E. SCHOFIELD.

Inhaling Apparatus.

No. 145,758. Patented Dec. 23, 1873.

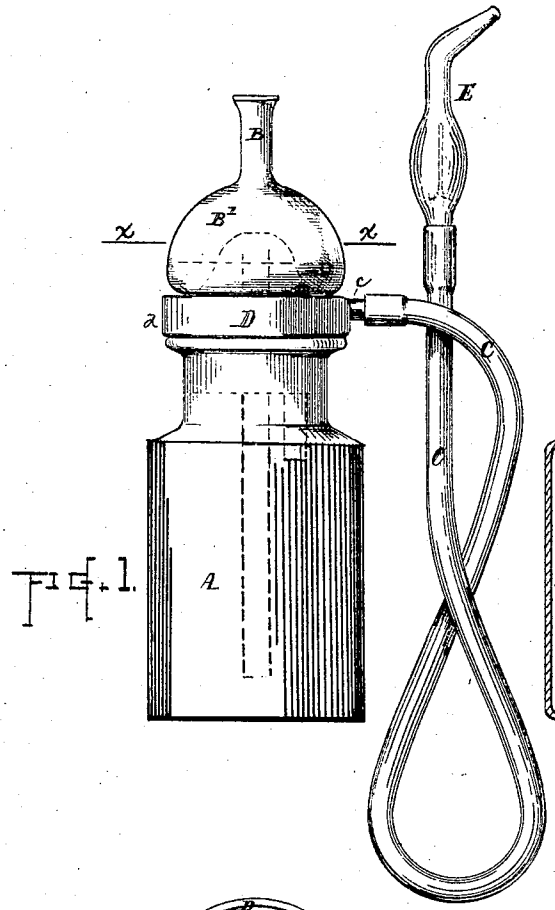

FIG. 1.

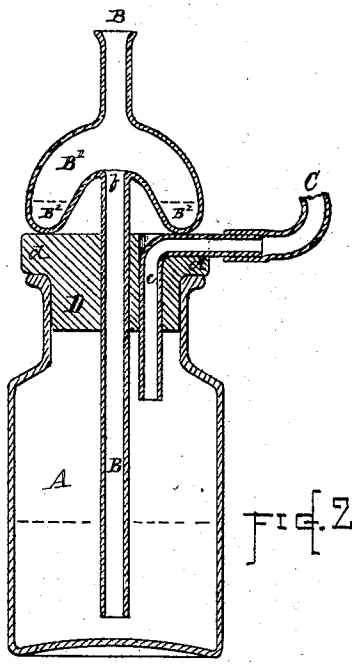

FIG. 2.

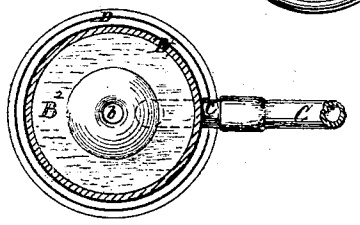

FIG. 3.

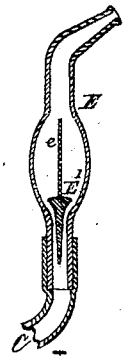

FIG. 4.

Witnesses

Inventor

Edwin Schofield

UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN INHALING APPARATUS.

Specification forming part of Letters Patent No. **145,758**, dated December 23, 1873; application filed October 27, 1873.

To all whom it may concern:

Be it known that I, EDWIN SCHOFIELD, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Inhaling Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings which form a part of this specification, and in which—

Figure 1 represents a side view of my improved inhaling apparatus. Fig. 2 represents a central vertical section of the same. Fig. 3 represents a horizontal section at line *x x*, Fig. 1, and Fig. 4 represents a vertical central section of the mouth-piece.

The object of my invention is the perfection of inhaling apparatus, with a view to rendering it more efficient in its operation, more convenient for use, and more ornamental and desirable in its general construction and arrangement of parts. To this end my invention consists in a peculiarly-constructed acid-chamber of the inlet-tube, in a peculiarly-constructed valved mouth-piece, and also in the combination and arrangement of the several parts of the inhaler in relation to each other, in the manner shown and described.

In the drawings, A denotes the main receptacle, which may be of any suitable form, preferably a glass vessel with a wide mouth. B indicates the inlet-tube, C the draft-tube, D the stopper, and E the mouth-piece, which parts I will describe in detail. The inlet-tube B I make of glass, in the peculiar form shown, the acid-chamber B^1 being situated near its upper end, and consisting of a pear-shaped expansion blown in the tube, which is otherwise straight, the lower part of said pear-shaped expansion being extended up into the interior of the outer portion, in such manner as to produce an annular basin, B^2, for the acid around the inlet *b* or passage of the tube, as fully illustrated in the drawings. The portion of the tube B below the acid-chamber extends down through the central part of the stopper D to near the bottom of the main receptacle, and the lower portion of the pear-shaped expansion B^1 fits down upon the top of the stopper, so that the acid-chamber forms a dome-like termination and gives to the upper portion of the inhaler an ornamental and graceful appearance. By constructing the acid-chamber of the inlet-tube B in the peculiar form shown the liquid acid is prevented from entering the main receptacle when the inhaler is inclined or tipped over and rolled on its side, as when accidentally overturned, and the acid can also be poured out through the top end of the tube B by inverting the inhaler, and the chamber be recharged with acid without discharging the contents of the main receptacle A or mixing the acid therewith. The acid, when placed in the basin B^2, has a comparatively large surface exposed to the action of the incoming air, so that the air becomes highly charged with the acid fumes as it passes into the main receptacle. The stopper D may be of cork, rubber, or other suitable material, and is made with a broad flange, *d*, at its upper part, which projects beyond the circumference of the acid-chamber B^1, and forms a convenient rim by which to grasp the parts when removing the stopper from the receptacle A, and with some forms of receptacle serves as a guard to prevent injury to the tube B in case the inhaler is overturned upon its side, the edge of the stopper receiving the shock instead of the glass of the acid-chamber. The draft-tube C I form of flexible tubing, provided with suitable fittings at the ends. The fitting at the receptacle consists of a small glass tube, *c*, turned at an angle so as to enter at the side of the stopper D beneath the acid-chamber B^1, and pass down through the stopper to the interior of the receptacle A, as indicated in Fig. 2. The outer end of the tube C I furnish with a peculiar mouth-piece, E, formed of glass, and made with an oval or elliptical expansion or bulb at its central part, and within the chamber formed by said expansion I arrange a valve, E^1, having a long conical point which extends down into the opening or passage, and an upward-projecting spindle, *e*, whereby the valve is prevented from turning within its chamber, the valve being otherwise free to move up and down, so that, when air is drawn through the tube C from the receptacle A, the valve raises and permits it to pass out through the mouth-piece, but closes the passage and resists any inward pressure or current toward the receptacle. The valve E^1 may be made

from vulcanized rubber, ivory, glass, or other suitable material, and its upper portion or spindle *e* may be turned or ornamented with miniature images or grotesques, as desired. The valve E^1 is entirely inclosed within the bulb of the mouth-piece, the parts being placed in position during the operation of blowing the glass. It cannot, therefore, be removed without destroying the bulb, and is thus protected from injury or removal.

It will be observed that the arrangement of the several parts of the inhaler in relation to each other is such as to produce a compact and symmetrical form convenient for use. The style may be somewhat varied by changing the shape of the main receptacle, making it in globular, ovoid, or other form. Colored glass may also be used for the receptacles, inlet-tubes, and mouth-pieces, thus imparting to the inhaler a very neat, effective, and highly ornamental appearance.

The operation of an inhaling apparatus is so well known that it is unnecessary to give a prolonged description thereof. The chamber B^1 is charged with a liquid acid, and the receptacle A with a suitable alkali in water, each to the height indicated by dotted lines in Fig. 2. The air is then drawn in through the inlet-tube and receptacle, and the gas generated by the mixture of the acid fumes and alkali is inhaled from the mouth-piece E.

I am aware that inhalers have been made having the acid-holder formed in a single piece with the inlet-tube, and with said acid-holder within the main receptacle, and I do not herein make claim, broadly, to a tube so constructed and arranged. Neither do I broadly claim the use of a valve with the draft-tube of an inhaler; but

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

1. The inlet-tube B for inhalers, when constructed with the pear-shaped expansion or domed chamber B^1, and annular acid-basin B^2, located above the stopper D, substantially as shown and described.

2. The combination with the draft-tube C in an inhaler, of the mouth-piece E, consisting of a bulbed glass tube, having valve-puppet E^1 confined within the bulb, as shown and described.

3. The combination, with the main receptacle A, of the inlet-tube B, having a pear-shaped expansion, B^1, and annular acid-basin, B^2, the flanged stopper D *d*, draft-tube C *c*, said parts being constructed of the peculiar forms shown, and arranged in relation to each other as set forth, for the purpose stated.

EDWIN SCHOFIELD.

Witnesses:
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