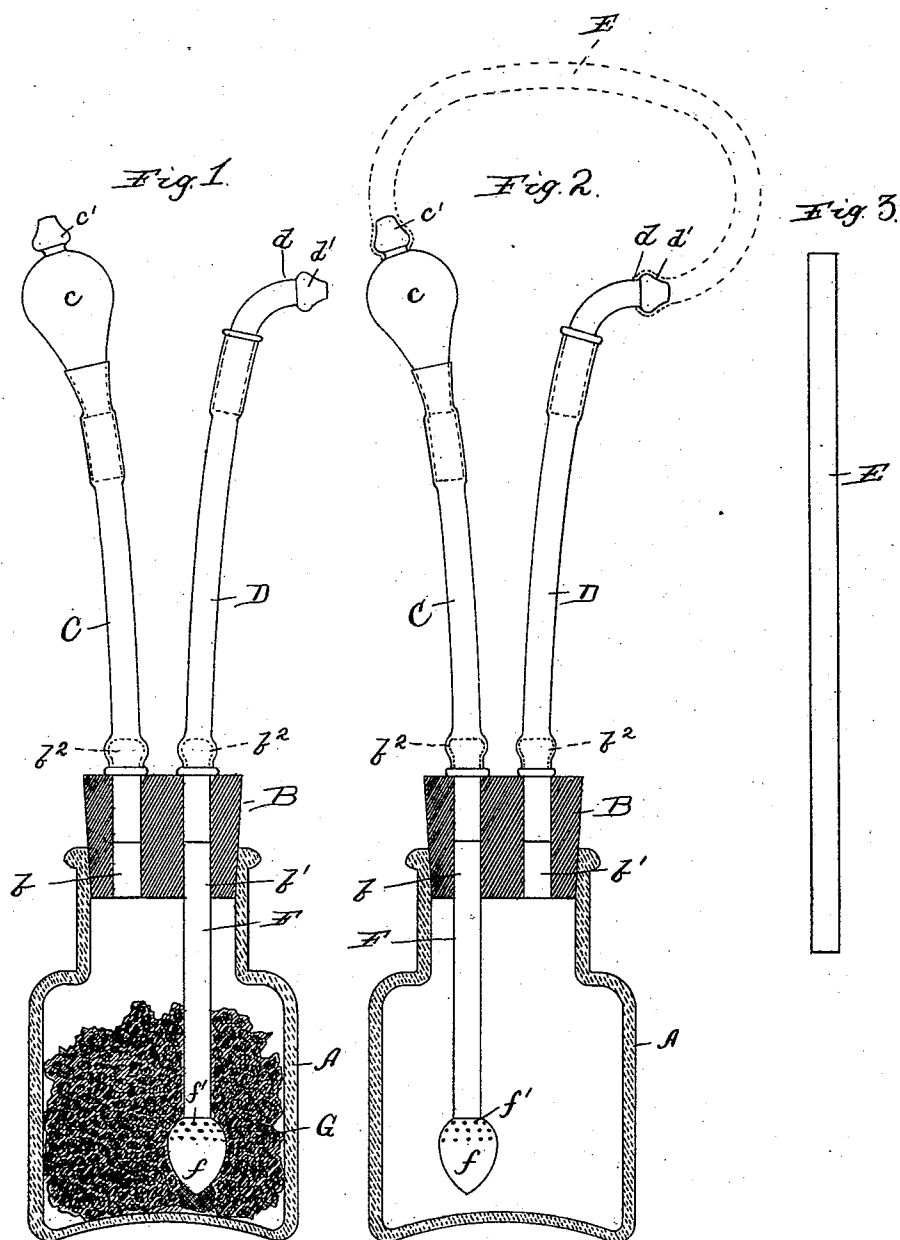


(No Model.)

J. R. CADWELL.
INHALER.

No. 465,456.

Patented Dec. 22, 1891.



Witnesses:

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UNITED STATES PATENT OFFICE.

JASON R. CADWELL, OF WOODLAWN PARK, ASSIGNOR TO HIMSELF, AND
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INHALER.

SPECIFICATION forming part of Letters Patent No. 465,456, dated December 22, 1891.

Application filed October 8, 1891. Serial No. 408,076. (No model.)

To all whom it may concern:

Be it known that I, JASON R. CADWELL, a citizen of the United States, residing in Woodlawn Park, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Combined Inhaler, Inspirator, and Douche, of which the following is a specification.

My invention relates to devices for applying medicament to the nasal passages and throat in the treatment of catarrh and other kindred diseases.

The object of my invention is to provide a device of an efficient, simple, and cheap construction that may be conveniently operated and which will serve either as an inhaler, an inspirator or sprayer, and a douche.

To this end my invention consists in the combination of a bottle or vessel for containing the medicament and furnished with a rubber or other equivalent cork provided with two holes or apertures through the same, two external tubes connected with said cork, one being an inlet-tube and the other an outlet or nasal tube, a third interior tube projecting down inside of the bottle to near its bottom and adapted to be connected at the lower end of the cork with either one of the two exterior tubes to adapt the apparatus to be used either as a douche or as a sprayer or inhaler, and a sponge or other equivalent device inside the bottle and through which the interior tube projects for the purpose of holding and separating the medicament and facilitating its vaporization when air is blown or drawn through the same.

The invention further consists in the novel devices and novel combinations of parts and devices herein shown and described, and more particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference indicate like parts, Figure 1 is a side elevation, partly in section, of a device embodying my invention. Fig. 2 is a similar view showing the interior tube connected with the nasal-tube for operation as a douche. Fig. 3 is a detail view of the third connecting-tube employed for closing the ends of the two exterior tubes.

In the drawings, A represents the bottle,

and B its cork, preferably of rubber, furnished with two holes or apertures *b* and *b'* through the same.

C is an exterior flexible outlet or nasal tube, preferably of rubber, connected at its lower end by a glass coupling or nipple *b*² to the cork B and furnished at its outer end with a nasal-nozzle or nose-piece *c*, preferably of about the shape indicated in the drawings.

D is the exterior flexible inlet or mouth tube, connected at its lower end by a similar glass coupling *b*² with the cork B and furnished at its upper end with a curved mouth piece or nozzle *d*. The nasal-nozzle *c* is furnished with a shouldered end *c'*, and the mouth-piece nozzle *d* is furnished with a similar shouldered end *d'*, both being of a somewhat conical or pear shape to facilitate slipping over them and properly holding the flexible coupling-tube E, which serves to close the two exterior tubes when the apparatus is not in use, and thus preventing the escape or deterioration of the medicament in the bottle A.

F is the interior tube, preferably of glass and furnished with an enlargement or bulb *f* at its lower end, provided with perforations *f'* through the same. This interior tube F is inserted in one of the holes *b* or *b'* in the cork B and projects from the lower end of the cork to near the bottom of the bottle A and through the sponge G. The sponge G fills or partially fills the interior of the bottle and serves by its capillary action to separate or spread the medicament, so that the air when drawn or blown into the bottle through the inlet-tube D and its connecting interior tube F will have a better opportunity to vaporize, take up, and become charged with the medicament before issuing out through the outlet or nasal tube C. To better facilitate this action I further locate the perforations *f'* in the bulb *f* at the upper half or part of the same, as indicated in the drawings. When the interior tube F is connected with the outlet-tube P, as shown in Fig. 1, the apparatus may be used as a sprayer or inspirator by inserting the exterior tube D in the mouth and blowing through the same, thus spraying or blowing the medicament-charged air into the nostrils through the nasal-tube C. The apparatus when thus connected may also be used as an inhaler by in-

serting the exterior tube C in the mouth and leaving the inlet-tube D free, and thus drawing the air in through the apparatus.

To adapt the apparatus for use as a douche, the interior tube F is connected with the exterior outlet-tube C, as indicated in Fig. 2. When thus connected, by blowing through the tube D the liquid medicament in the bottle will be forced out through the interior tube F and its connecting exterior tube C, thus operating as a douche. At this time the sponge G should be removed from the bottle, as indicated in Fig. 2 or a separate bottle, in which the cork B fits, may be used for this purpose. The cork B serves as the means of connecting the movable or adjustable interior tube F with either the exterior inlet-tube D or the exterior outlet or nasal tube C, as occasion may require.

I claim—

1. The combination, with bottle A, furnished with sponge G and cork B, having holes or apertures $b\ b'$ through the same, of two exterior tubes C D, connected with said cork, and an interior tube F, projecting into the bottle from the lower end of the cork and adapted to be connected with either one of said exterior tubes to adapt the apparatus for use as a douche or as a sprayer or inhaler, as occasion may require, substantially as specified.

2. The combination, with bottle A, of cork B, two exterior tubes C D, connected there-

with, and an interior adjustable tube F, adapted to be connected with either one of said exterior tubes, said exterior tubes being each furnished with a nozzle provided with a shouldered end and a flexible coupling-tube E for closing said exterior tubes C D, substantially as specified.

3. The combination, with bottle A, having cork B, furnished with holes or openings $b\ b'$ through the same, and glass couplings $b^2\ b^2$, of flexible exterior tubes C D, furnished with nozzles $c\ d$, and interior tube F, adapted to be inserted in either one of the holes of said cork, and thus connecting with either one of said exterior tubes, as desired, substantially as specified.

4. The combination, with bottle A, furnished with sponge G, and cork D, having holes or apertures $b\ b'$ through the same, of two exterior tubes C D, connected with said cork by couplings $b^2\ b^2$, and an interior tube F, inserted in one of the holes of said cork and provided at its lower end with a bulb or enlargement f , furnished with perforations f' , said exterior flexible tubes C D having one nasal-nozzle c and the other a mouth-piece d , substantially as specified.

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Witnesses:

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