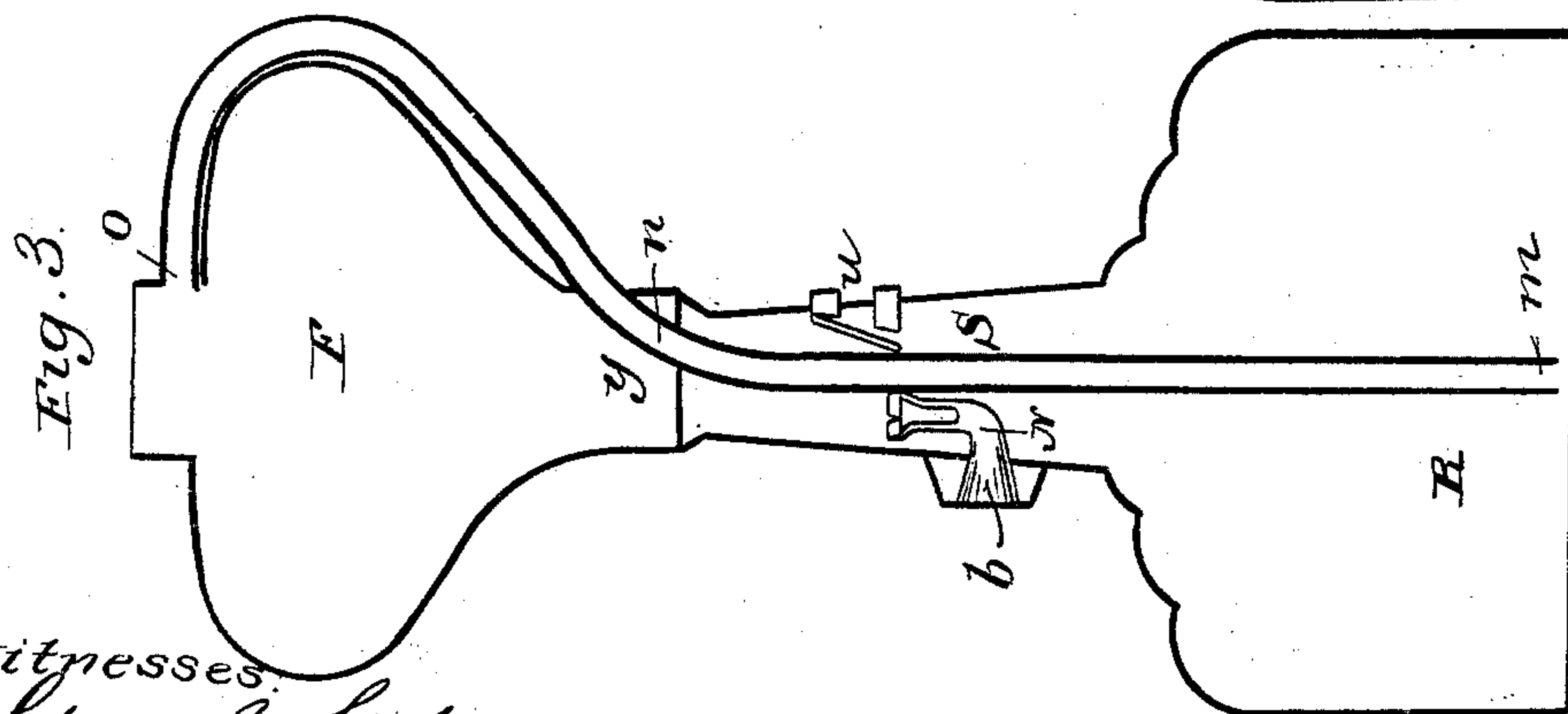
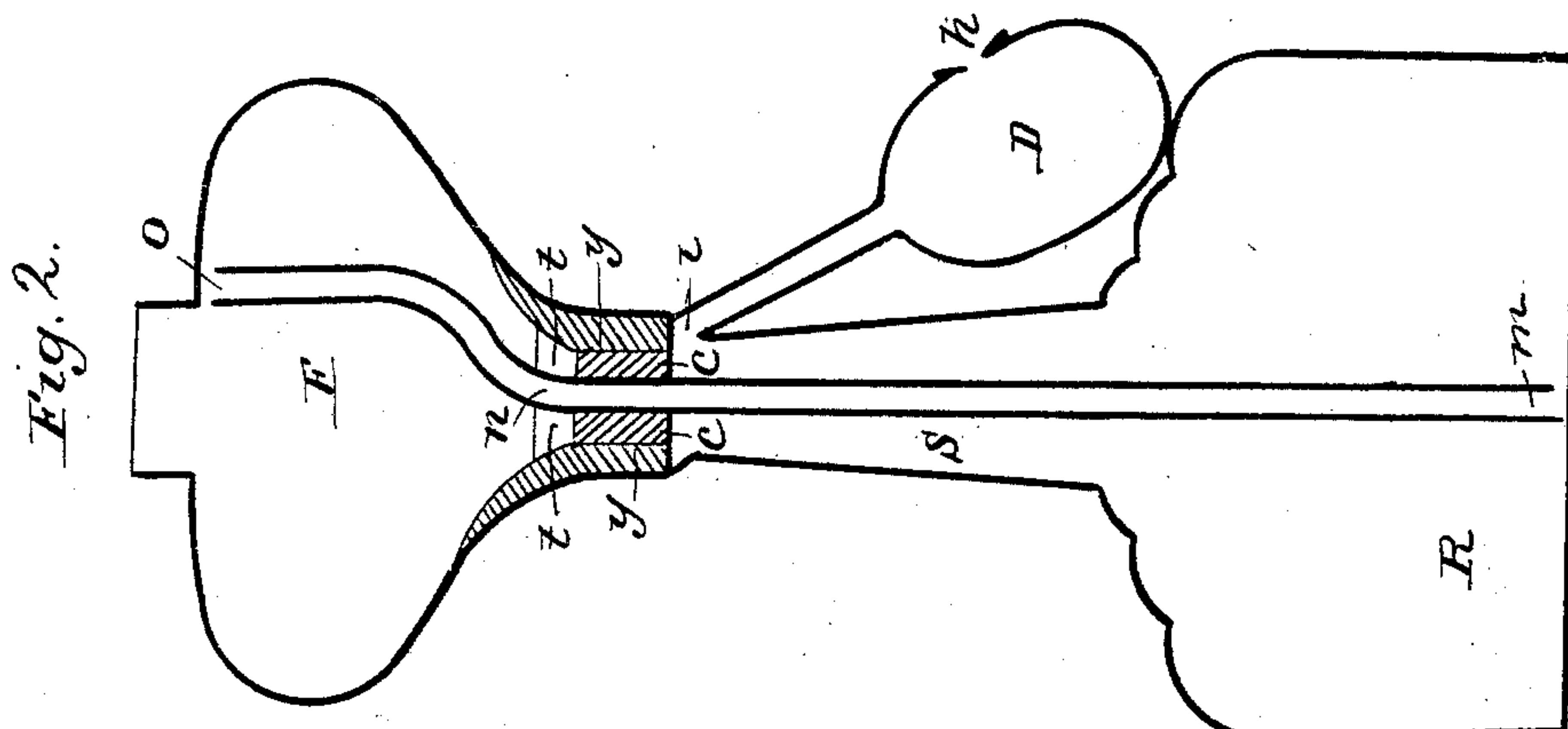
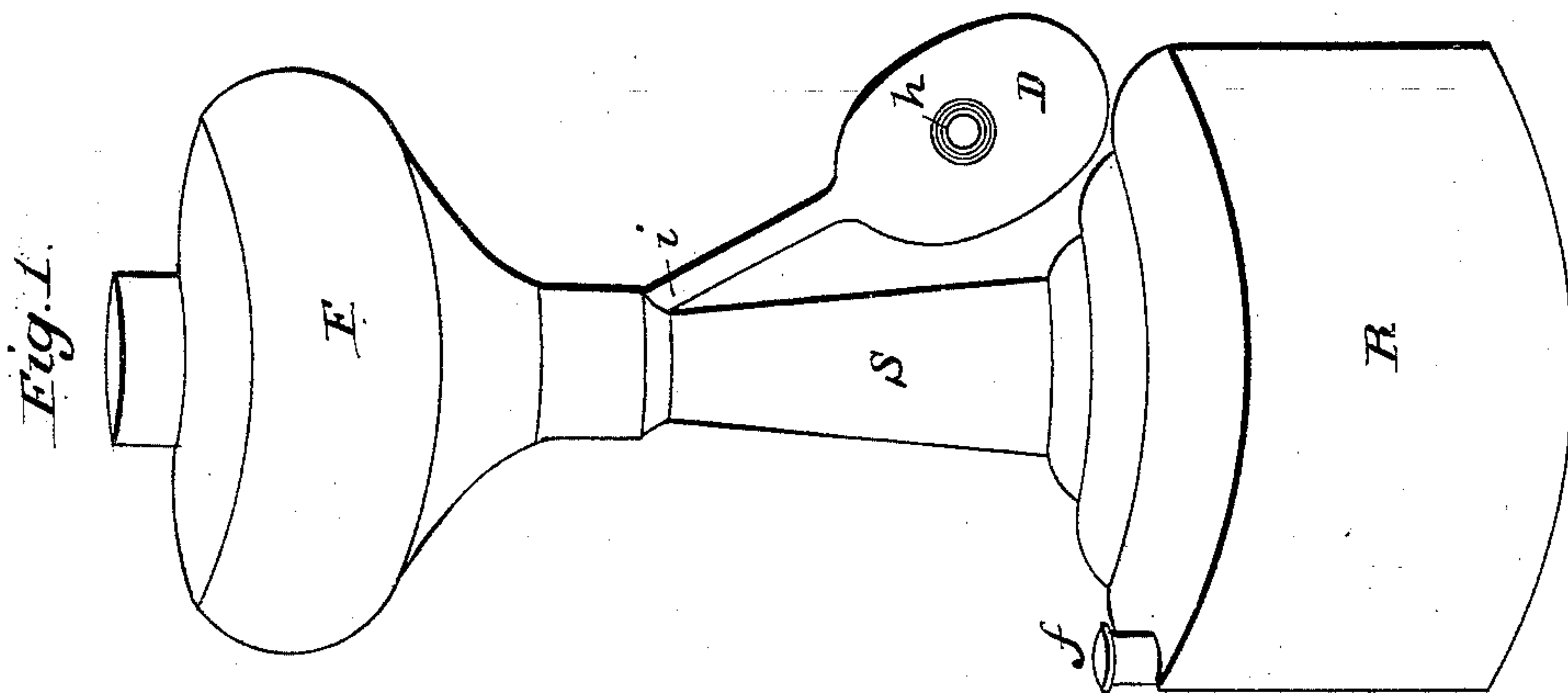


J. P. DRIVER.
Fountain Lamp.

No. 57,299.

Patented Aug. 21, 1866.



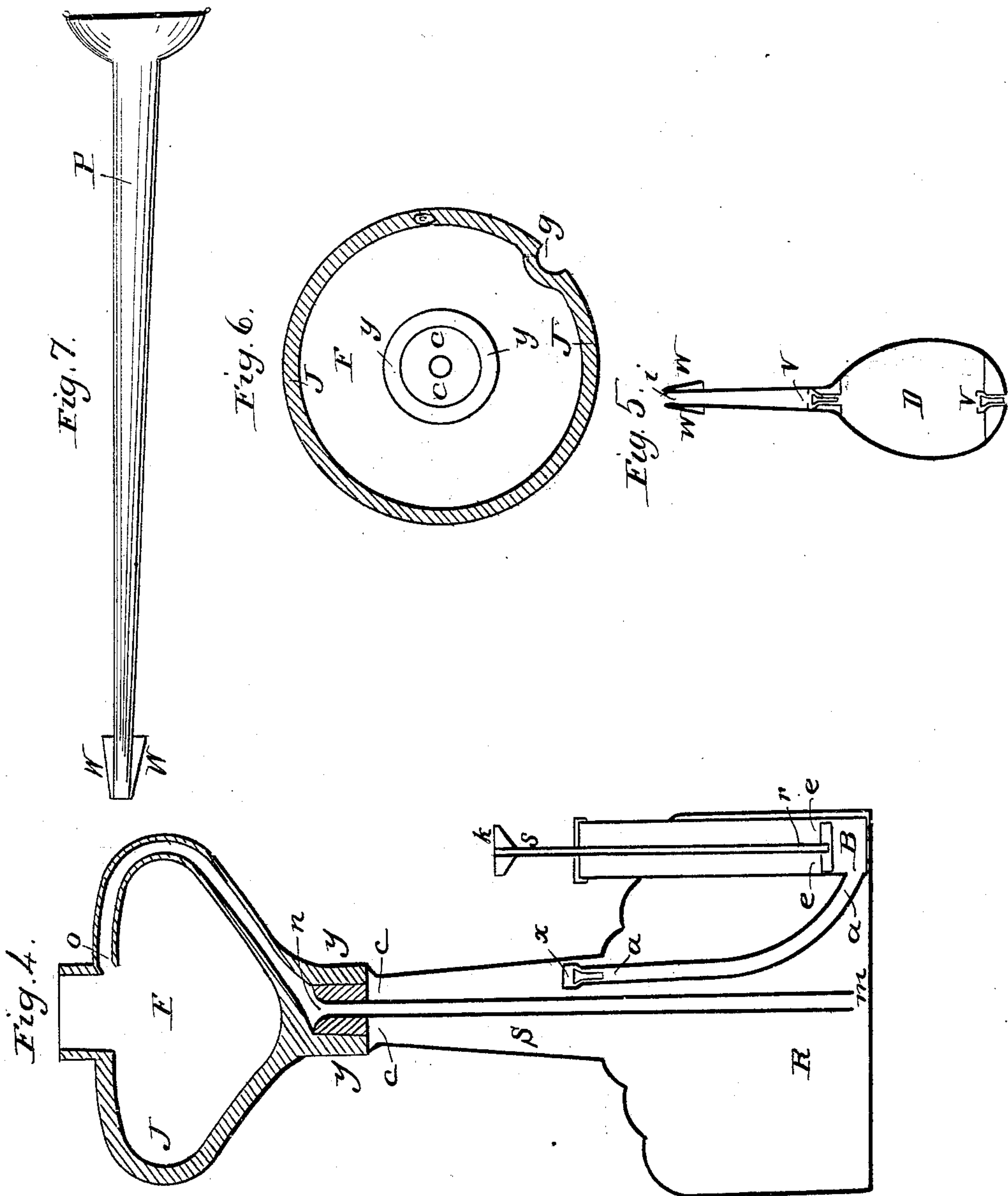
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Inventor:
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UNITED STATES PATENT OFFICE.

JOHN P. DRIVER, OF MARENGO, IOWA.

IMPROVEMENT IN FOUNTAIN-LAMPS.

Specification forming part of Letters Patent No. 57,299, dated August 21, 1866.

To all whom it may concern:

Be it known that I, JOHN P. DRIVER, of Marengo, in the county of Iowa, in the State of Iowa, have invented a new and Improved Fountain-Lamp; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view. Figs. 2, 3, and 4 are longitudinal elevations. Fig. 6 is a transverse section of a fount. Fig. 5 is a longitudinal section of a rubber bellows. Fig. 7 is a longitudinal elevation of a blow-pipe.

The nature of my invention consists in providing a fountain hand-lamp with an extended supply-pipe that shall discharge its contents into the top of the fount, a cork packing or keeper to fasten the supply-pipe in the bottom of the fount, a soft rubber bellows, air-pump, and blow-pipe, with their appendages.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct my lamp with a base that will serve the double purpose of a stand and a reservoir to hold a supply of any fluids used for making light. I also use a stalk and fount, each varied in size and form to suit taste and convenience. I also use an apparatus to inject air into the reservoir.

R is the stand and reservoir combined, and may be made of any form, design, and capacity. It may be constructed of glass or any metallic substance used for that purpose. For a family or jeweler's lamp the reservoir is best to be broad and low; but for a side lamp, such as are used in boat-cabins and public halls, it may be cylindrical to suit convenience.

f, Fig. 1, is a feeder, for the purpose of filling the reservoir with oil and cleansing it when foul. It has a screw-cap fitting air-tight.

F is the fount, and may be advantageously constructed in a number of ways to suit the particular kind of lamp and the kind of supply-pipe designed to be used. It may be made of any desirable shape and size, and of any material used for that purpose, as glass or metallic substances.

When the supply-pipe *m n o* is to be within the fount F, as represented in Fig. 2, the said

fount is made with a hole through the bottom for its entrance. The diameter of this hole (shown by *c c* in the stem *y y*, Fig. 6) is greater than the diameter of the supply-pipe, in order that a cork packing, *c c*, may be first inserted, through which the pipe is afterward forced.

When the supply-pipe *m n o* is intended to curve up the outside of the fount and make its entrance at the top, as shown in Fig. 3, the hole is put in the neck or any other desirable place in which the end of the pipe can be fastened, either by soldering or screwing it into a collar.

g, Fig. 6, is a groove made or cast in the outside of the fount, and is of a suitable depth to neatly and firmly embed and hold in place the supply-pipe when it runs over the outside of the fount. There may also be a niche in the stem *y y* as an additional means to keep said pipe in place.

m n o, Fig. 2, is a supply-pipe, with its lower end near the bottom of the reservoir, and passing up through the center of the fount F, having its upper end, *o*, terminate within and near the upper side of the fount. It is curved to one side of the fount to make room for the wick, and is secured in its place by being forced or screwed through the cork stopper *c c* and surrounded by a cement, *t t*, over the cork.

m n o, Fig. 3, is a supply-pipe on the outside of the fount F, entering the said fount from the top or through the collar, thus discharging the oil forced through it in at the upper side. Said pipe is composed by bending a metallic tube to fit the outside form of the fount. It may be neatly inlaid or embedded in a groove, as *g*, Fig. 6, to keep it in place and to make a smooth surface. It is screwed or soldered into the collar at *o*, and fastened in the stem *y* by means of niches, keys, and cement.

m n o, Fig. 4, is a combined supply-pipe, formed by connecting the pipe *m n* with the lower extremity of the duct or canal *n o*, made in the side of the glass fount, so that the pipe *m n* and the duct *n o* when connected shall substantially form a supply-pipe equivalent in its operation and purpose to that in Fig. 3. This duct *n o* may be cast in the side of the fount, as shown by *o*, Fig. 6, or it may be formed by neatly inlaying a glass tube in a

groove on the outside, as *g*, Fig. 6. It may also be simply laid along the outside or up the inside of the fount. In any case the upper end should open into the fount, while the lower end, terminating in the stem *y y*, should be sufficiently large and so arranged with niches and other devices that the end of the metallic pipe *m n* may be securely fastened in it, either by cork, molten lead, cement, or by means of a screw.

Each of the foregoing plans embraces the principle of an elongated supply-pipe, and has its peculiar advantage in replenishing an exhausted fount from the supply of fluids in the reservoir, although their general operation is substantially the same, each discharging the oil into the top of the fount, thus making it impossible for the fluid to run back out of the fount into the reservoir. In the cases represented by Figs. 3 and 4 the further possibility of any leakage at the bottom of the fount is prevented, while all incumbrance to the wick is removed from within.

N, Fig. 3, is an air-pipe with a thimble-shaped mouth, *b*, set in the side of the shank S, having a valve, *v*, in the upper end, so arranged that it will open for the admission of air, and by its weight and the pressure of air within the reservoir shall close the said pipe to prevent the escape of air from the reservoir.

cc, Figs. 2, 4, and 6, is a cork stopper or packing with a small hole through the center, in which to screw or force through the supply-pipe *m n o*, or to secure the end of the pipe into the duct *n o*, the said cork to be so set in the stem *y y* and around the pipe as to prevent any leakage of oil from the fount. This cork packing *cc* may be first prepared by coating or saturating it with any impervious preparation, as lead, wax, or rosin.

The space *cc* surrounding the pipe *m n o* may be filled with solder, cement, or plaster-of-paris in place of the cork stopper.

B, Fig. 4, is an air-pump to force air into the reservoir R. It may consist of a glass or metallic cylinder of any desirable length and diameter, and may either be set in, as represented, or attached to the outside of the reservoir. It has a tubular piston-rod, *r s*, through which the air can freely pass into the chamber beneath the piston *ee* when it is raised. The thumb-knob *k* and the piston *ee* may be made of wood or metal, with some suitable elastic band around the latter to make it work air-tight within the chamber.

a a is an air-pipe leading from the bottom of the chamber B into the shank S, and terminating at some point above the fluid in the reservoir. On the upper end of said air-pipe there is a valve, *x*, to keep back the condensed air in the reservoir while the piston is being drawn up for a second charge. Said valve is so constructed that the weight of its plug with the pressure of air within will close it perfectly tight. This pump is operated by placing the ball or end of the thumb tightly over the aperture in the knob *k* when the piston is being

pressed down to prevent the air confined in the chamber from escaping. When the piston is to be raised the thumb is taken off the hole, so that the air can enter the chamber through the tubular piston-rod *r s*.

D, Figs. 1 and 2, is a soft-rubber air-bellows, with sufficient elasticity to always return to and keep its proper shape. It may be round or oval, and is connected by a tube of the same or different material to the shank S by means of a nipple. It has a small aperture, *h*, in its side to serve as an air-vent, which is surrounded by a rim or concave lip made to fit the end of the finger. The bulb is of convenient size and form to be easily grasped by the hand, with the middle finger, to serve as a valve, placed over the vent *h*.

Its object, like that of the pump just described, is to force air into the reservoir, and is operated by simply grasping it in the hand with a finger over the vent *h* to keep the air within from escaping; with the vent *h* thus closed the bulb is gently squeezed, thereby forcing the confined air into the reservoir. If more than one bulbful is required the rubber tube is pinched together between the thumb and forefinger of the other hand to keep back the air in the reservoir, while the bulb is relieved from pressure and allowed to fill a second time.

D, Fig. 5, is substantially the same kind of rubber bellows as the one just described, except that it is detached from the lamp. In any of these rubber bulbs there may be one or more valves, *v v*, or merely an air-vent, *h*, to be opened and closed by the finger. For a detached bulb the tube *ii* may be made of metal. On the end *i* of the said tube there is a nozzle in the shape of a frustum of a cone, to be made of cork, rubber, leather, or any substance that will close air-tight the aperture *b* in Fig. 3. The advantage of a detached bellows is that it may serve for a number of lamps. This bellows is operated by inserting the nozzle *w w* in the similar-shaped aperture *b*, when the air is squeezed out of it into the reservoir.

P, Fig. 7, is an ordinary detached blow-pipe with a suitable mouth-piece and nozzle, *w w*, made of cork or its equivalent, shaped like the frustum of a cone. This is operated by sticking the nozzle *w w* in the aperture *b*, Fig. 3, when the mouth is applied to the other end and air blown into the reservoir.

A lamp with my improvement is operated as follows, viz: The reservoir R is first filled with oil through the feeder *f*, which is afterward closed air-tight. As the fount needs oil air is injected into the reservoir, which, by its pressure upon the surface of the fluid, forces it up through the supply-pipe into the fount at its upper side, where it remains till consumed.

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

1. A groove or trench, *g*, Fig. 6, cast in the outside of a glass fount and leading from the top to the bottom of the fount, to be of suffi-

cient depth and width to neatly take in and embed and hold in place an external supply-pipe.

2. A fluid or oil duct, *n o*, Fig. 4, cast in the side of a glass fount, to be and operate substantially as the upper portion of a supply-pipe, to be so enlarged and arranged at the lower end that a metallic pipe may be securely fastened in it.

3. A fluid or oil-duct, *n o*, Fig. 4, made by inlaying or embedding a glass tube in the side of a glass fount, the upper end to open and enter the fount in or about the neck, the lower end terminating in the stem *y y*, said duct or inlaid pipe to operate and be to all intents and purposes as a part of the supply-pipe.

4. The upward extension *n o* of the supply-pipe *m n o*, so that it shall discharge the oil or fluids forced through it into the upper side of the fount *F*, whether said elongated pipe be within the fount or curve up round the outside of it, connecting with the inside through or about the collar.

5. The enlarged aperture through the stem or bottom of the fount, or as the entrance of the duct *n o*.

6. The thimble-shaped mouth *b*, the valve *v* in the air-pipe *N*, Fig. 3, including the said air-pipe *N*, or its equivalent, substantially as specified.

7. The combination, in a fountain-lamp, of a reservoir, *R*, in the base, either an external or internal supply-pipe, *m n o*, which shall discharge the oil into the top or upper side of the fount *F*, whether it be a separate pipe or a duct fixed in or to the side of the fount, the cork packing *c c*, the cement bed *t t*, the bellows *D*, the air-pump *B*, the blow-pipe *P*, the air-pipe *N*, the groove *g*, and oil-duct *o*, or their equivalents, substantially as and for the purposes specified.

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