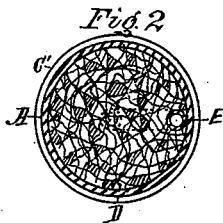
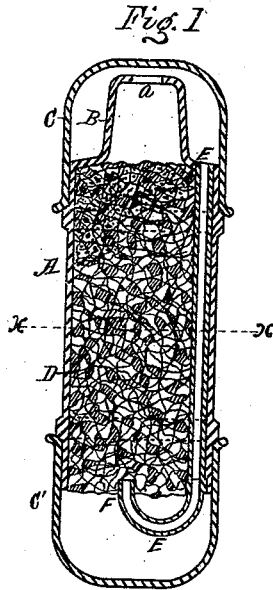


J. LEWIS.
Inhalers.

No. 196,812.

Patented Nov. 6, 1877.



WITNESSES
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UNITED STATES PATENT OFFICE.

JAMES LEWIS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN INHALERS.

Specification forming part of Letters Patent No. **196,812**, dated November 6, 1877; application filed July 31, 1877.

To all whom it may concern:

Be it known that I, JAMES LEWIS, of Chicago, in the county of Cook and State of Illinois, have invented a new, useful, and Improved Inhaling Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal central section of an inhaling apparatus embodying my invention; and Fig. 2, a transverse section of the same, taken on line *x x* in Fig. 1.

Like letters of reference indicate like parts.

My invention relates to that class of inhaling apparatus in which the medicated liquid is atomized by being drawn in connection with air through porous material, and the object of my invention is to render the apparatus more convenient in use, and the atomizing of the liquid more complete.

To that end my invention consists in the construction and arrangement of the several parts of the apparatus, as hereinafter more fully described and claimed.

In the drawing, A represents a cylindrical case, which may be made of any suitable material, such as metal, glass, or vulcanized rubber, and of any desired size.

The case is made open at one end, and is reduced in diameter at its opposite end, so as to form a mouth-piece, B, as shown in Fig. 1, and which is provided with an opening, *a*, formed in its end, and through which air can freely pass from the interior of the case. C and C' are caps removably fitted upon the ends of the case.

D represents a filling of sponge or other equivalent porous material, which is arranged within the case A, and so as to fill the case, as shown in Fig. 1.

E represents an open-ended tube, which passes through the end of the case at a point near the mouth-piece, and extends the entire length of the case, and is curved at its end

opposite to the mouth-piece, so as to bring said curved end to a point at or near the center of the case laterally, as shown at F, and into the filling D, whereby the air drawn through the mouth-piece will pass through the tube, and centrally through the medicated filling in the case.

In using said apparatus, the cap C' is removed from the case and the filling saturated with the desired medicated liquid, when said cap is readjusted upon the case and the cap C removed. The patient then inserts the mouth-piece within his mouth, and draws or inhales the air through the same. The air, passing through the tube E into and through the filling, and in contact with the medicated liquid contained in the filling, atomizes the liquid, so as to form a vapor, which passes with the air into the lungs of the patient.

If desired, the inhaler may be applied to or inserted in the nose of the patient, and the medicated air and atomized fluid inhaled through the nose.

I am aware that inhaling-tubes open at both ends and filled with porous material have been used; but in such tubes much of the air will pass through the tube outside of the filling without becoming charged or medicated, whereas, by my construction, the air must pass directly through the filling and become fully medicated.

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

In an inhaling apparatus, the combination, with the case A, filling D, caps C and C', and mouth-piece B, provided with the opening *a*, of the tube E, entering the upper end of and passing through the chamber of the case, and recurved to enter said chamber at a central point in the lower end thereof, substantially as specified.

JAMES LEWIS.

Witnesses:

N. C. GRIDLEY,
N. H. SHERBURNE.