

DIVING HELMET

BACKGROUND OF THE INVENTION

This invention relates to a diving helmet.

A known diving helmet comprises a head and a body contacting portion which are made of a heavy metal or synthetic resin with a relatively large thickness to act as diving weight. It comprises a transparent front window, and an air supply tube is connected to the back of the head.

When air is supplied into the helmet, air exhaust noise generates and vibrates in the small space of the helmet to place a diver in uncomfortable condition.

If an air inlet is formed at the back remote from diver's mouth, he will be worried about leakage of fresh air before breathing, if he is a beginner. Further it is necessary to supply fresh low-humidity air to the front window enough to take off mist formed by breathing.

According to the present invention, the above disadvantages will be solved.

According to the present invention, there is provided a diving helmet which comprises a head and a body-contacting portion made of rigid material with relatively large thickness to act as weight, the head comprising a transparent window, an air supply chamber in the rear portion of the helmet; an air exhaust chamber beneath the air supply chamber, the front wall of the air exhaust chamber having an exhaust guide hole, the back wall of the air exhaust chamber having an air exhaust hole; and a plurality of air holes which allow the air supply chamber to communicate with the inside of the helmet, at least one of the air holes being extended adjacent to the front window through the wall of the helmet, the extended air hole opening towards the front window so that air may be blown against the window from the air hole, thereby taking off blur or mist on the window and enhancing the wearing comfort of said helmet.

The air supplied into the helmet through the air supply tube is depressurized in the air supply chamber, from which it is fed into the helmet through the air holes. Thus, the exhaust velocity through the air holes becomes lower than that directly from the air supply tube, thereby turning down exhaust noise. The fresh air through the air hole is partially blown to the front window directly, thereby preventing the window from getting misted.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features and advantages will be seen from the following description with reference to the accompanying drawings, in which:

Fig. 1 is a central vertical sectional view which illustrates one embodiment of a diving helmet according to the present invention; and

Fig. 2 is a perspective view which illustrates one embodiment of an air supply chamber which is formed separately from the body of the helmet.

DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Figure 1 illustrates one embodiment of the present invention. Numeral 1 denotes a diving helmet in which there is provided a relatively thick, heavy body contacting portion 6 which comprises a head 2, right and left shoulder

contacting portions 3, a breast-contacting portion 4 and a neck-contacting portion 5 so that the helmet 1 itself may act as weight. The helmet 1 comprises a front transparent window 7.

An air supply tube 8 is connected to the neck contacting portion 5 at the back of the head 2 of the helmet 1. Air is fed from a ship on the water through the air supply tube so that the helmet 1 may be always filled with fresh air. The helmet 1 is used for underwater walking or sightseeing at relatively small, below 10 m, depth.

At the neck-contacting portion 5 of the lower back portion of the helmet 1, there are provided an air supply chamber 9 which communicates with the air supply tube 8, and an air exhaust chamber 10. The air exhaust chamber 10 has width enough to extend right and left shoulder-contacting portions 3. The front wall 10a of the air exhaust chamber 10 has a plurality of air exhaust guide holes 11 horizontally, while the rear wall 10b thereof has a plurality of air exhaust holes 12. The air exhaust holes 12 have relatively small diameters, thereby allowing exhausted bubbles to be smaller and keeping exhaust velocity constant. The front wall 9a of the air supply chamber 9 has a plurality of openings 14.

There are provided a pair of air holes 15 and 15 from the right and left side walls 9b and 9b of the air

supply chamber 9 to diver's mouth just before the front window 7 through the thick wall of the shoulder-contacting portions 3 and 3. In this embodiment, there are provided a pair of air holes 15 and 15, but one hole 15 may be provided.

It is not so easy to form the air supply chamber 9 integrally with the air exhaust chamber 10, the shoulder-contacting portion 3 and the neck-contacting portion 5 therebelow.

Thus, as shown in Fig. 2, the air supply chamber 9 may be formed separately from the helmet body. An air supply chamber 9 is formed in a box 16, the back wall 16a of which is connected with a tube 17. A plurality of openings 18 which communicate with the inside of the helmet 1 are provided in the front wall of the box 16. A certain length of air tube 19 is connected with the side wall 16c of the box 16. The box 16 is embedded in the thick neck-contacting portion 5 at the back of the helmet 1 so that the outer end 17a of the tube 17 may project outwardly and the end 19a of the air tube 19 may be positioned just before the window 19. Therefore, the air supply chamber 9 and the air holes can be easily formed.

The advantages of the invention are as follows:

(a) The air fed through the air supply tube 8 is depressurized in the air supply chamber 9 and is supplied

into the helmet 1, thereby turning down air supply noise in the helmet.

(b) Fresh air is blown directly through at least one of the air holes to diver's mouth, thereby keeping him reliable if he is a beginner.

(c) The air fed through the air hole is partially blown to the window, thereby preventing the window from getting misted.

The above description merely relates to a preferred embodiment of the present invention, and various changes and modifications are possible without departing from claims as follows.



CLAIMS

1. A diving helmet which comprises a head and a body-contacting portion made of rigid material with relatively large thickness to act as weight, the head comprising a transparent window, an air supply chamber in the rear portion of the helmet; an air exhaust chamber beneath the air supply chamber, the front wall of the air exhaust chamber having an exhaust guide hole, the back wall of the air exhaust chamber having an air exhaust hole; and a plurality of air holes which allow the air supply chamber to communicate with the inside of the helmet, at least one of the air holes being extended adjacent to the front window through the wall of the helmet, the extended air hole opening towards the front window so that air may be blown against the window from the air hole, thereby taking off blur or mist on the window and enhancing the wearing comfort of said helmet.

2. A diving helmet as defined in Claim 1 wherein the air supply chamber is made of a box separately from the helmet such that the box having an opening and air tube may be embedded in the wall of the helmet, whereby the air tube acts as air hole which extends adjacent to the front window.

3. A diving helmet substantially as hereinbefore described with reference to the accompanying drawings.
