S. N. JONES.

Pump.

No. 208,739. Patented Oct. 8, 1878

Fig. 4.

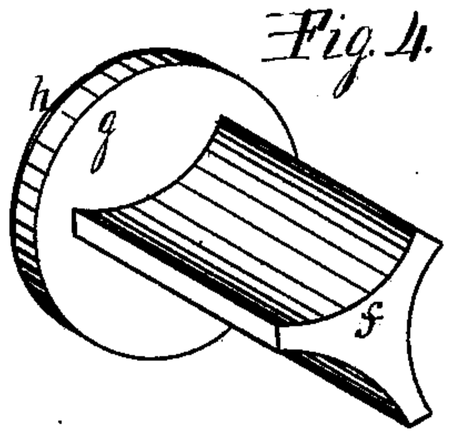


Fig. 1.

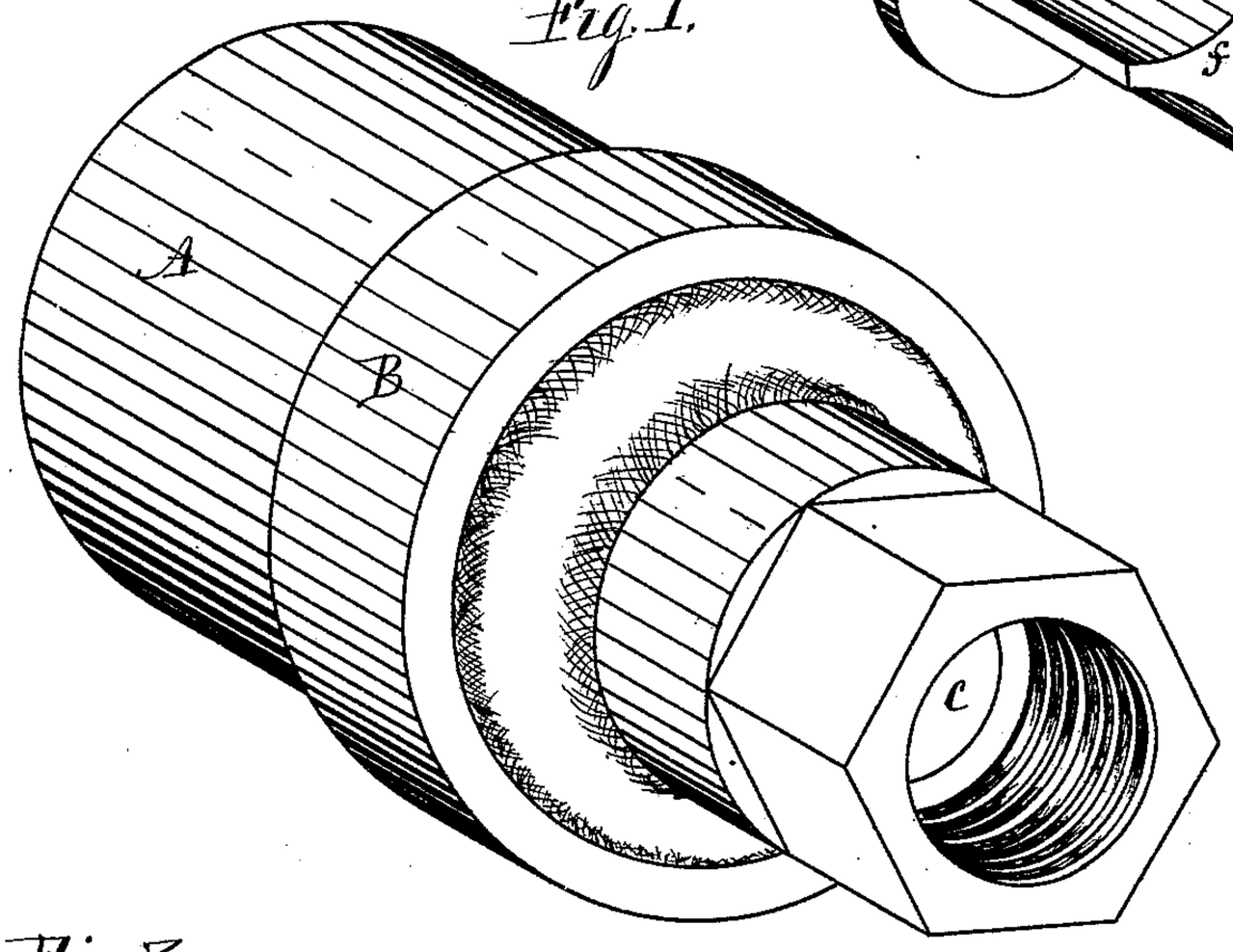


Fig. 3.

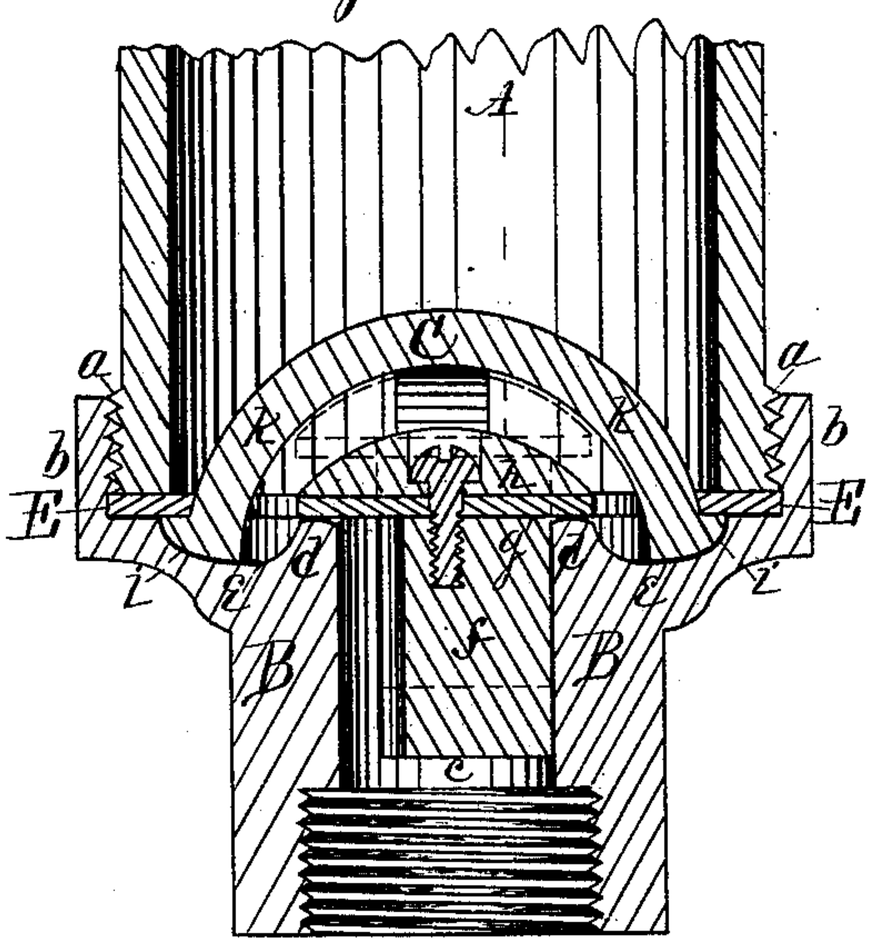
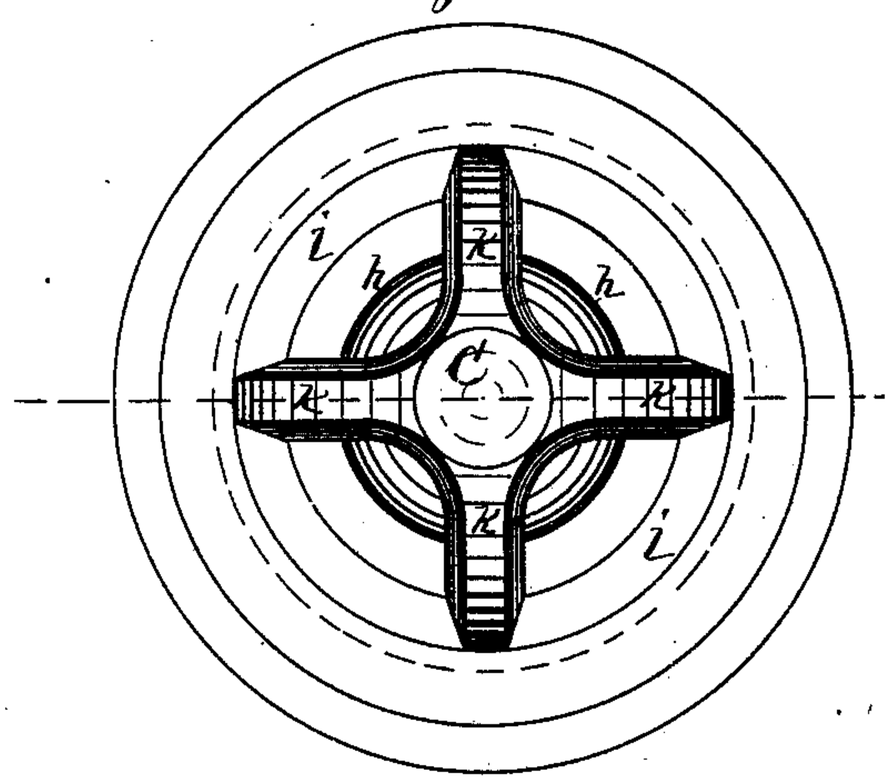


Fig. 2.



Witnesses.
C. D. Southworth
A. O. Behel

Inventor.
Samuel N. Jones
Per Jacob Behel
Atty.

UNITED STATES PATENT OFFICE.

SAMUEL N. JONES, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **208,739,** dated October 8, 1878; application filed March 11, 1878.

To all whom it may concern:

Be it known that I, SAMUEL N. JONES, of the city of Rockford, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Pumps, of which the following is a specification:

This invention relates more particularly to that class of pumps employed to lift water from wells and cisterns, and for other similar purposes, and the improvement relates to the connection with the cylinder of the valve-seat and the kind of valve employed.

The object of this invention is to produce a pump-cylinder valve-seat connection and yoke adapted to employ a puppet-valve as the lower valve in such a manner as to produce a reliable and durable pump at a small cost. To this end I have devised and constructed the parts represented in the accompanying drawings, in which—

Figure 1 is an isometrical representation of the lower portion of a pump-cylinder and valve-seat connection, of which Fig. 2 is a plan view, and Fig. 3 is a vertical central section on dotted line *x*. Fig. 4 is an isometrical view of the puppet-valve.

In the figures, A represents the lower portion of a pump-cylinder of any proper diameter and length, and is screw-threaded at its lower end, as at *a*. B represents the lower valve-seat portion, the upper end of which is of proper size, and is screw-threaded inside, as at *b*, to receive the screw-threaded end of the cylinder. This portion B is centrally bored lengthwise, as at *c*, forming the induction-pipe, and its upper end forms the valve-seat *d*. Between the valve-seat *d* and the inside of the cylinder A the portion B is provided with an annular groove, *e*, which gives to the valve-seat *d* a raised form.

At Fig. 4 is represented a puppet-valve, having its lower portion *f* of bayonet form, and is fitted to play freely up and down in the induction-bore *c*. A packing-disk, *g*, is secured to the upper end of the bayonet-formed portion, and is held in position thereon by a metallic disk, *h*, secured on its upper side by a screw passing through the disk and packing into the portion *f*. This puppet-valve is placed in the induction-bore with the packing resting on the valve-seat, to which it will be held by the action of gravity on itself and on the column of water to be raised, and when acted upon by the lifting force of the plunger in the operation of raising water the valve will rise from its seat and permit the water to flow upward through the openings between the concave surface of the induction-bore and the concave surface of the bayonet-formed portion of the valve.

C is a yoke, constructed with a ring-base, *i*, from which rises arched ribs *k*, which span the central opening. The ring-base *i* of this yoke is of proper form and size to enter the annular groove *e*, and when in place the arched ribs will limit the upward movement of the puppet-valve, as seen in dotted lines in Fig. 3.

E is a packing-ring, made of any proper material, and is placed in position above the ring-base of the yoke.

With these parts (viz., the puppet-valve, the yoke, and the packing-ring) in place, the valve-seat portion is then screwed in place on the lower end of the cylinder, and when thus connected it is ready for use—a complete lower-valve connection with the pump-cylinder—and, in connection with the usual puppet-valve plunger or other suitable plunger and the usual connections of pipes, levers, or other similar known appliances, is a complete pump for practical use.

Instead of the base-ring of the yoke, the arched ribs may be provided with outward-projecting feet adapted to enter seats prepared for their reception in the valve-seat portion, and held in place when the parts are connected.

I claim as my invention—

The combination, with the cylinder and removable valve-seat portion, constructed with an annular groove surrounding the valve-seat, and a puppet-valve, of the yoke or cage, the lower edge of which rests in the annular groove, said yoke provided with a horizontal flange or seat, and a packing-ring, which is firmly secured between the cylinder and valve-section, and projects over the seat on the yoke, thus retaining the latter in place, substantially as set forth.

SAMUEL N. JONES.

Witnesses:

A. O. BEHEL,

DUNCAN FERGUSON.