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**Datasheet for the decision
of 4 July 2024**

Case Number: T 1376/22 - 3.2.01

Application Number: 13733069.2

Publication Number: 2858893

IPC: B63H1/14, B63H1/16, B63H1/26,
B63H11/08, A61M1/10

Language of the proceedings: EN

Title of invention:
Ship screw

Patent Proprietor:
G.A.M. Manshanden Management B.V.

Opponent:
Poseidon Propulsion B.V.

Headword:

Relevant legal provisions:
RPBA 2020 Art. 13(2)
EPC Art. 123(2), 123(3), 83, 54, 56

Keyword:

Amendment after summons - exceptional circumstances (yes)
Amendments - extension beyond the content of the application
as filed (no) - broadening of claim (no)
Sufficiency of disclosure - (yes)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

G 0002/10

Catchword:



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Case Number: T 1376/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 4 July 2024

Respondent: G.A.M. Manshanden Management B.V.
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
11 April 2022 concerning maintenance of the
European Patent No. 2858893 in amended form.**

Composition of the Board:

Chairman G. Pricolo
Members: J. J. de Acha González
O. Loizou

Summary of Facts and Submissions

- I. Both the patent proprietor and the opponent filed an appeal against the interlocutory decision of the Opposition Division, which found that the contested patent, as amended in accordance with the auxiliary request 1 filed during the oral proceedings, complied with the requirements of the EPC.
- II. By communication under Article 15(1) RPBA dated 28 March 2024, the Board gave its preliminary, non-binding opinion on the case. In particular, it pointed out the inadmissible intermediate generalisation that derived from the subject-matter resulting from feature IX of claim 1 below by omitting that the housing of the blades is fixed to the ship, which affected all the requests on file.
- III. Oral proceedings before the Board were held on 4 July 2024 as a videoconference. As notified by letter of 17 June 2024, the appellant did not attend the oral proceedings, who were then treated as relying on their written case (Article 15(3) RPBA).

The appellant (opponent) requested in writing that the decision of the Opposition Division be set aside and that the patent be revoked.

At the oral proceedings the patent proprietor made auxiliary request 4 filed with letter dated 3 May 2024 their main request, withdrew all other requests on file and withdrew its appeal.

The patent proprietor (now respondent) requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the auxiliary request 4 filed with letter dated 3 May 2024 (main request in the following).

IV. Independent claim 1 of the main request reads as follows (feature numbering by the Board and differences with respect to granted claim 1 underlined by the Board):

- I. Ship provided with a ship screw (2) for use under water that may comprise fish,
- II. wherein the screw is driven by the ship's engine via a drive shaft,
- III. the screw comprising a front side and a rear side, wherein water is forced from the front side to the rear side in use, and
- IV. comprising a hub (3) and at least two blades (4) extending from said hub (3),
- V. wherein a frustoconical housing (5) having a free rear side end is provided around the blades (4),
- Va. the frustoconical housing (5) being fixed to the ship,
- VI. wherein the blades (4) are substantially helical-shaped,
- VII. wherein the blades (4) extend from the hub (3) in the direction of the outer circumference and the front side of the screw (2) in a helical shape, characterised in that
- VIII. the blades (4) taper off to a point in the outer circumference of the screw (2) at the front side
- IX. resulting in sickle-shaped blades (4) with free ends near the outer circumference at the front side of the screw (2),
- X. the blades (4) extending in a continuous manner from

the front side end to the free rear side end of the frustoconical housing (5),

- XI.** wherein the effective surface area of the blades (4) increases continuously from the front side toward the place where they are mounted on the hub,
- XII.** so that the fish in the water are mostly guided along the hub without being touched by the blades,
- XIII.** the water with the fish leaving the free rear side end of the frustoconical housing unguided.

Reasons for the Decision

- 1. *Admissibility of the main request*
 - 1.1 The Board applying its discretion under Article 13(2) RPBA admitted the main request in the appeal proceedings.
 - 1.2 The main request was filed for the first time on 3 May 2024 after the communication of the Board under Article 15(1) RPBA.
 - 1.3 Under Article 13(2) RPBA any amendment to a party's appeal case made after notification of a communication under Article 15, paragraph 1, shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
 - 1.4 The main request differs from the first auxiliary request filed with the patent proprietor's grounds of appeal, which is identical to first auxiliary request considered allowable by the Opposition Division, in

that claim 1 is amended to recite that the frustoconical housing is fixed to the ship. The main request thus constitutes an amendment of the respondent's appeal case filed after the notification of the communication under Article 15(1) RPBA.

1.5 With letter dated 24 May 2024, the appellant argued that there were no exceptional circumstances for filing the current main request. The objection of inadmissible extension to the subject-matter resulting from feature IX (also present in granted claim 1 and in claim 1 of the version found allowable by the Opposition Division) had been already raised at the outset of the opposition proceedings, i.e. in the notice of opposition, and was further developed in paragraph [0030] of the statement of grounds of appeal. Moreover, the respondent failed to explain why the circumstances of the case had the direct result of preventing the filing of the main request at an earlier stage. On the contrary, nothing prevented the respondent from filing the main request earlier, as they could have anticipated a discussion of extension of subject matter with respect to feature IX. Finally, the appellant argued that the the Board's statement concerning feature IX in its communication could not even be considered as surprising.

1.6 However, the respondent provided cogent reasons that there were exceptional circumstances for the amendment of their case in response to the Board's preliminary opinion as explained in the following.

1.7 In their statement of grounds of appeal, the appellant argued that there was no disclosure of the blades having free ends because figures 1 and 2, and page 4 of the application as originally filed disclosed that the housing was attached to the outer circumference of the

two blades (see paragraph [0030] of the statement of grounds of appeal).

In their reply (see paragraph [0025]), the respondent addressed the appellant's objection by stating that there was a disclosure of the blades having free ends, namely on lines 16 and 17 of page 4 describing an alternative to the embodiment relied upon by the appellant for its objection. It is only with the Board's communication (see point 1.1.2) that the respondent was made aware of the finding that, even if it was correct that said alternative embodiment disclosed free ends, these were however only disclosed in combination with the feature of fixing the housing to the ship.

The amendment made is thus in direct reaction to the issue raised by the Board.

The above depicted constitutes an exceptional circumstance justifying the filing of the present main request.

2. *Inadmissible extension*

2.1 The subject-matter of claim 1 does not extend beyond the content of the application as originally filed (Articles 100(c) and 123(2) EPC).

2.2 The basis given by the respondent for the subject-matter of claim 1 of the main request is the disclosure of the preferred embodiment according to figures 1 and 2 together with page 4 of the description of the application as originally filed, in which the housing is fixed to the ship (see WO-publication).

Consequently, it must be determined whether the subject-matter of claim 1 generalises the disclosure of this preferred embodiment of the invention as originally filed.

- 2.3 The appellant objected to the subject-matter resulting from features II, IV, IX, X and XIII of claim 1 in the version found allowable by the Opposition Division. In so far as these objections also apply to the subject-matter of the main request, and taking the above-mentioned embodiment of page 4 and figures 1 and 2 as the basis for the subject-matter of claim 1, they essentially argued as follows:

Regarding features II and IV, the combination of these features constituted an unallowable intermediate generalisation of the embodiment because it disclosed a screw with two blades and not a screw with at least two blades as claimed.

Feature IX was nowhere to be found verbatim in the application as originally filed. Figure 2 showed a screw with two blades, but it could not be indisputably determined whether the blades had the same form, let alone the shape claimed, i.e. sickle-shaped blades. Furthermore, in the embodiment described on page 4 and in figures 1 and 2, the housing was attached to the outer periphery of the blades in such a way that there could be no free ends of the blades near the outer circumference at the front side of the screw.

A literal basis for features X and XIII was also lacking in the originally filed documents and could not be directly and unambiguously derived from figures 1 and 2.

2.4 According to the established case law, the criterion for assessing whether the patent incurs in an inadmissible extension of subject-matter is the "*gold standard*", namely whether the claimed subject-matter is derivable directly and unambiguously for the skilled person from the application as originally filed (see e.g. point 4.3 in the Decision of the Enlarged Board of Appeal G 2/10, OJ EPO 2012, 376).

2.5 The objection directed to features II and IV was raised for the first time in the statement of grounds of appeal of the appellant. However, irrespective of the admissibility of this new argument, it does not persuade on the merits. Although a screw with two blades is disclosed in the embodiment on page 4, on which the subject-matter of claim 1 is based, the skilled person directly and unambiguously derives from the application as originally filed that the screw according to the invention is not limited to only two blades: see page 1, first paragraph of the application as originally filed disclosing that the invention relates to a ship screw with "at least two blades". This general statement clearly also applies to the embodiment disclosed on page 4, as the provision of three or more blades does not require altering any of the other features of claim 1.

With respect to feature IX, the appellant's objection with respect to the lack of disclosure of the free ends of the blades did not consider the embodiment disclosed on page 4 in which the housing is fixed to the ship. Since the additional feature Va in claim 1 specifies such attachment, this objection of the appellant to feature IX is moot.

As regards the feature "*sickle-shaped blade*", this shape is merely the consequence of the shape of the

blades defined by the other features of claim 1, in particular, features VII and VIII. A sickle is simply a curved blade. Consequently, a helical shaped blade tapering off to a point represents a sickle-shaped blade.

Feature X derives directly and unambiguously from figures 1 and 2 together with their description, which disclose continuously extending blades, and is also a consequence of features VI, VII, VIII and feature XI of claim 1.

By the same token, feature XIII is a consequence of feature V of claim 1, since the rear side end of the frustoconical housing of the screw is free, i.e. there is no additional part behind it in the rearward direction and, consequently, there is no further means for guiding the water leaving the rear side of the housing.

3. *Extension of protection*

3.1 The patent as amended according to the main request does not extend the protection it confers (Article 123(3) EPC).

3.2 The appellant submitted that the amendment of the tubular housing of granted claim 1 to a frustoconical housing extended the protection conferred by the granted patent because a tubular housing was a housing in the form of a hollow elongated cylinder (reference was made to the dictionary definition of tube and tubular). Consequently, tubular housings and frustoconical housings were two different types of housings for ship screws.

3.3 The Opposition Division gave already due consideration to the appellant's arguments in its decision (see points 2.1.1 and 3.1 of the decision under appeal). The Board finds the reasoning of the Opposition Division to be correct and adopts it in accordance with Article 15(8) RPBA.

In particular, a frustoconical housing of a ship screw, which is provided around helical-shaped blades delimited by an outer circumference, is a subset of a tubular housing. A tubular housing is not necessarily cylindrical.

4. *Sufficiency of disclosure*

4.1 The patent discloses the invention according to claim 1 in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC).

4.2 The appellant argued that the technical effects recited in features XII and XIII were technical effects to be achieved, which were intended to solve the objective technical problem of allowing fish to pass through the rotating ship screw and to leave or move away from the rotating ship screw without being harmed. As there were serious doubts as to whether the technical effects would be reached, the claim had to be considered as insufficiently disclosed. This was due to the high rotational operation speed of the screw (from 573 to 3438 rpm, depending on the travelling speed of the ship and the diameter of the screw, which were unspecified in the patent), which would result in fish swimming towards the ship's screw encountering 19 to 229 screw blades per second (depending on the number of blades per screw). Fish would therefore be seriously injured if they encountered a screw at such rotational speeds.

It was well known that there was a correlation between the screw speed and fish damage: higher speeds caused more fish damage because the relative speed increased and the relative openings between the rotating blades decreased, whereas a low relative speed was beneficial to the fish because the fish would only be slowed down and would tilt over without damage.

The Opposition Division's consideration that the technical effect resulting from the features of claim 1 was to reduce fish mortality was too broad.

- 4.3 The person skilled in the art, taking into account their common general knowledge, is able to construct the ship according to claim 1, in particular the screw specified therein.

Feature XII states that the fish in the water are mostly guided along the hub without being touched by the blades. This is, as the appellant rightly pointed out, a technical effect. However, this effect is a consequence of the aforementioned features of claim 1, which define the shape of the blades in the ship screw. That shape, as the respondent submitted, makes it possible to create a larger intake opening for the fish to enter the screw, which allows the fish to be guided along the hub for the most part without being touched by the blades.

Feature XIII, as explained above, is a technical consequence of feature V.

Finally, reducing fish mortality is not a technical effect but an objective technical problem to be solved. In fact, paragraph [0003] of the patent in suit recognises that one of the problems to be solved by the invention disclosed therein is to cause less fish

mortality. This problem is solved by the ship claimed with its screw, which allows fish to pass through and leave the screw with less damage, but not necessarily unharmed. The skilled person can derive this objective technical problem from the features of claim 1 and their technical effects as explained in the patent specification and in the light of common general knowledge.

5. *Novelty and inventive step*

5.1 Claim 1 differs from claim 1 of the version found allowable by the Opposition Division in that it further includes feature Va.

5.2 The appellant did not raise any substantive patentability objections regarding novelty and inventive step to the subject-matter of claim 1 of the main request (Articles 54 and 56 EPC).

5.3 There is therefore no reason to question novelty and inventive step.

6. It follows from the above that the claims according to the main request form a suitable basis for the maintenance of the patent in amended form.

Since the description needs to be adapted and the appellant was not present at the oral proceedings, the Board considered it as appropriate to remit the case to the Opposition Division for adaptation of the description. The respondent agreed.

Since the patent proprietor withdrew their appeal during the oral proceedings before the decision was

announced their appeal fee is to be reimbursed at 25% under Rule 103(4) (a) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent in amended form according to the main request (previously filed as auxiliary request 4 with letter dated 3 May 2024) and a description to be adapted.
3. The appeal fee of the patent proprietor is reimbursed at 25%.

The Registrar:

The Chairman:



H. Jenney

G. Pricolo

Decision electronically authenticated