BREATHING APPARATUS NOSE-CLOSING DEVICE

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ABSTRACT

A breathing tube, which is provided at one end with a bite piece for holding it in the mouth, is snugly surrounded by a supporting member close to the bite piece. This member extends upwardly and has nose-engaging means integral with its upper portion for closing the nostrils.

1 Claim, 7 Drawing Figures
BREATHING APPARATUS NOSE-CLOSING DEVICE

With some types of breathing apparatus it is necessary or desirable to breathe only through the mouth. Since this is difficult to do if the nose is open, it is customary to provide a nose clip or clamp which fits over the nose and pinches it to close the nostrils. Such a clip is generally connected to the breathing tube or some other nearby part of the breathing apparatus by means of a cord or lanyard. A separate nose clip, such as just mentioned, may become disconnected from the rest of the apparatus and misplaced or lost, while at best it is a separate piece that must be handled.

It is among the objects of this invention to provide a nose clip or the like which is mounted on the breathing tube and permanently attached to it.

The invention is illustrated in the accompanying drawings, in which

FIG. 1 is a side view of a nose clamp supported by a breathing tube;
FIG. 2 is a front view thereof;
FIG. 3 is a plan view;
FIG. 4 is a front view of a modification;
FIG. 5 is a vertical section taken on the line V—V of FIG. 4;
FIG. 6 is a rear view of another embodiment; and
FIG. 7 is a vertical section taken on the line VII—VII of FIG. 6.

Referring to FIGS. 1, 2 and 3 of the drawings, a supporting member has a more or less upright post portion 1, the lower end of which terminates in a ring portion 2 that extends forward and rearwardly from the post portion. The ring portion preferably is oval or elliptical to fit snugly around a breathing tube 3 of the same shape. This tube may be a flexible hose or it may be a rigid tube such as shown in Yant U.S. Pat. No. 2,626,678. Preferably, the post and ring are molded from rubber or a rubber-like material so that although the supporting member is essentially stiff, it will have some resiliency, and so that the ring will tightly grip the tube to hold the supporting member in place.

The end of the tube projecting from the rear end of the passage through the ring portion of the supporting member is surrounded by a flange 4 that is inserted in the mouth between the teeth and lips. The flange is provided with rearwardly projecting lugs 5 that serve as bite pieces that are gripped between the teeth in order to hold the tube in place.

Integral with the upper portion of the post and supported by it is a clip positioned to straddle the end of the nose. The clip is formed from two laterally spaced and rearwardly extending pads 7 spaced close enough together so that when the clip is forced rearwardly over the nose it will pinch the nose and thereby close the nostrils. Since the nose clip is supported from the breathing tube, as long as the tube is held in the mouth the clip will remain in place over the end of the nose. The clip cannot become lost, and whenever the tube is placed in the mouth the clip is positioned in front of the nose ready for application to it.

In the modification shown in FIGS. 4 and 5 the supporting member, instead of being a post and ring as in FIG. 1, is a cup 9 that is formed to fit the face around the mouth. This cup is provided centrally with a passage 10 through it for snugly receiving a breathing tube (not shown) provided with a bite piece to be held in the mouth, the same as in FIG. 1. Integral with the upper part of the cup is a bifurcated socket that receives the end of the nose. The sides 11 of the socket are close enough together to pinch the nose closed. The top 12 of the cup forms the bottom of the socket and engages the upper lip directly beneath the nose.

In the further embodiment of this invention shown in FIGS. 6 and 7, the supporting member again is a cup 14 that will fit around the mouth. It also is provided with a central passage 15 for receiving a breathing tube. The cup has an upper extension 16 that covers the end of the nose. Inside the lower part of this extension there are a pair of laterally spaced plugs 17 in a position to block or occlude the nostrils. This device therefore does not pinch the nose to close it, but still prevents air from entering the nose.

We claim:

1. The combination of a breathing tube provided at one end with a bite piece for holding that end in the mouth, a supporting member having a lower ring portion snugly surrounding the tube close to said bite piece and a post portion extending upwardly thereof, and nose-engaging means integral with the upper post portion of said member and supported thereby, the supporting member and nose-engaging means being a single element of resilient rubber-like material, and said nose-engaging means being a recessed clip positioned to receive and straddle the end of the nose and pinch the nostrils shut.

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