(No Model.)

H. D. CUSHMAN.

INHALER.

No. 476,131. Patented May 31, 1892.

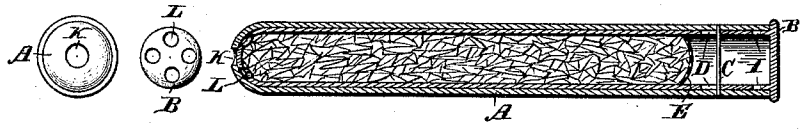

Fig. 1.

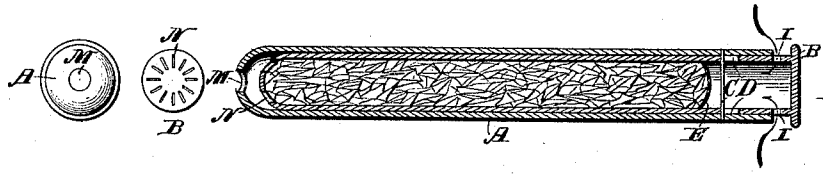

Fig. 2.

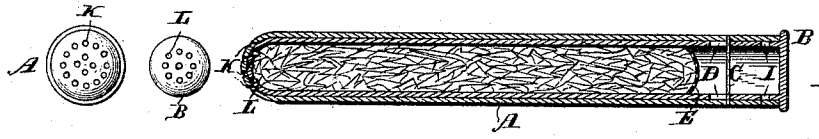

Fig. 3.

Witnesses
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UNITED STATES PATENT OFFICE.

HENRY D. CUSHMAN, OF THREE RIVERS, MICHIGAN.

INHALER.

SPECIFICATION forming part of Letters Patent No. 476,131, dated May 31, 1892.

Application filed May 12, 1891. Serial No. 392,497. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. CUSHMAN, of Three Rivers, county of St. Joseph, and State of Michigan, have invented certain new and useful Improvements in Inhalers, of which the following is a specification, reference being had to the accompanying drawings.

My improvements relate more particularly to the class of inhalers known as "menthol-inhalers," in which crystalline menthol is the medicament used.

The object of my invention is to provide an inhaler of simple construction that can be conveniently opened for use and readily and securely closed when not in use to prevent volatilization and escape of the menthol.

The principal characteristic of my present invention is that I provide a main hollow casing open at both ends, and in connection therewith what I will term a "longitudinally-sliding" sleeve, also open at both ends and adapted to slide longitudinally and open the inhaler, so that air can pass freely through it from end to end and carry the menthol in the usual way by simultaneously opening the passages through the ends of the casing and also through the ends of the sliding sleeve.

Referring to the accompanying drawings, Figure 1 is a section of an inhaler in which the sleeve extends the entire length of the casing and is adapted by its longitudinal movements to open and close both ends of the inhaler simultaneously. Fig. 2 is a similar section of an inhaler, except that there is a slight formal difference in the construction of the device at one end. Fig. 3 shows another formal modification in which there are perforations in the end of the casing and the sleeve, but they are not coincident.

Referring to the letters on the drawings, A indicates a casing, which may be of glass, metal, hard rubber, or any other suitable material open at both ends.

B indicates a longitudinally-sliding sleeve adapted to move a short distance telescopically within the casing and by such movement to open or close the end openings in the casing and the end openings in the sleeve itself, so as to make passages through the inhaler and through the medicament contained within the sleeve for inhalation.

C indicates pins secured diametrically in the casing, and D indicates longitudinal slots in the sleeve, through which the pins pass. These pins serve as guides and stops to limit the longitudinal movement of the sleeves.

In all the figures, E indicates a perforated stopper, which may be of any usual kind—for example, a perforated or reticulated metallic support, as illustrated, or a perforated cylinder or strip to partly close the perforations I in the sleeves to prevent the escape of menthol.

K indicates perforations in the end of the casing, and L indicates perforations in the end of the sliding sleeve, which latter perforations are not coincident with the former, so that when the sleeve is pressed into the casing, as in Figs. 1 and 3, all these perforations will be closed and no air can be admitted into the inhaler; but when the sleeve is slid out, as in Fig. 2, all these perforations are open, so that air can be admitted into the inhaler.

Referring to Fig. 2, M indicates an opening in the casing, and N a solid part of the end of the sliding sleeve adapted to fit and stop said opening. O indicates perforations in the end of the sleeve, which, as well as the holes in the casing, are open, as will be understood, whenever the sleeve is slid outwardly. The stops which I employ prevent the sleeve from being drawn out too far, and it cannot be pushed in too far, because its end will bear against the end of the casing.

There are other formal modifications that might be made in my inhaler by which the principle of my improvement might be embodied, which is the employment of a hollow casing open at both ends, and a hollow sliding sleeve adapted to contain medicament and also open at both ends, having limited longitudinal movement within the casing and adapted by being slid out and in to simultaneously open and close the ends of the casing, so that the inhaler can be used or shut up at will.

What I claim is—

1. An inhaler composed of the combination of a hollow casing open at both ends and a hollow sliding sleeve also open at both ends and nearly of the same length as the casing, said sleeve adapted to contain medicament and to slide longitudinally within the casing and by such movement to unstop the open-

ings both in the sleeve and in the casing at both ends and to close them in like manner, substantially as set forth.

2. In an inhaler, the combination, with a casing open at both ends, of a sleeve also open at both ends, adapted to slide longitudinally with respect to the casing and by such movement to open or close passages through the inhaler, and stop mechanism for limiting the movement of the sleeve with respect to the casing, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

HENRY D. CUSHMAN.

Witnesses:
W. A. HUNTLEY,
GEO. E. MILLER.