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**Datasheet for the decision
of 6 December 2017**

Case Number: T 0552/13 - 3.2.04

Application Number: 05763519.5

Publication Number: 1797334

IPC: F04D29/38

Language of the proceedings: EN

Title of invention:
HIGH EFFICIENCY AXIAL FAN

Patent Proprietor:
SPAL Automotive S.r.l.

Opponent:
ebm-papst Mulfingen GmbH & Co. KG

Headword:

Relevant legal provisions:
EPC Art. 83, 114(2)
RPBA Art. 12(4)

Keyword:

Sufficiency of disclosure - (yes)

Late-filed evidence - submitted with the statement of grounds
of appeal - admitted (no)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0552/13 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 6 December 2017

Appellant: ebm-papst Mulfingen GmbH & Co. KG
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 2 January 2013
rejecting the opposition filed against European
patent No. 1797334 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman A. de Vries
Members: G. Martin Gonzalez
W. Van der Eijk
E. Frank
C. Schmidt

Summary of Facts and Submissions

- I. The appellant-opponent lodged an appeal, received on 27 February 2013, against the decision of the Opposition Division of the European Patent Office posted on 2 January 2013 rejecting the opposition filed against European patent No. 1 797 334 pursuant to Article 101(2) EPC, and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 10 May 2013.

The opposition was filed against the patent as a whole based on Articles 100(a) and (b) EPC. In their written decision, the Division held, that the invention is sufficiently disclosed and that prior use D3 was not sufficiently proven. The Division further held that claim 1 of the patent as granted is new and involves an inventive step having regard to D1 and D2.

(D1) EP 1 016 788 A2

(D2) US-A-5,273,400

(D3.1), (D3.1a), (D3.2)-(D3.13) supporting evidence of an alleged sale of 50 axial fans model A2E300-AP02-02.

- II. In preparation for the oral proceedings, the Board issued a communication dated 2 November 2017 with preliminary observations. Both parties informed, with letter of 27 November 2017 and 1 December 2017, that they would not attend the oral hearing. The oral proceedings before the Board were held as scheduled on 6 December 2017 in the absence of both parties.
- III. The appellant-opponent requests that the decision under appeal be set aside and that the European patent

No. 1 797 334 be revoked. Auxiliarily, the appellant requests that the case be remitted to the department of first instance in case the alleged prior use is found to be proven.

IV. The respondent-proprietor requests that the appeal be dismissed and the European patent No. 1 797 334 be maintained as granted. Auxiliarily, the respondent requests that the case be remitted to the department of first instance if documents D3.4.1, D3.4.2 and D3.4.4 to D3.4.8 and sample D3.4.3 are not rejected as being late filed and are taken into consideration for decision.

V. The wording of claim 1 of the granted patent reads as follows:

"An axial fan (1), rotating in a direction (V) in a plane (XY) about an axis (2), comprising a central hub (3) with a centre (O) and a radius R_{min} , a plurality of blades (4) each having a root (5), a tip (6) which extends to a tip radius (R_{max}), the blades (4) being delimited by a concave leading edge (7) and a convex trailing edge (8), and being formed by several aerodynamic profiles (12 - 16) relative to sections at various intervals along the radial extension of a blade (4), each profile (12 - 16) being formed by a centre line (L1) which is continuous without points of inflection or cusps, the axial fan being **characterised in that** the length of the centre line (L1) for each profile (12 - 16) is defined by a percentage range relative to the maximum radius R_{max} of the fan (1) as indicated in the following table:

Profile (Reference)	% radial position (% of blade extension = as of Rmax- Rmin)	L1 % range (centre line % range relative to Rmax)	
12	0	35.5%	43.4%
13	26.25	43.1%	52.6%
14	50.87	48.8%	59.6%
15	75.46	55.5%	67.8%
16	100	62.1%	75.9%

VI. The appellant-opponent argued as follows:

Prior use D3 is sufficiently substantiated and proven in view of the further following evidence filed with the appeal:

(D3.4.1)-(D3.4.8) further supporting evidence of the alleged sale of 50 axial fans model A2E300-AP02-02, including fan model D3.4.3.

As D3 should be considered as forming part of the state of the art, remittal to the department of first instance is requested in order to have the opportunity to a two level decision under full consideration of said prior use. He contests the findings of the Division with respect to sufficiency of disclosure, and novelty and inventive step based on D1, D2 and D3.

VII. The respondent-proprietor argued as follows:

The invention is sufficiently disclosed. The fresh evidence filed with the appeal in support of the prior use D3 is not admissible. He maintains the objections

with respect to the issue of proof of D3, and defends patentability of the claimed matter in view of the submitted evidence, including the prior use.

Reasons for the Decision

1. The appeal is admissible

2. *Background*

The invention relates to an axial fan, which is particularly optimized for heating/air conditioning systems for the interior of motor vehicles. For the exchanger units at the interior of motor vehicles the overall dimensions of the fan must be limited, see paragraph [0010] of the patent specification. Compactness is thus a main object. Centrifugal fans, which are often used, are axially too large, whereas axial fans either have a large diameter or deliver too low flow rates and air pressure. Low noise values are also important for comfort level in the vehicle. A main aim is thus to improve existing axial fans so that they have generally limited dimensions, deliver good air flow rates with high pressure and produce low noise values, see paragraph [0012] of the specification. To satisfy these particular needs fan blades are claimed with: concave leading edge, convex trailing edge, and aerodynamic profiles with no points of inflection or cusps, the claimed profiles at five different radial positions having corresponding ratios of centre line lengths to radial position which are limited within given ranges. Due to the claimed blades geometry, noise level is very low whilst a compact overall dimension and optimized performance in terms of efficiency, flow rate and air pressure is achieved for the desired use.

3. *Sufficiency of disclosure - granted claim 1*

3.1 With respect to sufficiency of disclosure, the appealed decision rebuts the arguments put forward by the opponent regarding the feasibility of certain embodiments, taking possible combinations of values from the claimed ranges that may be incompatible with other features of the claim, or feasibility of fan embodiments with certain number of blades. With the statement of grounds, the appellant-opponent however presents a different case, arguing that certain essential features, e.g. blade profile curvature, are not present in claim 1. Thus the statement of grounds does not challenge the decision's reasoning for finding sufficiency of disclosure, but is rather based on new facts, evidence and arguments as to why the invention would be insufficiently disclosed. These could and should have been presented in the first instance proceedings. This new case against sufficiency of disclosure is therefore not admissible, Art 12(4) RPBA.

3.2 The above objection notwithstanding, the argument that features described as essential in the description are missing from granted claim 1 falls under the scope of Article 84 EPC, as a possible consideration of the merits of this objection would turn on issues of clarity that fall squarely under the scope of said article. Clarity is not a ground for opposition available under Article 100 EPC for a granted claim and the Board, accordingly, has no authority to examine the matter. Thus the alleged insufficiency of disclosure objection put forward with the appeal is also for this reason not admissible.

4. *Prior use D3*

4.1 *Admissibility of late filed evidence, Article 12(4)
RPBA*

4.1.1 The appellant-opponent files new evidence to prove public availability of an alleged prior use fan and that this fan has all features of the granted claim. The admission of such new evidence is at the discretion of the Board, Article 12(4) RPBA. In this regard the main question to be addressed is whether such new evidence could and should have been submitted already in first instance. In this context, the boards apply strict standards for admission of late filed evidence of prior use, see Case Law of the Boards of Appeal, 8th edition, 2016, (CLBA) IV.C.1.3.17.

In the present case a distinction is to be made between the further evidence to confirm actual sale and delivery of the fans to prove that they were actually made available to the public, evidence D3.4.1-D3.4.2, and fresh evidence to prove the fact that said fans had blades with certain profile features or geometric characteristics D3.4.3 to D3.4.8.

4.1.2 As indicated in its communication of 2 November 2017, section 3.1, it appears to the Board that the appellant-opponent's arguments and evidence adduced to prove the profile values and geometric characteristics of the alleged prior use are not meant to demonstrate that the Opposition Division was wrong in the conclusions it drew from the evidence then on file. Rather the new evidence in the form of a fan D3.4.3, affidavit D3.4.5 (with offer of witness), and measurements D3.4.7 and D3.4.8 is meant to replace evidence submitted in first instance, in particular drawing D3.6 and fan D3.7 for which the division held that it was not proven that these corresponded to the

fan blades sold. In the Board's view the new evidence and the arguments based thereon are meant to substantiate a new instance of prior use, which likewise arises from the appellant-opponent's own activities. The availability of the new evidence was thus also known to him from the outset of the opposition proceedings. He could thus have submitted them in first instance.

In view of the foregoing, and absent any reply from the appellant-opponent, the Board sees no compelling reason to depart from the provisional opinion expressed in its communication of 2 November 2017. Exercising its discretion under Article 114(2) EPC and Article. 12(4) RPBA, the Board therefore decided not to admit the new evidence D3.4.3-D3.4.8

4.2 *Relevance*

As the Board indicated in section 3.2 of its communication of 2 November 2017, it appears that central features of the claimed fan are absent from the models and drawings, both those submitted in first instance and now in appeal. In particular, due to the presence of the "Versteifungssicke" or reinforcing rib at the root of each blade, the centre line of profiles 12,13 of the alleged prior use does not appear to be continuous and without points of inflection or cusps as required by contested claim 1. Indeed, as the blades of the prior art fans are punched or die cut from plate or sheet metal, it is questionable whether they can be said to be formed by aerodynamic profiles in the usual sense of the term. Finally, in the root area due to the reinforcing rib the actual length of any centre line there will be longer than the value determined by interpolating the blade shape in the rib area, and thus

outside the range claimed for profiles 12 and 13. It thus appears that the relevance of the alleged prior use, whether that submitted in first instance or now in appeal and without prejudice to the issue of proof, is limited in the sense that it does not appear to be highly likely to prejudice the maintenance of the patent if considered proven.

Absent any further submissions from the appellant-opponent, the Board has no compelling reason to depart from this provisional view. Therefore, and without prejudice to the issue of proof or of admissibility of further evidence D3.4.1-D3.4.2, it finds that the disclosure of D3 is of limited relevance to the invention claimed. In particular, as is apparent from the above, the Board finds that D3 does not take away novelty as alleged.

5. *Novelty and inventive step - granted claim 1*

Other than contesting novelty vis-a-vis D3 the appellant-opponent in their appeal contests the decision's finding confirming inventive step of granted claim 1 starting from D1 or D2 combined with D3.

With regard to inventive step the Board in its communication of 2 November 2017, section 4, gave its provisional opinion that "[e]ither D1 or D2 can be considered as starting points for assessing inventive step, as they describe axial fans which are optimized for use in vehicles in terms of blowing efficiency, flow rate and pressure under noise production restrictions, the problem addressed by the patent, specification paragraph 0012. It appears common ground that vis-a-vis these known fans the claimed fan differs in the features of the values of the centre line length

of aerodynamic profiles of the blade along its radial length. This claimed blade design represents a further optimization of blade shape for flow rate pressure and noise reduction that offers a more compact fan construction. The technical problem can thus be formulated as the provision of an axial fan that is further optimized for flow rate pressure and noise reduction so that its dimensions can be further limited, see patent specification paragraph [0012]."

"Applying the problem-solution approach, the critical question is whether it would be obvious in the light of the other cited prior art to optimize the blade shape in the manner claimed. In particular and leaving aside the question of the issue of proof, would the skilled person consider the teachings of a known punched sheet like profile (D3) for the modification of the aerodynamic profile of either D1 or D2? Which parameters would the skilled person consider: would he consider only the centre line lengths of the profiles or also other parameters? The differences in fluid mechanical properties between sheet like and aerodynamic profiles may need to be considered, as well as the influence on the aerodynamic behaviour of the stiffening rib of D3."

Absent any further submissions by the appellant-opponent, the Board has no compelling reason to find that the skilled person would consider the teachings of a known punched sheet like profile (D3) for the modification of the aerodynamic profile of either D1 or D2. Nor does the Board have reason to believe that he would consider, among the many possible parameters, only the centre line lengths of the profiles and then exactly in the manner claimed. In particular the fundamental differences in fluid mechanical properties

between a sheet like profile as in D3 and aerodynamic profiles as in D1 or D2 , as well as the influence on the aerodynamic behaviour of the stiffening rib of D3, are such that the skilled person would not as a matter of obviousness consider D3's teaching when tasked with optimizing blade shape with complex aerodynamic profiles as in D1 or D2 .

The Board therefore confirms the finding of the Opposition Division in its appealed decision that the subject-matter of granted claim 1 involves an inventive step.

6. Requests for remittal.

The requests for remittal are conditional on the admission by the Board of the fresh evidence to substantiate the prior use or on the positive consideration of D3 as part of the state of the art in the sense of Article 54(2) EPC. D3.4.3 to D3.4.8 have indeed not been admitted. Furthermore, although the appealed decision only considered the issue of proof, it is nevertheless evident from reasons 18.1, 2nd and 3rd paragraph, that the opposition division also did not consider D3 to be prejudicial to novelty. It can therefore serve little purpose to remit the case, even if the various new pieces of evidence had been admitted. This is all the more so as the Board confirms this view.

7. As all objections raised by the appellant-opponent fail the Board confirms the findings of the Opposition Division.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar:

The Chairman:



G. Magouliotis

A. de Vries

Decision electronically authenticated