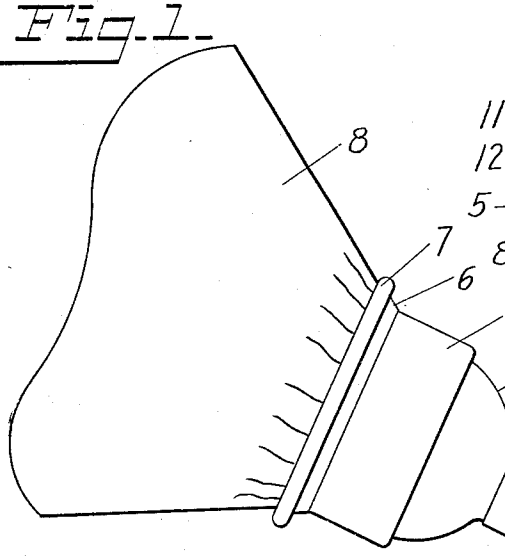
Sept. 16, 1930. J. F. CLASS 1,775,986

INHALING DEVICE

Filed July 13, 1925

Fig. 1.



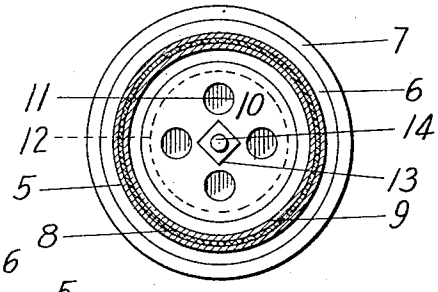


Fig. 3.

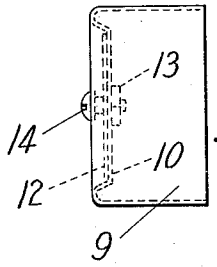


Fig. 4.

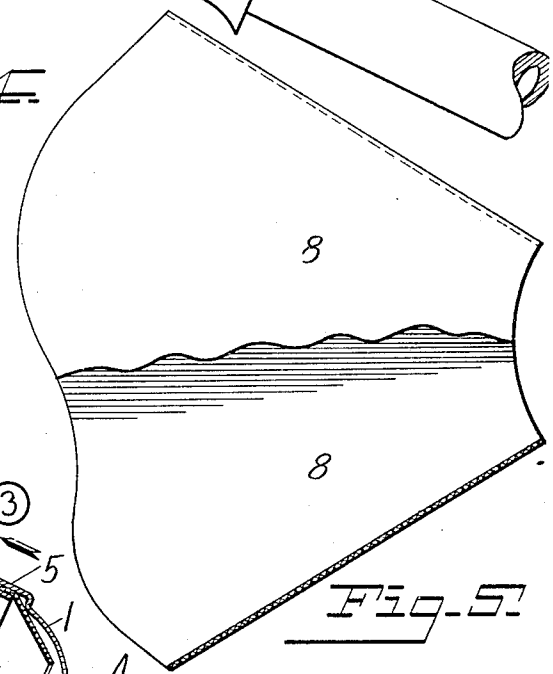


Fig. 5.

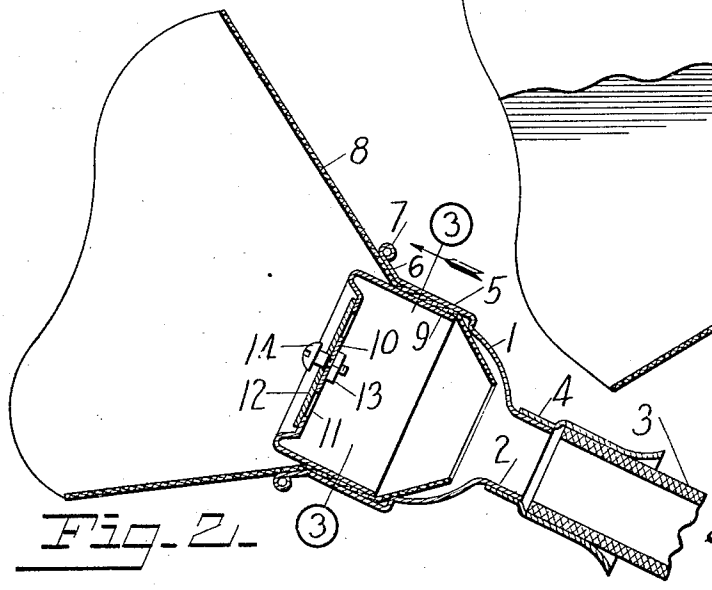


Fig. 2.

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UNITED STATES PATENT OFFICE

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INHALING DEVICE

Application filed July 13, 1925. Serial No. 43,097.

This invention relates to an inhaling device and is designed more particularly for the inhaling of medicinal fumes or the like.

One object of the invention is to provide an inhaling device of such a character that it will permit the free passage of the fumes from the generator, or other source of supply, to the mouth or nose of the user but will prevent the breath exhaled by the user from entering the conduit leading to the generator.

A further object of the invention is to provide such an inhaling device with a readily renewable face piece, thus rendering the device sanitary and enabling it to be used successively by different persons.

A further object of the invention is to provide an inhaling device of this character which will be simple in its construction, inexpensive to produce and which will not be easily disarranged so as to render it inoperative.

Other objects of the invention will appear as the device is described in detail.

In the accompanying drawings Fig. 1 is a side elevation of an inhaling device embodying my invention; Fig. 2 is a longitudinal sectional view of such a device; Fig. 3 is a transverse section taken on the line 3—3 of Fig. 2; Fig. 4 is a side elevation of the valve supporting member; and Fig. 5 is a side elevation, partly broken away, of a paper face piece, showing the same folded.

In these drawings I have illustrated one embodiment of my invention and have shown the same as comprising a casing or hollow body portion 1, one end of which is contracted, as shown at 2, to provide a nipple by means of which the casing may be readily connected with or disconnected from a conduit 3 leading to the generator or other source of supply for medicinal fumes or the like. As here shown, the nipple 2 fits snugly within the end of a ferrule 4 carried by the conduit and is held therein by frictional contact. The outer portion of the casing 1 is substantially cylindrical in form, as shown at 5, and has its outer edge flared outwardly, as shown at 6, and turned upon itself to provide a bead 7.

Suitable means are provided for connecting this casing or body portion of the inhaling device with the mouth or nose of the user and this is preferably accomplished by the use of a suitable face piece. This face piece may be of any suitable form which will permit the user to inhale the fumes passing through the body portion 1 of the device. In the present instance, I have shown the face piece in the form of a flexible shield 8 which is substantially frusto-conical in shape and has its outer edge shaped to fit about the face and to enclose both the nose and the mouth of the user. It is desirable that a face piece of this character should be readily renewable, for sanitary reasons, and I prefer that it should be made of paper or other inexpensive material so that it can be discarded after use. The frusto-conical paper shield, as here shown, can be folded flat upon itself to facilitate storage and shipping and then expanded into conical form when it is desired to use the same.

Various means may be provided for attaching a shield or face piece of this character to the body portion of the inhaling device. As here shown, the small end of the shield or face piece is adapted to be inserted within the body portion of the inhaling device and by proper manipulation can be caused to accommodate itself substantially to the contour of that body portion. To secure the same in position a retaining device or sleeve 9 is inserted within that portion of the face piece which lies within the cylindrical body portion. This retaining device is of an external diameter slightly less than the internal diameter of the cylindrical part of the body portion and when it is pressed into place it will clamp the face piece firmly to the casing or body portion 1.

I have interposed between the conduit 3 and the face piece means for preventing the breath of the used from entering the conduit or generator, this means being of such a character that it will permit the free flow of the fumes from the conduit to the face piece. Preferably this is accomplished by arranging within the casing or body portion 1 a valve of such a character that it will open during the inhalation of the user and will close during the exhalation of the user.

The valve may be of any suitable character but I have here shown a plate 10 arranged transversely of the casing and provided with openings or ports 11. This plate may be supported in various ways but, in the present instance, it forms the end wall of the retaining device or sleeve 9. Loosely mounted on the outer side of the plate 10 is a valve member 12 preferably in the form of a disk of sufficient diameter to cover the openings 11 in the plate 10. This disk or valve member is mounted upon a stud 13 which is rigidly secured to the plate 10 and is provided with a head 14 spaced a short distance from the plate 10 so that the disk 12 can have free movement on the stud toward and from the apertured plate.

When the face piece has been placed about the nose and mouth of the user the suction created by the inhalation will draw the edge of the face plate into snug contact with the face and will lift the valve and open the ports 11 to permit the free passage of the fumes from the conduit 3 to the face piece. The breath exhaled by the user will force the valve instantly onto its seat on the plate 10 and thus close the ports and prevent the breath from entering the conduit 3 and will thus produce sufficient pressure within the face piece to lift the edge thereof and permit the escape of the exhaled breath.

While I have shown and described one embodiment of my invention I wish it to be understood that I do not desire to be limited to the details thereof as various modifications may occur to a person skilled in the art.

Having now fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In an inhaling device, a casing having means for connecting the same with a source of supply for vapor, a face piece connected with said casing and having a flexible edge portion shaped to yieldably engage the face of the user on a line surrounding the mouth and nose, and an outwardly opening valve interposed between said face piece and said source of supply and so arranged that an inhalation will cause the edge of the face piece to snugly engage the face of the user and will open said valve, and an exhalation will close said valve and lift the edge of said face piece to permit the escape of the exhaled breath.

2. In an inhaling device a casing having at one end means to connect the same with a source of supply for vapor and having its other end open, a face piece of flexible material having one end adapted to extend into said casing and having its other end shaped to fit the face of the user and yieldably engage the same, a retaining member shaped to fit snugly within said end of said face piece and said casing, and an outwardly opening valve carried by said retaining member and so arranged that an inhalation will cause said face piece to snugly engage the face of the user and will open said valve, and an exhalation will close said valve and lift the edge of said face piece to permit the escape of the exhaled breath.

In testimony whereof, I affix my signature hereto.

JOHN F. CLASS.