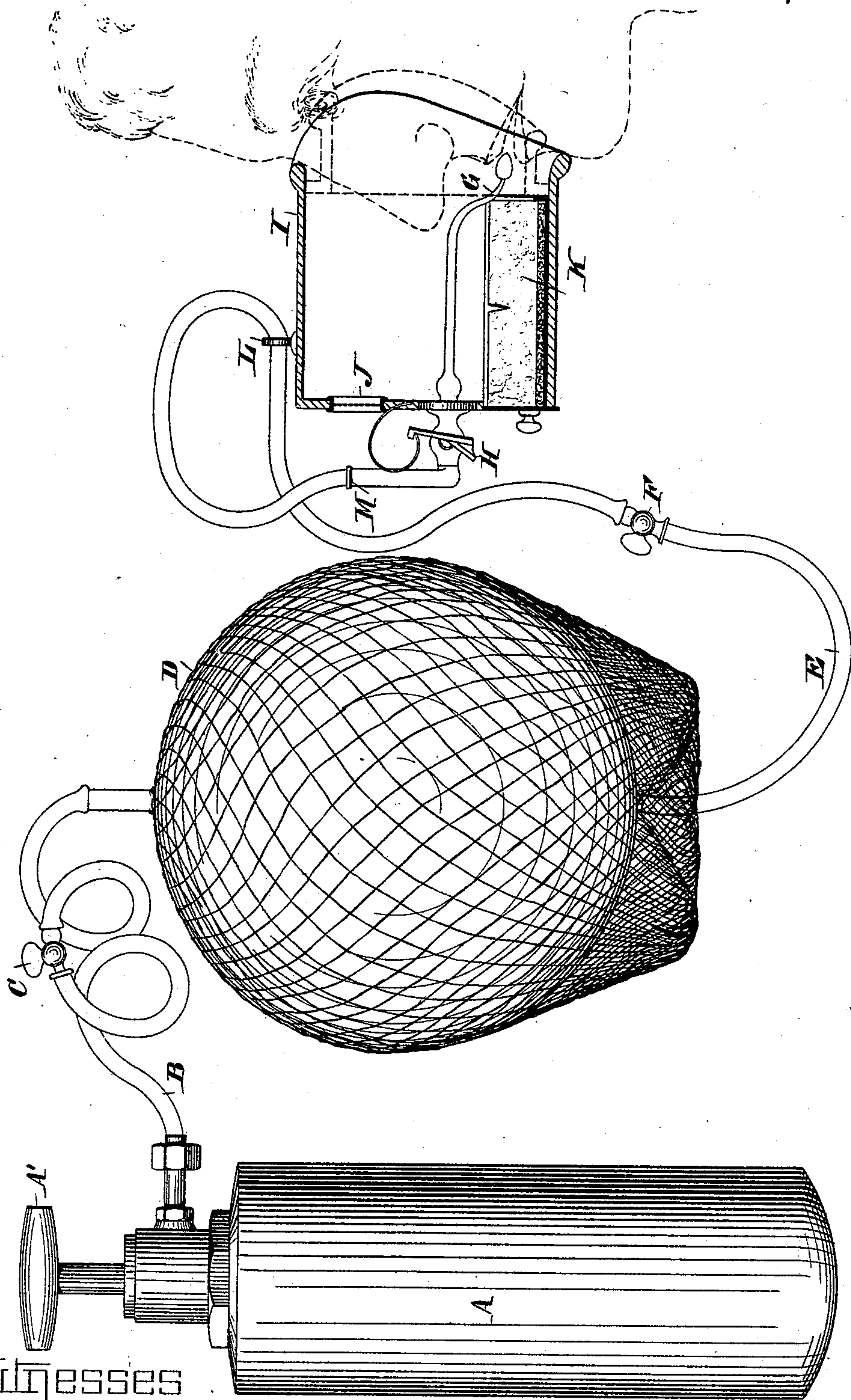


(No Model.)

T. G. H. NICHOLSON.
INHALER.

No. 516,401.

Patented Mar. 13, 1894.



Witnesses
F. J. Elmore
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Inventor
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UNITED STATES PATENT OFFICE.

THEOPHILUS G. H. NICHOLSON, OF LIVERPOOL, ENGLAND.

INHALER.

SPECIFICATION forming part of Letters Patent No. 516,401, dated March 13, 1894.

Application filed May 19, 1893. Serial No. 474,796. (No model.) Patented in England June 20, 1892, No. 11,464, and in France January 12, 1893, No. 227,083.

To all whom it may concern:

Be it known that I, THEOPHILUS GEORGE HUSBAND NICHOLSON, surgeon, a subject of the Queen of Great Britain, residing at Liverpool, in the county of Lancaster, in the Kingdom of England, have invented certain new and useful Improvements in Inhalers for Inducing Anæsthesia, (for which I have obtained Letters Patent in Great Britain, No. 11,464, dated June 20, 1892, and in France, No. 227,083, dated January 12, 1893,) of which the following is a specification.

This invention has for its object an oxy-chloroform or improved inhaling apparatus whereby chloroform, &c., can be inhaled without danger from asphyxia, and the invention consists essentially in forming a face or mouth piece admitting oxygen, or in some cases even compressed air (with or without an excess of oxygen) to a patient's nose and mouth while inhaling chloroform.

The invention is best described by aid of the accompanying drawing, which represents my apparatus partly in side elevation and partly in section, and illustrates the manner of using it.

A, is an ordinary high pressure gas cylinder of oxygen as now sold: A' the key for turning its square cock: B a pipe therefrom having a cock C for disconnecting the elastic bag from the cylinder when filled for use: D a gas bag with protecting net: E a further pipe therefrom having a cock F for cutting off the inhaler when required to refill. This pipe leads to a bent tube terminating in a nozzle G about one-fourth of an inch in front of the lips of the patient, as well to allow of the oxygen being inhaled through the nose as to prevent its being bitten. Interposed between the said tube and the cock F is a spring cock H with a button H' which can be pressed at will by the finger of the manipulator and thus admit oxygen from the bag. The cock is held normally closed by a spring N.

I is a receptacle constructed preferably of patent leather, or if preferred of papier maché, sheet lead, tin, vulcanite, celluloid or other suitable material, having one end open and nicely adjusted to the face.

J is a ventilating opening in the same covered or protected by wire gauze.

K is a sliding tray retaining in position a

thick felt-like substance or pad for containing the requisite quantity of chloroform and to prevent its too rapid evaporation, capable also of being drawn out for re-charging and of being returned to the receptacle I through the opening provided for the purpose, as well as for admitting a further supply of atmospheric air in case oxygen be not used. The tray may be withdrawn to any extent desired, and left in that condition while the apparatus is in use.

L is an eye or ring to keep the tubing in position and prevent kinking.

M is the junction of rubber with rectangular metal tube. This portion of rubber tubing may be of such length as to keep the bag out of the way.

The mode of action is as follows:—The bag D is carefully filled from the cylinder A by turning on more or less the cock A'. The moment the bag is fully or sufficiently expanded, the cock C previously opened is closed, the cock F having been closed all along. The person to be chloroformed now has the inhaler placed over the nose and mouth, more or less closely as may be deemed expedient, as shown by dotted lines in the drawing. The operator opens the cock F and presses the button on cock H, thus allowing to the patient as much or as little oxygen through the nozzle G as may be necessary. By the valve H, the supply of oxygen can be rendered continuous or intermittent at will. By thus hyperoxygenizing the atmosphere in the chamber I, or supplying oxygen direct to the mouth, "accidental asphyxia" as it is termed, is prevented, and the principal and greatest danger associated with the administration of chloroform is done away with.

The receptacle I may be adapted to fit the profile of a child's face as well as that of an adult. This is effected by providing a telescopic sleeve or face pad on I, having a mouth formed to fit a different profile from the other. If, therefore, the mouth of the receptacle I does not fit the profile required, the requisite sized pad may be added or drawn forward as the case may be, so that the latter covers the mouth and nose of the patient. It will be thus seen that the inner telescopic sleeve may be drawn forward when the device is to be used by a child, and may be returned within

the receptacle I, when the profile of the user is of a different size.

I have described one way in which my invention may be carried into effect, but it is obvious that, once given the general idea, alterations may be made without departing from the principle of the invention, *e. g.* the tray K, instead of sliding as shown in the drawing, may be hinged and the spring cock H may have any suitable kind of spring or even an elastic band instead of what is shown on the drawing.

What I claim is—

1. An oxy-chloroform inhaling apparatus consisting of a non-porous, semi-flexible chamber, box or receptacle to be placed over the mouth and nostrils and adapted to contain chloroform, in combination with a device for supplying oxygen or oxygenated air, substantially as described.

2. The combination with the inhaler having the tube and nozzle G, and with the gas-bag D, for containing oxygen, of a tubular connection between said bag and nozzle, and a cock in said connection for controlling the flow of gas.

3. The combination with a chamber or receptacle I, having an open end adapted to fit over the face of the user, of a telescopic sleeve having its end of a different contour than that of the part I and adapted to be extended beyond the receptacle for use, and when not in use to be located within the same.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

T. G. H. NICHOLSON.

Witnesses:

G. C. DYMOND,

H. P. SHOBRIDGE.