J. B. De GUISE.

INHALER.

No. 192,488. Patented June 26. 1877.

Fig. 1.

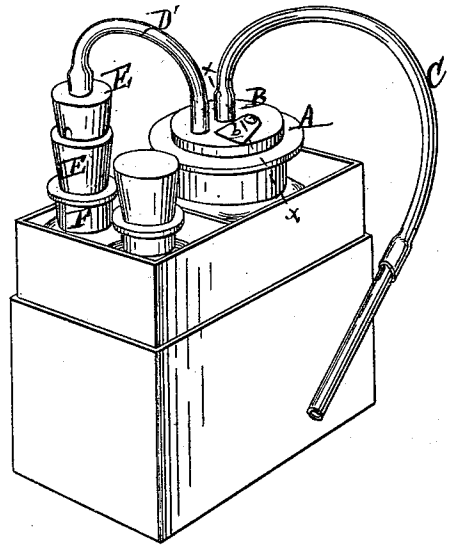


Fig. 2.

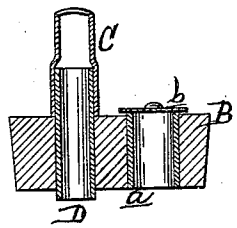


Fig. 3.

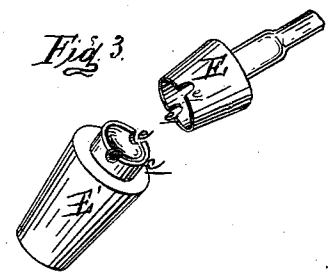
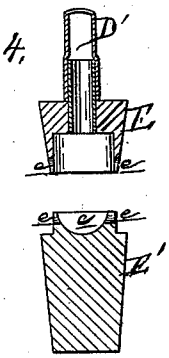


Fig. 4.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN INHALERS.

Specification forming part of Letters Patent No. **192,488**, dated June 26, 1877; application filed January 13, 1877.

To all whom it may concern:

Be it known that I, JOSEPH B. DE GUISE, M. D., of Detroit, in the county of Wayne and State of Michigan, have invented an Improvement in Vaporizing-Inhalers, of which the following is a specification:

The nature of my invention relates to an improvement in apparatus for administering medicated vapors by inhalation, wherein a portion of the volatile medicament is vaporized and drawn through water in a separate vessel at each inspiration of the patient; and it consists, first, in a stopple for the medicament-bottle, made in two parts, either of which will cork the vial, while the lower one forms a cup to contain a small quantity of the medicament when the latter is to be used in small doses; and, secondly, in the combination, construction, and arrangement of the several parts of the apparatus, all as more fully hereinafter explained.

Figure 1 is a perspective view. Fig. 2 is a cross-section of the cork of the water-bottle, through the valve at *x x*. Fig. 3 is a detached perspective view of the stopple, with the two parts separated. Fig. 4 is a vertical section of the same.

In the drawing, A represents the water-bottle, having a cork, B, fitted to its mouth, with a glass cylinder, *a*, inserted in it, over which is seated a valve, *b*, consisting of a thin membrane, fastened at one end to the cork. C is the inhaling-tube, inserted in the cork, and D the vaporizing tube, extending nearly to the bottom of the bottle. A flexible tubular continuation, D′, connects it with a glass tube inserted through a cup-shaped rubber stopple, E, which fits the mouth of the medicament-bottle, F, or over a raised cup, *c*, in the top of a solid stopple, E′, also adapted to close the said vial. Preferably the cup *c* is of glass, and molded into the stopple. Notches *e e* are cut in the rims of the cup and of the bottom of the stopple E, which, when turned so as to coincide will admit air at each inspiration to vaporize a small dose of the medicament contained in said cup. By turning the stopple E partly around, the apertures will be closed, and evaporation prevented.

In administering larger doses the stopple E is inserted directly into the mouth of the vial F.

During inhalation the cylinder *d* is closed by the valve *b* by atmospheric pressure upon the membrane; but, if the patient exhales into the bottle A the membrane at once lifts and permits the breath to escape. The area of the cylinder *a* is greater than that of the tube C, so that there can be no pressure in the bottle to expel the water through the tube D.

What I claim as my invention is—

1. In an inhaling apparatus, the combination, with the water-bottle A medicament-bottle F, and their flexible connection D′, of the double stopple E E′, the part E being secured to the end of the said flexible connection, and the cup *c*, and notches *e e* in the said stopple, whereby the medicine can be drawn in small quantities from the said cup *c*, or directly from the bottle, substantially as described.

2. The inhaling apparatus described, consisting of the water-bottle A, medicament-bottle F, cork B, having valve *b*, double stopple E E′, and flexible tubes C D′, constructed and and arranged substantially as set forth and shown.

JOS. B. DE GUISE, M. D.

Witnesses:

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R. H. COMBS.