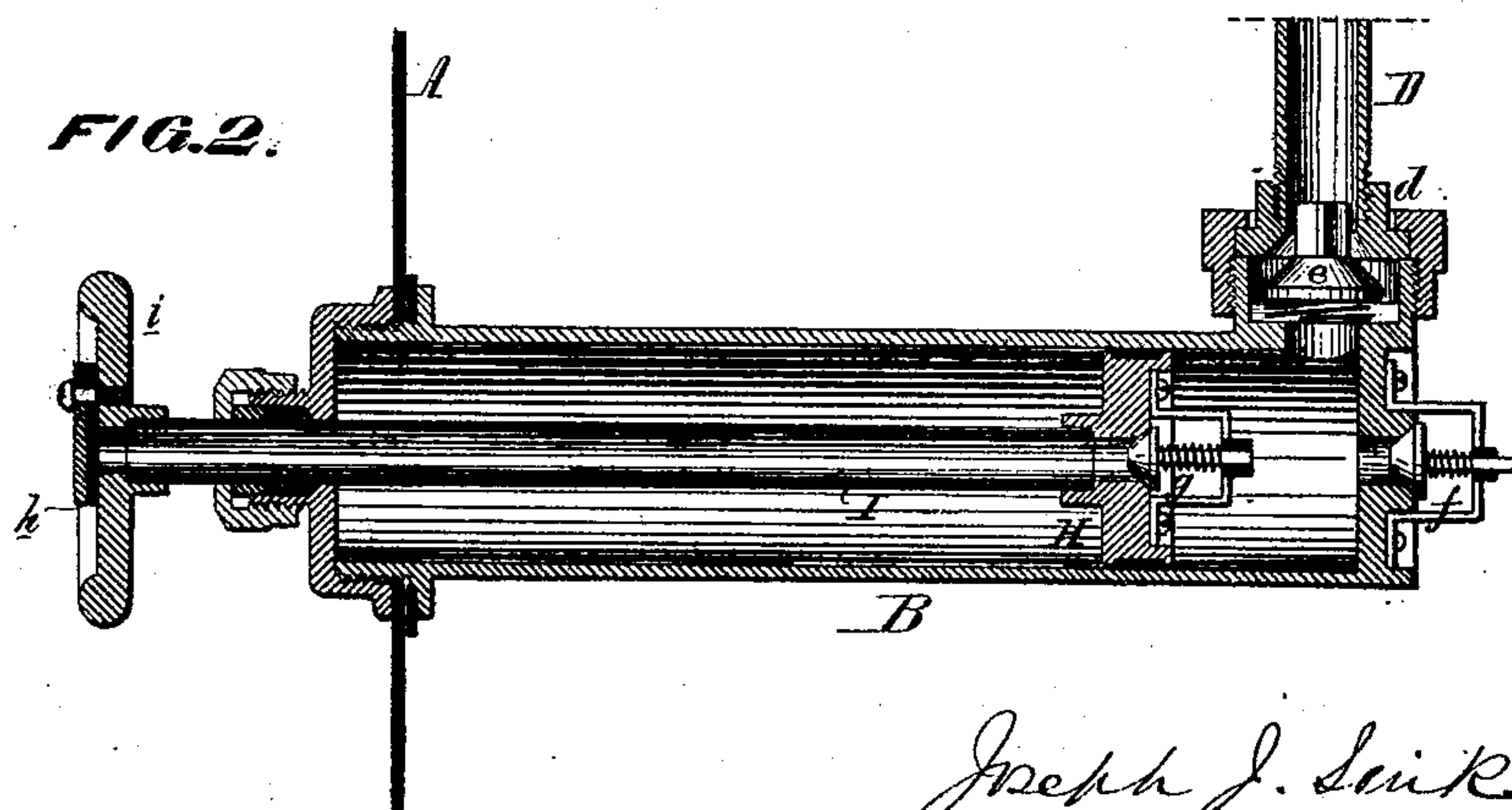
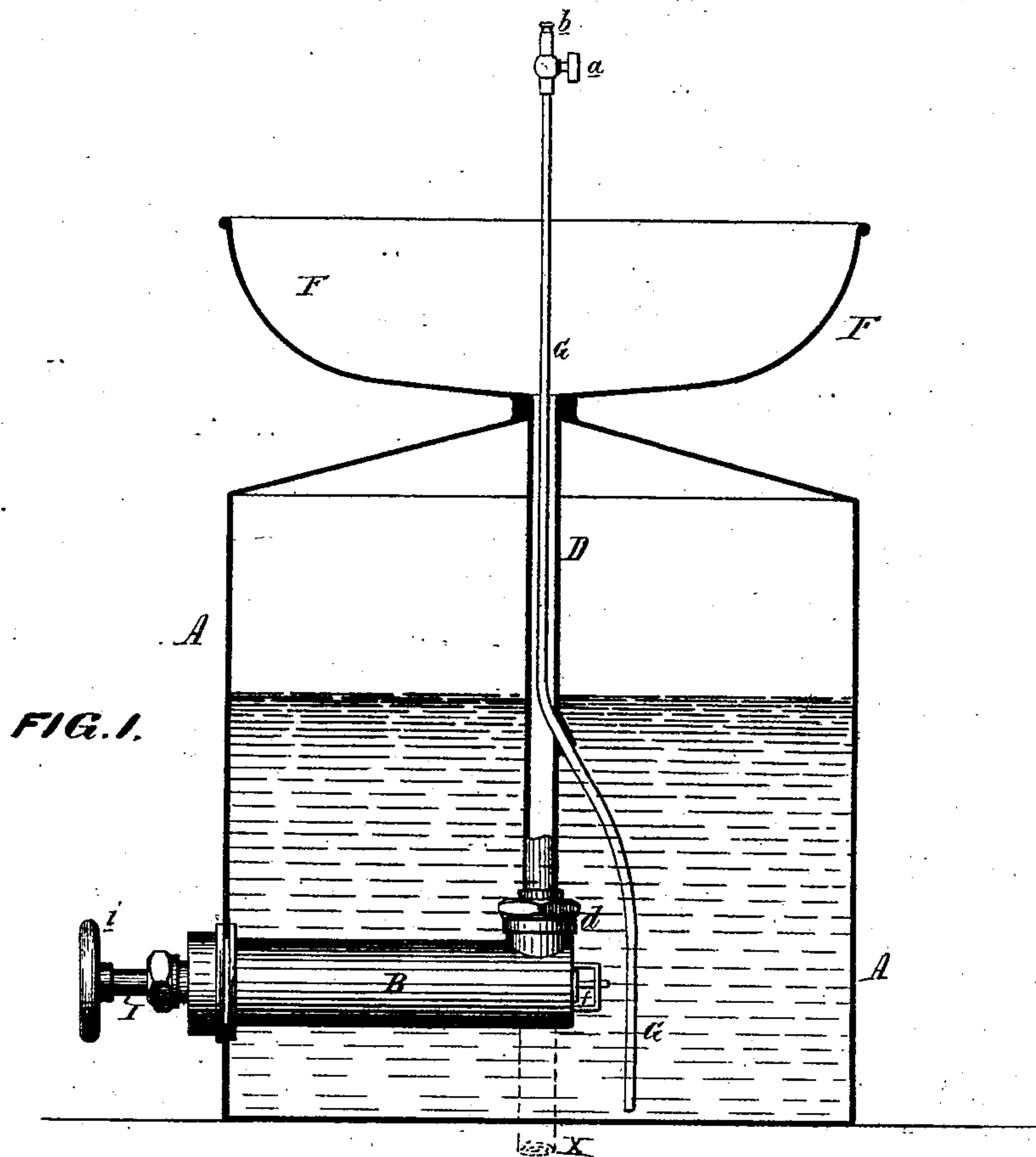


JOSEPH J. SINK.

Improvement in Pumps and Fountains.

No. 127,651.

Patented June 4, 1872.



WITNESSES

Harry Smith
John Parker

Joseph J. Sink
by his Attn.
Hazen and Son

UNITED STATES PATENT OFFICE.

JOSEPH J. SINK, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PUMPS AND FOUNTAINS.

Specification forming part of Letters Patent No. 127,651, dated June 4, 1872.

Specification describing a Combined Fountain and Pump, invented by JOSEPH J. SINK, of Philadelphia, Pennsylvania.

Combined Fountain and Pump.

My invention relates to that class of fountains in which a jet of water or other fluid is forced from a pipe by air under pressure, acting upon the surface of a body of fluid contained within a closed vessel with which the said pipe communicates; and my invention consists of certain improvements fully described hereafter in the construction of the fountain, and in a pump for supplying the vessel with water or other fluid and for forcing air into the same.

In the accompanying drawing, Figure 1 is a vertical section of my combined fountain and pump, and Fig. 2 an enlarged sectional view of the pump.

A represents a closed vessel of any suitable size and shape, and made air and water tight, and within this vessel, and projecting through one side of the same, is a pump, B, which communicates, through a pipe, D, with a basin, F, secured to the top of the said vessel, a pipe, G, of smaller diameter than the pipe D extending from a point near the bottom of the water-vessel into the said pipe D, and upward through the latter to a point above the basin F, where it is furnished with a cock, *a*, and nozzle *b*. In an enlargement, *d*, of the pipe D, adjacent to the pump, there is a spring-valve, *e*, opening downward, and in the inner head of the pump-barrel there is an opening closed by a spring-valve, *f*, which opens outward. There is also a spring-valve, *g*, on the piston H, which closes the end of the hollow piston-rod I, and the outer end of the latter is closed by a valve, *h*, pivoted to the operating disk or handle *i* of the pump in such a manner that it can be turned to one side in order to expose the hollow piston-rod. The water in the vessel A is forced upward through the pipe G by compressed air contained in the said vessel above the water, the height of the stream projected from the nozzle *b* depending upon the pressure, and also upon the extent to which the cock *a* is opened. The water as it falls is caught in the basin F, from which it can be returned to the vessel A through the pipe D and the pump, so that the same water can be used again and again, an essen-

tial feature when perfumed or colored waters are employed.

The pump is used both for supplying the vessel with water and for keeping up the air-pressure, and its operation is as follows: In order to fill the vessel to the required height water is, in the first instance, poured into the basin F, which serves the purpose of a funnel, and the water is drawn from this basin through the pipe D into the pump-barrel, and forced from the latter into the vessel A. When the pump is thus used the valve *h*, at the outer end of the piston-rod, is closed so as to prevent any movement of the valve *g*; hence the only effect produced by the reciprocation of the piston will be the opening of the valve *e* and the filling of the pump with water from the basin when the said piston is drawn outward, and when it is forced inward the valve *e* will be closed and the valve *f* opened, so as to permit the ejection of the water from the pump into the vessel A. If, after the emptying of the basin, the pump be still operated, air will be drawn downward through the pipe D into the pump and forced from the latter into the vessel until the required pressure has been obtained. If desired, the vessel A may be filled directly from any reservoir instead of from the basin through a pipe, X, (indicated by dotted lines in Fig. 1,) furnished with a valve opening toward the pump. When the supply of water becomes partially exhausted from the vessel it can be returned to the same from the basin by a few strokes of the pump. If the air-pressure becomes considerably reduced when the basin is partially filled with water, the valve *h*, at the outer end of the hollow piston rod, is opened, which will permit air to pass through the said rod into the pump when the piston is drawn back, and to be forced from the pump into the vessel A when the said piston is pushed forward. The pump thus serves as a convenient means for filling the vessel with water and for keeping up the air-pressure, and also for returning to the said vessel the water received by the basin.

It is not absolutely necessary that the pump should be contained within the water-vessel; it may be arranged outside the same, providing the proper connections are made, by means of pipes, with the said vessel and basin. The basin and pipe D, leading from the same to the

pump, might also, in some instances, be dispensed with; but in such case the supply of water would have to be drawn from a reservoir through the pipe X into the vessel, and all air admitted would have to pass into the pump through the hollow piston-rod.

I claim as my invention—

1. A fountain in which are combined, substantially in the manner described, a vessel, A, a pump, a discharge-pipe, a basin, and a pipe forming a communication between the said basin and pump.

2. The pump B, having an inlet-valve, *e*, an outlet-valve, *f*, and a hollow piston-rod, furnished, at its opposite ends, with valves, the whole being constructed and operated substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH J. SINK.

Witnesses:

WM. A. STEEL,
JOHN K. RUPERTUS.