This invention relates to an improved anesthetic administering device. It is an object of the present invention to provide an improved device of the above character which can be used either as a face mask, to cover both the nose and the mouth of the patient, or as a nose mask merely covering the nose of the patient.

Anesthetics such as nitrous oxide are generally administered either by means of a nose mask, known as a nasal inhaler, or by means of a face mask which covers both the nose and mouth. Where an operation or other work is to be performed in the oral cavity, or throat, it is necessary to employ a nose mask, during the surgical stage, so as to permit free access to the mouth. However, during the induction stage, while anesthesia is being induced, it is desirable to employ a face mask for administering the anesthetic.

Despite the advantages in using a face mask during the induction stage, it has not been practical for doctors and anesthetists to employ both a face mask and a nose mask, due to the fact that the expense of two complete anesthesia outfits is prohibitive, and the difficulties and waste of time involved in changing over from a face mask to a nose mask after anesthesia has been induced, where it is necessary to disconnect the tubing from one mask and connect it to another mask, to a great extent offsets the advantages resulting from using a face mask during the induction stage.

It is an object of the present invention, to overcome the difficulties and disadvantages heretofore encountered, and to provide an improved anesthetic administering device embodying both a face mask and a nose mask that may be used in combination to cover both the nose and mouth, or separately to cover merely the nose.

A further object is the provision in a device of the above character, of an adapter mask, whereby the ordinary nose mask or nasal inhaler may be converted into a face mask.

In the accompanying drawing in which I have illustrated one embodiment of my invention:

Fig. 1 is a side view of an anesthetic administering device embodying my invention, showing it in assembled relationship;

Fig. 2 is a partially fragmentary side view of the device in assembled relationship;

Figs. 3 and 4 are perspective views of the face mask and nose mask respectively showing them separated from each other; and

Fig. 5 is a partially sectional view of an anesthetic administering device embodying my invention, showing a slightly modified form of nose mask.

In carrying out my invention, I preferably provide a face mask 10 and a nose mask 11, which may be used in assembled relationship to cover both the nose and mouth as illustrated in Fig. 1, or which may be separated, as shown in Figs. 3 and 4, to permit the nose mask to be used separately to merely cover the nose of the patient. The nose mask illustrated in the accompanying drawing is one available type of nasal inhaler, and it should be understood that other types of nasal inhalers or nose masks may be employed. It is made of rubber or some other suitable material and is of a size and shape to fit over the nose of a patient, resting on the bridge and both sides of his nose, and on his upper lip. It is provided with suitable means for connecting it with an anesthetic supply such as a pair of tubular nipples 12, extending from opposite sides thereof, and which may be connected by means of flexible rubber tubing to tanks of oxygen and an anesthetic such as nitrous oxide.

The top of the mask is provided with an exhalatory outlet in the usual manner, and the exhalatory outlet is controlled by means of a valve 14. The valve illustrated, is of the type shown in my Patent No. 2,016,212, granted on October 1, 1935. This type of valve is highly suitable for use in connection with anesthetic administering masks. However, the specific construction of the valve forms no part of my present invention, and other types of valves may be employed. Nasal inhalers of this type are usually provided with a flexible flap 15 around the open edge thereof, in the manner shown.

The face mask or adapter 10, is of a size and shape to cover both the nose and mouth of the patient, in the manner indicated in Fig. 1. The mask is preferably, but not necessarily, made of a rigid material and for this purpose, I have found that it is desirable to mold the mask from a suitable plastic material which will not be adversely affected by the anesthetic. For the comfort of the patient, and also to prevent undue leakage of the anesthetic, it is desirable to provide the open edge of the mask with an inflatable tubular bead 16, which may be made of rubber or similar material, and is provided with an inlet tube and valve 11, whereby the bead may be inflated.

The portion of the mask which is above the nose of the patient when it is in use, which in the present instance is adjacent the center
thereof, is provided with an aperture 18 over which the nose mask is adapted to be fitted. To facilitate coupling the nose mask to the face mask, I project the wall of the face mask outwardly around the aperture as indicated at 19, and preferably form the top of the projecting wall with a bead 20, preferably made of a flexible material such as rubber. The opening 18, and the projecting wall 19, are of such a size and shape to accommodate the standard type of nose mask or nasal inhaler. Thus, as shown in Figs. 1 and 2, the lower end of the nose mask fits over the bead 20, with the flap 16 resting against the projecting wall 19. The nose mask may be readily applied to, or removed from the face mask, but the fit is sufficiently snug to hold the nose mask in position when the device has been assembled and to prevent any substantial leakage of the anesthetic.

In the form of my invention shown in Fig. 5, the nose mask 11' is a child's mask or inhaler, and is smaller than the mask shown in the other figures of the drawing. In this instance, the lower edge of the child's nose mask fits inside of the opening 18 with the lower wall of the nose mask engaging the inner surface of the bead 20, producing frictional engagement at that point so as to releasably hold the nose mask in assembled relationship, and prevent undue leakage.

In using my improved anesthetic administering device, the masks may be assembled together in the fashion shown in Figs. 1, 2 and 5, when it is desired to cover both the nose and mouth of the patient as, for instance, during the induction stage. After anesthetic has been induced, the face or adapter mask may be separated from the nose mask, and the nose mask may be used alone during the surgical stage so as to permit free access to the mouth of the patient. It will be seen that the tubings for connecting the device to an anesthetic supply are attached to the nose mask, and the separation of the face or adapter mask from the nose mask does not require any disconnecting and reconnecting of tubing, thereby saving a great deal of time and inconvenience.

Under the circumstances, a doctor or anesthetist merely needs to have one anesthetic outfit, and he is enabled then to employ either a face mask or a nose mask with a minimum of inconvenience and waste of time. In certain instances, the face mask or adapter mask 10 may be used alone in administering ether or ethyl chloride, by inserting gauze in the mask, placing the mask over the face of the patient, and spraying the anesthetic through the opening 18, onto the gauze. I have found that it is desirable in many instances to make the mask 10 from transparent material so as to enable the anesthetist to fully observe the patient while the anesthetic is being administered.

It should be understood, of course, that many modifications may be made in the illustrated and described embodiment of my invention without departing from the invention as set forth in the accompanying claims.

I claim:

1. An anesthetic administering device comprising a face mask and a nose mask formed so that they may be releasably coupled together and used as a unit to cover both the nose and mouth of the person, or may be separated so that the nose mask may be used alone to merely cover the nose of the patient.

2. An anesthetic administering device comprising a face mask formed so as to fit over the nose and mouth of a person, and having an opening formed therein, and a nose mask adapted to cover the nose of a person and having means for admitting an anesthetic to the interior thereof, said masks being formed so that they may be releasably coupled together with the nose mask covering the opening in the face mask.

3. An anesthetic administering device comprising a face mask and a nose mask, the face mask being formed so as to cover both the nose and mouth of a person and having an opening therein, and the nose mask being formed so as to cover the nose of a person, the protruding portions of the face mask and the nose mask being so formed so that they may be releasably coupled together with the nose mask covering the opening in the face mask.

4. An anesthetic administering device as set forth in claim 3, in which the nose mask is formed with means for connecting it with a source of supply of an anesthetic.

5. In an anesthetic administering device, an adapter mask which may be releasably coupled to a nose mask, and comprising a hood of a size and shape to cover both the nose and mouth of a person and having an orifice therein and provided with coupling means for coupling it to a nose mask in such a fashion that the nose mask will cover the orifice.

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