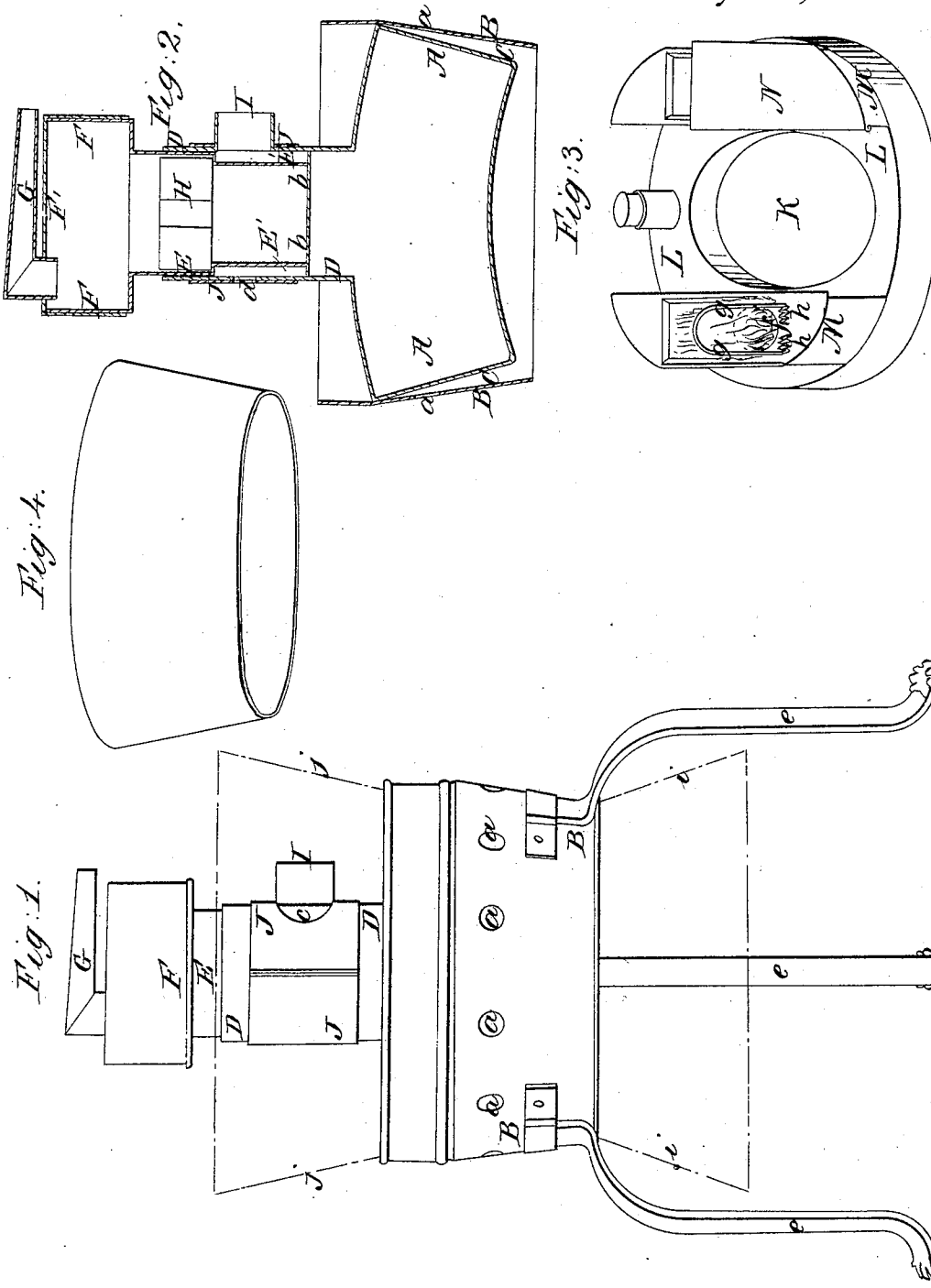


T. S. Lambert

Vapor Bath.

N^o 3992.

Patented Apr. 10, 1845.



UNITED STATES PATENT OFFICE.

THOS. S. LAMBERT, OF UTICA, NEW YORK.

VAPOR-BATH.

Specification of Letters Patent No. 3,992, dated April 10, 1845.

To all whom it may concern:

Be it known that I, THOMAS S. LAMBERT, of Utica, in the county of Oneida and State of New York, have invented certain new and useful improvements in the manner of constructing and using portable vapor-bath apparatus for the purpose of applying steam and vapors of various kinds to the cure of diseases; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, Figure 1, is an elevation of my apparatus; Fig. 2, is a vertical section thereof through its middle, and Fig. 3, a perspective representation of the lamp which I employ to heat the fluids and convert other evaporable materials into vapor.

A, A, is the reservoir within which any fluid that is to be converted into vapor is to be contained. B, B, is a casing that surrounds this reservoir, and that projects below its bottom and rises above its top; between this casing and reservoir there is a space, C, C, to admit the heated air from the lamp, Fig. 3, which is to be placed under it. *a, a*, are ventilation openings, to secure a free draft. From the upper part of the reservoir there rises a hollow cylinder, D, D, which is made true, as a piston is to fit, and to rise and fall, within it; this cylinder may be made of copper, brass, or other suitable metal, soldered firmly by its lower edge to the reservoir, so as to constitute a part of it. Into this cylinder passes another, E, E', which is hollow, and the lower part, E', of which constitutes a piston that fits and works freely in the cylinder, D, said lower part being wound with yarn, or covered with other elastic material for that purpose. The cylindrical, hollow piston, E, is closed below by a bottom plate, *b, b*, and it will be acted upon, therefore, by any vapor, generated within the reservoir with a force proportioned to the elasticity of such vapor. This piston being hollow, forms a cup, or receiver, within which sulfur, iodine, or other evaporable solid, or fluid, may be contained; it is shown as enlarged at its upper part, F, F, and as furnished with a close-fitting cover, F', from which proceeds a tube, G, through which any vapor may be allowed to pass, that may be conducted by means of a flexible, or jointed, tube attached to G, to any part to which it is to be applied.

H, represents a weight of lead, or other

substance, which may be placed within the hollow of the piston, or on its top, and may be increased, or diminished, according to the elastic force which it is desired to give to the steam, or vapor; the shape of its upper part may, of course, be varied at pleasure.

When the steam, or vapor, is to be obtained and used from the fluid contained in the reservoir A, it may be allowed to escape through a tube, I, to which, when requisite, may be attached a flexible, or other, tube which may lead wherever it may be required; as, for example, between the bed-clothes of a patient, for steaming a limb, or other part of the body, or for moistening the dressings of a wound. Before it can escape, however, the piston E, E', must be raised so as that its bottom, *b, b*, shall be above the opening I; and this must be effected by the elastic force of the steam operating on said bottom. The elasticity desired is to be obtained by graduating the load H, with which it is weighted. By this means, it is adapted to the use of liquids of different densities and evaporability.

Within the body of the piston may be placed sulfur, iodine, or any other substance which it is desired to convert into, and apply in the form of, vapor; and these will become heated by the graduated heat of the fluid contained in the reservoir A, A, so that they may be applied at the lowest possible temperature at which their evaporation can be effected. The vapor from this vessel may be conducted to any part where it is required, through the intermedium of the tube G.

J, J, is a ferrule that embraces the cylinder, D, D, and is capable of being turned around upon it, said ferrule having a slot in it, as at *c*, to allow the tube, I, to pass through, and the ferrule to revolve to the distance of half an inch, more or less. This ferrule has a second hole through it, as at *d*, Fig. 2, and there is a corresponding hole through the cylinder D; by turning the ferrule J, this hole may be opened and closed at pleasure; its size, also, is determined by the same means, so as to regulate the quantity of vapor which shall issue through it. When this is used, the tube I, may be closed, or it may be used to conduct off any portion of the steam.

Fig. 3, represents the lamp which is used to heat the materials in the reservoir. The reservoir and its appendages are supported

on legs, *e, e, e*, which are made to ship and unship; these legs serve to elevate the apparatus so as to admit of the lamp passing under it. The body, or receiver, of the lamp

5 I make annular, the opening *K*, through it allowing it, when not in use, to pass over the cylinder *D, D*, and to rest upon the top of the reservoir, thus rendering the whole instrument extremely portable; the apparatus

10 which I have used is only one third larger than that represented in the drawing. The ring-like body, *L, L*, of the lamp is shown as having two elevated portions *M, M*, that sustain the wicks which pass down into the

15 spirits of wine contained in the body of the lamp, through tubular openings, as at *f*. The upper sides of these elevated portions are horizontal; the wick is made to lie flat down in a shallow recess on their tops when

20 not in use; and by means of a wire loop, *g, g*, which is attached to the horizontal top, and has spiral springs *h, h*, at its ends, the wick, which would otherwise lie flat down, may be raised and sustained, and a very extended

25 flame may be obtained. For the purpose of regulating the extent and intensity of the flame, each of the elevated portions is furnished with a sliding cover, *N*, which is guided back and forth by means of grooves,

30 and may be made to cover any desired portion of the wick, and thus to limit the flame to any desired extent, or to extinguish it entirely. When the lamp is placed under the receiver, I sometimes, to confine the heat,

35 add a conical rim, such as is represented in Fig. 4, on to the lower part of the apparatus, as shown by the red lines, *i, i*, Fig. 1; a similar rim may be placed on the top, as shown by the red lines, *j, j*; in this last case,

40 such herbs as may be desired may be placed within the rim, and the steam as it issues, diffusing itself throughout the mass, will imbibe and convey its odor, and other volatile principles.

45 My general manner of applying the steam and vapor to the whole body when such vapor is not to be inhaled, is by the employment of a bag, or sack, made double. one portion of it being of oiled silk, and the

50 other of flannel, or other suitable kind of cloth; this is to be drawn over the person, and at the top, where it is in the form of a yoke, so called, it may be fastened around the neck of the patient. This sack I make

55 of sufficient width to contain a chair, and of the length required for conveniently using the apparatus. I close it all around excepting in front, where it is open three fourths of the way down, and is so wide as to fold

60 across in front to such extent as to confine

the vapor; it has a sleeve, or tube, at its bottom to admit the vapor, and one at its top for conducting it off; it may, however, be differently constructed.

The apparatus may, of course, be used, 65 when the steam and vapor are to be breathed, in an inclosure of the ordinary kind, consisting of a frame covered with blankets, or other cloth, in which a chair may be placed with the lamp and receiver beneath it; but 70 the bag, or sack, is perfectly portable, is specially applicable to the employment of those vapors which are to be applied to the skin, and which may not be breathed, while it may be used when steam alone is em- 75 ployed.

By means of this apparatus any two substances may be used in immediate succession by putting one of them into the hollow piston, and the other into the boiler. The 80 conducting tubes may then be changed, and after using a bath of any unpleasant substance from the hollow piston, this may be turned off, and steam, or perfumed vapor, from the boiler may be introduced, cleansing 85 the skin, and blowing out from the sack, or envelop, the vapor at first introduced.

When the apparatus is not in use, I tuck the wicks into the wick openings, *f*, which I close by a cork, said cork having a hooked 90 wire passing through it that draws the wick up after it. The spirits of wine that I burn in the lamp is thus effectually preserved from evaporation.

Having thus fully described the nature 95 of my improvements in the portable vapor bath, and shown the manner of using, and the operation of the same, what I claim as new therein and desire to secure by Letters Patent, is— 100

1. The combining of the hollow piston, *E*, with the reservoir, *A, A*, which piston is made to regulate the elasticity of the vapor, in the manner and for the purposes herein set forth; said hollow piston also constituting a receptacle for such articles as it 105 may be desired to convert into vapor, by the heating of the fluid in the reservoir.

2. I also claim the particular manner in which I arrange and combine the respective 110 parts of the burner, or burners, of my lamp; said parts consisting, principally, of the wire loop, *g, g*, for sustaining the wick in a position nearly horizontal, and the sliding cover, *N*, for regulating the flame, the whole 115 operating substantially as set forth.

T. S. LAMBERT.

Witnesses:

THOS. P. JONES,
WM. BISHOP.