SUPERIOR, NEBRASKA.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **217,126**, dated July 1, 1879; application filed May 23, 1879.

To all whom it may concern:

Be it known that I, WILLIAM LOUDON, of Superior, in the county of Nuckolls and State of Nebraska, have invented a new and useful Improvement in Pumps, of which the following is a specification.

The object of this invention is to prevent the accumulation of sand around submerged pump-cylinders and the stoppage of the inflow of water to the cylinder.

It consists in providing the cylinder with a cylindrical shield, placed so as to leave a space between it and the cylinder, so that the water can pass to the cylinder and enter the same, said shield being composed of foraminated cylindrical shells, with a layer of wire-gauze between, which offers a free passage to the water, but prevents the sand from coming in contact with the cylinder.

In the accompanying drawings, Figure 1 is a longitudinal section of my improvement applied to a pump-cylinder; and Fig. 2 is an enlarged segment of the shield in section, showing its structure clearly.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the pump-cylinder, provided with a bottom, B, with space *a* between it and the end of the cylinder, for the passage of the water under the valve.

C is the shield, inclosing the cylinder from top to bottom, and so placed as to leave a space, *b*, between it and the cylinder, so that no obstruction is offered to the passage of the water under the end of the cylinder. This shield is composed of a metal cylinder, *c*, with large perforations *d*, a finely-meshed wire-gauze jacket, *e*, placed next to cylinder *c*, and another metal cylinder, *f*, with much finer perforations *g*. The wire-gauze and cylinder *f* may be used as a lining for cylinder *c*, or as an inclosing-jacket for the same. It is not material which method is employed, as the operation will be just as effectual either way. This shield affords an effectual barrier to the sand coming in contact with the pump-cylinder and choking up the water-passage into the cylinder and obstructing the working of the valve or valves.

In deep wells, where submerged cylinders are employed, the sand deposited in the well by the water accumulates around the cylinder, chokes up the passage-ways for the water into the cylinder, prevents the working of the valves, and completely stops the working of the pump. By the arrangement here described, however, this cannot occur. At the same time a free passage is maintained for the water, which passes through the shield, down through space *b*, and enters the cylinder under the valve, as indicated by the arrows.

As shown and described, the shield is applied to the cylinder of a single-acting pump; but I do not wish to confine myself to this arrangement. It can be applied without alteration to the cylinders of double-acting pumps, wherein the water enters both above and below the piston; and it will be found to possess the same advantages in the latter connection as in the former.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improvement in pumps, the cylinder A, inclosed by a shield to prevent the sand from coming in contact with the cylinder, but leaving a space, *b*, for the passage of the water to the valves, substantially as described.

2. In combination with the pump-cylinder A, with a water-passage, *a*, between its lower end and the bottom B, the shield C, composed of perforated cylinders *c f* and interposed wire-gauze *e*, and water-space *b* between the cylinder and shield, as and for the purpose substantially as described.

WILLIAM LOUDON.

Witnesses:
C. SEDGWICK,
WILTON C. DONN.