Specification of John Balbirnie : inhaling apparatus.

A.D. 1869, 5th JANUARY. N° 30.

SPECIFICATION

OF

JOHN BALBIRNIE.

INHALING APPARATUS.

LONDON:
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A.D. 1869, 5th JANUARY. N° 30.

Inhaling Apparatus.

LETTERS PATENT to John Balbirnie, M.D., M.A., of Fernley Place, Sheffield, in the County of York, Physician, for the Invention of "**A NEW OR IMPROVED APPARATUS FOR INHALING VAPOURS, MEDICATED AIR, OR GASES.**"

Sealed the 2nd July 1869, and dated the 5th January 1869.

PROVISIONAL SPECIFICATION left by the said John Balbirnie at the Office of the Commissioners of Patents, with his Petition, on the 5th January 1869.

I, JOHN BALBIRNIE, M.D., M.A., of Fernley Place, Sheffield, in the County of York, Physician, do hereby declare the nature of the said Invention for "**A NEW OR IMPROVED APPARATUS FOR INHALING VAPOURS, MEDICATED AIR, OR GASES,**" to be as follows:—

This Invention relates to a new or improved construction of apparatus applicable for the purpose of inhaling vapours, medicated

air, or gases for the treatment of affections of the lungs, bronchial tubes, wind pipe, throat, nostrils, and mouth, or other affections of the respiratory mucous membrane caused by severity of climate or otherwise.

The apparatus consists of a jar or other vessel provided with one or more necks or utlets and inlets through which water and the medicated material are inserted, which are required to be inhaled in the form of vapour, as well as connecting tubes inside and outside through which the air and vapours or gases find entrance and exit. The interior tubes may be of glass or any other suitable material connected on the outside with the india-rubber tube or tubes of any other suitable flexible material. The entrance tube is provided with either a common pair of bellows or with one or more compressible balls, vessels, or reservoirs, which when compressed force air through the water contained in the jar or vessel continuing to a mouth piece or outlet, whereby the vapour may be inhaled directly either with or without the contact of the mouth of the patient, or whereby the vapour may be caused to permeate the room of a patient or surround his couch, chair, or bed. In any case the effect of the instrument is to relieve the patient, to fill his lungs with the vapour, medicated air, or gases, and this without the necessity of any labored inspiratory effort on his part, which is the drawback to all other inhaling instruments. In conjunction with or in addition to the collapsible or compressible flexible balls which cause the propulsion of air through the water in the vessel I propose in certain cases to apply a tube in communication with a retort heated by a spirit lamp or other equivalent means, in which retort the medicated preparations are placed and the vapour therefrom generated as well as steam, if necessary, which is then forced through the water (previously medicated or not, as may be desirable). The water in the jar or vessel is to be about half filled, the temperature varying from boiling downwards; and in order to retain or preserve the temperature the vessel may be placed or immersed in a basin of hot or boiling water. By these improved arrangements it is obvious that immense advantages will accrue to the patient since perfect inhalation may be effected where the patient is not strong enough to draw the vapour or medicated air or steam by inhaling with the common inhalers; or it may be used to disseminate the vapours in the vicinity of the patient by extraneous aid; and moreover a tube may be conveyed

from the outer air beyond the room of the patient in order to conduct fresh air to the compressing apparatus, and consequently to force it in combination with other vapours or steam or both to the mouth or presence of the patient. Numerous other advantages could be mentioned in accordance with this Invention.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said John Balbirnie in the Great Seal Patent Office on the 3rd July 1869.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JOHN BALBIRNIE, M.D., M.A., of Fernley Place, Sheffield, in the County of York, Physician, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fifth day of January, in the year of our Lord One thousand eight hundred and sixty-nine, in the thirty-second year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said John Balbirnie, Her special licence that I, the said John Balbirnie, my executors, administrators, and assigns, or such others as I, the said John Balbirnie, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all 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 "**A NEW OR IMPROVED APPARATUS FOR INHALING VAPOURS, MEDICATED AIR, OR GASES,**" upon the condition (amongst others) that I, the said John Balbirnie, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, 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 date of the said Letters Patent.

NOW KNOW YE, that I, the said John Balbirnie, do hereby declare

the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This Invention relates to a new or improved construction of apparatus applicable for the purpose of inhaling vapours, medicated air, or gases for the treatment of affections of the lungs, bronchial tubes, wind pipe, throat, nostrils, and mouth, or other affections of the respiratory mucous membrane caused by severity of climate or otherwise, as well as for the purpose of introducing into the circulation and tissues of the body medicines for the cure of other diseases, in cases especially where it is an object to save the stomach the imitation drugs often tend to produce.

The apparatus consists of a jar or other vessel provided with one or more necks or outlets and inlets through which water and the medicated material are inserted, which are required to be inhaled in the form of vapour, as well as connecting tubes inside and outside through which the air and vapours or gases find entrance and exit. The interior tubes may be of glass (or any other suitable material) connected on the outside with the india-rubber tube or tubes of any other suitable flexible material. The entrance tube is provided with either a common pair of bellows or a force pump, or with one or more compressible balls, vessels, or reservoirs, which when worked or compressed force air through the water contained in the jar or vessel, continuing to a mouth piece or outlet, whereby the vapour may be inhaled directly either with or without the contact of the mouth of the patient, or whereby the vapour may be caused to permeate the room of a patient or surround his couch, chair, or bed. In any case the effect of the instrument is to relieve the patient, to fill his lungs with the vapour, medicated air, or gases, and this without the necessity of any laboured inspiratory effort on his part, which is the drawback to all other inhaling instruments. In conjunction with or in addition to the bellows, or the force pump, or the collapsible or compressible flexible balls which cause the propulsion of air through the water in the vessel I propose in certain cases to apply a tube in communication with a retort heated by a spirit lamp or other equivalent means, in which retort the medicated preparations are placed and the vapour therefrom generated as well as steam, if necessary, which is then forced through

the water (previously medicated or not as may be desirable). The water in the jar or vessel is to be about half filled, the temperature varying from boiling downwards, and in order to retain or preserve the temperature the vessel may be placed or immersed in a basin of hot or boiling water. By these improved arrangements it is obvious that great advantages will accrue to the patient, since perfect inhalation may be effected where the patient is not strong enough to draw the vapour or medicated air or steam by inhaling with the common inhalers; or it may be used to disseminate the vapours in the vicinity of the patient by extraneous aid; and moreover a tube may be conveyed from the outer air beyond the room of the patient in order to conduct fresh air to the compressing apparatus, and consequently to force it in combination with other vapours or steam or both to the mouth or presence of the patient.

Having thus particularly described and ascertained the nature of the said Invention, I will now proceed to particularly describe and ascertain in what manner the same is to be performed or carried into practical operation by reference to the accompanying Drawings, as follows:—

Description of the Drawings.

Fig. 1, view of an apparatus constructed in accordance with my Invention.

A, A, A, A, the jar or vessel; B, inlet for supplying the vessel or jar A, A, A, A, with water and medicated material; B^{1}, inlet for air or gas; B^{11}, outlet for air or gas after it has passed through the water or medicated material; C, C, the water or medicated material; D, D, glass or other tube fitted to the inlet B^{1}, passing down near to the bottom of the vessel, and also projecting above the inlet to allow of the fitting of an india-rubber or other tube connected with the bellows or force pump or compressible balls or bladders; E, glass or other tube fitted in the outlet B^{11}, and projecting above the neck of the jar or vessel to allow of the fitting of an india-rubber or other tube or pipe fitted with a mouth piece; F, F, the bellows, compressible ball or bladder; G, G, flexible tube connecting the bellows, force pump, or compressible ball or bladder F, F, with the inlet tube D, D; H, H, flexible tube provided with mouth piece I to convey the gas or medicated air to

the mouth of the patient, or the air may be diffused in the atmosphere in the neighbourhood of the patient; J, J, bowl or basin containing warm or boiling water in which the jar or vessel A, A, A, A, can be placed so that the temperature of the air to be inhaled may be regulated & maintained.

Having now particularly described and ascertained the nature of the said Invention, and in what manner the same is to be performed or put in operation, I hereby declare that I claim the herein-before described Invention of "A New or Improved Apparatus for Inhaling Vapours, Medicated Air, or Gases," in which the peculiar and distinguishing characteristics are the means of propelling the air or gas or medicated vapour or mingled steam and air through the water in the jar or vessel by a small bellows, force pump, or elastic ball or bladder and tubes, or conjointly wherewith a retort may be used with spirit lamp or other chemical or mechanical means of preparing the medicated vapour, steam, or gas to be inhaled by the patient, and by which apparatus all inspiratory effort on the part of the patient is superseded, so that (instead of tasking a diseased lung to make violent and too often unavailing efforts to inhale the remedy) a free gush of warm, genial, medicated air or vapour or gas is forced into the system without effort on the part of the patient, leaving it to the patient's option to admit or refuse as much or as little as his instincts and feelings prompt, whereby the fatigue of inhaling, the difficulty even of simple breathing is obviated, as even the application of the mouth piece to the lips may in most cases be dispensed with, to the manifest relief of the patient. And this inhaler may be worked by an attendant whilst the patient remains reclining in bed, and it may be removed to such distance from him according as the elastic tubes are made longer or shorter; and (if necessary) the air propelled through the inhaler may be drawn directly from the outer atmosphere, as where it is an object to avoid any impurities or closeness that may attach to the sick chamber. Where the inhalation of pure oxygen gas is required its propulsion through the hot water of the jar and its partial vaporisation will very much modify and reduce its stimulating effects, which indeed without some such diluent few patients can safely bear for any length of time, for it is a gas whose physiological action soon merges into a pathological condition. However it must be understood that I do not limit myself to the precise details of construction shown by the

Drawings and herein described, nor do I claim such details per se and apart from the purposes of my said Invention.

In witness whereof, I, the said John Balbirnie, have hereunto set my hand and seal, this Twenty-sixth day of June, in the year of our Lord One thousand eight hundred and sixty-nine.

JOHN BALBIRNIE, M.A., M.D. (L.S.)

Witness,

ELIZA ACETHORP.

LONDON:
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Printers to the Queen's most Excellent Majesty. 1869.

A.D.1869, Jan. 5, N° 30,
BALBIRNIE'S Specification.

(1 SHEET)

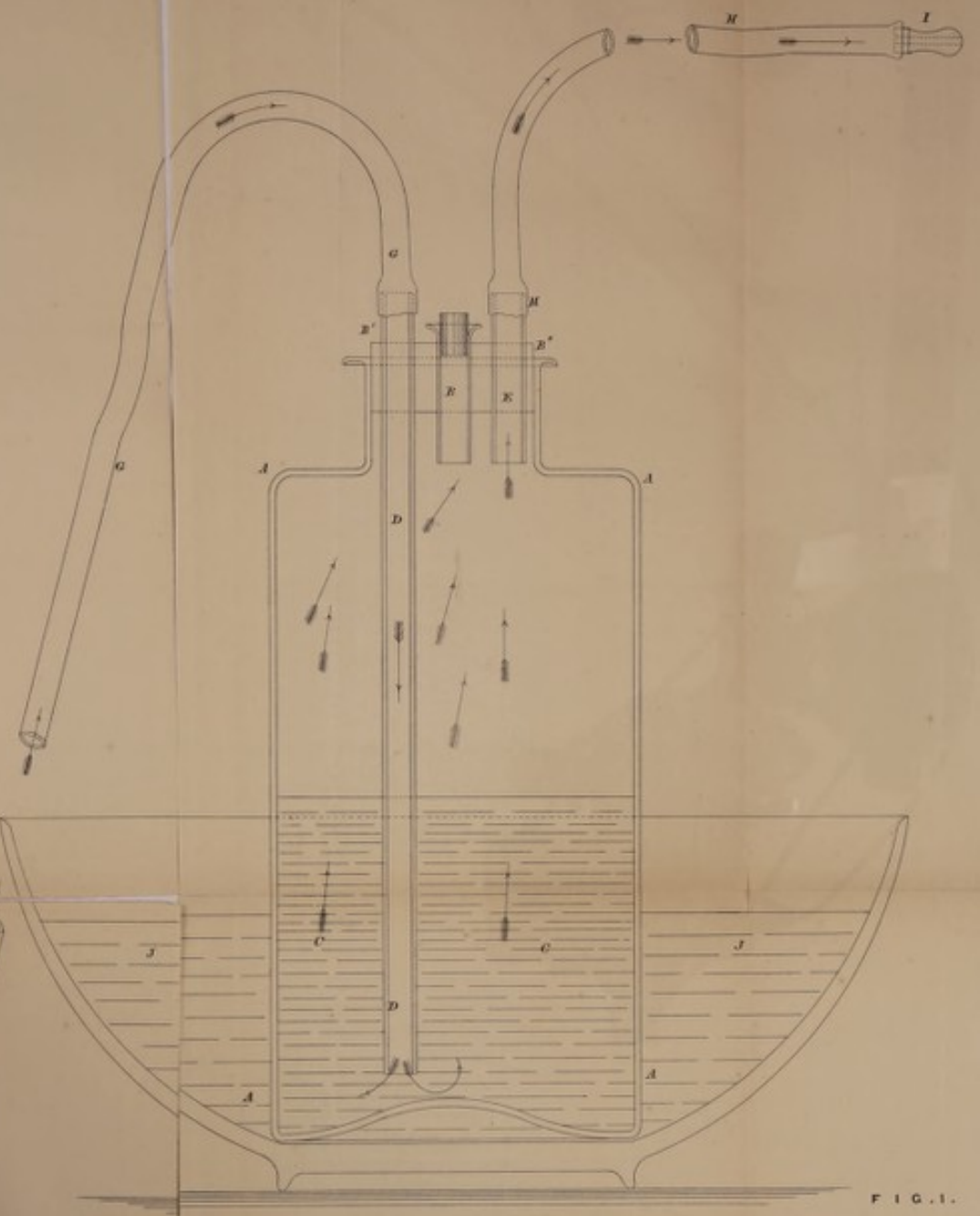
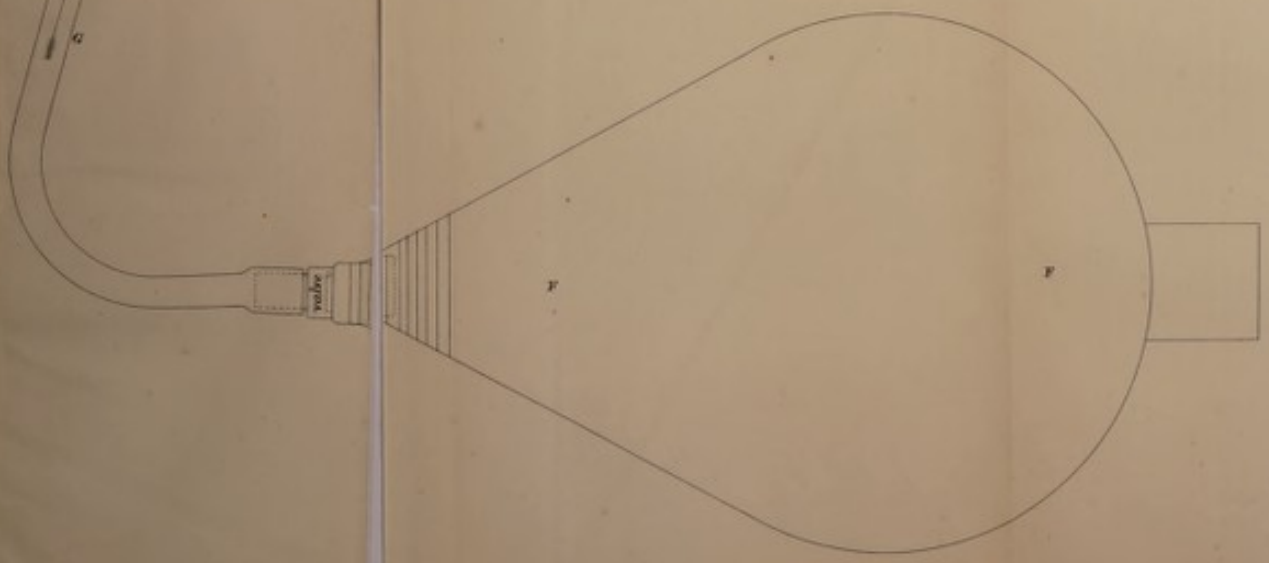


FIG. 1.



The filed drawing is not colored.

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