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**Datasheet for the decision
of 10 July 2009**

Case Number: T 1172/07 - 3.2.01

Application Number: 99830769.8

Publication Number: 1008513

IPC: B63C 11/12

Language of the proceedings: EN

Title of invention:
Dive mask with inclined glasses

Patentee:
Cressi-Sub S.p.A.

Opponent:
HTM Sport P.p.A.

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 83

Keyword:
"Insufficiency of disclosure (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 1172/07 - 3.2.01

D E C I S I O N
of the Technical Board of Appeal 3.2.01
of 10 July 2009

Appellant: Cressi-Sub S.p.A.
(Patent Proprietor) 501, via G. Adamoli
I-16165 Genova (IT)

Representative: Bardini, Marco Luigi
c/o Società Italiana Brevetti S.p.A.
Corso dei Tintori, 25
I-50122 Firenze (IT)

Respondents: HTM Sport P.p.A.
(Opponent) Via Cerisola Borghetto 37
I-16035 Rapallo (IT)

Representative: Porsia, Attilio
c/o Succ. Ing. Fischetti & Weber
Via Caffaro 3/2
I-16124 Genova (IT)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted 16 May 2007
revoking European patent No. 1008513 pursuant
to Article 102(1) EPC 1973.**

Composition of the Board:

Chairman: S. Crane
Members: C. Narcisi
T. Karamanli

Summary of Facts and Submissions

- I. The European patent No. 1 008 513 was revoked by the Opposition Division with the decision posted on 16 May 2007. Against this decision an appeal was filed by the Patentee (Appellant) on 12 July 2007 and the appeal fee was paid at the same time. The statement of grounds of appeal was filed on 26 September 2007.
- II. Oral proceedings were held on 10 July 2009. The Appellant requested that the decision under appeal be set aside and the opposition rejected, or in the alternative, that the patent be maintained in amended form on the basis of the claims according to the auxiliary request, filed as auxiliary request 6 with a letter dated 10 June 2009. The Respondent requested that the appeal be dismissed.

Granted claim 1 reads as follows:

"A dive mask comprising a rigid frame (1) for supporting at least one transparent glass (3), a flexible seal (5) extending from the contour of said frame (1) and being fit to be pressed against the diver's face by means of an adjustable strap, said at least one glass being supported by said frame so as to be inclined downwardly with respect to the orthogonal plane of a visual axis (X) of the diver when the mask is put on, in order to facilitate the view of the upper chest portion of the diver, characterized in that the ratio between the height (H) of said at least one glass (3), measured orthogonally to said visual axis (X) when the mask is put on, and the maximum distance (B) between the axis of symmetry of said frame and the edge

of said at least one glass is equal to or greater than 0.75."

Claim 1 according to the auxiliary request reads as follows:

"A dive mask comprising

- a rigid frame (1) for supporting at least one transparent glass (3),
- a flexible seal (5) extending from the contour of said frame (1) and being fit to be pressed against the diver's face by means of an adjustable strap,
- said at least one glass being supported by said frame so as to be inclined downwardly with respect to the plane orthogonal to the visual axis (x) of the diver when the mask is put on, in order to facilitate the view of the upper chest portion of the diver, characterized in that
- the ratio between the height (H) of said at least one glass (3) when measured orthogonally to said visual axis and in correspondence thereto, when the mask is put on, and the maximum distance (B) between the axis of symmetry of said frame and the edge of said at least one glass is equal to or greater than 0.75,
- the downward inclination angle of said at least one glass with respect to said plane orthogonal to the visual axis being such that the mask is adapted to engage the diver's face from the forehead to below cheekbones of the divers so that the bottom edge of the frame does not hinder a suitable chest view."

III. The Appellant's arguments may be summarized as follows:

The primary issue when dealing with the subject-matter of claim 1 is, apart from any theoretical considerations, whether the skilled person would be able to put this subject-matter into practice. It is known from several technical fields that occasionally reference to external entities is needed in order to define the technical subject-matter for which protection is sought. Nevertheless, as in the present case, this fact by itself does not necessarily entail that the invention is not disclosed in a manner sufficiently clear and complete for it to be performed by the skilled person. Looking more closely into the details of what the claimed subject-matter really means for a person of ordinary skill in the art one is led to the conclusion that actually all quantities referred to in the claim have a well defined meaning. It was shown in particular by means of documents D13 (Murat O. et al., "Natural head posture upper airway morphology and obstructive sleep apnoea severity in adults"), D14 (International Standard ISO 7250, Ed. 1996, "Basic human body measurements for technological design"), D15 (R. Quinlan, "Anthropology 206: Lab Exercise 1, Anthropometry, <http://www.bsu.edu/web/rquinlan/anth206/lab1.htm>), D16 (Mike Marfell-Jones, "Kinanthropometric Assessment", Guide lines for Athlete Assessment in New Zealand Sport) and D17 (Soncul M. et al., "The reproducibility of the head position for a laser scan using a novel morphometric analysis for orthognathic surgery", "Abstract", J. Oral Maxillofac. Surg., 2000 Apr.; 29 (2); 86-90) that the visual axis (X) is defined in the Normal Head Posture (NHP) as lying in the Frankfort

plane and pointing in a forward direction. Its position according to the cited scientific documents is reproducible and thus well-defined. Having regard to this concept the height H is precisely defined in claim 1. Based on these premises which allow a sufficiently accurate definition of the height H it is common practice for the skilled person to test the dive mask on model heads such as dummies appropriately built for this purpose. In the alternative, known computer graphics programs are also available to the skilled person, which permit equally reliable tests of the dive mask to be performed. In particular during all these tests account is likewise taken of possibly different morphologies of head shapes, such as for instance a European standard head vs. an Asian standard head, and further other parameters such as for example the interpupillary distance are also taken into consideration. For the interpupillary distance specific typical values are taken into account. In summary it can be said that as a result of the mentioned test procedure the quotient criterion of claim 1 will be fulfilled by the dive mask of the invention for a vast majority of people. This entirely suffices to define the invention, since there is no assumption made here, nor could it be reasonably made, that the criterion of claim 1 should be met for all human beings. In fact, the criterion of claim 1 may be alternatively construed as a "worst case scenario", in the sense that it is expected that it be fulfilled even assuming a very unlikely situation, in which such entities and parameters as Normal Head Posture, morphology of the face and interpupillary distance lie far away from usual everyday experience and outside common ranges.

Amended claim 1 according to the auxiliary request indicates the additional feature that the "mask is adapted to engage the diver's face from the forehead to below the cheekbones of the divers so that the bottom edge of the frame does not hinder a suitable chest view". This feature gives additional information on how to design the mask and likewise stresses an essential feature of the invention marking a difference to dive masks of the prior art. This further feature also defines the invention in conjunction with the above mentioned quotient criterion in a manner sufficiently clear and complete for it to be carried out by the skilled person.

IV. The Respondent's arguments may be summarized as follows:

The clarity of a claim is of the utmost importance such that if a particular term used in the claim is to be given a specific and uncommon meaning, this has to be clearly and unambiguously defined in the claim and in the patent specification. In the present case the meaning of the term "height of said at least one glass" of the dive mask appears to depart from the usual one, which is that of the distance between the tangent lines formed at the uppermost and at the lowermost point of the glass. In fact, according to claim 1 the said height H appears to be "measured orthogonally to said visual axis (X) when the mask is put on". However this definition, given also in the patent specification, is unclear and ambiguous, since it merely says that the height is measured in the plane orthogonal to the visual axis, without giving any further indication. Moreover, the position of the visual axis is not the same for all persons. It would thus be impossible to

perform the teaching of the invention according to claim 1. For these reasons the subject-matter of claim 1 is not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

Concerning the subject-matter of amended claim 1 of the auxiliary request it is noted that as a result of the amendment "in correspondence thereto" the claimed subject-matter extends beyond the content of the application as originally filed.

Reasons for the Decision

1. The appeal is admissible.
2. The Respondent's contention that the position, in the plane orthogonal to the visual axis, at which said height H is measured is unclear cannot be accepted by the Board. In fact, figure 2 and figure 3, which illustrates the cross section of figure 2 in a plane including both the visual axis X and the height H, make it clear for the skilled person that the height H is measured in said plane orthogonal to the visual axis X along a line crossing said visual axis X and directed orthogonally to said maximum distance B lying on a horizontal axis of the dive mask which is orthogonal to the vertical symmetry axis.
3. The quotient H/B is defined by claim 1 as "the ratio between the height (H) of said at least one glass, measured orthogonally to said visual axis (X) when the mask is put on, and the maximum distance (B) between

the axis of symmetry of said frame and the edge of said at least one glass". Due to this definition, it ensues (see also figure 3 of the patent specification) that for each different individual said quotient will vary, given that each specific face morphology, Normal Head Posture and interpupillary distance will generally lead to a different inclination of the glass of the dive mask and to a different position of the visual axis, these factors clearly affecting the value of the height H. Whether the criterion $H/B \geq 0.75$ required by the claim is actually met will thus depend on the individual considered. Consequently, since the dive mask is a commercial article for mass production and is not individually tailored to fit a specific person it is hardly possible that the skilled person would be able to carry out the invention such that in principle, as required by the claim, the dive mask of the invention satisfies the mentioned criterion regardless of the specific individual under consideration, or at least such that the degree of accuracy implied by said criterion entails an error margin which for all practical purposes is negligible.

The Appellant's arguments in this respect fall short of being convincing. The main argument that the claim has to be construed such that as a result of known test procedures dive masks can be produced which meet the criterion of the claim for a vast majority of individuals cannot be accepted. This kind of argument does not give any indication as to the degree of accuracy obtainable by the skilled person when trying to carry out the present invention. In fact, in order that the requirements of Article 83 EPC 1973 be met, it is necessary that the invention can be reliably

performed over the whole range in which it is defined. If the invention is defined by means of an external entity, as is the case here, then this definition has to be such that no uncertainties arise as to how the invention should be carried out in practice in order to meet the requirements of the claim. The specific requirements here are that the criterion $H/B \geq 0.75$ be met. However it is evident that a dive mask satisfying this criterion for a given number of individuals may possibly not satisfy the same criterion for another group of individuals. This is particularly obvious on the grounds that for example the interpupillary distance for male adults in Europe and the USA is known to vary between approximately 57 and 70 mm. As a consequence, considering for instance the dive mask of the invention as illustrated on page 12 of the grounds of appeal it ensues that on account of the steep slope of the edge of the glass a variation of several millimetres of the interpupillary distance leads to an analogous variation of the height H of the claim. Thus, since the magnitude of said height H when expressed in millimetres is of the order of two decimal digits before the comma (see figure on page 12 of the grounds of appeal) and B has the same order of magnitude as H (see mentioned figure), as a result in the quotient H/B the second digit after the comma will depend on the position of the visual axis of each individual. In other words, the required degree of accuracy as required by the criterion $H/B \geq 0.75$ cannot be met in practice. This example is merely meant to illustrate that, as has been admitted by the Appellant himself, no guarantee is given that a dive mask satisfying said criterion for a given number of persons will do the same for other individuals.

The example presented by the Appellant on pages 12, 13 and 14 of the grounds of appeal is based on the specific assumptions of an interpupillary distance varying in the range of 64 mm +/- 3.5 mm, where 64 mm is assumed to be the average value, and of specific values of overall glass height K and maximum distance B. It is self-evident that for interpupillary distances outside this range the example given by the Appellant, and particularly the calculated value of said quotient H/B on page 14 of the grounds of appeal, would not meet the criterion $H/B \geq 0.75$. If on the other hand, still referring to the Appellants' example, the overall glass height K is chosen to be smaller than 61.6 mm (see figure on page 12 of the grounds of appeal), then obviously said quotient as calculated on page 14 of the Appellant's grounds of appeal will not satisfy the criterion $H/B \geq 0.75$ in the mentioned range of the interpupillary distance either. This illustrates again the fact that since claim 1 does not include any statement relating for instance to explicit ranges of values for the overall glass height K or for the interpupillary distance any dive mask will in general satisfy said criterion only for a certain percentage of individuals.

- V. It is therefore apparent that the definition of the invention according to claim 1 has a fundamental deficiency, which is not merely due to the fact that it refers to an external entity, but to the very nature of the particular entity itself. On account of this fundamental deficiency the person skilled in the art would not be able to carry out the invention, since according to the Appellant's own arguments, the

mentioned criterion can only be meaningful if interpreted in statistical and probabilistic terms, in the sense that for any dive mask produced according to the teaching of the invention said criterion will in general be met only for a certain percentage of individuals. This leads once more to the conclusion that the subject-matter of claim 1 does not define a technical object in such a manner that the skilled person may reliably put the invention into practice (Article 83 EPC 1973).

VI. Lastly, as to the Appellant's argument that the present criterion $H/B \geq 0.75$ is intended to define a "worst case scenario" the Board notes that no such disclosure has been made in the patent specification, which does not include any definition of said "worst case scenario". In particular, no indication is to be found in the patent specification for instance as to the percentage of individuals, based on statistical distributions of face morphologies, Normal Head Postures and interpupillary distances and their interplay which clearly affect said quotient H/B , for which the dive mask is expected to satisfy the mentioned criterion. Moreover, the Board does not see any necessity for such a definition. As far as the interpupillary distance is concerned, for example, the preferred and unambiguous manner to deal with such a case would be to indicate in the claim a range defining a distance from the vertical symmetry axis of the glass frame, this distance corresponding to half of the interpupillary distance, within which range the visual axis is most likely to be located and its position allowed to vary in order that the criterion $H/B \geq 0.75$ still be satisfied with the required accuracy.

VII. The amendments to granted claim 1 according to the auxiliary request cannot obviate to the above mentioned fundamental deficiencies present in the subject-matter of the granted claim. The amendment merely implies a supplementary information which does change the above mentioned facts and reasons.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Vottner

S. Crane