

Specification of Edward O'Connell : feeding bottles.

Contributors

O'Connell, Edward.

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A.D. 1859, 6th October. N° 2274.

SPECIFICATION

OF

EDWARD O'CONNELL.

—
FEEDING BOTTLES.
—

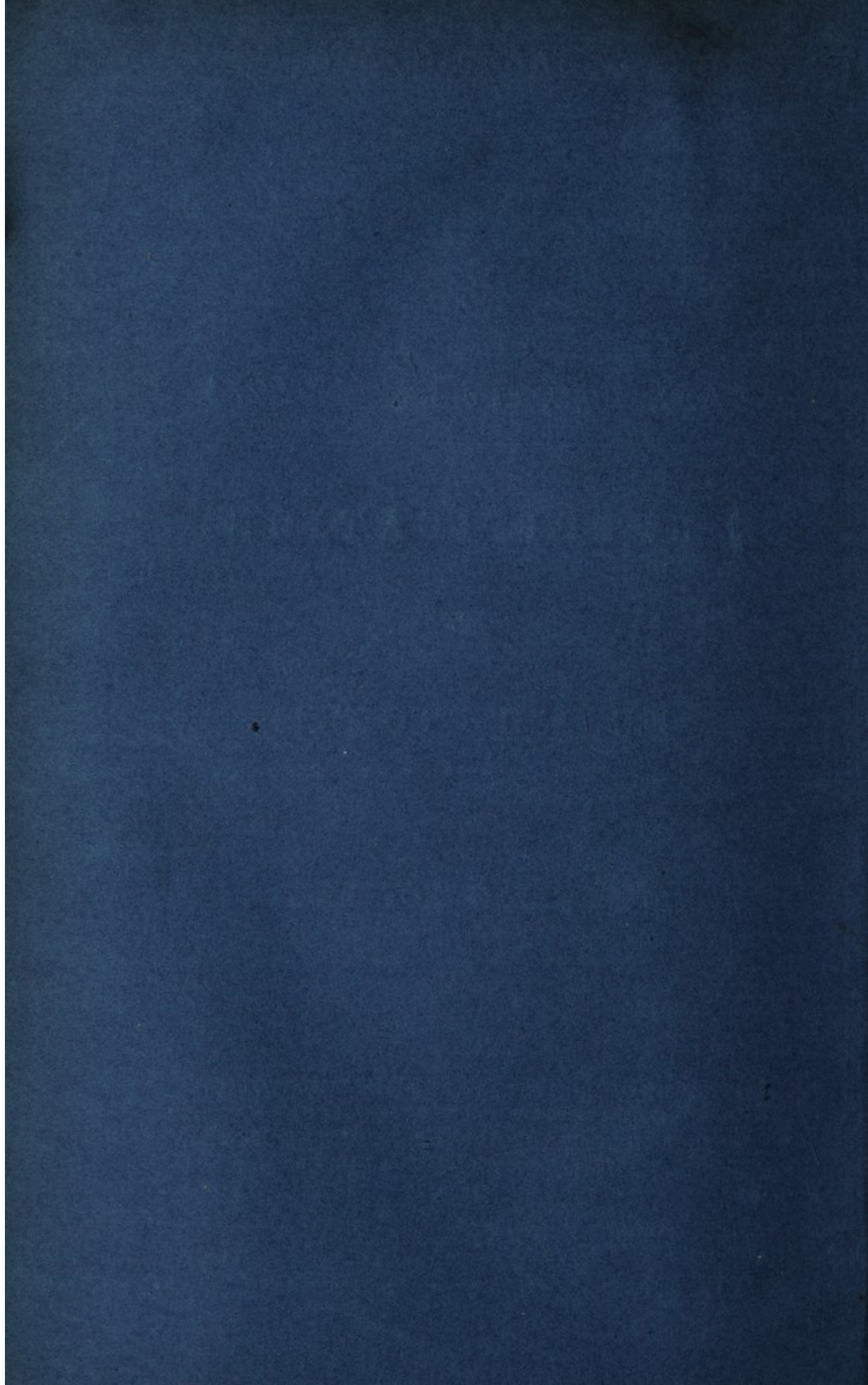
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A.D. 1859, 6th OCTOBER. N° 2274.

Feeding Bottles.

LETTERS PATENT to Edward O'Connell, of Bury, in the County of Lancaster, Surveyor and Draughtsman, for the Invention of "IMPROVEMENTS IN APPARATUS FOR SUPPLYING LIQUID NOURISHMENT TO INFANTS, INVALIDS, AND OTHERS, AND FOR WARMING OR HEATING THE SAME."

Sealed the 3rd April 1860, and dated the 6th October 1859.

PROVISIONAL SPECIFICATION left by the said Edward O'Connell at the Office of the Commissioners of Patents, with his Petition, on the 6th October 1859.

I, EDWARD O'CONNELL, of Bury, in the County of Lancaster, Surveyor and Draughtsman, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN APPARATUS FOR SUPPLYING LIQUID NOURISHMENT TO INFANTS, INVALIDS, AND OTHERS, AND FOR WARMING OR HEATING THE SAME," to be as follows:—

In the Specification of a Patent granted to me dated the Twenty-fifth day of April One thousand eight hundred and fifty-three, No. 987, I describe a vessel with a neck or contraction at the top, to the inside of which I fit a stopper, made of cork, glass, or other suitable substance, into which I insert a tube, extending nearly to the bottom of the vessel, acting as a syphon, through which the liquid is drawn to the mouth by suction. To the outside of the said vessel I fix an artificial teat, with a disc or shield to prevent the teat being drawn too far into the mouth, and to render it more useful I fix a flexible tube of any required length between the vessel and the shield, &c., &c.

Having found by experience that the interior of the necks of the vessels vary so much in size that it is requisite to make each cork or stopper specially to fit each vessel, that the tube or syphon being made of glass in preference to any other metal or material, is very liable to be broken by falling, and that

O'Connell's Impts. in Apparatus for Supplying Nourishment to Infants, &c.

the bottle itself is also liable to breakage from the same cause, and that the use of my improved teat was confined to my apparatus, as described in the said Specification, my present improvements are intended to remedy those defects, and consist of making a perforated capsule or cover of flexible or other material instead of the aforesaid cork or stopper, the said capsule fitting over 5 the neck or contraction of the vessel. I construct the said capsule so that the external flexible part of the syphon tube may be permanently attached to the nozzle or projection from the perforation of the capsule; or it may pass through the same, and form a connection of flexible joint with the tube within the vessel; or through the perforation of the capsule I pass a small tube to project 10 a little both inside and outside of it; then to the top of the interior syphon tube I attach a small piece of elastic tubing, by which it is attached to the aforesaid small tube projecting to the interior of the capsule, thus forming a flexible joint. I also place a small piece of flexible tubing on the other end of the tube or syphon, by which contrivance if the syphon so attached to the 15 capsule happens to fall it will not break or be injured; the elasticity given to it by the flexible joint at the top causes it to yield to any position it may acquire in the fall. To the small tube projecting outside the capsule I fix a flexible tube made smooth inside, and of any convenient length, as may be required, to the extreme end of which I fix my artificial teat or nipple, which I make of 20 caoutchouc or other flexible material, with a disc or shield to prevent the tube being drawn into the mouth. Or I make the teat and shield with an elastic tube, so as to fit directly on the neck of any bottle without the said intervening tube. To prevent the bottle itself from breaking by accident, I surround it with some flexible material, either in the shape of a case band or nett-work, 25 as may be found most desirable. I also provide that when the capsule is fitted on the neck or aperture of the vessel containing the fluid, sufficient communication is formed between the external atmosphere and the air contained above the surface of the fluid within the vessel by making a small vertical channel in the internal side of the rim of the capsule or by making a 30 similar groove or channel on the outer surface of the neck of the vessel over which the capsule is intended to fit. To regulate the heat or keep the liquid nourishment at a required temperature, I place a concave dish on the top or within the heating apparatus, and place the vessel on or over the said dish, so that the flame from the lamp or candle will act on the dish instead of acting 35 directly on the vessel.

This Invention is peculiarly applicable to invalids as well as infants, persons travelling, feeding young lambs and other animals, and similar purposes.

O'Connell's Impts. in Apparatus for Supplying Nourishment to Infants, &c.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Edward O'Connell in the Great Seal Patent Office on the 5th April 1860.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, EDWARD
5 **O'CONNELL**, of Bury, in the County of Lancaster, Surveyor and Draughtsman, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Sixth day of October, in the year of our Lord One thousand eight hundred and fifty-nine, in the twenty-third year of Her
10 reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Edward O'Connell, Her special licence that I, the said Edward O'Connell, my executors, administrators, and assigns, or such others as I, the said Edward O'Connell, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all
15 times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**IMPROVEMENTS IN APPARATUS FOR SUPPLYING LIQUID NOURISHMENT TO INFANTS, INVALIDS, AND OTHERS, AND FOR WARMING OR HEATING THE SAME,**" upon the
20 condition (amongst others) that I, the said Edward O'Connell, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the
25 date of the said Letters Patent.

NOW KNOW YE, that I, the said Edward O'Connell, do hereby declare the nature of my said Invention, and the manner in which the same is to be performed, to be particularly described and ascertained in and by the following statement (that is to say):—

30 My Inventions relates to improvements on a Patent granted to me dated the Twenty-fifth day of April, One thousand eight hundred and fifty-three, No. 987, in the Specification of which I describe a vessel with a neck or contraction at the top, to the inside of which I fit a stopper made of cork, glass, or other suitable substance, into which I insert a tube extending nearly
35 to the bottom of the vessel, acting as a syphon, through which the liquid is drawn to the mouth by suction. To the outside of the said vessel I fix an artificial teat with a disc or shield to prevent the teat being drawn too far into the mouth, and to render it more useful I fix a flexible tube of any required length between the vessel and the shield, &c., &c.

O'Connell's Impts. in Apparatus for Supplying Nourishment to Infants, &c.

My present improvements consist in employing a perforated capsule lined with cork, leather, caoutchouc, or other flexible material, made to fit over the neck or contraction of the vessel. The said capsule is constructed so that the outer part of the syphon tube with the teat attached may be permanently held to a nozzle or projection from the perforation of the capsule; or it may 5 pass through the capsule and form a connection or flexible joint with the tube within the vessel. Or I pass a small tube through the top of the capsule and connect the outer flexible tube to the upper connection, and attach by a piece of elastic tubing the interior syphon tube to the lower projection. I also place on the bottom end of the aforesaid interior syphon tube a piece of flexible 10 tubing, by which contrivance if the syphon so attached to the capsule should happen to fall it will not break or be injured, the elasticity given by the flexible joint at the top causes it to yield to any position it may acquire in the fall, and thereby preventing the effect of the shock. When desired the teat may be made with a flexible joint, and be enlarged so as to fit the neck of any bottle 15 or vessel.

To prevent the bottle itself from breaking by accident, I surround it with some flexible material either in the shape of a case or band, as may be found most desirable.

To form a communication between the external atmosphere and the air 20 contained above the surface of the fluid within the vessel, I make a small vertical channel in the hole of the capsule, or I form one or more channels on the outer surface of the neck of the vessel, over which the capsule is intended to fit, but these channels or grooves are only required when the capsule is perfectly tight on the neck, or the tube perfectly tight in the perforation 25 of the capsule.

For warming or heating the liquid, I employ a night light placed in a cell at the bottom of a perforated cylinder, the cylinder is furnished with a rim so that when the cylinder is in one position the rim can support a vessel containing the liquid to be warmed, but if the cylinder is reversed and the rim at 30 the bottom, the vessel can enter into the interior of the cylinder which with the cover placed on it forms a very efficient and portable apparatus. In the side of the cylinder there is a jointed portion which can be lowered over the light so as to act as a damper, and regulate the heat. The aforesaid arrangements are peculiarly applicable to infants, invalids, and persons travelling, and 35 by adapting one or more of my improved syphon tubes to one or more prepared teats of suitable size, the suckling of lambs or other animals can be performed with ease and efficiency.

These improvements will be clearly understood by referring to the figures

O'Connell's Impts. in Apparatus for Supplying Nourishment to Infants, &c.

and letters on the accompanying Sheet of Drawings. In Figs. 1 and 2, the neck of the vessel which holds the liquid is shewn at *a*, which neck is surrounded with the elastic lining *b* fitted to the capsule *c*, through the hole of which is passed the flexible tube *d*, jointed at *e* to the interior syphon tube *f*,
5 having over the bottom end a piece of elastic tubing *g*.

In Fig. 3, I represent at *h* a novel and scientific form of bottle, the bottom being curved to accommodate itself to the position assumed by the syphon tube when the vessel is not in a vertical position.

Figs. 4 and 5, represent two views of a bottle adapted for travellers, invalids,
10 and others, the suction tube *i* is fitted by a piece of elastic tubing *k* to the interior syphon tube *l*, but in such a manner that both the suction piece and tube move with a capsule or stopper made of cork or other flexible material, which can be raised and lowered without the capsule or stopper leaving the neck of the bottle. The bottom of the interior syphon tube is lined with a
15 piece of elastic tube *m*, so that when it is pressed against the bottom of the bottle as shewn in Fig. 4, no liquid can escape either by suction or elasticity of the contained air in the inside, but if the capsule or stopper be raised as seen in Fig. 5, the passage is free, and the liquid can be imbibed. The suction tube *i* connected with the syphon tube, may also be screwed into the capsule,
20 and the end of the tube pressed against the bottom of the vessel or loosened at pleasure.

In Fig. 6, I shew a compound teat attached to a flexible tube enlarged so as to fit different sized necks of bottles.

Fig. 7 represents a detached section of a capsule with a projecting lining,
25 which may either be plain as shewn in the Figure, or screwed in the interior, fitting a corresponding thread in the interior of the capsule.

Fig. 8 is a detached section of another capsule having at the top a projection *m*, to which the outer flexible tube is fitted, and a projection *n* at the bottom, to which is fitted by a piece of elastic tubing the interior syphon tube.

30 In Fig. 9, I represent a band of vulcanized caoutchouc, which is passed over the bottle to prevent breakage, the said band may either be connected to a ring passed over the neck, or a hole made in the band may accomplish the same object.

My improved apparatus for warming or heating the liquid is shewn in
35 Figs. 10 and 11, Fig. 10 being a section as it appears in use, and Fig. 11 an outside view when packed together for portability. The night light is shewn at *o*, resting in the cell *p* placed in the base *q*, the cell *p* supports the perforated cylinder *r*, having at one end the rim *s* for holding the vessel *t* which holds the liquid to be heated. The side of the cylinder is furnished with an attached

O'Connell's Impts. in Apparatus for Supplying Nourishment to Infants, &c.

piece *u*, which by means of a hinge or joint can be lowered over the light as shewn by the dotted lines in order to act as a damper to regulate the heat. The outside of the two ends of the cylinder are exactly of the same size, so that when the apparatus is not required for use the cylinder can be reversed, and the vessel passed into the interior, and the top covered with the lid. 5

In Fig. 13 I shew the application of my improved syphon tubes for suckling lambs or other animals, the vessel which holds the milk is shewn at *v* enclosed in a case *w*, or may be used without the case. There are four tubes, three only of which can be seen. The interior syphon tubes may for protection be encased in a tube of flexible or rigid material, and at the top are jointed to 10 flexible tubes *y*, which pass through a hollow sphere *z* made of strong vulcanized caoutchouc so as to slightly yield and yet be tolerably firm, which sphere is to supply the place of the natural udder. The flexible tubes *y* on the outside terminate in artificial teats *a*¹. The apparatus has four tubes with teats attached, but any required number may be employed, and the liquid which is 15 usually warm when put into the vessel, may be warmed by means of a light applied as described in Figs. 10 and 11, or in any other suitable manner.

Having thus fully described the nature and particulars of my said Invention, and the manner in which the same is to be performed, I desire it to be distinctly understood that I do not confine myself to the precise details 20 herein set forth, as such may be varied or modified without departing from the principle thereof; but I claim the general arrangement and construction of apparatus for supplying liquid nourishment to infants, invalids, and others; and also the improved lamp for warming the said liquid, as such improvements are herein described and illustrated in the accompanying Sheet of Drawings. 25

In witness whereof, I, the said Edward O'Connell have hereunto set my hand and seal, this Fourth day of April, in the year of our Lord One thousand eight hundred and sixty.

EDWARD O'CONNELL. (L.S.)

Witness,

E. J. HUGHES, Patent Agent,
Manchester.

30

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FIG. 1.

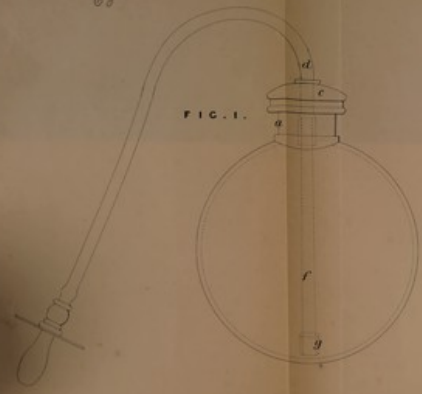


FIG. 2.

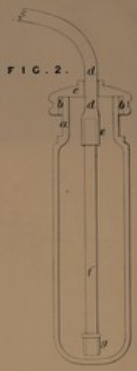


FIG. 3.



FIG. 10.

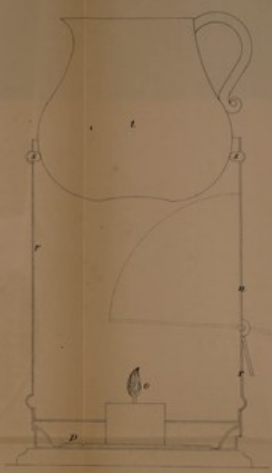


FIG. 13.

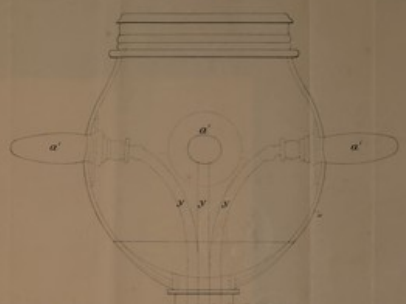


FIG. 12.

FIG. 12. A small lamp with a glass chimney and a burner at the top. It has a small opening at the bottom labeled 'g'.

FIG. 4.



FIG. 5.



FIG. 6.



FIG. 11.



FIG. 9.



FIG. 7.



FIG. 8.



The first drawing is not colored.

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