

P. C. GOBLE.  
Pump-Valves.

No. 148,558.

Patented March 17, 1874.

Fig. 1.

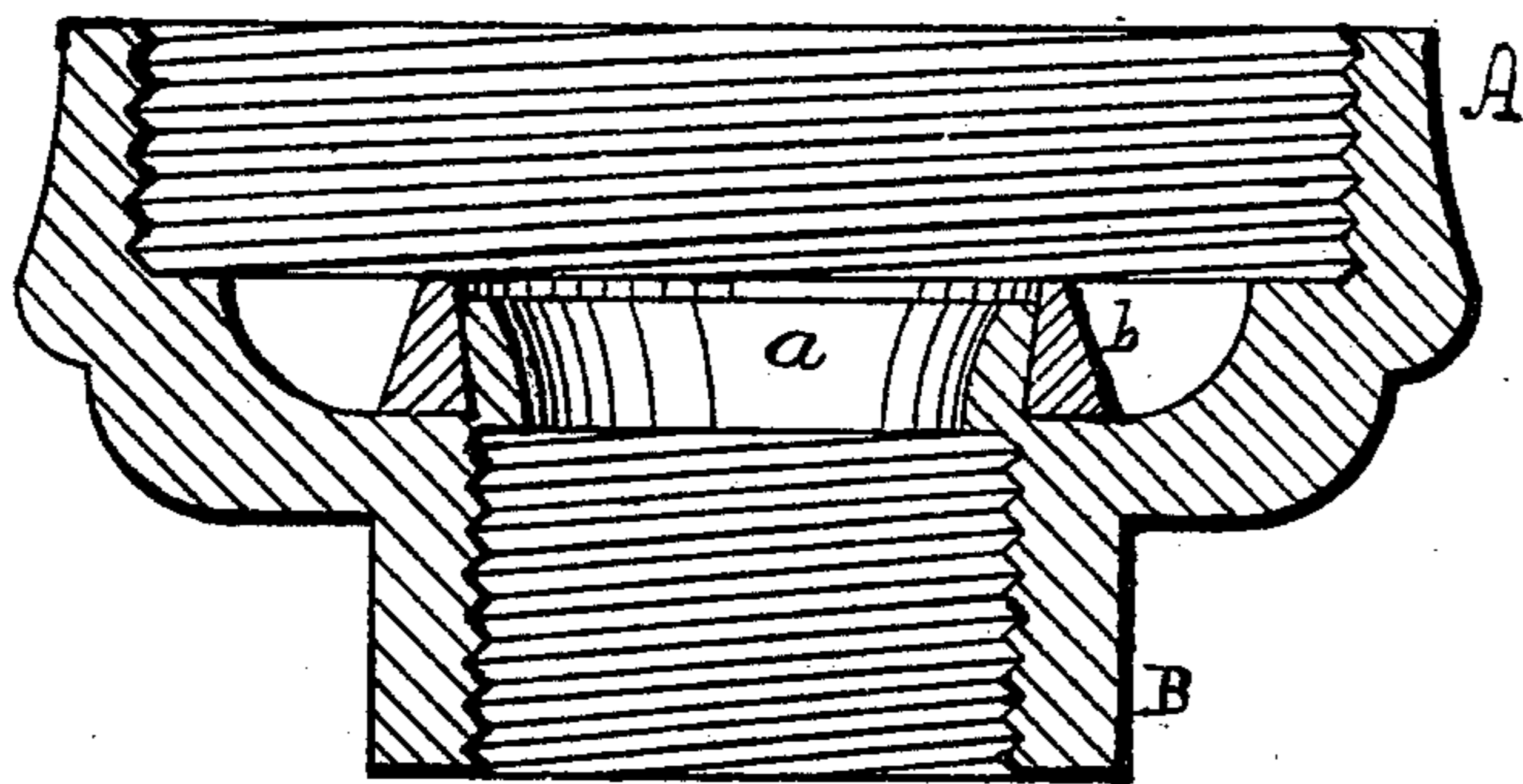


Fig. 2.

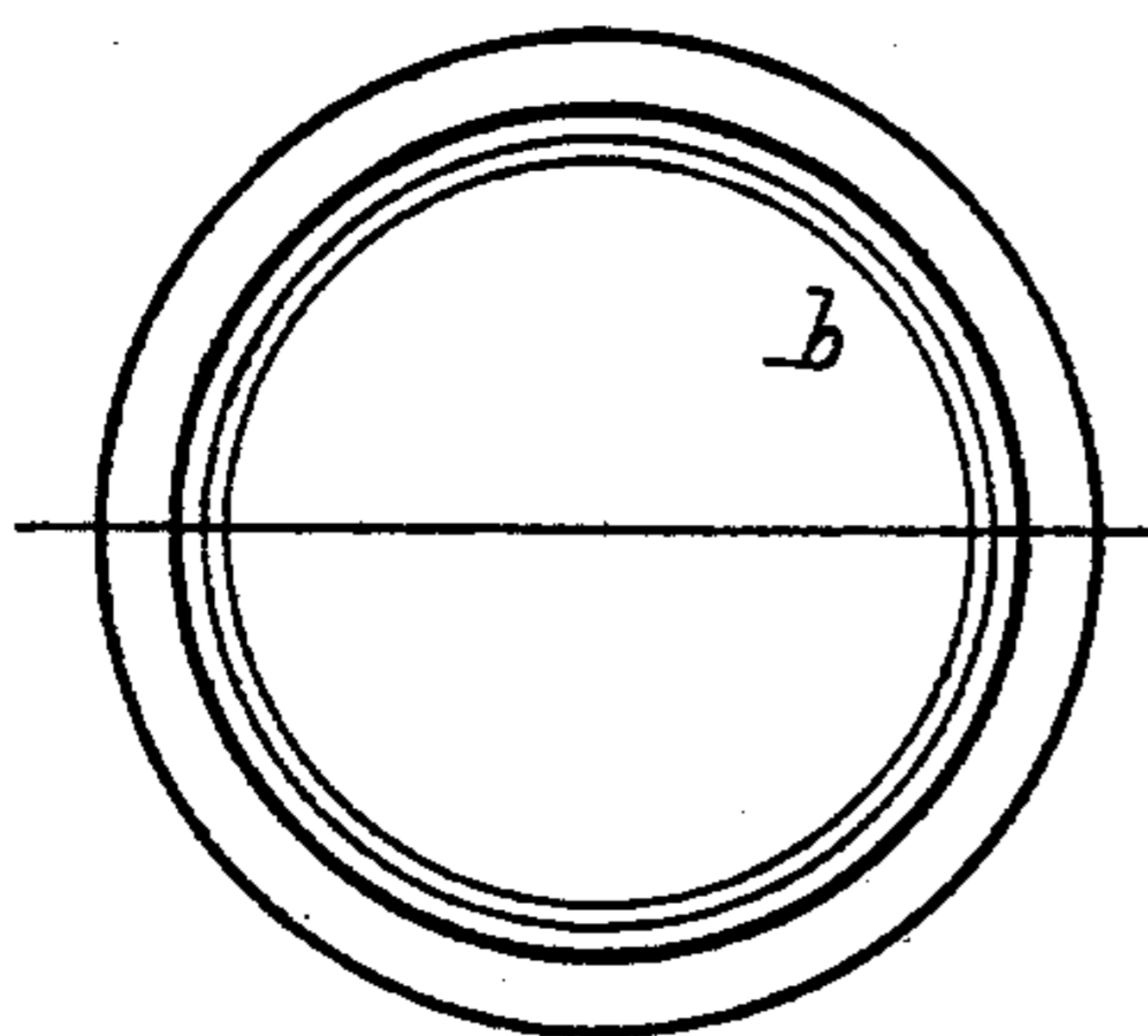


Fig. 3.



Fig. 4.

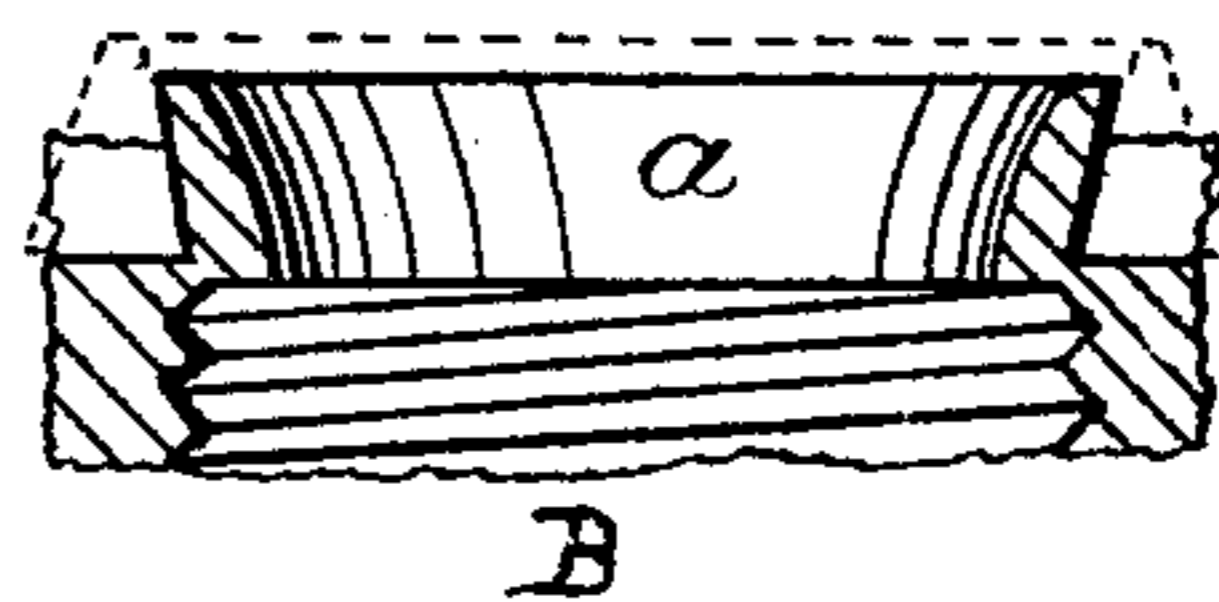
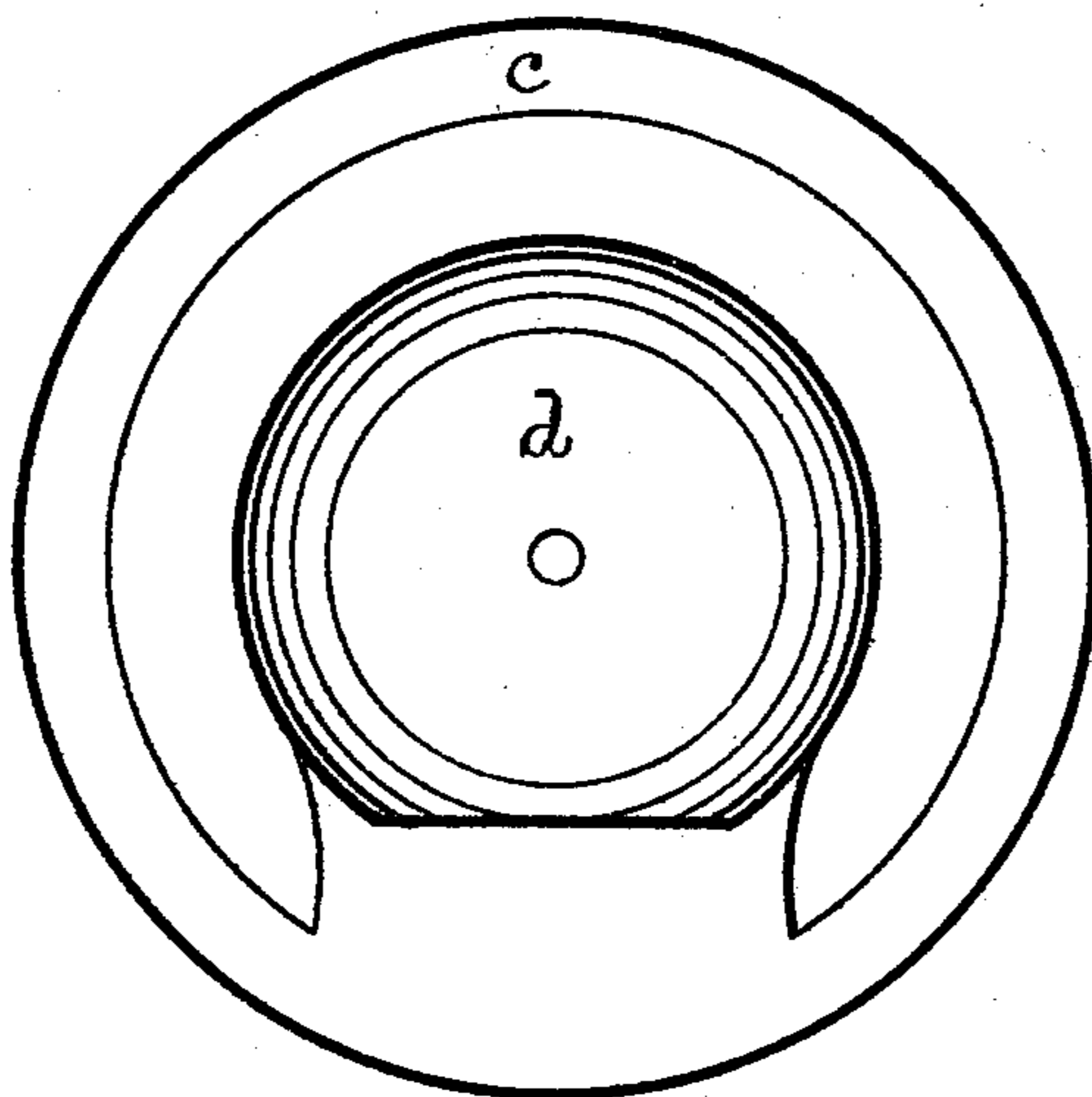


Fig. 5.



Witnesses.

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PALMER C. GOBLE, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN PUMP-VALVES.

Specification forming part of Letters Patent No. 148,558, dated March 17, 1874; application filed July 17, 1873.

*To all whom it may concern:*

Be it known that I, PALMER C. GOBLE, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Pump-Valves, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section; Fig. 2, a plan of the rubber ring; Fig. 3, a vertical section of the same; Fig. 4, a detail; and Fig. 5, a plan view of a valve.

It is customary to make valve-seats in pumps of metal. If the valve-seat be broad, and the pump be used in drive-wells or mines and similar places, sand is liable to accumulate on the valve-seat, interfering with the working of the pump. To obviate this difficulty a narrow valve-seat, made of metal, has been used, but is liable to the objection that the valve will be rapidly worn away.

The chief object of my invention is to obviate both of these difficulties; and this I accomplish by making the valve-seat of rubber or other suitable elastic material, with a narrow surface.

In the drawings, A represents the lower part of the pump-cylinder, to which the pipe leading to the water is connected at B in the usual manner. Within the cylinder, and around the opening through which the water enters into the pump, is a projection, *a*, cast with the cylinder, which serves to support the rubber ring which forms the valve-seat. The outside of this projection may slope inward a little to prevent the ring from slipping therefrom. *b* represents a rubber ring, broad at the bottom and narrow at the top, and of such width that, when in place, it projects a little

above the part *a*, as shown in Fig. 1, and by the dotted line in Fig. 4. Its size is such that it can, without difficulty, pass over the projection *a*, but when in place will be firmly held there. The projection *a* may be quite narrow on the top. This rubber ring *b* furnishes a durable and efficient valve-seat. Being very narrow at its upper edge, sand cannot accumulate thereon, and, being elastic, the valve itself will not be worn away by repeated contact with the seat. A single rubber ring will last a long time, even in places where much sand passes into the pump, and if after a long time it becomes worn away, it can be very readily replaced.

While the chief object of this valve-seat is to obviate the difficulties which arise from the flow of sand into the pump, it serves a useful purpose where there is no sand, furnishing an elastic seat which the valve will closely fit.

Fig. 5 represents a valve in common use, which may be used with my elastic seat, the outer portion *c* resting upon a shoulder within the cylinder, and the portion *d* forming the valve proper.

The ring *b* might be compressed within the projection *a*, the same being made of suitable size and form to receive the ring, and having a shoulder at the bottom to support it.

What I claim as new is as follows:

The elastic valve-seat *b*, in combination with projection *a* and valve *d* and cylinder A, constructed and operating substantially as and for the purposes specified.

PALMER C. GOBLE.

Witnesses:

E. A. WEST,  
O. W. BOND.