Oct. 21, 1941. G. LUFKIN 2,259,759

INHALER

Filed June 15, 1940

Fig. 1.

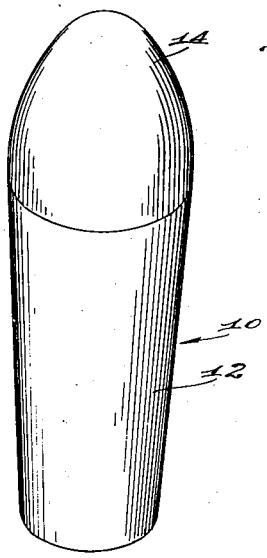


Fig. 2.

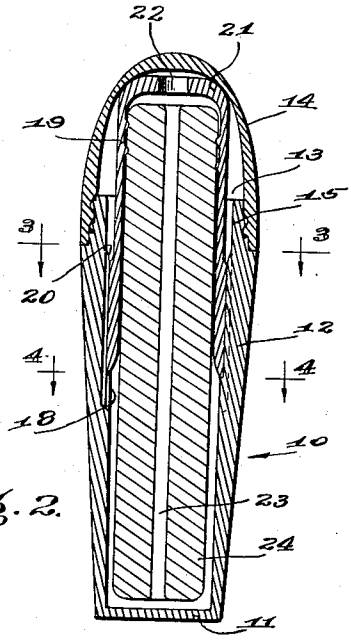


Fig. 5.

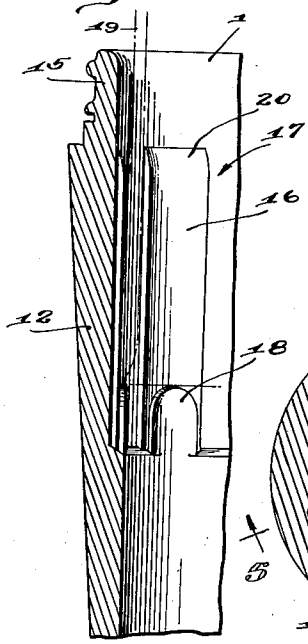


Fig. 4.

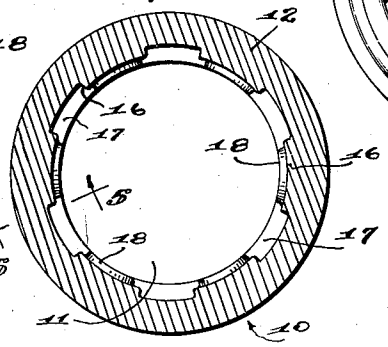
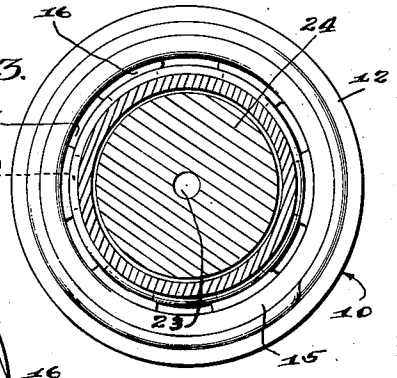


Fig. 3.



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UNITED STATES PATENT OFFICE

2,259,759

INHALER

Garland Lufkin, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Application June 15, 1940, Serial No. 340,763

3 Claims. (Cl. 128—200)

The present invention relates to improvements in inhalers and more particularly to that type which ordinarily consists of a tubular housing or casing containing absorbent cotton or like material saturated with a liquid medicine of a volatile character and wherein the inhaler embodies conduits so arranged that when air is drawn therethrough, it impinges upon the cotton and becomes laden with the medicine fumes which may thereby be carried into the nasal, mouth, and throat passageways.

An object of my invention is the provision of a novel structure which in its entirety may be molded from synthetic resins of various types and in such fashion as to minimize the loss of the medicinal properties through volatilization. To this end the inhaler consists of three main parts; one of which carries a quantity of absorbent cotton which is saturated with the liquid medicine or the like, and the two remaining parts constituting a housing which completely encloses said holder and cotton.

A further object of my invention is the provision of novel means for producing air passageways between the cotton holder and casing or housing through which air is caused to enter the casing and impinge upon the saturated cotton during circulation thereof through the inhaler.

Other objects will be in part apparent and in part pointed out hereinafter.

In the drawing:

Fig. 1 is a perspective view of the complete inhaler embodying my invention;

Fig. 2 is a vertical longitudinal sectional view thereof;

Fig. 3 is a transverse sectional elevational view taken substantially along the line 3—3 of Fig. 2;

Fig. 4 is a sectional view taken along the line 4—4 of Fig. 2; and

Fig. 5 is a fragmentary detail sectional view of the casing taken substantially along the plane of line 5—5 of Fig. 4.

In the illustrated embodiment of my invention the inhaler consists of a cylindrical casing 10 or housing, including a bottom wall 11 and an upwardly outwardly tapered side wall 12. The open upper end 13 of the casing is intended to be closed by a removable cap 14 or closure, the latter having threaded engagement with the reduced externally threaded neck portion 15 of said casing. The inner surface of the circular wall 12 is provided with an annular series of longitudinal ribs 16 which project radially inward and by reason of their circumferential spaced relationship, provide longitudinal air conduits 17 or passageways. A series of bosses 18 or projections, in proximity to the lower end of the ribs 16 and individual thereto, function as stops or abutments which limit inward movement of a cotton holder 19 during the assembly operation, whereby to insure communication between the interior of said holder and the atmosphere by way of the aforementioned air conduits 17 or passageways. These ribs 16, as will be observed by reference to Figs. 2 and 5, have their upper ends 20 tapered to facilitate insertion of the cotton holder into the casing. Moreover, it will be noted that these ribs terminate at their upper ends a short distance from the open end 13 of the casing and extend downwardly approximately one-half of the overall length of said casing 12. The point of termination of the lower ends of the conduits 17 or passageways is of course optional and need only be located below the lower end of the aforementioned cotton holder.

This cotton holder 19 is of generally inverted cup-like form and preferably is simply a straight sided tubular member having its upper end 21 closed except for an air port 22 which is in alignment with an axial opening 23 through a tube of absorbent cotton 24 which latter is intended to be saturated with a liquid medicine or the like. The external diameter of that portion of the holder in proximity to the open lower end thereof, is such as to insure frictional engagement between the holder and inner surfaces of the longitudinal ribs 16, whereby to prevent accidental separation of the parts. The remaining portion of the holder is of somewhat reduced external diameter to thereby facilitate entry of air into the passageway 17 and additionally to hold to a minimum the quantity of material used in production of the inhalers.

It will be observed by reference to Figs. 2 and 5 that in assembling the several parts of the inhaler, the cotton holder 19 may with ease be telescoped into the casing 10 and will automatically come to rest upon the bosses 18. With such positioning of the parts, one is definitely assured of the provision of a series of continuous air passageways or conduits between the outside air and the lower open end of the cotton holder 19.

Modifications may be resorted to within the spirit and scope of the appended claims.

I claim:

1. In an inhaler, a casing having an open upper end and a closed lower end, a removable closure for said open end, said casing having an annular series of internal ribs, said ribs extending longitudinally of the casing and providing air

passageways therebetween, bosses projecting inwardly from and just above the lower end of the ribs and an inverted cup-like holder telescoped into the casing and having its lower end resting upon said bosses, said holder having an air port in its outer end.

2. In an inhaler, a casing having an open upper end and a closed lower end, a removable closure for said open end, said casing having an annular series of internal ribs, said ribs extending longitudinally of the casing and terminating at a point short of the bottom of the latter and providing air passageways leading from the open upper end to said point, bosses projecting inwardly from and just above the lower end of the ribs and an inverted cup-like holder telescoped into the casing and having its lower end resting upon said bosses, said holder having an air port in its outer end.

3. In an inhaler, a casing having an open upper end and a closed lower end, a removable closure for said open end, said casing having an annular series of internal ribs, said ribs extending longitudinally of the casing and terminating at a point short of the bottom of the latter and providing air passageways leading from the open upper end to said point, bosses projecting inwardly from and just above the lower end of the ribs and an inverted cup-like holder telescoped into the casing and having its lower end resting upon said bosses, said holder having an air port in its outer end, said holder frictionally engaging the ribs and above the latter being reduced in diameter, said holder also having an air port in its outer end.

GARLAND LUFKIN.