

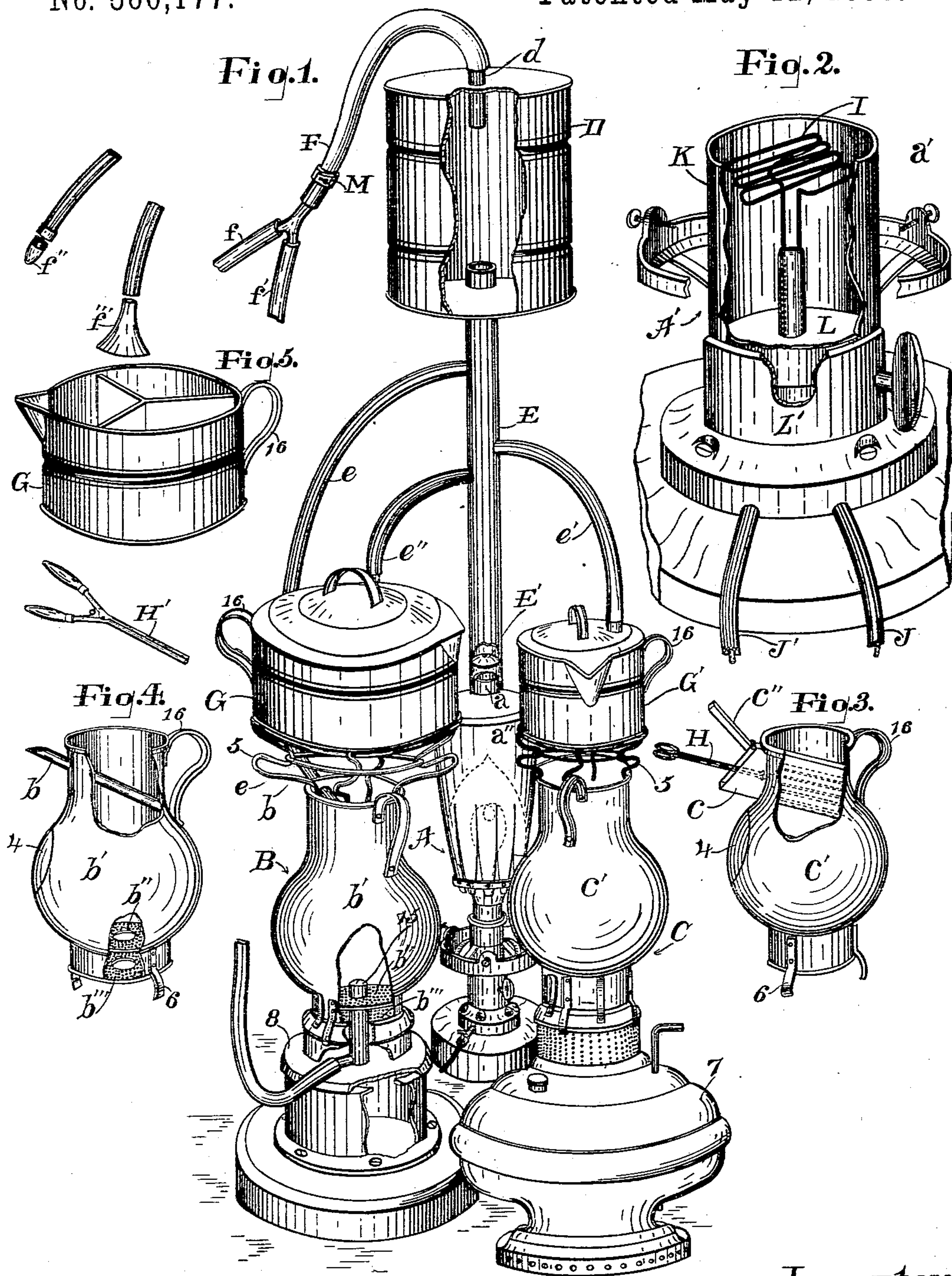
(No Model.)

2 Sheets—Sheet 1.

S. J. TEDFORD.
INHALER.

No. 560,177.

Patented May 12, 1896.



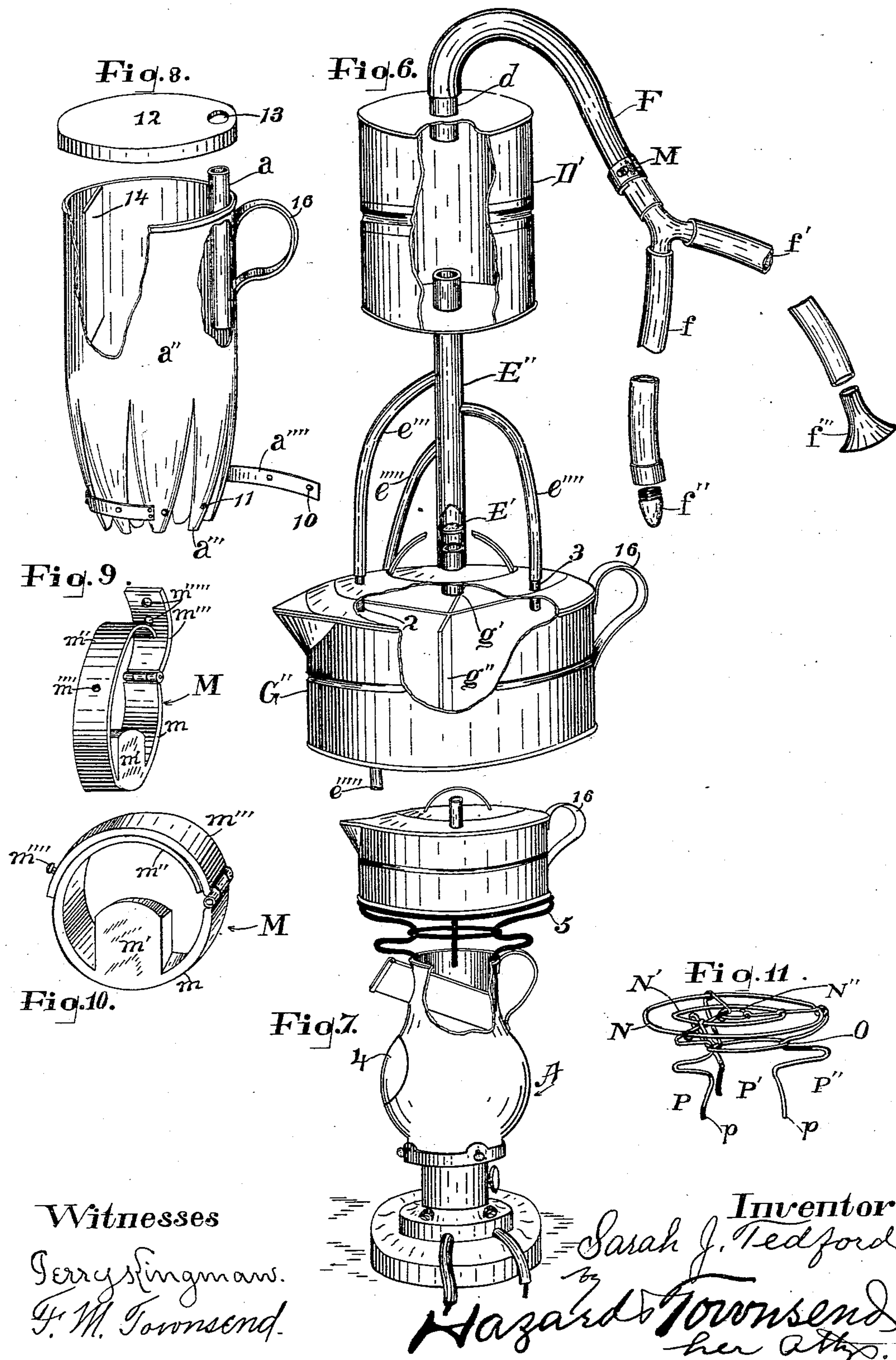
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UNITED STATES PATENT OFFICE.

SARAH J. TEDFORD, OF LOS ANGELES, CALIFORNIA.

INHALER.

SPECIFICATION forming part of Letters Patent No. 560,177, dated May 12, 1896.

Application filed June 28, 1895. Serial No. 554,376. (No model.)

To all whom it may concern:

Be it known that I, SARAH J. TEDFORD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Combined Laboratory and Inhaler and Household and Toilet Apparatus, of which the following is a specification.

One object of my invention is to provide an apparatus for the treatment of catarrhal and pulmonary diseases and in which treatment it is desirable to employ different kinds of steam and dry heat produced from various sources and by various substances.

Another object of my invention is to produce a laboratory and inhaler apparatus adapted to be applied for various household and toilet uses in addition to the treatment of diseases.

My laboratory device is designed to be used with heat from oil, gas, and electricity.

My invention is designed to produce a desirable commingling and combining of the vapors produced from different drugs and to enable a patient to effectively apply such vapors to the parts to be treated through the aural, nasal, and other orifices.

My invention comprises various parts, features, and combinations hereinafter more particularly described.

The accompanying drawings illustrate my invention.

Figure 1 is a fragmental perspective view of my invention applied as a laboratory device for the treatment of head, throat, lung, uterine, and other troubles, showing means for applying heat from gas, electricity, and oil. In practice, if desired, or if gas is not conveniently at hand, an alcohol-burner may be substituted for the gas-burner. The alcohol-burner is not shown. This form of the apparatus is designed for physicians' use in the general treatment of cases. Fig. 2 is an enlarged fragmental perspective detail of a modified form of electric heater in position in a lamp-socket. Fig. 3 is a fragmental detail of one of the heating-globes, showing a hair crimping or waving iron in position to be heated. This globe is the one used upon the oil-burning lamp. Fig. 4 is a fragmental per-

spective detail, showing the globe for the gas-burner. A pair of curling-tongs is also shown in this view, the globe being adapted for heating the same. Fig. 5 is a detail of the granite-ware or porcelain compartment-bowl, which is shown in Fig. 1 over the gas-burner. Fig. 6 is a fragmental perspective view of my invention applied in a modified form for an individual in the treatment of his own case or for use in the home for the treatment of cases of sudden emergency and in traveling, &c. This form is designed to be more easily portable and to be carried in a valise by travelers, and ordinarily would be made much smaller than the apparatus shown in Fig. 1, the commingling-drum at the top being in practice about one-quarter the size of that shown in Fig. 1 and the other parts likewise small in proportion. This modified form is adapted for use with either a spirit-lamp, or gas, or electric heater, but the heater is not shown in this view. The electric heater shown in Figs. 1, 2, and 7, or the gas-heater shown in Fig. 1, could be used with this, but it is not intended to use it with the oil-heater. A spirit-lamp can be used in place of the electric or gas heater for convenience in traveling. Fig. 7 shows an electric heater with the heater-globe and a vessel on it. Fig. 8 is a fragmental perspective detail of the heater-globe for use with an incandescent lamp. This appliance is shown in operation in Fig. 1. It is also adapted to fit upon the form of electric heater shown in Fig. 2 and thus adapt the same to be used in place of the electric lamp shown in Fig. 1. Fig. 9 is a perspective view of the tube-clamping belt open. Fig. 10 is a perspective view of the same belt closed. This belt is also shown in Figs. 1 and 2 applied to the rubber tube which leads from the drum. Fig. 11 is a perspective view of the wire support for insertion at the top of the heater-globes to support the various utensils which are to be placed thereon for various uses.

A indicates the electric heater, B the gas-heater, and C the oil-heater.

D indicates a vapor, fumes, and heat commingling drum which is mounted upon and communicates with the vapor, fumes, and heat conductor pipe E and is provided with

a suitable discharge-tube F, leading from the top of the drum. The pipe E communicates directly with the electric heater A.

e indicates a heat-conducting tube leading from the gas-heater B into the pipe E.

In practice hot dry air passes up the pipe E from the electric heater A and dry heat also passes up the tube *e* from the gas-heater B. The tube *e* is connected with the gas-heater B by a heating-tube *b*, arranged projecting from the globe to connect with the heat-conducting tube *e* and extending into and slanting downward across the globe *b'* of the gas-heater B and terminating at the opposite wall thereof, as shown in Fig. 4, so that no smoke or fumes will enter it. The dry-heat tube *e* is designed to conduct dry heat from the tube *b* to the pipe E and thence into the drum D. The dry heat is designed to cause the fumes and vapors to become more pungent. The pipe E conducts dry heated air from the electric heater A into the drum D.

E' indicates a centrally-perforated shield arranged at the bottom of the pipe E to prevent any moisture from falling down the pipe E upon the globe of the incandescent lamp in the electric heater A. The incandescent electric-light-lamp globe is indicated in dotted lines in Fig. 1.

a indicates a nipple in the top of the electric heater, upon which nipple the pipe E fits.

The centrally-perforated shield *E'* is of metal and is designed to become heated by the heat of the electric heater, so that any moisture which falls down the pipe and upon the shield will be immediately dispersed and will ascend the pipe in the form of steam or vapor. The pipe E is provided with two vapor and steam tubes *e' e''*, branching from the pipe E below the dry-heat-conducting tube *e*. The upper one *e'* of these vapor or steam conducting tubes communicates with the granite-ware or porcelain vessel *G'*, placed above the oil-heater C to be heated thereby, and the lower one *e''* of the vapor or steam tubes communicates with the top of the granite-ware or porcelain vessel *G*, which is adapted to hold liquids and is placed above and is heated by the gas-heater B.

In practice, drugs, the fumes or vapors of which would have a beneficial effect when commingled and applied at the same time, and which drugs would neutralize and waste the strength of each other to a greater or less extent if applied or mixed together in their solid or liquid form, can be placed in the several compartments of the vessel *G*, with alcohol or water or other suitable diluent, as may be best for the disease treated; and another medicine or other medicines, the vapors or fumes of which it may be deemed desirable to mingle with the vapors or fumes from the drugs contained in the vessel *G*, and which it is desired not to mingle with said other vapors until the other vapors have first been thoroughly commingled, can be placed in the vessel *G'* with water, alcohol, or other

suitable diluent, and the vapors or fumes passing through the tube *e'* will enter the pipe E and be mingled with the heated air and with the fumes coming through the tube *e''*.

In the modified form for individual use, which is shown in Fig. 6, the compartment vessel *G''* has four compartments, and is adapted to be used where four or fewer medicines or compounds are desired to be kept separate while subjected to the action of the heat. In this form the pipe *E''* is provided with two tubes *e'''* and *e''''*, which communicate, respectively, with two compartments in the vessel, and the pipe *E''* communicates through a nipple *g'* with the interior of the vessel *G''* above the partitions *g''*, which divide the vessel into several compartments. The tubes *e'''* and *e''''* communicate with nipples 2 3, which project down into their respective compartments, so that a portion of the vapors from such two separate compartments will enter the tubes *e''' e''''*, respectively, before becoming commingled with the vapor from the drugs in the other compartments.

e'''' indicates a dry-heat pipe for connection with the heat source. (Not shown.) This pipe corresponds to the pipe *e* in Fig. 1.

In each sheet of drawings, *F* indicates a flexible discharge-tube, of rubber or other suitable material, which is fitted upon the end of the nipple *d* in the top of the vapor and commingling drum, and this tube is connected with two branch tubes *f f'*, which are respectively provided at their ends with a suitable nipple *f''* and mouthpiece *f'''*, respectively, for use simultaneously through the nose and mouth or the ear and mouth. The mouthpiece should be made oval in form to correspond to the form of the mouth. Various sizes should be provided for different patients. In the views these nipples are shown detached, and it is to be understood that various forms of nipples or mouthpieces may be used for application to different orifices. Applications may be made to ear and nose simultaneously, or to both ears simultaneously, or the application may be made in any other manner deemed desirable by the practitioner. The heater-globes *b' c'* are made of metal, and are each provided with an isinglass window 4, so that when the apparatus is used at night it will furnish a shaded light, which can be used without any inconvenience to the patient, the room being darkened except at the small space illuminated by such window.

The heater-globes *b' c'* are adapted for use with any suitable vessel for heating water or cooking small articles, as may be required.

5 indicates a support for the various utensils to be used on the heater-globes for compounding medicines, heating water, or cooking delicate articles of food required by the patient. This support may be made of various heights and sizes, and its purpose is to hold the heating or cooking utensils sufficiently above the top of the globe to allow a draft. The globes *b' c'* are each provided

with suitable clamp-springs 6, projecting down from the bottom thereof to clamp upon the lamp-burner 7 and gas-burner 8, respectively.

5 *c* indicates a tube for heating hair-waving tongs II. This hair-waving-tongs heating-tube *c* is provided with a lid *c'* to close the end when not in use to prevent the escape of heat when the globe *c'* is used for other purposes than heating the waving-tongs II. The tube *b* in the heater-globe *b'* is of suitable size to receive the curling-tongs H', so as to heat them.

15 The electric heater shown in Fig. 2 is provided with a platinum heating-wire I, connected with insulated electric conductors J J'.

20 K indicates a fender-tube which surrounds and projects above the heating-wire I to prevent any one from accidentally putting his hand upon the wire I. The fender-tube K terminates in an open end just above the top of the heating-wire and affords a suitable support for the heater-globes or for vessels to be heated and surrounds and is fastened to the base L, which holds the heating-wire I. It fits in the lamp-socket L', which is provided with the electric conductors J J', and the heating-wire is connected with the electrical conductors in the ordinary manner of the filaments of incandescent lamps.

30 In practice the current of electricity must be of given strength in order to give the heat desired without melting the wire, and it is to be understood that a suitable resistance-coil or other device for regulating the current must be used in connection with my appliance; but this device is well known in the arts and illustration of it is not deemed necessary.

40 In order to effectively apply the heat from the globe of an ordinary incandescent lamp or from the heating device shown in Fig. 2, I have provided a detachable electric heater-globe *a''*, which is shown in Fig. 1 and also in detail in Fig. 9. This globe is preferably made of spun brass, but can be made of nickel, aluminium, or any other suitable metal, and comprises a tube open at the ends and having the lower end provided with deep notches or serrations to form the lower end into spring-tongues *a'''*, which can be bent toward each other so as to clamp around the neck of the incandescent-lamp globe. A suitable band *a''''*, provided with eyelets 10, is fastened to one of the spring-tongues at the lower end thereof, and the spring-tongues are respectively provided with buttons 11 to enter and fit the eyelets 10, and the eyelets are arranged at distances apart suitable for holding the tongues in their clamping position.

65 To apply the electric-heater spun-brass globe *a''* to the incandescent-lamp globe, the band *a''''* is loosened sufficiently to admit the lamp-globe, and the spun-brass globe *a''* is then placed upon the incandescent-lamp globe. Then the tongues are sprung together and fastened by the band *a''''*. The electric-

heater globe *a''* is provided with a removable cover 12, having a hole 13 in it to fit upon the nipple *a*, which is arranged at the top of the globe and projecting thereabove to receive the end of the pipe E to conduct the dry electrical heat away from the interior of the electric-heating globe *a''* into the pipe E.

75 14 indicates a partition forming a compartment on the interior of the globe *a''* and at one side thereof to receive the crimping and waving irons when it is desired to heat the same by the electric heater. To heat the waving or crimping iron, the cover 12 must be removed. Then the iron is inserted into the compartment.

85 It is necessary to sometimes close the flexible tube F in order to prevent the escape of the pungent vapors when any particular treatment has been accomplished, and for this purpose I have invented a tube-clamp M, which is shown in detail in Figs. 10 and 11. This clamp is composed of two members—the curved main member *m*, of spring metal, provided with an inwardly-extending lug *m'* and terminating in the clamp-spring tongue *m''*, adapted to more or less fully encircle the tube above the lug *m'* without compressing the tube, and the locking member *m'''*, hinged to the main member *m* and arranged to extend over the spring-tongue of the main member *m''* when it is bent down to compress the rubber tube. The main member *m* is provided with a button *m''''* to fit into suitable eyelets *m'''''*, provided in the member *m'''* to hold the spring-tongue toward the lug to compress the tube, so that when the locking member is pressed down upon the spring-tongue *m''*, thus to clamp and clasp the flexible tube, the locking member *m'''* may be secured in place to hold the tube closed. The gas-burner 8 is provided with a vertical gas-jet tube 15. The gas-heater globe *b'* is provided at its bottom with two transverse perforated plates *b'' b'''*, set a short distance (about three-quarters of an inch) apart, more or less, and each provided at its center with a hole through which the gas-jet tube 15 is inserted when the globe is in use. This contrivance, in connection with the spring-clamp 6, serves to hold the globe firmly in position. Each of the globes and utensils is provided with a suitable handle 16 by which they can be conveniently handled.

120 It is necessary that the vessel should have a firm and true support above the heater-globes, and I have shown in Fig. 12 a support which I have invented for this purpose. This support is formed of spring-wire and is composed of the three concentric top rings N N' N'', arranged in one plane, three radially-arranged spring-supports P P' P'', respectively looped around the three top rings and which are bent downward and inward and outward in a double loop and terminate, respectively, in the spring-insertion members *p* below the top ring and the retaining-ring of wire O, encircling the three support-springs in the

first loop below the top rings. In practice the insertion members *p* of the different spring-supports are spread apart, so that they must be pressed together in order to insert into the top of the globe-heater. Then, after insertion, the springs are released and allowed to press outward against the inside of the heater-globe.

It is to be understood that a support made of cast metal can be used in lieu of the wire support shown. The support must be open to allow the draft to pass up freely through the globe and out at the top underneath the vessel thereon. By the construction of globe (open at top and bottom and provided with the projecting heating-tube *b*) and the support shown I have provided a very simple and compact contrivance for obtaining both dry and moist heat from one lamp or gas-jet, and such heat is conducted into the drum by the tubes connecting, respectively, with the tube *b* and the covered vessel *G*.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the electric heater; the vapor, fumes and heat conductor pipe communicating with the electric heater; a vapor, fumes and heat commingling drum mounted upon and communicating with said pipe and provided with a suitable discharge-tube leading from the top of the drum; a gas-heater; a heat-conducting tube leading from the gas-heater into said pipe; the vessel arranged upon the gas-heater to be heated thereby and adapted to contain various drugs; the oil-heater; the vessel arranged above the oil-heater to be heated thereby; and the two vapor and steam tubes branching from the pipe and communicating respectively with the vessels placed above the gas and oil heaters substantially as set forth.

2. In an apparatus substantially such as described, the combination of the drum with the tube leading therefrom; the several sources of dry and moist heat; the pipe opening into

the bottom of the drum and provided with the tubes communicating with the several sources of dry and moist heat, respectively and also provided at its lower end with the centrally-perforated shield, substantially as and for the purpose set forth.

3. In an apparatus substantially such as described, the heater-globe set forth open at top and bottom and provided with the heating-tube projecting from the side of the globe to connect with the heat-conducting tube and extending into and across the interior of the globe and terminating at the opposite wall thereof, substantially as described.

4. In an apparatus substantially such as set forth the combination of a heater-globe open at top and bottom and provided with a heating-tube extending across the inside of the globe and projecting from one side thereof; a heat source at the lower end of the globe; an open vessel-supporting frame arranged above and mounted on the open top end of the globe; the covered vessel adapted to hold liquids, and mounted on such frame above the top end of the globe; the drum; a tube connecting the drum with the covered vessel; and the tube connecting the drum with the heating-tube.

5. In a laboratory and inhaler the combination of the incandescent lamp; the globe fitted upon such lamp and comprising the tube open at the ends and having the lower end provided with deep serrations to form the lower end into a series of spring-tongues; the band provided with eyelets; the buttons upon the tongues to enter the eyelets; the nipple at the top of the globe; and projecting therefrom; the cover having the hole in it to fit upon the nipple, and the heat-conducting pipe fitted upon such nipple.

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