Oct. 17, 1967 C. D. CUPP 3,347,230

UNDERWATER TALKING HOOD

Filed Sept. 3, 1963

Fig. 1.

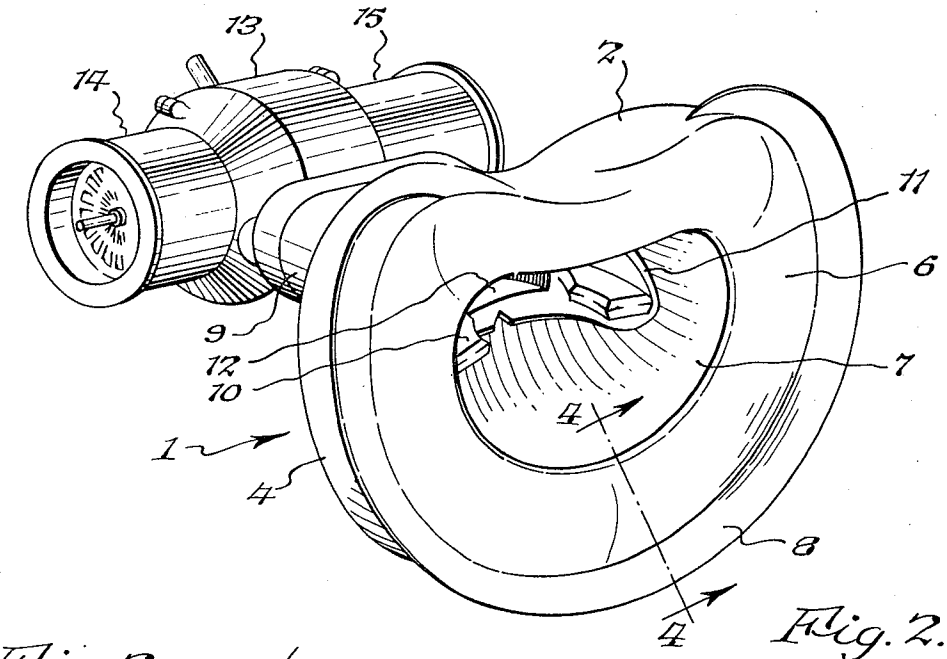
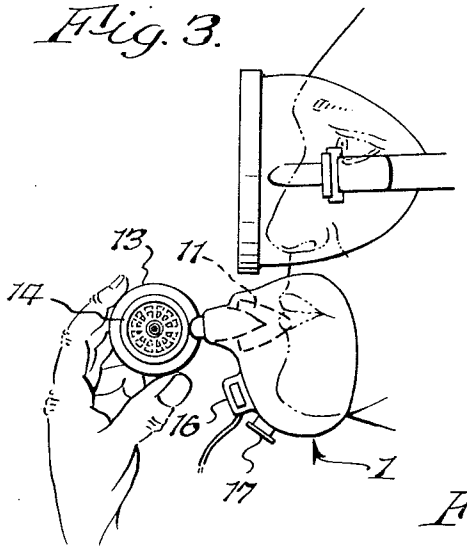


Fig. 2.

Fig. 3.



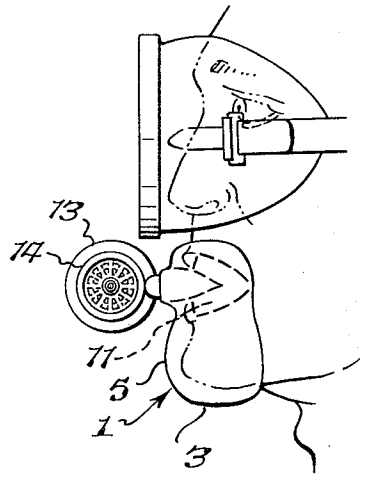
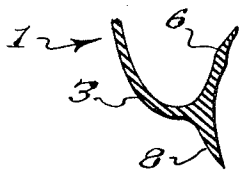


Fig. 4.



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UNDERWATER TALKING HOOD

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This invention relates generally to the breathing system art, and more specifically to a new and useful combination mouthbit and oral mask.

Heretofore, users of mouthbits have been severely handicapped by their inability to speak with any degree of clarity while submerged. This has been caused by the necessity of maintaining the mouthbit in the mouth and between the teeth, making it impossible to articulate. It has been thought that a full face mask was essential for speaking, but such a mask often is undesirable.

Accordingly, the primary object of my invention is to enable the user of a mouthbit to speak clearly while submerged.

Another object of my invention is to accomplish the foregoing without interfering with normal use of the mouthbit.

Still another object of my invention is to accomplish the foregoing in a simple and relatively inexpensive manner.

In one aspect thereof, a combination mouthbit and oral mask of my invention is characterized by the provision, in combination with a mouthbit adapted to be inserted in the mouth, of a mask-like hood closed at one end about the mouthbit and normally projecting therebeyond, the hood being open at its opposite end for engagement against the face around the mouth and being collapsible to enable insertion of the bit into the mouth, the hood expanding to provide a water tight talking chamber into which the mouthbit is withdrawn from the mouth.

The foregoing and other objects, advantages and characterizing features of my invention will become clearly apparent from the ensuing detailed description of an illustrative embodiment thereof, considered in conjunction with the accompanying drawing depicting the same, wherein like reference numberals denote like parts throughout the various views and wherein:

FIG. 1 is a perspective view of an illustrative combination mouthbit and oral mask of my invention, looking at the face engaging end of the latter and showing the same in its extended position;

FIG. 2 is a view thereof, on a reduced scale, showing the same in use;

FIG. 3 is a view like that of FIG. 2, but showing the mouthbit removed from the mouth, and also showing certain accessory attachments on the mask; and

FIG. 4 is a fragmentary sectional view through the mask, taken about on line 4—4 of FIG. 1.

Referring now in detail to the illustrative embodiment of my invention depicted in the accompanying drawing, there is shown a mask **1** of resiliently yieldable, water impervious material, such as natural or synthetic rubber although any other material possessing the requisite properties may be used. Mask **1** preferably is a unitary, molded construction, formed to provide a top wall **2**, bottom wall **3**, opposite side, walls **4** and an end wall **5** at one end thereof. The opposite end of mask **1** is provided with an internal, generally annular flange **6**, leaving an opening **7** for the user's mouth. A laterally outwardly projecting sealing lip **8** extends around the opposite sides and bottom of the mask, adjacent the inner end of flange **6**, and both flange **6** and lip **8** are arranged for fluid tight sealing engagement against the user's face.

End wall **5** has an opening therethrough, adjacent top wall **2**, for passage of conduit **9** leading to a mouthbit

having the usual bite portions **10** for gripping between the teeth, and flanged body **11** for insertion between the lips and the teeth of the user. A fluid passage **12** extends from the mouthbit through conduit **9** to control valve **13**. End wall **5** is sealed to conduit **9**, whereby mask **1** is closed about the mouthbit, behind parts **10** and **11** thereof.

The mouthbit **10**, **11**, **12** is conventional, and per se no part of my invention. Control valve **13** also is per se no part of this invention, and can be of the type disclosed in my copending application Ser. No. 255,486, filed Feb. 1, 1963, now Patent No. 3,256,910, dated June 21, 1966 to which reference hereby is made for details. For purposes of this invention, suffice it to say that valve **13** has a manually operable on-off valve member, the actuating stem of which is shown in FIG. 1, an inhalation fitting **14** adapted for connection to a source of breathing fluid, not shown, and an exhalation fitting **15**.

In use, mask **1** is placed against the face, around the mouth and under the chin, as shown in FIGS. 2 and 3. For breathing, the mouthbit is inserted in the mouth and gripped therein in the usual manner, as shown in FIG. 2. Mask **1** does not interfere in any way with the normal use of the mouthbit, being simply held thereby in collapsed position against the face.

When the user desires to speak, he merely removes the mouthbit from his mouth. Mask **1** expands or extends itself to maintain its engagement with the face and thereby provides an air space or cavity into which the mouthbit is withdrawn, as shown in FIG. 3. Mask **1** thus becomes a talking hood, enclosing the mouthbit to protect it and the associated breathing system against the entry of water, while providing an air space permitting the user to open his mouth and articulate, free of hindrance from the mouthbit.

The mouthbit can be reinserted in the mouth, and withdrawn, as often as desired, easily and without interference with, or from, mask **1** which simply collapses and expands as the mouthbit is inserted and withdrawn. The mask provides its protective, talking hood function automatically.

Mask **1** is shaped to provide the desired cavity, and flange **6** and lip **8** ensure that the cavity is watertight. The surrounding water presses lip **8** against the user's face, while flange **6** is pressed thereagainst by air pressure within the cavity. Flange **6**, which is wider than lip **8**, also serves a cushioning function.

A microphone **16** can be carried by mask **1**, if desired, and an exhalation valve **17** also can be carried by the mask, as shown in FIG. 3.

Thus, it is seen that my invention fully accomplishes its intended objects. The user of an otherwise conventional mouthbit is enabled to speak clearly and distinctly, while submerged, without interfering with normal use of the mouthbit. The mask is lightweight and comfortable against the face, and does not inconvenience the user of the mouthbit during normal use thereof, particularly in view of the convenience of being able to speak clearly, without interference by the mouthbit, and without resort to a full face mask.

If desired, the mask can be formed so as to retain itself retracted behind the mouthbit, while being movable to the positions shown in the drawing.

While I have disclosed and described in detail only one embodiment of my invention, that has been done by way of illustration and without thought of limitation, it being intended that the scope of my invention be defined by the appended claims.

Having fully disclosed and completely described my invention, and with its mode of operation, what I claim as new is:

1. In combination with a mouthbit adapted to be inserted in the mouth, a talking hood of resiliently flexible, fluid impervious material closed at one end about said

mouthbit, said hood normally assuming an extended position projecting beyond said mouthbit and being open at its opposite end for engagement against the face, said hood having top and bottom and opposite side walls arranged to extend around the mouth and under the chin when said hood is in place against the face, said walls being of sufficient length to space said mouthbit from its position in the mouth when said walls engage the face of a wearer with said hood in said extended position, said hood walls resiliently yielding for collapsing said hood from said extended position upon insertion of said mouthbit into the mouth with said hood engaged against the face, said walls resiliently restoring said hood to said extended position upon withdrawing said mouthbit from the mouth, said hood thereby maintaining its engagement against the face while providing a large watertight cavity into which said mouthbit is withdrawn for talking.

2. The combination set forth in claim 1, together with an internal flange around said open end of said hood for cushioned sealing engagement against the face.

3. The combination set forth in claim 1, together with an outwardly projecting sealing lip around the opposite sides and bottom of said hood adjacent said open end thereof for sealing engagement against the face.

4. The combination set forth in claim 1, together with an internal flange around said open end of said hood for cushioned sealing engagement against the face, and together with an outwardly projecting sealing lip around the opposite sides and bottom of said hood adjacent said open end thereof for sealing engagement against the face.

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