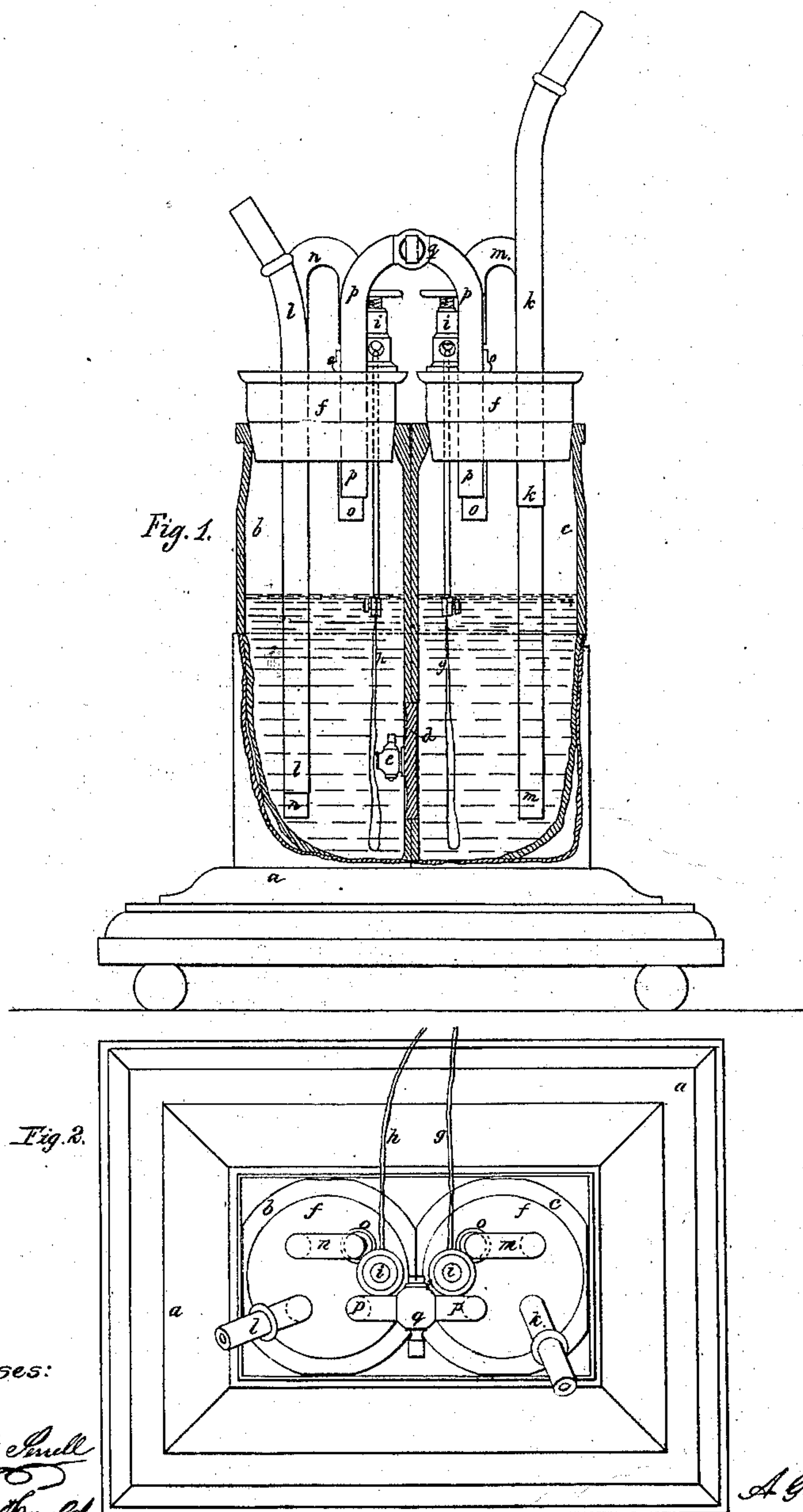


A. G. HULL.
METHOD OF ELECTRIZING THE BLOOD, &c.

No. 17,095.

Patented Apr. 21, 1857.



Witnesses:

Lemuel H. Small
Thomas L. Harold

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UNITED STATES PATENT OFFICE.

ALONZO G. HULL, OF NEW YORK, N. Y.

MEANS FOR INHALING MEDICINAL AGENTS.

Specification forming part of Letters Patent No. 17,095, dated April 21, 1857.

To all whom it may concern:

Be it known that I, ALONZO GRANDISON HULL, of the city, county, and State of New York, have invented, made, and applied to use certain new and useful Improvements in the Method of Electrizing the Blood and System for the Cure of Diseases; and I do hereby declare that the following is a full, clear, and exact description of the method of operation and construction of the apparatus which I make use of in connection with said method of electrizing the blood and system, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is an elevation of my said apparatus, showing also the bottles or receptacles for liquid and vapors in section; and Fig. 2 is a plan of said apparatus.

Similar marks of reference denote corresponding parts.

In the treatment of diseases of the lungs and various other maladies it very often becomes necessary and highly advantageous to the human system to produce an electrical action in the lungs for the purpose of removing local obstructions and deposits as well as increasing the circulation and imparting vigor to the system. In order to accomplish this purpose it becomes necessary to supply to the lungs a proper and regulated amount of electricity, either positive or negative, or both, in variable proportions, through the medium of suitable fluids or gases in respiration.

The nature of my said invention consists in supplying air, gases, vapors, or medicines breathed into the lungs in a positively or negatively electrized condition, or with positive and negative electricity combined, which, acting in the lungs, produces the desired effect in curing the special disease to which the treatment is applicable.

The drawings annexed represent the apparatus which becomes necessary, in some of its leading features, to carry out my particular method of electrizing the lungs.

a is a stand, of any suitable construction, receiving two bottles or other receptacles, *b c*, cemented or formed together, and having an opening between them of a suitable size, receiving a porous earthen diaphragm, *d*, in which a cock, *e*, is inserted, that, when open, allows a graduated amount of circulation be-

tween the fluids of the said bottles when under electric action, or, when shut, said porous diaphragm allows of the electric action similar to the porous cups of a battery.

f f are corks or covers for the bottles *b c*, on which are binding-screws *i*, connecting the wires of a galvanic battery to the positive or negative poles or conductors *g* and *h*. Through the covers *f* inhaling-tubes *k* and *l* are inserted, and can be slid up or down, so that the one to be inserted in the mouth and respired through can be raised above the surface of the liquid in the bottles *b* or *c*, while the other can be pressed down into the liquid and prevent the air or vapors passing out through it.

m and *n* are tubes passing below the surface of the liquids, through which air or vapors pass when the contents of the bottles are attenuated by respiration.

o o are vent-tubes, with small stoppers or valves opening outward, to prevent the liquids being forced up the tubes *m* or *n* in expiration.

p is a pipe connecting the vapor or fluid spaces of the bottles *b c*, and *q* is a cock in said pipe.

This apparatus is to be used as follows: The bottles *b* and *c* are to be filled with water or any suitable medicated liquid or fluid to about the height indicated in the drawings. The galvanic current is to be applied as before described, which, acting on the said fluids, imparts to them a certain electrical property, and if the liquids made use of require to be gradually mixed by a circulation induced by the electric current, the cock *e* is to be opened the proper amount to allow such circulation to take place.

If the nature of the disease be such as to require as supply of positive electricity, the pipe *k* in the bottle containing the positive pole should be breathed through, which draws off from said bottle vapors or gases surcharged with positive electricity, and if the negative electricity be required the opposite bottle is made use of. If, however, the nature of the disease require the joint electrical action, the cock *q* is to be opened the proper amount to regulate the relative proportion of vapor or gases drawn into the lungs, which act as a powerful agent in stimulating the system, removing local obstructions and deposits, vital-

izing the blood, and causing any gases or vapors of a medicinal character to act far more promptly and efficiently in curing than they would if used without this electrical operation.

The electrical quality of the vapors drawn through the apparatus may be regulated by opening the cock *e*, or by opening the cock *g*, or by the use of the two combined.

It will be apparent that by making use of an apparatus substantially similar to that herein set forth I am enabled to direct and control the electrical action on the blood in inhaling the air or any medicinal vapors, so as to positively or negatively electrize the blood or place it in any desired electrical condition which may be required, according to the nature of the disease or the remedies made use of. Thus, if positive electricity be supplied to the system, the same acts, in connection with the gases or vapors inhaled, on any effete or worn-out matter that may be in the negative and insoluble condition, and causes the same to be taken up and thrown off from the system, which, if allowed to remain, may and will tend to form tubercles in the lungs and result in consumption. If positive electricity be used, it increases the circulation of the blood, stimulates the whole system, and produces an invigorating effect. If negative electricity be used, it lessens action, producing a soothing and relaxing effect. If the positive and negative be used in conjunction, the effect will vary according to the proportion of each taken, which is important in the treatment of diseases generally. If the battery be sufficiently strong, the gases which will be evolved in the bottles, mixing with the medicated vapors or air, can be inhaled to advantage.

The relative sizes of the conductors *g h* and

may be varied, if desired; and I do not limit myself in relation to any particular size or construction of apparatus or battery; neither do I herein claim the use of electricity in inhalation, although I believe myself to have originated the same, as this has been applied indiscriminately in these cases and failed of producing the proper effect, because the special electrical condition required of either positive or negative or a regulated proportion between the two was not considered; but

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

1. Inhaling air, gases, vapors, or medicines during the time that they are under the influence of positive or negative electricity, or while they retain their electrized character, for the purpose of placing the lungs, blood, or system in either a more positive or more negative condition in the cure of diseases.

2. Inhaling air, gases, vapors, or medicines positively and negatively electrified in the necessary proportion to place the system in the desired electrical condition, as specified, whether the battery be still in operation at the time or removed and the gases only retain their previously-electrized condition.

3. The inhalation of gases liberated from fluids by electricity from either pole separately, or from both combined in regulated proportions, while in an electrified condition, and also in connection with air, gases, or medicines.

In witness whereof I have hereunto set my signature this 16th day of June, 1856.

A. GRANDISON HULL.

Witnesses:

LEMUEL W. SERRELL,
THOMAS G. HAROLD.