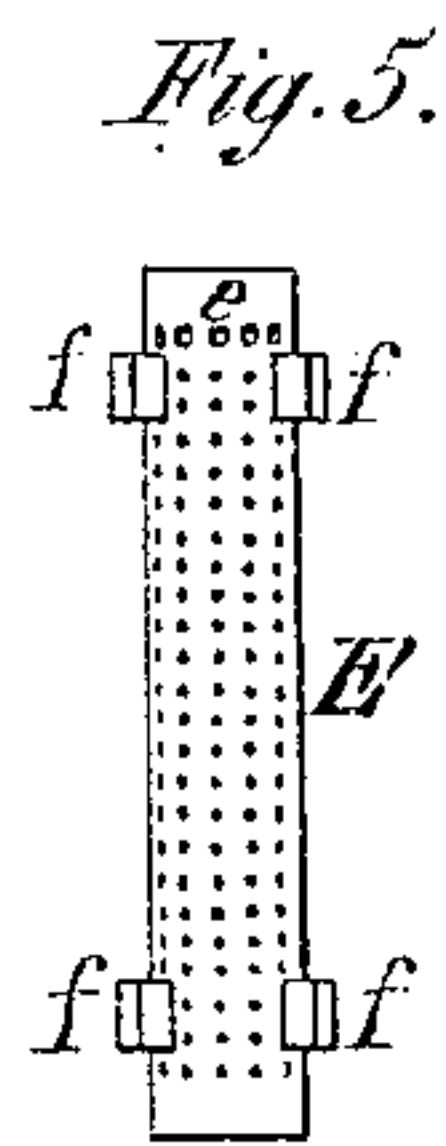
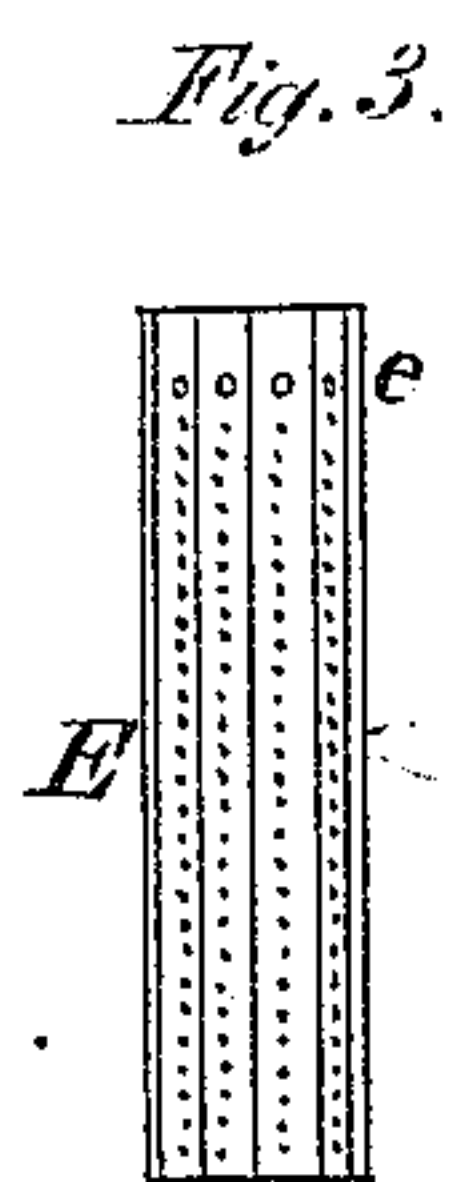
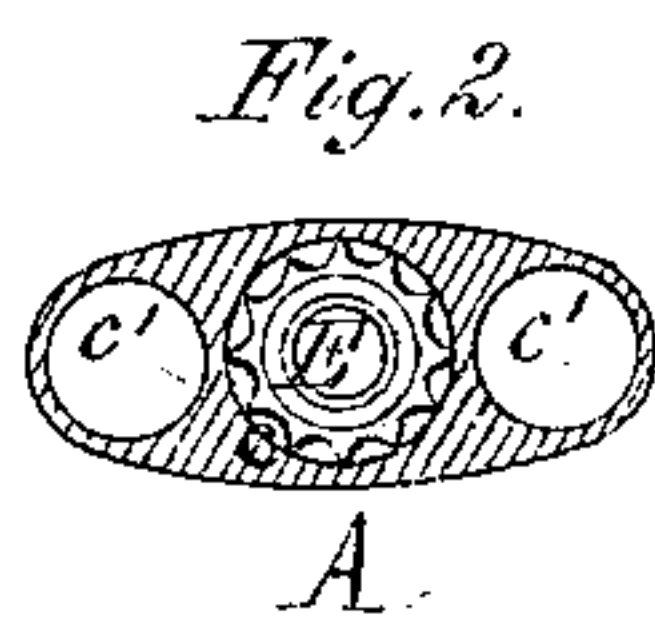
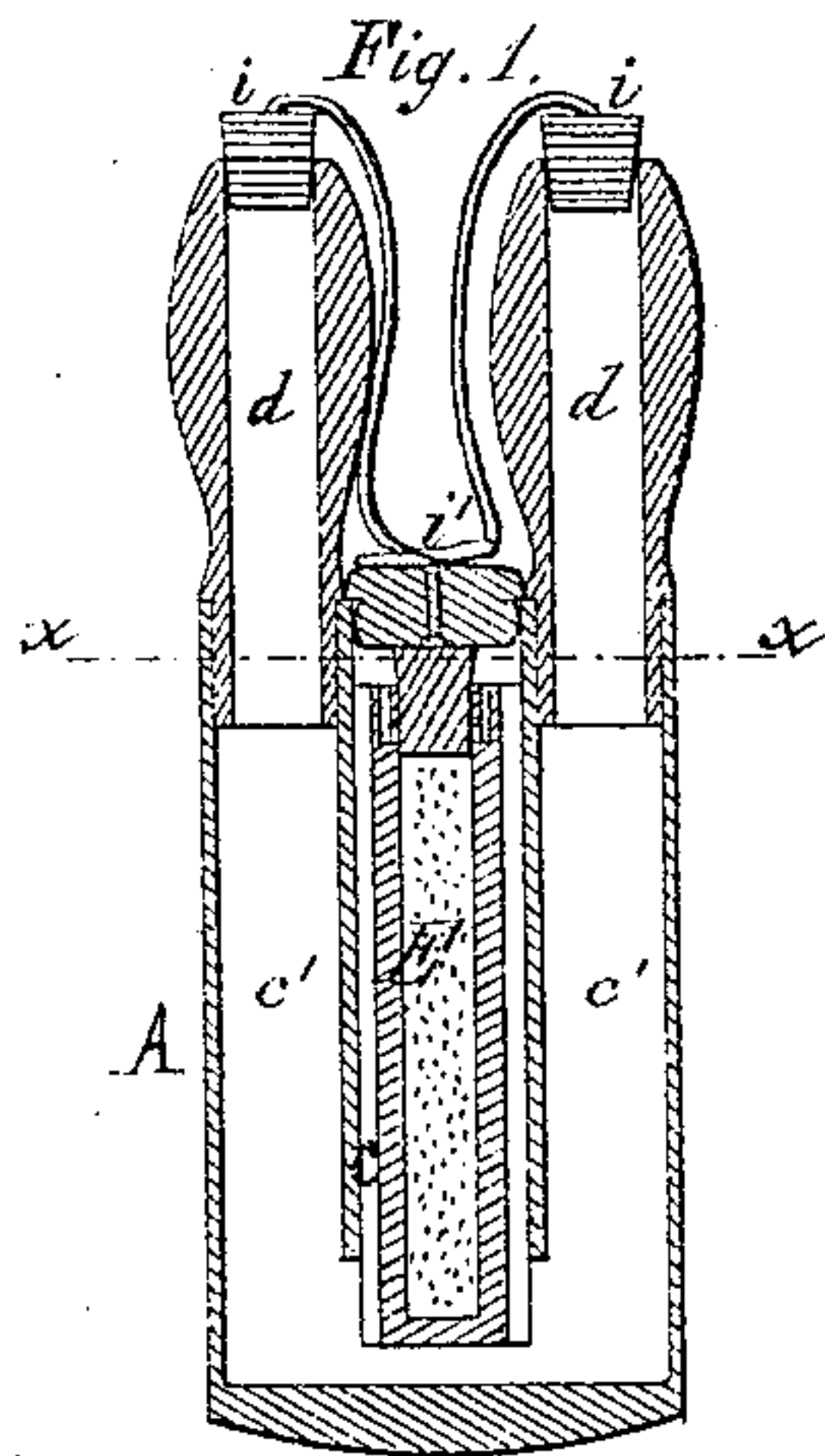


W. R. CRUMB.
Pocket-Inhalers.

No. 151,570.

Patented June 2, 1874.



Jno. J. Bonner.
Edmond Wilhelm. Witnesses.

Wm R. Crumb Inventor
by Jay Hyatt Atty.

UNITED STATES PATENT OFFICE.

WILLIAM R. CRUMB, OF BUFFALO, NEW YORK.

IMPROVEMENT IN POCKET-INHALERS.

Specification forming part of Letters Patent No. **151,570**, dated June 2, 1874; application filed January 12, 1874.

To all whom it may concern:

Be it known that I, WILLIAM R. CRUMB, of the city of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Inhalers, of which the following is a specification:

My improvements relate to that class of inhalers which are adapted to be conveniently carried in the pocket and used from time to time, as occasion requires, such as is shown and described in Letters Patent No. 134,858, granted to me on the 14th day of January, 1873.

In the accompanying drawing, Figure 1 is a sectional elevation of an inhaling apparatus provided with my improvement. Fig. 2 is a horizontal section in line *x x*, Fig. 1. Fig. 3 is a detached view of the removable receptacle. Fig. 4 is a plan view, and Fig. 5 an elevation, of a modified form of my improved receptacle.

Like letters of reference designate like parts in each of the figures.

A is a flat or oval case, provided with a central bore or passage, *c*, extending nearly through the case, and communicating, at its end, with two similar passages, *c' c'*, on either side, the outer ends of which are provided with nozzles *d d*, arranged and adapted to fit in the nostrils or two passages of the nose—the air in using the instrument entering the mouth of the central passage, and passing thence to the nostrils through the side passages in an obvious manner.

This arrangement of the air-tubes and nozzles is similar to that shown and described in my former Letters Patent above referred to, by which a most compact instrument for inhaling in both nostrils at the same time is produced.

These instruments have heretofore been used by inserting in the central passage *c* some porous material saturated with the medicinal liquid, which results in an unequal charging with the vapors of the air inhaled, the strength of the vapors rapidly diminishing as the instrument is used, unless the packing material is frequently resaturated, which involves more or less inconvenience, besides the necessity of carrying a separate vial of the liquid, which is liable to get lost or broken.

These difficulties I obviate by fitting loosely in the air-tube a small receptacle, E, of cylindrical or other suitable shape, containing the medicated preparation.

This reservoir may be made of metal, glass, rubber, wood, or other suitable material, in which the substance can be secured. I prefer to make this reservoir of wood, in the shape of a small hollow cylinder provided with minute perforations, that will expose the liquid to the action of the air as it is inhaled, while they will prevent the escape of the liquid, except as it is absorbed by the air. This cylinder may be provided with a few larger perforations, *e*, only near the open end, so as to be closed by the cork or stopper when inserted in the end of the cylinder, and be opened when the stopper is partially withdrawn, so as to permit the escape of the required quantity of the liquid without requiring the entire withdrawal of the cork, whereby the instrument can be readily charged without danger of spilling, or of overcharging the tube. Should the tube be so overcharged as to cause a drop of the liquid instead of the vapor thereof to be drawn into the nasal passages, the most unpleasant if not dangerous results would ensue.

I prefer to flute or corrugate the outer surface of the reservoir, so as to increase the surface exposed to the air, as the liquid, whether allowed to escape through the fine perforations or intermittently through larger ones, will diffuse itself over the outer surface. The reservoir being of less size than the air-tube, any suitable packing material, as a strip of paper or cloth, may be wound around the reservoir.

By providing the ends of the reservoir with lugs *f*, the reservoir will be kept in such a position as to leave an equal annular space around it for the passage of the air.

When it is desired to use a solid or plastic substance, the ends of the reservoir can be left open, or partially so, and the size of the perforations varied accordingly, so as to permit access of the air thereto.

When not required for use the nozzles and mouth of the air-tube are closed by suitable stoppers *i i'*, secured by a string, as shown in the drawings.

What I claim as my invention is—

1. In combination with the air-tube *c*, the externally - corrugated reservoir *E* inclosed therein, as and for the purpose set forth.

2. The reservoir *E*, externally corrugated for increasing the surface, and perforated, as and for the purpose set forth.

3. The removable reservoir *E*, provided with perforations *e*, combined with the stopper *i'*, as and for the purpose set forth.

WM. R. CRUMB.

Witnesses:

JNO. J. BONNER,
EDWARD WILHELM.