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(54) **INTEGRAL SNORKEL AND SWIM MASK**

(57) An integral snorkel and swim mask comprising a mask body (8), an airbag is integrally formed by injection molding on the mask body (8), and the airbag is hollow and filled with air. A nose pocket (11) having an ear pressure balancing function and a transparent lens (7) made by a plastic mold are also disposed on the mask body (8). The airbag, the nose pocket (11) and the transparent lens (7) are injection molded into one integral part. The snorkel mask body (8) is designed to have an airbag and nose pocket (11) structure, so that when being worn, human face comes into contact with the soft silicone airbag, better fitting to a variety of face shapes in an airtight manner, thus preventing water from entering and increasing comfort, the nose pocket (11) can balance ear pressure when diving, and built-in silicone ear plugs (5) can prevent water from entering the ears when swimming.

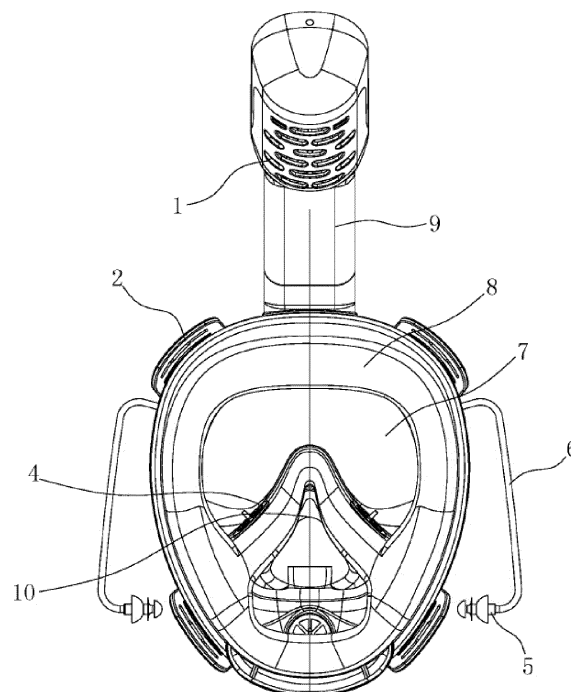


Fig. 1

Description

TECHNICAL FIELD

[0001] The application relates to a mask, in particular to an integrated snorkel and swim mask.

BACKGROUND

[0002] 1. Snorkel and swim masks are used by most people when snorkeling or swimming, in order to prevent water from entering the eyes, ears and mouth. However, the contact part of existing snorkel and swim masks which is in contact with human faces is a silicone piece having a fixed shape, while the face contour varies between individuals. Therefore, due to the silicone piece of the masks does not fit the contour of certain faces, water leakage will occur when using, which will then cause water to enter the eyes, nose and ears during swimming, thereby affecting the normal use.

[0003] 2. When people are diving wearing a snorkel and swim mask, inner ears may be painful and uncomfortable under water pressure.

SUMMARY OF THE APPLICATION

[0004] The technical problem to be solved by the present application is to provide an integrated snorkel and swim mask which has a flexible airbag structure being in contact with the human face and able to be deformed according to the contour of the face to fit and seal the face, as well as a flexible silicone nose pocket which allows the user to squeeze the nose in order to adjust the pressure balance of the inner ears to relieve pain once they are subjected to water pressure when diving.

[0005] The application is achieved by the following technical proposal: an integrated snorkel and swim mask, including a mask body, an airbag integrally formed by injection molding is arranged on the mask body, the airbag is hollow and filled with air, a nose pocket having an ear pressure balancing function and a transparent lens made by a plastic mold are also arranged on the mask body.

[0006] As a preferred technical proposal, the airbag, the nose pocket and the transparent lens are formed into an entirety by injection molding.

[0007] As a preferred technical proposal, the airbag is a silicone airbag, the nose pocket is a silicone nose pocket, and the entire mask body is made of a food grade silicone material.

[0008] As a preferred technical proposal, the silicone airbag is disposed at an end in contact with the skin of human faces.

[0009] As a preferred technical proposal, the nose pocket is provided with exhaust pieces, a bottom part of the mask body is provided with a protective piece, and sides of the mask body are provided with fixed pressing members.

[0010] As a preferred technical proposal, an air exchanging tube member is connected to an upper end of the mask body, and a top part of the air exchanging tube member is provided with one or more air exchanging apertures.

[0011] As a preferred technical proposal, two rotating rods that can be rotated up and down are provided on two sides of the mask body, a tail of the rotating rod is provided with a sealing plug for sealing the ears.

[0012] As a preferred technical proposal, four outer faces of the mask body are each provided with a buckle made of a plastic material.

[0013] The application has the following advantages: the transparent lens and the airbag type mask body of the integrated snorkel and swim mask are integrally formed into an integral part, with the transparent part of the lens on one side and the flexible airbag type mask body on the other side. The flexible airbag type mask body can be highly deformed thus can fit and seal the contour of human faces, preventing discomfort of eyes, difficulties in breathing and water in the ears caused by water leakage. At the same time, when the inner ear is painful under water pressure, the pressure balance of the inner ear can be adjusted by squeezing the nose to relieve the pain.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] In order to more clearly illustrate the embodiments of the present application or the technical proposals in the prior art, the drawings used in the embodiments or the description of the prior art will be briefly described below. Obviously, the drawings in the following description are merely some embodiments of the present application, and other drawings can be obtained by those skilled in the art without any creative work.

Fig. 1 is a front view of the present application;
Fig. 2 is a rear view of the present application.

DESCRIPTION OF THE EMBODIMENTS

[0015] All of the features disclosed in this specification, or all of the steps of a method or process disclosed, except the mutually exclusive features and / or steps, can be combined in any manner.

[0016] Any feature disclosed in the present specification (including any accompany claims, abstract and drawings) may be replaced by other equivalents or alternative features, unless otherwise stated. That is, unless specifically stated, each feature is only one example of a series of equivalent or similar features.

[0017] As shown in Fig. 1 and Fig. 2, a transparent lens 7 made by a plastic mold, a nose pocket 11 and an airbag type silicone mask body 8 are formed. The transparent lens 7, the airbag type silicone mask body 8 and the nose pocket 11 are injection molded into one integral part. The mask body 8 includes an airbag type mask body for seal-

ing the face including the mouth, the nose and the eyes and a silicone earplug 5. The nose pocket 11 is used for squeezing the nose to adjust pressure balance of the inner ear to relieve the pain as the inner ear is subjected to water pressure when diving. The entire mask body is made of a food grade silicone material. An exhaust outlet is disposed at a lower end of the mask body, and exhaust pieces 4 are disposed in the exhaust outlet. A fastener for protecting the exhaust pieces is disposed outside the exhaust pieces 4. Two triangular-shaped silicone fasteners 10 for fixing with respect to the nose are disposed in an inner cavity of the mask body 8.

[0018] In this embodiment, the mask body 8 is provided with an air exchanging tube member 9 at an upper end surface thereof. Air exchanging apertures 1 for air flowing in and out are provided on the air exchanging tube member 9. A silicone water sealing member is arranged inside the air exchanging tube member, and the silicone water sealing member is pressed and fixed by an external fastener.

[0019] Two rotating rods 6 which can be rotated up and down are provided on two sides of the mask body 8. A tail of each rotating rod 6 is provided with an earplug 5 for sealing the ear, and the ears are sealed by the two earplugs to prevent water from entering.

[0020] Additionally, four outer faces of the mask body 8 are each provided with a buckle 2 made of a plastic material, and a rear half portion is connected by the four buckles 2.

[0021] The effect of the application is that the transparent lens and the airbag type mask body of the integrated snorkel and swim mask are integrated into an entirety, with one side being a transparent part of the lens and the other side being a soft airbag type mask body. It can be comfortably and highly deformed to seal the face, preventing discomfort of the eyes, difficulties in breathing or water in the ears caused by water leakage. At the same time, when inner ears are painful under water pressure when swimming, the inner ears pressure balance can be adjusted by squeezing the nose and inhaling to relieve the pain.

[0022] The above are merely specific embodiments of the present application, but the scope of the present application is not limited thereto, and any modification or replacement without creative efforts, shall fall within the scope of protection of the present application. Therefore, the scope of the present application should be defined by the claims scope of protection.

Claims

1. An integrated snorkel and swim mask comprising a mask body, wherein an airbag is integrally formed by injection molding on the mask body, the airbag is hollow and filled with air, and the mask body is further arranged with a nose pocket having an ear pressure balancing function and a transparent lens made by

a plastic mold.

2. The integrated snorkel and swim mask of claim 1, wherein the airbag, the nose pocket and the transparent lens are injection molded into an integral part.
3. The integrated snorkel and swim mask of claim 1, wherein the airbag is a silicone airbag, the nose pocket is a silicone nose pocket, the mask body is entirely made of a food grade silicone material.
4. The integrated snorkel and swim mask of claim 3, wherein the silicone airbag is disposed at an end in contact with skin of human faces.
5. The integrated snorkel and swim mask of claim 1, wherein the nose pocket is provided with exhaust pieces, a protective piece is provided at a bottom of the mask body, and a fixed pressing member is provided on a side of the mask body.
6. The integrated snorkel and swim mask of claim 1, wherein an air exchanging tube member is disposed on an upper end of the mask body, two or more air exchanging apertures are arranged on a top part of the air exchanging tube member.
7. The integrated snorkel and swim mask of claim 1, wherein two rotating rods that can be rotated up and down are disposed on two sides of the mask body, a tail of each of the rotating rods is provided with a sealing plug for sealing ears.
8. The integrated snorkel and swim mask of claim 1, wherein a buckle made of a plastic material is disposed on each of four outer sides of the mask body.

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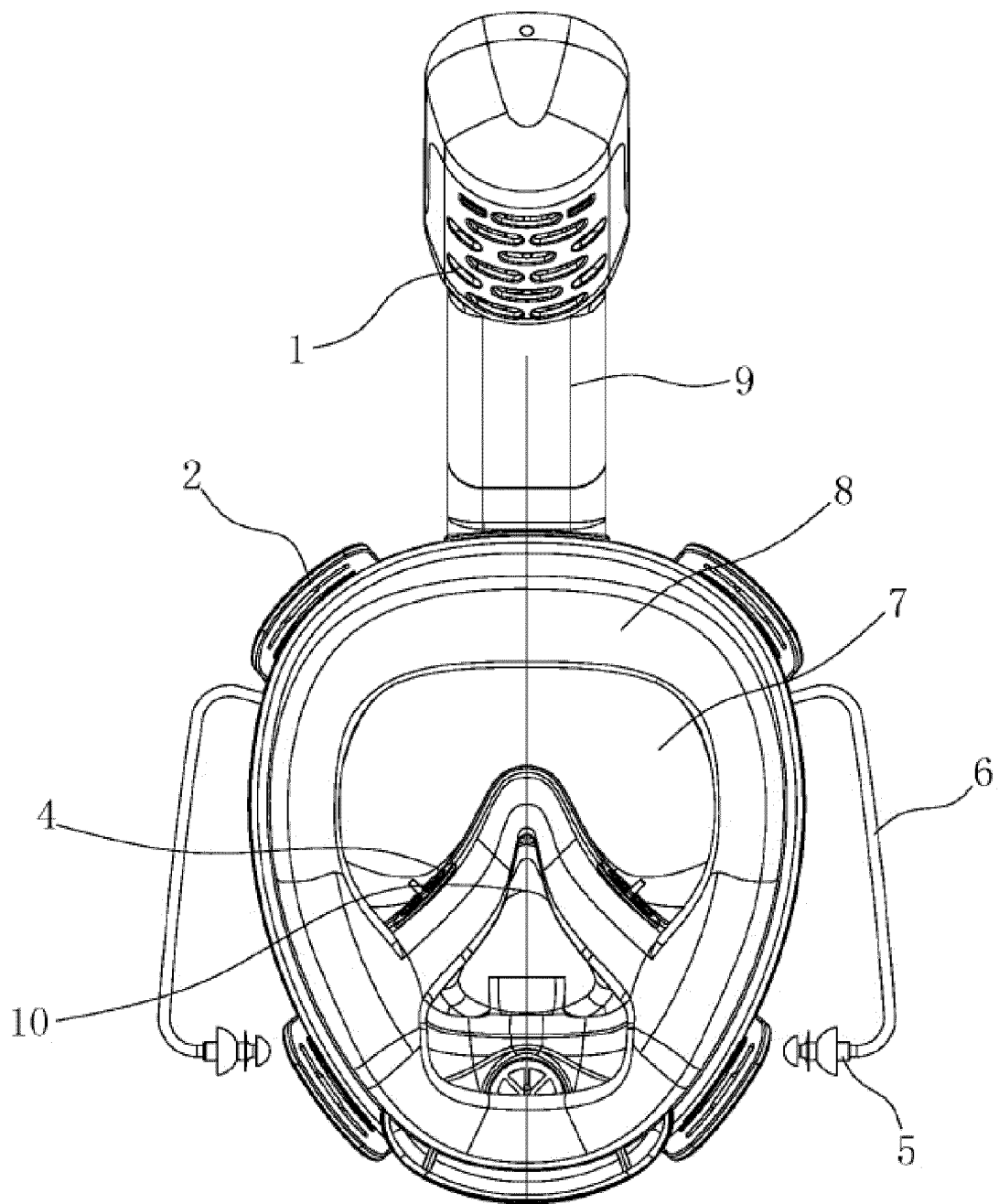


Fig. 1

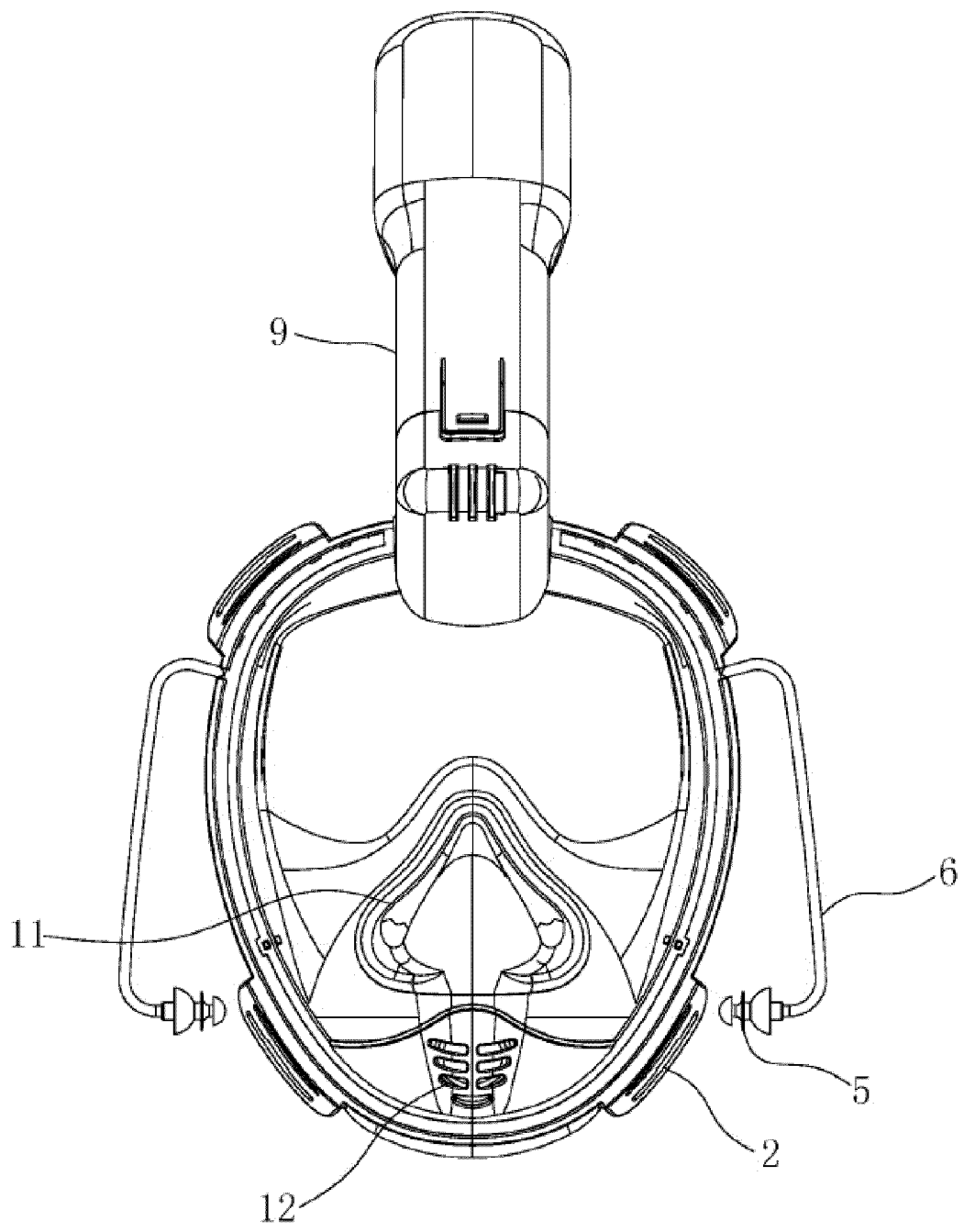


Fig. 2

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/088112

A. CLASSIFICATION OF SUBJECT MATTER

B63C 11/12 (2006.01) i; B63C 11/16 (2006.01) i; A63B 33/00 (2006.01) i; A62B 9/00 (2006.01) i
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B63C, A63B, A62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS, VEN, CN/TW/JP/EPTXT: 浮潜, 潜泳, 游泳, 面罩, 气囊, 充气, 贴合, 密封, 压力, 防压, 耳压, diving, swim+, mask, face, seal+, skirt, chamber, gasbag, press+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 107235129 A (XIAO, Wenzhi), 10 October 2017 (10.10.2017), claims 1-8	1-8
Y	CN 206155752 U (CHEN, Weimao), 10 May 2017 (10.05.2017), description, paragraphs 16-22, and figures 1-2	1-8
Y	CN 101723068 A (YU, Shu), 09 June 2010 (09.06.2010), description, paragraphs 3-8, and figure 1	1-8
A	CN 205707245 U (DENG, Shixing), 23 November 2016 (23.11.2016), entire document	1-8
A	CN 205216105 U (CHEN, Weimao), 11 May 2016 (11.05.2016), entire document	1-8
A	CN 205549183 U (CHONGQING BONA MEDICAL INSTRUMENT CO., LTD.), 07 September 2016 (07.09.2016), entire document	1-8
A	CN 205108660 U (THE FOURTH MILITARY MEDICAL UNIVERSITY OF PLA), 30 March 2016 (30.03.2016), entire document	1-8
A	CN 204548450 U (GUANGZHOU MEIYI TRADING CO., LTD.), 12 August 2015 (12.08.2015), entire document	1-8

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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Name and mailing address of the ISA State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No. (86-10) 62019451	Authorized officer LI, Xiufang Telephone No. 86-010-62085885

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/088112

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 3153400 A1 (MESTEL SAFETY SRL et al.), 12 April 2017 (12.04.2017), entire document	1-8

Form PCT/ISA/210 (continuation of second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/CN2018/088112

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 107235129 A	10 October 2017	None	
CN 206155752 U	10 May 2017	None	
CN 101723068 A	09 June 2010	None	
CN 205707245 U	23 November 2016	None	
CN 205216105 U	11 May 2016	None	
CN 205549183 U	07 September 2016	None	
CN 205108660 U	30 March 2016	None	
CN 204548450 U	12 August 2015	None	
EP 3153400 A1	12 April 2017	IT UB20154132 A1	06 April 2017
		US 2017096204 A1	06 April 2017

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