(No Model.)

S. S. ANDREWS.

PUMP.

No. 266,070. Patented Oct. 17, 1882.

Fig. 4.

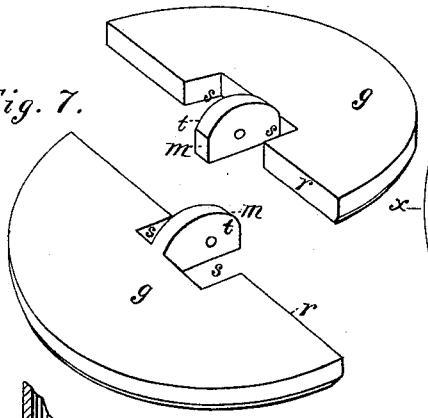

Fig. 2.

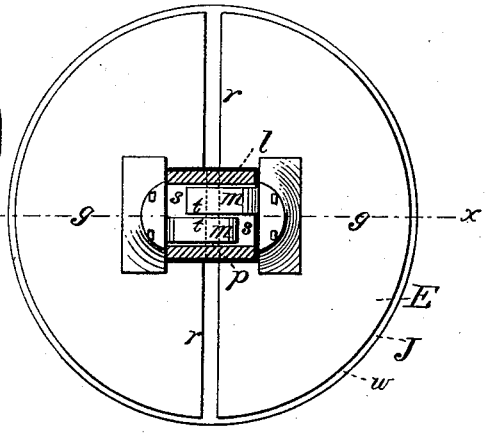

Fig. 7.

Fig. 1.

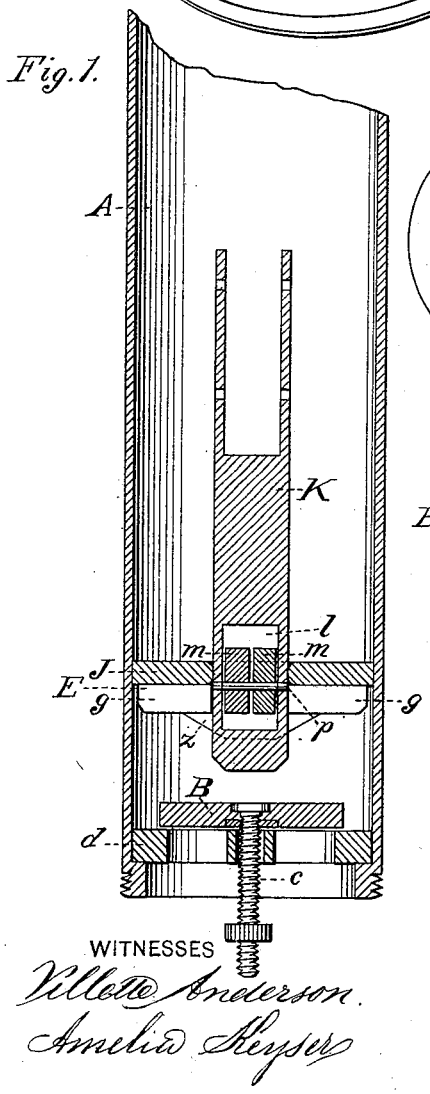

Fig. 5.

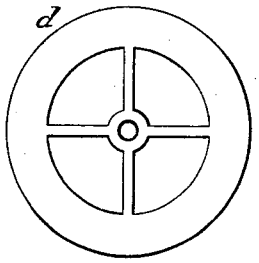

Fig. 6.

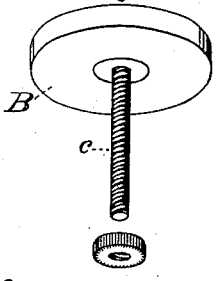

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

SAMUEL S. ANDREWS, OF KNOXVILLE, IOWA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 266,070, dated October 17, 1882.

Application filed July 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. ANDREWS, a citizen of the United States, resident at Knoxville, in the county of Marion and State of Iowa, have invented a new and valuable Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of this invention in a vertical section. Fig. 2 is a bottom view of the sucker-wings with the stem to which they are pivoted in section. Fig. 3 is a vertical section through the dotted line *x x* in Fig. 2. Figs. 4, 5, 6, and 7 are details.

This invention has relation to suction-pumps; and it consists in the construction and novel arrangement of the transversely-slotted valve-stem and the sucker-wings having arms pivoted in the slot of the stem, stop-lugs on their under sides, and covered on top with a cap or disk of sole-leather connecting the wings, all as hereinafter set forth.

In the accompanying drawings, the letter A designates the working-barrel or valve-chamber of the pump; and B is the lower check-valve, having a stem, *c*, playing through a bearing in the center of the open-work seat *d*. The chamber A is designed to be made of cast-iron or other metal. The upper end of the chamber is to be connected to the pump-stock, and the lower end, by means of a coupling, is attached to the pipe which extends into the well or reservoir of water.

E designates the working-valve or sucker-valve, which reciprocates in the chamber A. It consists of two metallic wings, *g g*, covered with a disk, J, of sole-leather. The stem K of this valve, also of metal, is transversely slotted at its lower end, as indicated at *l*, to receive the arms *m* of the wings *g g*, said arms being pivoted in the slot *l* by means of the pin *p*, which extends through the lateral walls of the slot. Each wing is rectangularly recessed at the middle part of its inner or joint edge, *r*, as indicated at *s*, and the arm *m* of said wing extends from said recess outward beyond said edge *r*. The arms of the wings are eccentrically arranged in the recesses, so that their inner edges, *t*, which are in contact, will coincide with a diametrical plane of the sucker. The thickness of the arms is such that when they are in position in the slot *l* of the stem they will fit it neatly, but not tightly, from side to side. The slot *l* is extended above and below the arms to allow play to the wings of the valve, and notches or recesses *v* are made in the edges of the slot-walls to allow the wings to fold upward. These notches *v* have curved or inclined lower walls or surfaces, and are designed to enable the recesses *s* of the wings to hug the stem somewhat as the wings fold upward. So, also, they sit close to the stem when the wings are down in horizontal position, and thus but little escape or drip through the valve will be found at the center. On the under side of each wing is formed a stop lug or shoulder, *z*, which, when the wing is in its lowest or horizontal position, abuts against the stem K and braces the wing effectually in this position.

J represents a disk, of sole-leather, which is made of a little larger diameter than the metallic wings, so that it will, when placed on said wings, project a little around the margin, as indicated at *w*. A central opening, *a*, is made through the disk, through which the stem K passes, and the disk is secured to the wings by means of screws or bolts, which pass through said disk into perforations of the wings. The stem K is forked at its upper end, and is connected to the working-rod by means of a pivot-bolt.

The check or governing valve B has its stem *c* threaded, so that it can be adjusted to regulate the rise of this valve, and thereby govern the amount of water passing through into the chamber A.

The sucker-valve E does not take up much room in the stock, and as it opens at each side it will let the water pass with great freedom. It is very simple and effective, and cannot clog or stick in its work.

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

1. The suction-valve E, having the transversely-slotted stem K, the wings *g g*, recessed in the middle portions of their joint edges *r*, and having the arms *m* projecting from said recesses and pivoted in the transverse slot of the stem, and the leather covering-disk J, connecting the wings, substantially as specified.

2. The suction-valve E, consisting of the stem K, transversely slotted at *l*, the wings *g g*, having the arms *m*, pivoted in the slot *l*, the stop-lugs *z* on their under sides, and the leather disk J, covering and connecting the wings, substantially as specified.

3. The combination, with the sucker-valve E, having the wings *g g*, of the chamber A, having the open-work valve-seat *d* at its lower end, and the governing-valve B, having the screw-stem *c*, whereby it can be adjusted, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SAMUEL S. ANDREWS.

Witnesses:

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JAMES P. COOPER.