Aug. 3, 1965 S. SCHWARTZMAN ETAL 3,198,193

NASAL INHALER

Filed Oct. 12, 1962

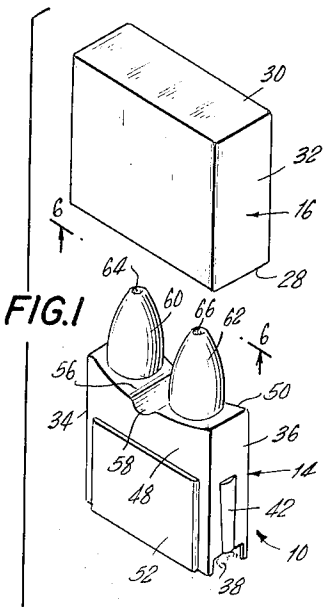

FIG. 1

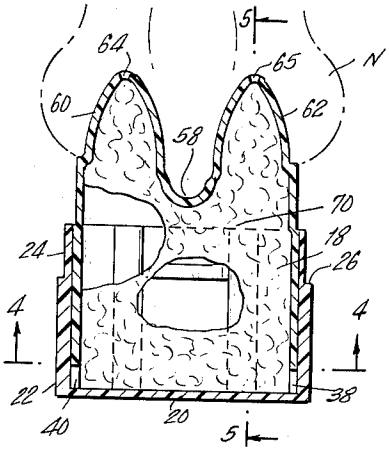

FIG. 3

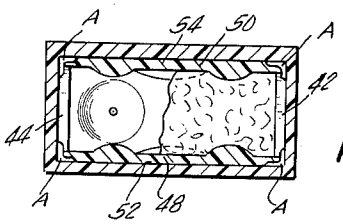

FIG. 4

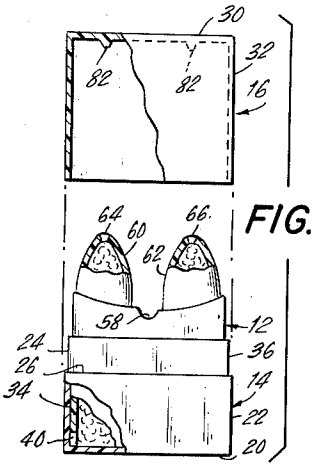

FIG. 2

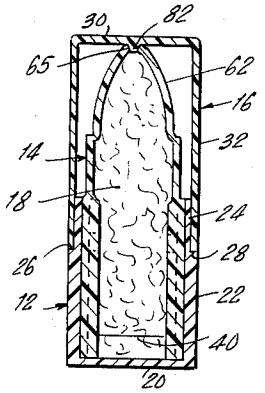

FIG. 5

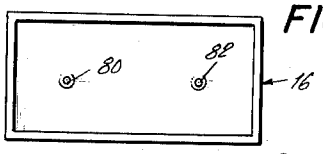

FIG. 6

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NASAL INHALER

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This invention relates to a device for relieving nasal congestion and more particularly to a refillable nasal inhaler.

Various types of nasal inhalers have been devised in the past in which medicaments, including Benzedrine, L-desoxyephedrine carbonate, ephedrine, menthol, camphor, eucalyptol, thymol, and other aromatics or the like have been packaged in a container provided with a projection for insertion into a nostril of the nose so that the vapors from the medication can be inhaled into the nasal passages to clear nasal and sinus congestion. These prior nasal inhalers had been adapted for use in only one of the nostrils at a time by requiring that the other nostril be closed manually so that better suction of the medicament vapors can be attained.

In accordance with the concept of the present invention, the nasal inhaler is provided with a pair of ogive shaped projections which are adapted to be simultaneously inserted in both of the nostrils of the user's nose whereby the medicament vapors can be inhaled into both nostrils simultaneously to clear the nasal and sinus passages. This is brought about by the fact that the projections are ogive shaped rather than being of the shapes heretofore used which would normally expand the nostrils beyond the possibility of comfortably inserting two separate projections into both of the nostrils simultaneously. The ogive shape permits a good seal of the flesh surrounding each nostril opening to be had while permitting comfortable insertion of both projections into both nostrils. Further, by the arrangement afforded, it is possible to insert only one projection into a single nostril as may be desired.

An object of the present invention resides in the provision of a nasal inhaler having means for permitting the refilling thereof in a convenient manner and which is adapted to be molded out of suitable synthetic plastic materials and which can be made of metal or the like whereby a highly attractive and extraordinarily effective medication dispensing device can be attained.

In accordance with an illustrative embodiment of the present invention, the nasal inhaler comprises a housing in which a casing is removably seated. The casing has side walls and has a contoured concave top wall extending beyond the housing and provided with a pair of spaced ogive shaped projections. The top wall is further provided with a groove between the projections for accommodating portions of the nose. A wadding of absorbent material is disposed in the casing and extends into the projection, onto which medicament may be poured so that the aromatic vapors thereof may be inhaled through projections in the perforations into the nostrils of the user's nose.

Still further objects and features of this invention reside in the provision of a nasal inhaler which is simple in construction, capable of being manufactured by mass production methods, and which is relatively inexpensive to produce thereby permitting wide use and distribution.

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These, together with the various ancillary objects and features of the invention which will become apparent as the following description proceeds, are attained by this nasal inhaler, a preferred embodiment of which has been illustrated in the accompanying drawings, by way of example only, wherein:

FIG. 1 is an exploded perspective view of an embodiment of the nasal inhaler;

FIG. 2 is an exploded elevational view of the nasal inhaler shown with the casing mounted in the housing and with the top removed from the casing, with parts of the nasal inhaler being in sections showing details of construction;

FIG. 3 is a vertical sectional view of the nasal inhaler illustrating the manner of use thereof with a portion of the wadding being broken away to show details of construction of the invention;

FIG. 4 is a horizontal sectional view taken along the plane of line 4—4 in FIG. 3;

FIG. 5 is a vertical sectional view taken along the plane of line 5—5 in FIG. 3 illustrating the invention with the top added to show the relative relation of parts and the manner of sealing off the perforations in the projections by the top; and

FIG. 6 is a bottom plan view of the top taken along the plane of line 6—6 in FIG. 1.

With continuing reference to the accompanying drawings wherein like reference numerals designate similar parts throughout the various views, reference numeral **10** generally designates the nasal inhaler comprising an illustrative embodiment of the present invention. The nasal inhaler **10** includes four main parts, a housing **12**, a casing **14**, a top **16**, and a wadding **18** of cotton or other suitable absorbent material.

The housing **12** is in the form of a base container having a bottom **20** and peripheral walls **22** which are rectangular in shape and which are provided with upper portions **24** of reduced thickness forming a shoulder **26** so that when the top **16** is positioned over the casing **14**, the lower edge **28** of the top will engage the shoulder **26**. The top **16** has an upper wall **30** and rectangular side walls **32**.

The casing **14** has a pair of spaced end walls **34** and **36** of rectangular shape which are provided with notches **38**, **40** therein and which have ribs **42**, **44** thereon, for frictional abutting engagement with the inner surfaces of the peripheral wall **22**. The side walls **48** and **50** of the casing **14** are likewise provided with projections **52** and **54** for engaging the inner surfaces of the peripheral wall **22** for spacing the casing **14** for the housing **12** and for resiliently mounting the casing **14** within the housing **12** with air spaces as indicated at A, FIG. 4, to permit the passage of air between the casing **14** and the housing **12** and through the notches **38**, **40** into the interior of the casing **36**. The top wall **56** of the casing is contoured concavely as can be seen best in FIGS. 1, 2 and 3 and is further provided with a groove **58** centrally disposed between two spaced ogive-shaped projections **60** and **62** which rise from the top wall **56** and which are hollow and communicate with the interior of the casing **14**. The ogive-shaped projections are provided with perforations or apertures **64**, **66** in their uppermost ends and are spaced

from each other on either side of the groove 58 so as to readily fit into the nostrils of the nose N, see FIG. 3, of a patient or user. These ogive-shaped projections are so constructed that they do not distort the nostrils or nasal passages to the extent that conventional nasal inhalers push aside the various portions of the nose to fill the nostril. This is because when two projections 60 and 62 are used in the manner shown in FIG. 3, the nostrils are entirely filled up so that good suction is attained and the patient inhaling and using the nasal inhaler will receive the entire benefit of the medication which is disposed on and saturates a cotton wadding 70 which fills the casing 14 and which extends into the projections 60 and 62. If, for example, conventionally-shaped projections, instead of ogive-shaped projections were to be used, the nostrils would be distorted, and the user rendered most uncomfortable. However, the ogive-shaped projections fit conveniently and comfortably into the nostrils of the nose with the dividing bridge between the nostrils of the nose seating in the groove 58 in a comfortable manner.

On the other hand, the nasal inhaler may be used for inhalation through a single nostril by merely positioning one of the projections into the nostril and closing the other nostril, by either using the fingers of the hand holding the nasal inhaler or the fingers of the other hand.

The top 16 has a pair of truncated conically-shaped projections or detents 80 and 82 which extend downwardly from the inner surface of the top 16 and which are adapted to engage within the perforations 64 and 66 to seal these perforations against passage of aromatic vapors when the top is in the closed position as shown in FIG. 5.

The nasal inhaler is preferably used as shown in FIG. 3. The user inhales a medication consisting of various types of aromatic or volatile medicaments, such as ephedrine, menthol camphor, eucalyptol, thymol, benzedrine, or the like or any combination thereof, as conventionally employed in nasal inhalers. This medication may be carried in a suitable mineral oil base or the like and because of the construction of this nasal inhaler, the medication may be replaced by merely pouring additional medication onto the cotton wadding after the casing 14 has been removed from the housing 12. When the wadding has been so saturated with the medication, the wadding may be entirely removed and new wadding added in a convenient manner whereby additional medication may be employed. This has not been possible in previous nasal applicators since the use of a mineral oil base medicament for refilling the vaporizer would eventually render the vaporizer unuseable and unrefillable.

A latitude of modification, change and substitution is intended in the foregoing disclosure, and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claim be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

We claim:

A nasal inhaler comprising a housing having a bottom and peripheral side and end walls, a casing removably seated in said housing, said casing having side and end walls sitting on side bottom said end walls being provided with relatively small rectagular notches at their lowermost portions, said casing having a contoured concave top wall extending beyond said peripheral walls, said casing side walls having projections thereon for resiliently frictionally engaging said side walls of said housing, said end walls having ribs thereon resiliently frictionally engaging said end walls of said housing, said projection means and said ribs defining relatively small air spaces between said casing and said side and end walls of said housing, side air spaces connecting with said notches said concave top wall having a pair of spaced ogive-shaped projections extending therefrom, said concave top wall having a groove therein between said projections, said groove extending below the lowest part of said top wall, said projections having perforations therethrough, through which air containing medicament vapors can be drawn, a wadding of an absorbent material in said casing and extending into said projections and against said bottom, said side and end wall air spaces serving to permit entry of replenishing air through said notches and hence through said wadding, and a top on said casing, said top having a pair of tapered detents engageable in said perforations closing said perforations.

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