

C. H. COLES.

INHALER.

APPLICATION FILED MAY 16, 1906.

Fig. 2.

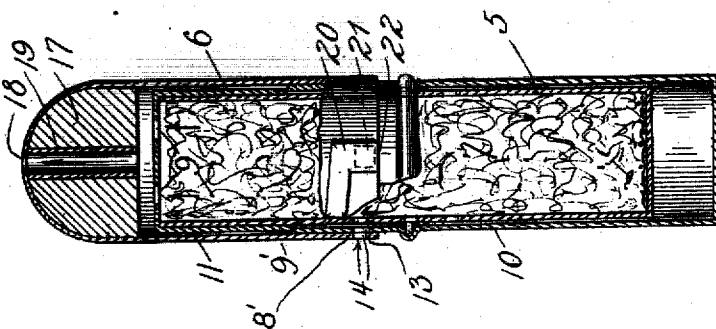


Fig. 1.

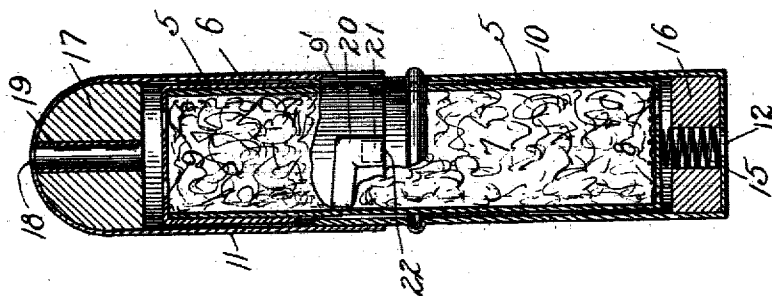
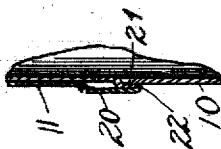


Fig. 3.



Witnesses:

Harry R. L. White.

Ray White.

Inventor:

Charles H. Coles.

By *Forrest Dain & May*
Attys

UNITED STATES PATENT OFFICE.

CHARLES H. COLES, OF SANDWICH, ILLINOIS.

INHALER.

No. 853,626.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed May 16, 1906. Serial No. 317,193.

To all whom it may concern:

Be it known that I, CHARLES H. COLES, a citizen of the United States, residing at Sandwich, in the county of DeKalb and State of Illinois, have invented certain new and useful Improvements in Inhalers, of which the following is a specification.

My invention relates to inhalers, and more particularly to that class of inhalers adapted to contain a porous material to be saturated with a proper medicament, and through which air is drawn and brought into contact with the medicated substance contained therein.

15 The object of my invention is to provide a simple and effective device which may be closed, when out of use, so as to prevent the evaporation of the volatile medicinal substance with which the device is charged, and 20 which may be opened at the time of its use to provide free air passages therethrough.

To these ends my invention consists of certain features of construction and combinations of parts to be hereinafter described 25 and claimed.

In the accompanying drawings; Figure 1 is an elevation in section of one form of my device. Fig. 2 is a similar view of a modification. Fig. 3 is a broken away portion of 30 the locking means for securing the two portions of the outer casing in association and in closed relation when both casings are closed.

Referring to the reference numerals, 5 is the inner casing provided with a covering cap 35 6, containing a fibrous, porous material 7, such as cotton or the like, which is to be saturated with a suitable medicinal substance, such as the active principle of menthol, the oil of mustard, or other like substances. 40 Perforations 8—8 and 9—9 are made in each end of the inner casing 5, for the ingress and egress of the air to be drawn therethrough, by the inspiration of the user.

The casing 5 is to be placed on the inside 45 of the outer casing 9', which latter is composed of two members 10 and 11, the part 10 may be provided with a perforation, as at 12, in Fig. 1, or as at 13, in Fig. 2. In the latter instance the cap member 11 is provided with 50 a perforation 14 which registers with the perforation 13 when the cap member is moved slightly in a longitudinal direction, and closed when the said cap is moved relatively in the opposite direction. The registering 55 openings 13, 14, are provided when the inner casing 5 has no relative movement with re-

gard to the outer casing 9'. A perforation 8' is made through casing 5 in register with perforations 13 and 14.

In Fig. 1 a spring 15 is provided for raising the inner casing 5 from the closure 16, which is contained in the lower end of the outer casing, for the purpose of providing an opening through the perforations 8—8 for the admission of air when the cap member is 65 slightly moved in a longitudinal direction to permit the raising of the inner casing by the spring 15. A closure 17 is provided in the upper end of the cap member 11 to close the perforations 9—9 and the perforation 18 70 when the two members of the outer casing are brought more closely into intimate contact.

It will be noticed that the cap member 11 slips over the upper open end of the member 75 10 of the outer casing.

The closures 16, and 17 are preferably made of cork or some like slightly elastic substance. A metallic tube 19 passes through the cork for the purpose of preserving the 80 opening in the closure 17.

A bayonet-lock, for loosely holding the members 10 and 11, of the outside casing together, is provided in the longitudinal and spiral groove 20, made in the member 11, of 85 the outer casing, and the coacting detent 21, made in the member 10, of the outer casing.

When the parts 10 and 11 are moved first longitudinally toward each other and then slightly rotated, with reference to each other, 90 the detent 21 will have entered the spiral portion of the slot 20, and thereby serves to hold the parts 10 and 11, of the outside casing, in intimate closed relation.

The use and operation of my device is as 95 follows:

The purpose of the absorbent material 7 is to hold in suspension the medicated material from which the gaseous or vaporous matter is given out. This absorbent material is suitably saturated with the desired medicinal preparation, which may take a liquid, powdered or other form, and is placed within the inner casing 5, being closed by the top 6, then the casing 5 is placed within 105 the outer casing 9'. Figs. 1 and 2 show the device open, with all of the air passages opened. If now the end of the casing, containing the opening 18, is placed to the nostril and the breath be drawn forcibly through 110 the nostril, the air will enter the casing (Fig. 1) at the perforation 12, pass through the

perforations 8, of the inner casing, through the porous material 7, taking up the gases from the medicinal material therein, passing out through the opening 9 and then through the opening 18 to the nostril of the user, the air being medicated by its passage through the casing 5. The air (Fig. 2) will pass through the registered openings 13 and 14, through the opening 8', through the upper part of the inner casing through the opening or perforations 9 out of the opening 18 to the nostril of the person using the device. To close the casing, the cap 11 and member 10 are pushed toward each other until the detent 21 enters the spiral portion of the slot 20, the cap 11 is then turned slightly to the left with reference to the member 10 and its rotary action forces the closure 17 into intimate contact with the top or cap 6 of the inner casing 5, closing the perforations 9 and 18 at the upper end of the casing, and (in Fig. 1) causing the inner casing to be depressed against the action of the spring 15 and closing the perforations 8 and 12 by contact with the closure 16 of the inner casing 6. The registering openings 13 and 14, shown in Fig. 2, are closed when the cap 11 is rotated slightly with reference to the member 10.

22 is a lip formed by bending the wall of the groove 20 inwardly, to prevent the withdrawal of the detent 21, to hold the parts 10 and 11 in loose relation.

While I have herein described, for the purpose of illustration, an embodiment of my invention, it is apparent that considerable variation may be made therefrom without departure from the spirit and scope of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent, of the United States, is:

1. In a device of the character described, an inner casing having perforations through each end, an outer casing composed of two members arranged for limited relative movement, having perforations in each end out of register with the perforations in the inner

casing, a closure, in the end of each member, to close the perforation in both casings, and a means for holding said members in closed or locked position.

2. In an inhaler, an inner containing casing provided with perforations, an outer casing composed of two parts inseparably connected together, capable of limited, relative rotary and longitudinal movement, and having perforations out of register with the perforations in the inner casing, and a locking means, comprising a bayonet joint, by the operation of which the two parts of said outer casing are longitudinally contracted and held and said perforations are closed.

3. In an inhaler, an outer perforate casing, 9', an inner perforate casing 5, a yielding closure 17 having an opening 18 lined with a tube of strengthening material to retain said opening clear.

4. In an inhaler, an exterior perforate casing composed of two members, a yielding closure 17 having a perforation 18 in one end thereof, an inner perforate containing casing, a spring 12 and a yielding closure 10, and a means for securing the two members of the exterior casing in associate relation.

5. In an inhaler, an inner containing casing provided with perforations in each end, an outer casing composed of two parts, and having perforations in its ends, out of register with the perforations in the inner casing, a closure of yielding material in each end of the outer casing, having perforations registering with perforations in the outer casing, a spring for raising the inner casing when the two parts of the outer casing are longitudinally extended, and a means for securing the two parts of the outer casing when said casing is longitudinally contracted to close the perforations.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

CHARLES H. COLES.

In the presence of—
FORÉE BAIN,
MARY F. ALLEN.