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Datasheet for the decision of 16 October 2015

Case Number: T 1999/14 - 3.2.04

Application Number: 10150777.0

Publication Number: 2169234

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Title of invention:
Sinking pump safe for fish

Applicant:
Manshanden, Gerardus Augustinus Maria

Headword:

Relevant legal provisions:
EPC Art. 76(1)

Keyword:
Divisional application - added subject-matter (yes)

Decisions cited:

Catchword:

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Case Number: T 1999/14 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 16 October 2015

Appellant: (Applicant)	Manshanden, Gerardus Augustinus Maria Hazewaal 1 1671 LA Medemblik (NL)
Representative:	Vernout, Robert Arnold & Siedsma Bezuidenhoutseweg 57 2594 AC The Hague (NL)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 14 July 2014 refusing European patent application No. 10150777.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	A. de Vries
Members:	S. Oechsner de Coninck
	C. Schmidt

Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal, received on 11 September 2014 against the decision of the examining division, dispatched 14 July 2014 on the refusal of the application N° 10 150 777.0, a divisional application of earlier European patent application 08 785 029.3. He paid the appeal fee and submitted the statement setting out the grounds of appeal.

The examining division held that the application did not meet the requirements of Article 76(1) EPC, because it contained amendments extending beyond the content of the earlier application as filed.

II. In a communication following the summons for oral proceedings, the board gave its provisional opinion regarding the requirements of Article 76 EPC and informed the appellant that if a version of claim 1 was found to comply with the requirements of Article 76 EPC, then the Board would remit the case to the first instance for the further substantive examination.

III. Oral proceedings took place on 16 October 2015.

IV. The appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, alternatively, on the basis of one of the auxiliary requests 0.5, 1, 1.5, 2 or 2.5, all requests filed with letter dated 12 October 2015.

V. The wording of the independent claim 1 according to the requests on file at the time of the present decision and relevant thereto reads as follows:

Main request
"Sinking pump (2), comprising:
a tubular housing (6) with a feed opening and a discharge opening;
at least one pump rotor (7, 13) arranged in the tubular housing (6);
wherein the pump rotor (7, 13) comprises a hub (10, 14) on which a number of blades (11, 15) are arranged;
characterized in that the blades (11, 15) are spiral-shaped and increase in effective surface area in pumping direction (P)".

Auxiliary request 0.5
"Pumping station comprising a sinking pump (2) for pumping surface water from a lower level to a higher level, said sinking pump (2) comprising:
a tubular housing (6) with a feed opening and a discharge opening;
at least one pump rotor (7, 13) arranged in the tubular housing (6);
wherein the pump rotor (7, 13) comprises a hub (10, 14) on which a number of blades (11, 15) are arranged;
characterized in that the blades (11, 15) are spiral-shaped and increase in effective surface area in pumping direction (P)."

Auxiliary request 1
"Sinking pump (2), comprising:
a tubular housing (6) with a feed opening and a discharge opening;
at least one pump rotor (7, 13) arranged in the tubular housing (6);
wherein the pump rotor (7, 13) comprises a hub (10, 14) on which a number of blades (11, 15) are arranged;
characterized in that

the pump rotor (7, 13) comprises a cylindrical casing (12, 16), which casing lies (12, 16) sealingly against the inner wall of the tubular housing (6);
and the blades (11, 15) are spiral-shaped and increase in effective surface area in pumping direction (P)."

VI. The applicant argues as follows:
The implicit disclosure of the earlier application should also be taken into account. Such implicit disclosure also includes basic scientific laws. From the earlier application it is clear that the cylindrical casing is not linked to the problem of avoiding the fish being struck by a blade, therefore the skilled reader would recognise that this feature is not essential for the present invention. Hence the omission of this feature does not result in the divisional application extending beyond the content of the earlier application.

Reasons for the Decision

1. The appeal is admissible.

2. The present European patent application 10 150 777.0 is a divisional application of European patent application 08 785 029.3 (the parent application) which was published by WIPO under International publication number WO-A-2009/010310. The European parent application was withdrawn before publication.

2.1 Article 76(1) EPC states that the "European divisional application ... may be filed only in respect of subject-matter which does not extend beyond the content of the earlier application as filed".
Therefore the divisional application as originally filed on 16 July 2008 needs to be compared with WO-

A-2009/010310 as the earlier application as filed and published.

2.2 Since the wording of the two articles is nearly identical, for determining compliance of a divisional application with Article 76(1) EPC, second sentence, the same principles apply as those used for determining compliance of amendments with Article 123(2) EPC, see Case Law of the Boards of Appeal of the European Patent Office, 7th edition 2013 (CLBA), II.F.1.1., with further reference to the decisions of the Boards of Appeal. In particular the relevant subject-matter of a divisional application must be directly and unambiguously derivable from the earlier application as filed. More specifically, subject-matter of the divisional must be directly and unambiguously derivable by the skilled person from the disclosure of the earlier, parent application as filed, as determined by the totality of its claims, description and figures when read in context. Subject-matter claimed in the divisional application has to be compared with the content of the earlier (parent) application as filed, whereby the content of an application comprises the whole disclosure, express or implied, that is directly and unambiguously derivable from the application including information which is implicit and immediately and unambiguously apparent to a person skilled in the art reading the application, see CLBA, II.F.1.1.1. with further reference to the decisions of the Boards of Appeal.

2.3 The independent claim 1 of the divisional application as filed is characterised by the features of the original claim 5 of the parent application, namely that the blades (11, 15) are spiral-shaped and increase in effective surface area in pumping direction (P). The

original characterising feature of the parent claim 1 whereby the pump rotor (7, 13) comprises a cylindrical casing (12, 16), which casing lies (12, 16) sealingly against the inner wall of the tubular housing (6) has been deleted from the wording of claim 1 of the divisional application as filed. For that reason, the examining division refused the divisional application for contravention of Article 76(1) EPC because claim 1 as originally filed no longer specified that the pump rotor comprises such a cylindrical casing.

2.4 The originally filed parent application gives the skilled person the following information regarding the original invention. The general object of the present invention is described on page 1 lines 16-27. Starting from the drawbacks of the prior art sinking pumps that do not let the fish swim through unharmed, two undesirable effects are identified, one pertaining to the difference in speed between the housing and rotating pump causing the fish to be caught between these two components, the second relating to high rotation speed of the pump rotor which means that fish are more likely to be struck by a blade. The application then goes on to mention legislative requirements of such pumps to be fish friendly whereby further improvements in this respect were needed. The solution proposed by the parent application in the immediately following lines 28 to 31 of page 1 is the provision of a cylindrical casing, which lies sealingly against the inner wall of the tubular housing. From the above it follows that the skilled person is explicitly taught by the parent application as filed that it is primarily the feature of the cylindrical casing that solves the problem of making the pump fish friendly.

2.4.1 The most relevant passage in the original parent disclosure that relates to features of parent claim 5 is found on on page 2, lines 16-23. It describes a "further embodiment" of the main inventive idea which is stated to comprise "a number of blades arranged between a central hub and the cylindrical casing". Furthermore, "owing to the spiral shape of the blades and the increase of effective surface area a considerable pump flow rate can still be obtained in the limited space between the [cylindrical] casing".

The above structural description of the rotor clarifies that the cylindrical casing forms the external portion of the pump rotor in which the blades are enclosed, and describes the improved flow rate within this context. This passage neither suggests that the cylindrical casing would be merely optional nor that the feature relating to the blades shape could be isolated from the same cylindrical casing.

2.4.2 Turning to the detailed description of the original parent application, this details two different embodiments, the first is described in reference to figures 2 to 4 on page 3,lines 21 to 33; the second in reference to figures 5-7 on page 4, lines 3-9. Both embodiments include the cylindrical casing, shown as reference numeral 12 or 16 in all the figures, as an integral part of the sinking pump components, cf. page 3, lines 24 to 25; page 4, line 5. The blades, whatever their taper direction, are disclosed as being attached to the hub at their roots and to the cylindrical casing at their ends. The whole arrangement of casing and blades forms an integral rotor assembly. There is again no suggestion that the cylindrical casing could be dispensed with in either embodiment

2.4.3 As is apparent from the above, the the parent application as filed considered as a whole and read in context fails to explicitly or expressly indicate that the cylindrical casing can be dispensed with. The lack of any explicit teaching with respect to the omission of the cylindrical casing has not been disputed by the applicant.

2.5 The Appellant rather submits that the implicit disclosure of the earlier application, in particular what a skilled person would consider necessarily implied by the parent application as a whole, in view of basic scientific laws, should be taken into consideration. In this view the skilled person would recognise from page 1 of the parent application that there are two distinct and separate problems: the fish being caught between blade and housing, and the fish being struck by a rotating blade, and that each has a separate solution. With respect to this second problem the parent application at page 2, lines 16-23 teaches the skilled person that when the blades are provided with a spiral shape and an increase effective surface area in pumping direction a considerable pump flow rate can still be obtained in the limited space between the casing. Using his common knowledge and understanding of the underlying physics the skilled person would infer that the cylindrical casing does not in fact contribute to improving the pump flow rate or head, but that this effect is exclusively obtained by the special shape of the blades.

2.5.1 The board is unconvinced that the original parent application includes two separate problems as identified by the appellant. Contextual reading of the relevant passage on page 1, see section 2.4.1 above, indicates a single main objective that pertains to fish friendliness

of the pump in the sense that fish swim through the pump unharmed, that is without being caught between between the blades and housing and without being struck by the blades. There is no indication that these two aspects would be unlinked or separable.

2.5.2 It may be true that taking into account his general knowledge and an understanding of the underlying physics, the skilled person might recognise that the cylindrical casing plays a secondary role in the pump throughput. However, from his knowledge of fluid mechanics, he is well aware that any surface in contact with a fluid flow affects the boundary layer and alters the pressure distribution along that surface an so influences flow characteristics. Overall, these flow characteristics including pressure losses and mass flow would be markedly different for designs with and without casings, due to the speed differential present between the rotor blades and the static housing which would not be present in a ducted rotor design. All these considerations based on the skilled person's knowledge of flow dynamics would lead him to the conclusion that the cylindrical housing does have an influence on the mass flow even if of secondary nature with respect to the shape of the blades.

2.5.3 Indeed, in the Board's understanding of the cited passages and the flow dynamics involved, the provision of the casing, though preventing fish being caught between blades and housing, will result in a reduction of flow rate. If flow rate is to be maintained rotation speed would need to be increased, but this would result in an increased chance of fish being struck, cf. page 1, lines 21 to 23, cancelling to some degree at least the effects of the casing. This, however, can be offset by the advantageous blade design of page 2, lines 16 to 23.

This is what is meant where that passage states: "a considerable flow rate can *still* be obtained in the limited space between the casing" [italics added]. Thus, in the Board's view the original parent application teaches blade shape as an *additional*, *subsidiary* measure to the central feature of the casing, which is necessary to maintain flow rate without further injury to fish for a rotor with a casing. Nothing else is taught by the parent. In particular, there is no direct and unambiguous teaching - even taking into consideration what is implicit to the skilled person - of the feature as a stand alone measure, that can be used in its own right without a casing to make a pump more fish-friendly.

2.6 From the above considerations the board concludes that the omission in claim 1 of the main request of the feature concerning the cylindrical casing in claim 1 of the parent application as filed introduces subject-matter which extends beyond the content of the earlier application as filed and contravenes the requirements of Article 76(1) EPC. For that reason the main request must fail.

3. Claim 1 of the auxiliary request 0.5 lacks the same feature as claim 1 of the main request and must fail for the same reasons as given above.

4. Claim 1 of the auxiliary request 1 restores the original characterising feature of the parent claim 1. The omission of this feature was the sole amendment identified by the examining division as contravening the requirements of Article 76(1) EPC and which led to the refusal of the application.

Otherwise the Board has no reason to believe that claim 1 of this request extends beyond the content of the parent application as filed. In the preamble of claim 1 the feature of the pump rotor comprising a hub with a number of blades is derived from claim 4 of the parent application as filed; these are necessarily arranged between the hub and cylindrical casing. Finally, the last characterising features recites the features of claim 5 of the parent application as filed. The board is therefore satisfied that the requirements of Article 76(1) EPC are complied with.

5. The decision was based exclusively on Article 76(1) EPC. In order to allow first instance examination of the remaining requirements of the EPC, the Board considers it appropriate to, remit the case to the first instance for further prosecution pursuant to Article 111(1) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside,

2. The case is remitted to the examining division for further prosecution.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated