Aug. 11, 1931. A. M. ALLEN 1,818,028

NASAL INHALER

Filed Dec. 31, 1928

Fig. 1.

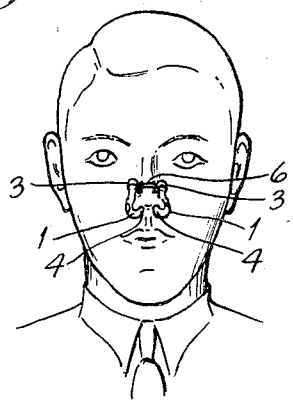


Fig. 2.

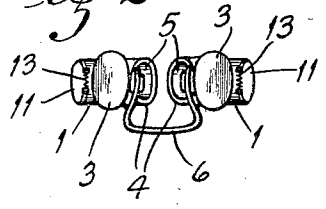


Fig. 3.

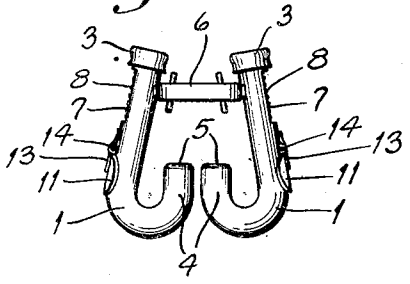


Fig. 4.

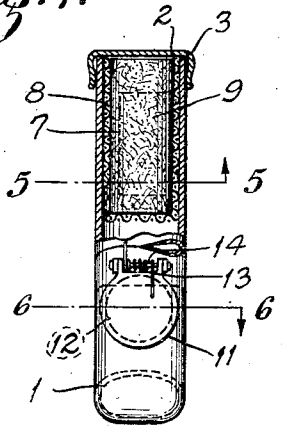


Fig. 5.

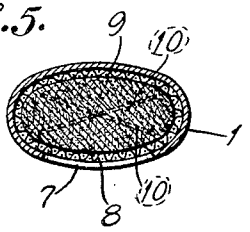


Fig. 6.

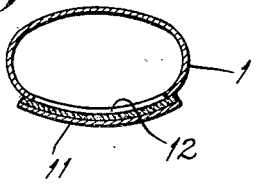
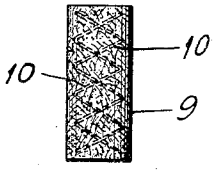


Fig. 7.



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UNITED STATES PATENT OFFICE

ALBERT M. ALLEN, OF ST. LOUIS COUNTY, MISSOURI

NASAL INHALER

Application filed December 31, 1928. Serial No. 329,332.

My invention is directed to improvements in nasal inhalers particularly for application to the nose in such manner that the inhaler will be self sustaining. The various forms of atomizers, sprayers, and inhalers now in use are adapted for use whereby periodical treatment may be effected by holding the device to the nostrils and injecting or inhaling the prescribed medicine or antiseptic. Experience has shown that the frailties of human nature cause such treatment to be neglected when inconvenience attends the application of the medicine. For this reason I have sought to provide an inhaler that may be adapted to the nose similarly to the wearing of a pair of spectacles, and the vapor from the therapeutic agency contained within the inhaler will be continuously inhaled. A further advantage of the device is that it may be employed merely as an air strainer in localities where the atmosphere is heavily laden with smoke, or other noxious gases. Further and other advantages will be better apparent from a detailed description of the invention in connection with the accompanying drawings, in which:

Figure 1 is a pictorial view of a face with my improved inhaler mounted on the wearer's nose; Fig. 2 is a top view of the inhaler; Fig. 3 is a front view thereof; Fig. 4 is a side view on an enlarged scale with parts broken away and others in section; Fig. 5 is a cross sectional detail taken on the line 5—5 of Fig. 4; Fig. 6 is a cross sectional detail taken on the line 6—6 of Fig. 4; and Fig. 7 is a detached view of the absorbent cartridge which is impregnated with the medicament for supplying the vapors that are to be inhaled.

Referring to the drawings, 1, 1 are oval shaped tubes each having an open top 2 adapted to be closed by a cover 3, and an upwardly bent lower extremity 4 having an open end 5. The tubes 1, 1 are connected by a spring spectacle bridge 6 in such spaced relation that when the bridge is placed upon the nose the tubes 1, 1 will lie flat against the sides of the nose and the extremities 4, 4 may be inserted in the nostrils (as shown in Fig. 1). Each of the tubes are provided with an inlet opening 7 on the outside of the wall and a wire gauze cage 8 is fixed within the tube so as to cover the opening 7. The purpose of the cage 8 is to hold in place a cartridge 9 which is formed of a loosely packed cylinder of highly absorbent cotton, or other material, in which is disposed a pair of zig-zag reenforcing wires 10, 10 to serve as a core for the cartridge so that it may not be easily compacted on placing it into the cage 8. It is essential that the cartridge 9 be protected against compression since the cotton composing the cartridge serves as the vehicle for the medicament, and the more freely the inhaled air passes through the cartridge, the more vapor is carried through the tube into the nostrils, and the less restriction is imposed upon the inhalations.

Obviously, the exhalations must also be discharged through the tubes 1, and at the same time must not be allowed to be discharged through the cartridge, as this would speedily dissipate the medicament and at the same time restrict the free expulsion of the gaseous products from the lungs. A relief valve 11 in the form of the hinged disc is mounted over an opening 12 in each tube immediately below the inlet 7, said valve being held to its seat by a light coiled spring 13 coiled about the hinge pin 14 of the valve and having one end bearing on the tube 1 and the other bearing on the valve (as shown in Fig. 1). The pressure of the spring 13 is so slight that it will not offer noticeable resistance to the opening of the valve under the pressure of the exhalations but will serve to prevent the valve from flapping with movements of the head.

Obviously, the details of construction are subject to modification, and I do not wish to be restricted to the precise features herein shown, but wish to avail myself of all modifications of which the invention is susceptible.

Having described my invention, I claim:

1. A nasal inhaler comprising a pair of spaced tubes adapted to lie against the sides of the nose, a bridge member connecting the tubes and adapted to engage the nose, each tube having an upwardly bent extremity insertable in the nostril, and an air pervious cartridge in the upper part of each tube, each tube having an air intake adjacent to the car-

tridge, a discharge valve for the exhalation products disposed in the lower part of each tube, a coiled spring adapted to hold each valve on its seat, the tension of the spring being such that the valve will readily open under the pressure of the exhalation products within the tube.

2. A nasal inhaler comprising a pair of spaced tubes adapted to lie against the sides of the nose, a bridge member connecting the tubes and adapted to engage the nose, each tube having an upwardly bent extremity insertable in the nostril, and an air pervious cartridge in the upper part of each tube, each tube having an air intake adjacent to the cartridge, a discharge valve for the exhalation products disposed in the lower part of each tube, said valve being adapted to open under the pressure of the exhalation products within the tube, and close when said pressure is removed.

In testimony whereof I hereunto affix my signature.

ALBERT M. ALLEN.