

J. M. SPRINGER.
 Pump-Sucker.

No. 160,065.

Patented Feb. 23, 1875.

Fig. 1

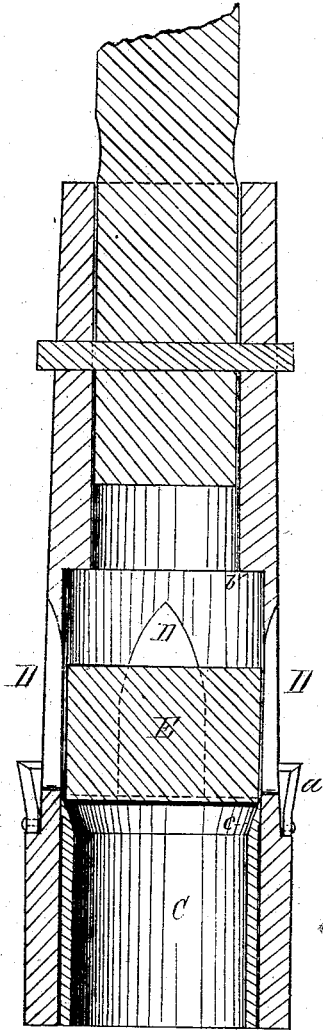


Fig. 2

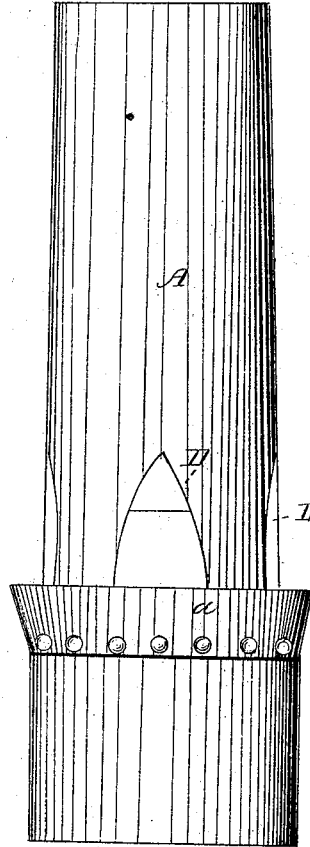
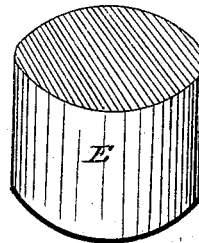


Fig. 3



WITNESSES
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INVENTOR
Jacob M. Springer
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UNITED STATES PATENT OFFICE.

JACOB M. SPRINGER, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN PUMP-SUCKERS.

Specification forming part of Letters Patent No. **160,065**, dated February 23, 1875; application filed January 18, 1875.

To all whom it may concern:

Be it known that I, JACOB M. SPRINGER, of Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Pump-Suckers; 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 which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 represents a vertical section of my invention; Fig. 2, a perspective view of the same, and Fig. 3 a detached view of my improved valve.

Prior to my invention there was not, as far as I am aware, in use a block-valve of the construction hereinafter described, the valves heretofore used in pump-suckers of this character having been generally the ordinary flap-valve, hinged or otherwise connected to the valve-seat, or the common ball-valve. There are many objections accompanying these classes of valves, the former being easily injured, and very often becoming filled with sediment to such a degree that it is unable to close upon its seat, thereby impeding the operation of the pump. The ball-valve is objectionable on account of the great expense attending the manufacture of them. It is, therefore, the purpose of my invention to produce a valve perfect in its operation, and one that may be manufactured at a trifling cost; and my invention consists of a block-valve, in form of a solid cylinder, in combination with a pump sucker or plunger having a short hollow cylinder, which forms the valve-seat, as will be hereinafter described.

In the drawings, A is designed to represent the cylinder of my improved sucker, connected to a pump-rod in the ordinary manner, and provided, near its lower end, with a suitable packing, *a*, which may be of any material best adapted to the purpose. The cylinder A is formed with an annular shoulder, *b*, in the in-

terior of the bore to limit the upward movement of the valve and prevent the same from being forced by the current of water too far up into the bore of the cylinder. Openings D are formed in the cylinder A, the base of which are upon a line with the valve-seat, and are of sufficient length to allow the water to pass through the openings D under the valve when the same is raised off its seat. Inserted in the lower part of the cylinder A is a short tube or cylinder, C, having a bevel valve-seat, *c*. The block-valve E, which forms an important part of my invention, is composed simply of a solid cylinder, which admits of its being manufactured at a very slight cost, and producing a valve that will, in all times, be perfect in its operation. This valve E is made in diameter nearly equal to the diameter of the bore of the cylinder in which the valve works, allowing only sufficient water to pass around the side of the valve to form a packing between the same and the inner circumference of the cylinder A, thereby compelling the water upon the starting of the pump to pass out through the openings D at the bottom of the valve E, taking with it any silex or sand that may have lodged upon and around the valve-seat.

A sucker of the construction described may be manufactured at a much reduced cost over those now in use, and it may be used in connection with any of the ordinary pumps.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

A pump sucker or plunger consisting of the cylinder A, provided with suitable openings D, the valve-seat C, and valve E, substantially as described.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

JACOB M. SPRINGER.

Witnesses:

W. H. SEIDERS,
C. P. LAIRD.