

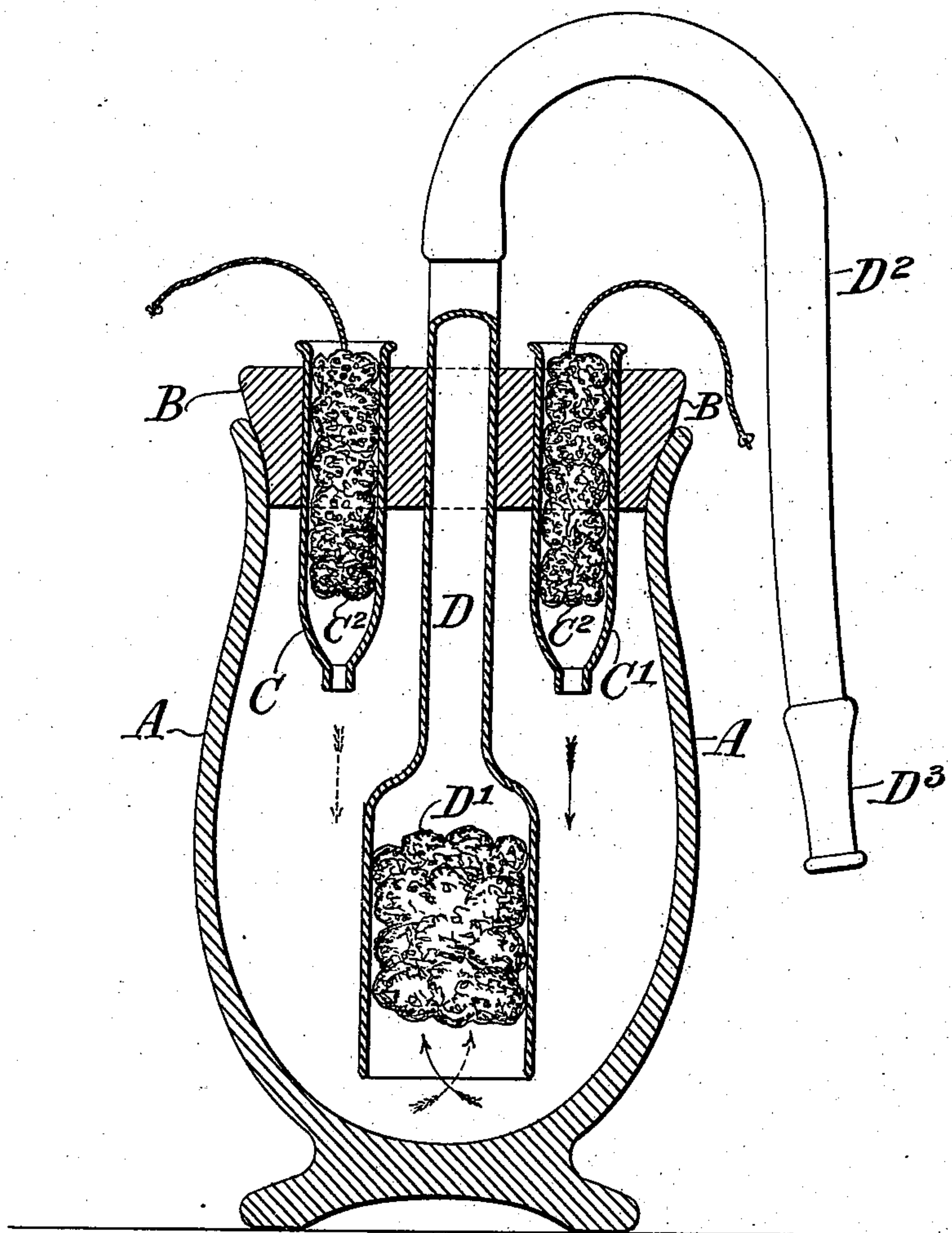
(No Model.)

F. H. GLEW.

APPARATUS FOR INHALING MEDICINAL VAPORS, &c.

No. 376,819.

Patented Jan. 24, 1888.



Witnesses:

O. Sundgren.
Joseph W. Roe

Inventor:

Frederick H. Glew.
by Attorneys
Brown & Hall

UNITED STATES PATENT OFFICE.

FREDERICK H. GLEW, OF 30 CONDUIT STREET, BOND STREET, COUNTY OF MIDDLESEX, ENGLAND, ASSIGNOR TO THOMAS GREENISH, OF SAME PLACE.

APPARATUS FOR INHALING MEDICINAL VAPORS, &c.

SPECIFICATION forming part of Letters Patent No. 376,819, dated January 24, 1888.

Application filed September 27, 1887. Serial No. 250,845. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK HARRISON GLEW, of 30 Conduit Street, Bond Street, in the county of Middlesex, England, have invented certain new and useful Improvements in Apparatus for Inhaling or Injecting Medicinal Vapors, Gases, or Powders, of which the following is a specification.

In the construction of an apparatus according to my invention I employ a large-mouthed bottle or vessel of glass or other suitable material, the mouth of which I close with a suitable stopper or plug. In this stopper or plug I secure in any convenient manner three or more tubes, in two or more of which I place any suitable porous material, such as cylinders of pumice or woven cords of asbestos saturated with the chemicals to be used in the formation of the remedial agent—say, for example, chloride of ammonium or the remedial agents themselves—to be inhaled. The remaining tube, which is to be used as a suction-tube, I construct with its inner end enlarged to form a receptacle for a sponge within the bottle or vessel.

The porous cylinders or cords, the sizes and lengths of which are adjusted so as to take up the requisite proportions of the chemicals necessary to form the proper combination for inhalation, are, when charged, placed in their respective tubes. The sponge placed in the suction-tube may be dry, moistened, or medicated.

The accompanying drawing represents a central sectional elevation of my improved apparatus.

In the drawing, A is the wide mouthed bottle or vessel, and B the plug or stopper, which I prefer should be of india-rubber.

C C' are the tubes for containing the porous material, C², which carries the chemical substances for forming the compound remedial agent, and D is the suction-tube, the lower end of which is enlarged to receive a piece of sponge, D'. To the other end of this tube D is secured a flexible tube, D², provided with a suitable mouth-piece, D³; or instead of this flexible suction-tube an enema or a pump may

be attached for the purpose of injecting in place of inhaling the remedial agent. In order to prevent mistakes in charging the porous materials, I make the tubes C of colored glass, and the tube C' of white glass, and in sending out the apparatus I place the chemical substances in similarly-colored bottles. The pieces of porous material, C², are each provided with a small piece of suitable wire, by means of which they may be withdrawn from their respective tubes for the purpose of being recharged.

An inhaler constructed as above described embodies all the good qualities of other inhalers, and as all the working parts are contained within the inhaler itself they are protected from breakage and the inhaler is simplified in construction.

One important advantage in this construction is that bodies of liquids are dispensed with, a damp sponge being used in the suction-tube instead of a body of water in the vessel A to absorb any excess of vapor, whether of ammonia or acid. At the same time the gurgling noise which ensues when air is drawn through a liquid is avoided. The effort of suction is also reduced to a minimum, as the bottle A contains no body of water. There is also no loss of vapor of chloride of ammonium through absorption in that liquid and no deterioration of the agents from contact with each other. Consequently the product is uniformly as neutral as it can be practically obtained for inhalation.

Another advantage that this form of inhaler possesses is, that if inadvertently the patient should, instead of sucking, blow into the apparatus (a very common mistake) no inconvenience can result; neither can the acid or ammonia be damaged. A further advantage is that the apparatus affords facility for the use of remedial agents in the form of powder. When employing such agents, a piece of dry sponge is placed in the enlarged receptacle provided at the lower end of the suction-tube, and powdered remedial agents may be placed at the bottom of the vessel A, the draft of air caused by suction being in such cases suffi-

cient to stir up and suspend them in the body of the inhaler, and their filtration being effected by their passage through the dry sponge into the suction-tube.

5 What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the vessel A, having a removable stopper, B, the tubes C C', for containing separate remedial agents fitted to openings in said stopper, and the suction-tube D,

also fitted to said stopper, and having its inner end enlarged to form a receptacle for a sponge, substantially as herein described.

London, England, September 14, 1887.

FREDERICK H. GLEW.

Witnesses:

H. K. WHITE,

G. H. G. MATHIESON,

Both of 6 Bream's Buildings, London, E. C.