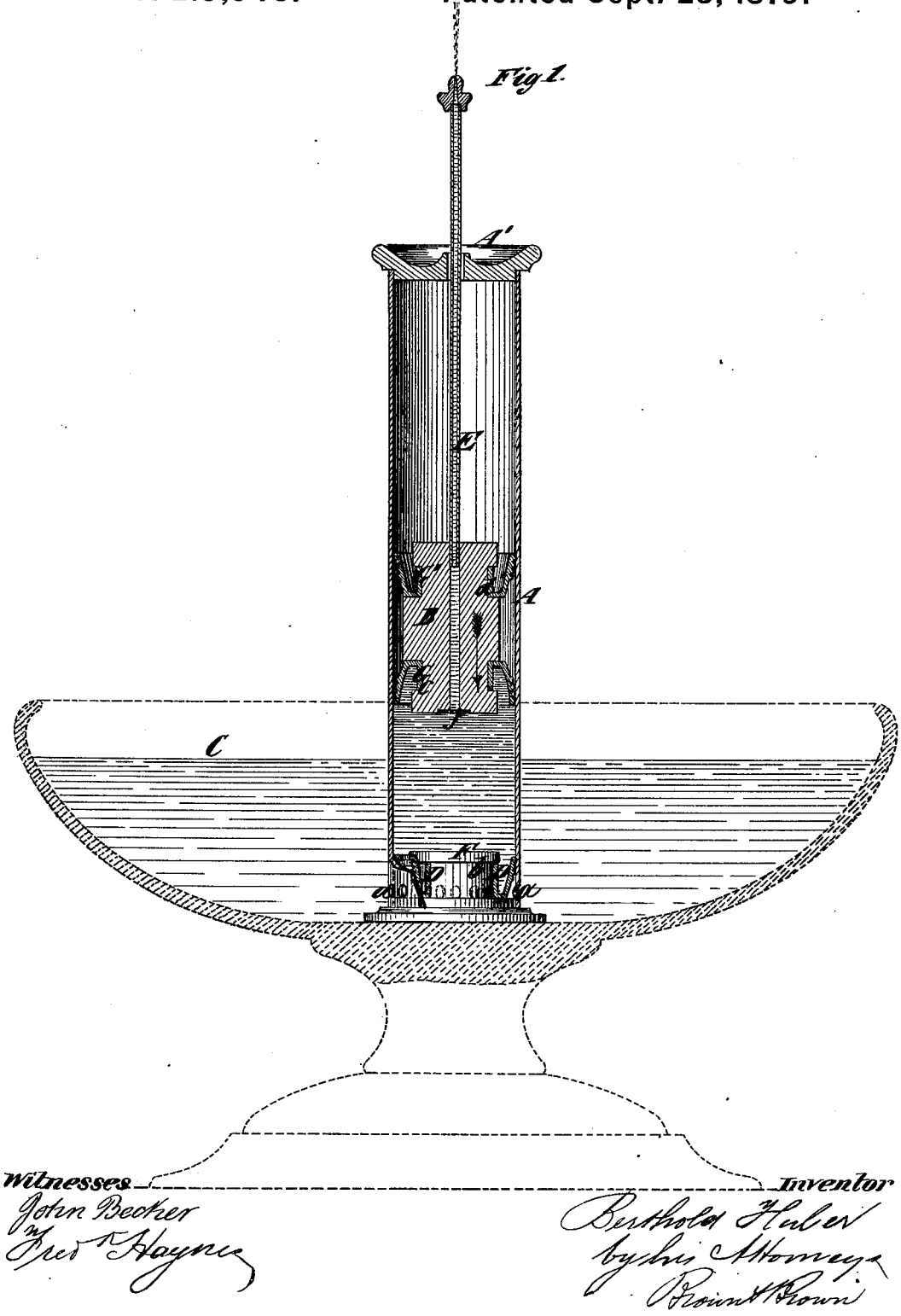
2 Sheets—Sheet 1.

B. HUBER.

Fountain.

No. 219,946. Patented Sept. 23, 1879.

Fig 1.



Witnesses
John Becker
Fred. Haynes

Inventor
Berthold Huber
by his Attorneys
Poland & Brown

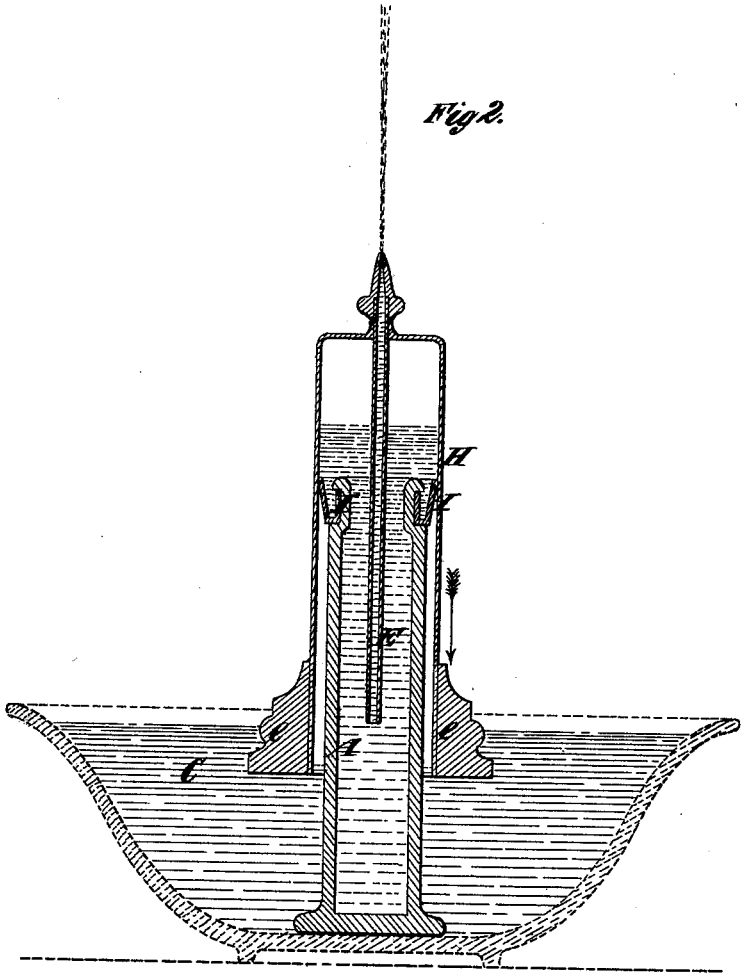
N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

B. HUBER.
Fountain.

No. 219,946. Patented Sept. 23, 1879.

Fig 2.



Witnesses
John Becker
Fred'k Haynes

Inventor
Berthold Huber
by his Attorneys
Bowen & Brown

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BERTHOLD HUBER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FOUNTAINS.

Specification forming part of Letters Patent No. **219,946**, dated September 23, 1879; application filed July 25, 1879.

To all whom it may concern:

Be it known that I, BERTHOLD HUBER, of Brooklyn, in Kings county, and State of New York, have invented certain new and useful Improvements in Fountains, of which the following is a specification.

My improvements relate to the fountains commonly used in aquaria or other vessels in the house, and in which the fountain after being charged with water is operated by a descending weight until the supply of water or other liquid within it is exhausted; and the object of my invention is to produce a simple, cheap, and portable fountain, so constructed that it is adapted to be set upright in any ordinary shallow basin or pan.

My invention consists in a fountain composed of a stationary part adapted to stand upright on its end in a shallow basin or pan made separate from said stationary part, and a weighted movable part which is lifted to draw the water or other liquid up into the stationary part from said basin or pan, and subsequently descends of its own weight and expels the water or other liquid through a jet-pipe.

It also consists in the combination, with a cylinder adapted to stand upright on its end, having an opening on the side near the lower end and a circumferentially-adjustable valve for closing said opening, of a weighted piston movable in said cylinder, which is lifted to draw liquid up into the cylinder through the said opening, and subsequently descends by its own weight and expels the liquid through a jet-pipe.

It also consists in the combination, with a cylinder and a piston movable therein, of a packing of novel construction for causing said piston to fit tightly in said cylinder.

It also consists in various details and combinations of parts hereinafter described.

In the accompanying drawings, Figure 1 represents a central vertical section of a fountain embodying my invention; and Fig. 2 represents a similar section of a fountain of slightly-modified form.

Similar letters of reference designate corresponding parts in both figures.

The fountain is designed for use in an aquarium or any other vessel or basin.

Referring first to Fig. 1, A designates the stationary part adapted to stand upright on its end, and B the movable part. The stationary part, as here represented, consists of a vertical cylinder, and the movable part, of a piston adapted to move up and down therein and provided with any suitable packing for making the piston fit tightly in the cylinder.

Near the bottom of the cylinder A and upon the side is a water-inlet, here shown as consisting of a series of openings, *a*; and D designates a valve arranged over the said openings and circumferentially adapted to close the same when there is a pressure in the cylinder.

When the piston B is raised water is drawn from a basin, C, up into the cylinder A until the fountain is sufficiently charged, when the water is forced out of the jet-pipe E by the descent of the piston, the valve D being tightly closed by the pressure within the cylinder. The piston is made sufficiently heavy to overcome the friction between it and the cylinder and to cause it to automatically descend.

Although any suitable valve may be employed to control the inlet of water to the cylinder A, I prefer to use a valve of the form here represented, as it is simple and may be conveniently removed and replaced by another. The said valve D consists of a ring of india-rubber, made U-shaped in its cross-section, and of a size internally to fit snugly in an annular groove, *b*, in a projection, F, at the bottom of the fountain. As the piston B descends, the pressure of water below it acting on the valve D, one side is forced outwardly, closing the openings *a*, while the other side is forced inward, and thereby tightly held in the groove *b*. This form of packing is specially adapted for a movable piston, and the piston B is shown as provided with two such packings, G G′, fitting in grooves *c d* in the piston. The packing G prevents the water from passing around the piston as the latter is forced downward, and the packing G′ prevents the escape of air downward around the piston as the latter is lifted. The packings G G′ are preferably made tapering upon their outer periphery, so that when the piston is moved up and down the said packings alternately are

relieved of pressure, and exert little friction against the sides of the cylinder.

A′ designates a cover or head fitting the upper end of the cylinder A, and serving as a guide for the jet-pipe E in its vertical movement.

Although the packings G and G′ are here shown in connection with the fountain, they are equally well adapted for use in air or water pumps or like machinery; and as the packing is held upon the piston by the pressure without any independent fastenings, it may be readily replaced by another packing when worn.

A piece of wire-gauze, *f*, may be placed over the mouth of the jet-pipe to prevent the same from becoming clogged.

In Fig. 2 the movable part is represented as consisting of a cylinder, H, closed at the top, fitting outside the cylinder A, and weighted at the bottom *e* to insure its positive descent.

In this construction only one valve, I, is employed, which is similar to the packings G G′, and is secured to the upper end of the stationary cylinder, A. When the cylinder H is raised water is drawn up past the packing I and fills the cylinder A. The said cylinder in its descent, acting upon the air within it, forces out the water through the jet-pipe F.

By my invention I provide a very simple and cheap fountain, which is very convenient, as it may be set in any ordinary basin or pan, and does not require a pan or basin of special construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A fountain composed of a stationary part adapted to stand upright on its end in a shallow basin or pan made separate from said stationary part, and a weighted movable part which is lifted to draw the water or other liquid up into the stationary part from the said basin or pan, and subsequently descends of its own weight and expels the liquid through a jet-pipe, substantially as specified.

2. The combination, with a cylinder adapted to stand upright on its end, having an opening on the side near the lower end and a circumferentially-adjustable valve for closing said opening, of a weighted piston movable in said cylinder, which is lifted to draw water or other liquid up into the cylinder through the said opening, and subsequently descends by its own weight and expels the liquid through a jet-pipe, substantially as specified.

3. The combination, with a cylinder adapted to stand upright on its end, having an opening on the side near the lower end and a circumferentially-adjustable valve for closing said opening, of a weighted piston movable in said cylinder, which is lifted to draw the water or other liquid up into the cylinder through the said opening, and subsequently descends by its own weight and expels the liquid through a jet-pipe extending from said piston and moving therewith, substantially as specified.

4. The combination, with a cylinder and a piston movable therein, of a packing for said piston, consisting of a ring of india-rubber, U-shaped in its cross-section, fitting in an annular groove in said piston, whereby it is retained in place longitudinally upon the piston, so arranged that a pressure within the cylinder acts to force the packing against the side of the cylinder, and also to bind it firmly upon the piston, and made tapering upon its periphery, so as to relieve the piston of undue friction, substantially as specified.

5. The combination of the cylinder A, valve D, piston B, with its packings G G′, fitting in grooves *c d* in said piston, and jet-pipe E, substantially as specified.

B. HUBER.

Witnesses:
CHANDLER HALL,
T. J. KEANE.