BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen
(D) [ ] No distribution

Datasheet for the decision of 20 October 2008

Case Number: T 1509/06 - 3.2.04

Application Number: 01308463.7

Publication Number: 1300561

IPC: F02B 39/10

Language of the proceedings: EN

Title of invention:
Control system for an internal combustion engine boosted with an electronically controlled pressure charging device

Patentee:
Controlled Power Technologies Limited

Opponent:
Gonzalez Mena, Francisco

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 83, 84, 100, 114(1)

Keyword:
"Inventive step (yes)"
"Lack of clarity: ground on which an opposition cannot be based"
"Fresh ground of opposition: no power to examine without the agreement of patentee"

Decisions cited:
G 0009/91, G 0010/01

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1509/06 **-** 3.2.04

D E C I S I O N
of the Technical Board of Appeal 3.2.04
of 20 October 2008

Appellant: (Opponent)
Gonzalez Mena, Francisco
Terraza 42 2C
ES-29680 Estepona (Malaga) (ES)

Representative:
Kort, Peter H.
Kort Rechtsanwälte (GbR)
Ellerstrasse 123/125
D-40227 Düsseldorf (DE)

Respondent: (Patent Proprietor)
Controlled Power Technologies Limited
47 Queen Anne Street
London W1G 9JG (GB)

Representative:
McLean, Robert Andreas
Dummett Copp
25 The Square
Martlesham Heath
Ipswich
Suffolk, IP5 3SL (GB)

Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 28 July 2006 rejecting the opposition filed against European patent No. 1300561 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: M. Ceyte
Members: A. de Vries
C. Heath

Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal, received on 27 September 2006, against the decision of the Opposition Division posted 28 July 2006 to reject the opposition, and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received 27 November 2006.

Opposition was filed against the patent as a whole and based on Article 100 (a) together with Articles 52(1) and 56 EPC 1973, for lack of inventive step.

The Opposition Division held that the grounds for opposition under Article 100 EPC 1973 did not prejudice the maintenance of the patent as granted having regard in particular to the following documents:

D1: Spanish Patent No. P9502450

D2: EP-A-0 779 419, claiming priority from D1

D3: European Search Report for D2

D4: F. Gonzalez Mena: "Engine Assembly with Electrically Powered Compressor", paper presented at European Automotive Congress, Barcelona, 30 June - 2 July 1999

D5: F. Gonzalez Mena: "Engine Assembly with Electrically Powered Compressor", FISITA World Automotive Congress, Seoul, June 12-15, 2000

D6: R. Wijetunge: "Comparative Performance of Boosting Systems for a High Output, Small Capacity Diesel Engine", FISITA World Automotive Congress, 23-27 May 2004, Barcelona

D7: Information sheet entitled "Proyecto ACACEA" of unknown date and provenance.

II. The Appellant submitted the following further documents during the appeal proceedings:
D8: US-A-4 315 204
D9: US-A-6 362 580 issued 26 March 2002
D10: US-A-6 367 570 issued 9 April 2002
D11: US-A-4 383 212
D12: EP-A-0 409 477

III. The Appellant (Opponent) requests as sole request that the decision under appeal be set aside and the patent be revoked in its entirety.

The Respondent (Proprietor) requests that the appeal be dismissed and, as an auxiliary request, that oral proceedings be held.

IV. With a communication of 15 May 2008 pursuant to Rule 100(2) EPC 2000 the Board set out its provisional opinion that following decision G 10/91 (consolidated with decision G 09/91) it was unable to consider the ground of insufficiency of disclosure first raised in the appeal as the Proprietor-Respondent had explicitly withheld its consent. Similarly, the submissions concerning Article 84 EPC must be disregarded as it was not a ground for opposition. D6, D9 and D10, which were too late, and D7, which was undated, were disregarded. Finally, none of the remaining documents were considered prejudicial to the claimed invention, as a switch and its control as claimed in granted claims 1 and 2 was not apparent from any of them.

V. The wording of the independent claims of the granted patent is as follows:

1. "An air charge boosting system for an internal combustion engine (1), the system comprising an electrically driven pressure charging device (10), an electrical supply system for providing electrical power to drive the pressure charging device including a battery (16) and an engine-driven battery recharger (27), a switch (53) to connect and disconnect the battery (16) and recharger (27) and an engine control system (32) for controlling the switch (53) and the operation of the pressure charging device (10), wherein the engine control system (32) is arranged to:
i) determine a capacity utilization of the electrical supply system (16,27); and
ii) control the switch (53) to isolate at least partially the battery (16) from the engine-driven battery recharger (27) and drive the pressure charging device (10) using the battery (16) when said capacity utilization is above a first threshold (57)."

2. " A method of operating an air charge boosting system for an internal combustion engine (1), the system comprising an electrically driven pressure charging device (10), an electrical supply system for providing electrical power to drive the pressure charging device (10) including a battery (16) and an engine-driven battery recharger (27), a switch (53) to connect and disconnect the battery (16) and recharger (27) and an engine control system (32) for controlling the switch (53) and the operation of the pressure charging device (10), wherein the method comprises the steps of using the engine control system (32) to:
i) determine a capacity utilization of the electrical supply system (16,27); and

ii) control the switch (53) to isolate at least partially the battery (16) from the engine-driven battery recharger and drive the pressure charging device (10) using the battery (16) when said capacity utilization is above a first threshold."

VI. The Appellant argued as follows :

The invention is insufficiently disclosed contrary to Article 83 EPC as certain features are said not to be clear from description and claims, the claims consequently also lack clarity contrary to Article 84 EPC.

D1 and D2 relate to the main idea of an engine assembly with electrically driven compressor or pressure charger (as recognized in D3 to D6). This core idea is also present in granted claim 1, which for this reason already lacks inventive step. The additional feature of the control system for the switch corresponds to the pressure gauge assisted microprocessor control of the compressor in D1 and D2. The problem of alternator saturation is not referred to in claims 1 and 2 and is therefore not relevant. Even so, isolation of batteries from a recharging device is a known technique in automotive alternator battery charging, see D8 to D10. Likewise, the citations may not disclose switches or switch control as claimed, these are nonetheless part of the prior art and knowledge of the skilled man as shown in further D11 and D12.

VII. The Respondent argued as follows :

In reference to G 09/91 and G 10/91 consent for the introduction of a new ground under Article 83 EPC is explicitly withheld. Article 84 EPC is not a valid opposition ground.

D7 is of unknown date, while D6, D9 and D10 are published after the filing date, and thus to be disregarded as not belonging to the prior art. D1 to D5, though relating to an electrically driven supercharger, do not show features (i) and (ii) of claims 1 and 2. D8 is not even relevant as background art.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC 1973 and is therefore admissible.

2. *New ground : Article 83 EPC*

2.1 The contentions first raised in the statement of grounds regarding Article 83 EPC constitute a new ground, as sufficiency of disclosure has hitherto not been questioned. In accordance with well-established case law as set out in G 10/91 (OJ EPO, 1993, 420) in conjunction with G 09/91 (OJ EPO, 1993, 408), "[F]resh grounds for opposition may be considered in appeal proceedings only with the approval of the patentee", headnote III.

2.2 As pointed out by the Enlarged Board in G 9/91 and G 10/91, reasons 18, "the purpose of the appeal procedure inter partes is mainly to give the losing party the possibility of challenging the decision of

the Opposition Division on its merits. It is not in conformity with this purpose to consider grounds for opposition on which the decision of the Opposition Division has not been based. Furthermore, in contrast to the merely administrative character of the opposition procedure, the appeal procedure is to be considered as a judicial procedure, as explained by the Enlarged Board in its recently issued decisions in cases G 7/91 and G 8/91 (see point 7 of the reasons). Such procedure is by its very nature less investigative than an administrative procedure. Although Article 114(1) EPC formally covers also the appeal procedure, it is therefore justified to apply this provision generally in a more restrictive manner in such procedure than in opposition procedure. In particular with regard to fresh grounds for opposition, for the above reasons the Enlarged Board considers that such grounds may in principle not be introduced at the appeal stage. This approach also reduces the procedural uncertainty for patentees having otherwise to face unforeseeable complications at a very late stage of the proceedings, putting at risk the revocation of the patent, which means an irrevocable loss of rights. Opponents are in this respect in a better position, having always the possibility of initiating revocation proceedings before national courts, if they do not succeed before the EPO. However, an exception to the above principle is justified in case the patentee agrees that a fresh ground for opposition may be considered: volenti non fit injuria. ... It may be added that if the patentee does not agree to the introduction of a fresh ground for opposition, such a ground may not be dealt with in substance in the

decision of the Board of Appeal at all. Only the fact that the question has been raised may be mentioned."

Thus, the purpose of inter partes appeal proceedings as well as the judicial nature of such proceedings sets clear limits on the investigative powers of the board afforded it under Article 114(1) EPC. Exactly the fact that the opponent still has recourse to a further procedure, namely national proceedings under Article 138 EPC, if he loses, while the proprietor does not, is a further argument to restrict the investigative discretion of an appeal board in allowing new appeal grounds.

2.3 The Board sees no compelling reason to depart from this well-established practice. In view of the fact that the Proprietor (Respondent) expressly withholds its consent for introducing the new ground of Article 83 EPC, see its submission 29 March 2007, page 2, lines 4 to 5, the Board must therefore refrain from a consideration of this ground.

3. *Article 84 EPC*

Article 100 EPC 1973 (substantially unchanged in the version of EPC 2000) specifies that an "opposition may *only* be filed on the grounds that" [emphasis added by the Board] followed by a limited list of grounds in paragraphs (a) to (c). Lack of clarity under Article 84 is not mentioned, either expressly or implicitly, in the list of possible grounds. A legal basis for consideration of lack of clarity as opposition ground does therefore not exist within the EPC. As the Board must comply with the provisions of the convention

pursuant to Article 23(3) EPC (both in its 1973 and 2000 versions), it is unable to consider the ground of lack of clarity raised by the Appellant in the present opposition appeal proceedings.

4. *Inventive Step*

4.1 For the assessment of inventive step the Board follows the problem-solution approach which is well-established in case law. As set out in for example the Case Law of the Boards of Appeal of the EPO, 5th edition, 2006, section I.D.2, first paragraph, this approach involves determining the closest prior art belonging to the state of the art, determining the technical effects achieved by the invention when compared to the closest prior art and formulating a technical problem to be solved based on these effects, and, as final step, examining whether the solution to that problem would have been obvious to the skilled person having regard to the state of the art as defined in Article 54(2) EPC.

4.2 As set out in Article 54(2) EPC (in both its 1973 and 2000 versions) the *state of the art* comprises "everything made available to the public ... before the date of filing of the European patent application", where a priority date of a validly claimed priority counts as date of filing, Article 89 EPC. D6, D9 and D10 have publication dates *after* the filing date of 3 October 2001 of the present patent, which claims no priority, and thus do not belong to the state of the art. D7 on the other hand is undated and, as no evidence of its publication date has been put forward, it is disregarded by the Board.

4.3 The remaining citations belong to the state of the art. Of these, any of D1, D2, D4 or D5 (all by the same author-inventor) can be considered to represent the closest prior art. D2 claims priority from D1 and is identical in content to D1. Similarly D4 is for all practical purposes identical in content to D5. In the following discussion the Board shall therefore only refer to D2 and D4, but the discussion applies equally to D1 and D5.

D2 and D4 incontestably disclose an air charging or charge boosting system for an (automotive) internal combustion engine, where the main focus is on electrical powering of the compressor by a battery, see paragraphs [0022], [0023] of D2; and D4, section "Summary and Result", lines 1 to 7 and 36 to 41. D3 merely serves to confirm that D2 concerns an engine assembly with electrically powered compressor and is of no further relevance in the present appeal.

4.4 The device of claim 1 differs from D2 and D4 in the feature of a *switch to connect or disconnect the battery and an engine driven battery recharger*, and *an engine control system arranged to control the switch in accordance with features (i) and (ii) of claim 1, namely to isolate, at least partially, the battery from the recharger and drive the pressure charging device using the battery when the capacity utilization of the supply system is determined to be* above *a first threshold*. Similar differences, but phrased in terms of the system's method of operation, exist for method claim 2.

4.5 These features allow the air charge boosting system, such as an electrically driven compressor, to be powered mainly from the battery when the electrical supply system reaches a capacity threshold, i.e. when it becomes saturated, which would lead to voltage drops in the electrical power supply system due to high electrical current demand by the compressor, see e.g. page 5, 3rd paragraph of the description as filed, or column 3, lines 7 to 15 of the published patent. The technical problem to be solved by the claimed invention can therefore be formulated as how to avoid voltage drops due to saturation of the electrical supply system.

At this juncture the Board adds that there is no requirement in the EPC that the associated technical problem be mentioned or referred to in the *claims*. Rule 27(1)(c) EPC 1973 (now Rule 42(1)(c) EPC 2000) does require that the *description* disclose the claimed invention in terms so that the problem and its solution can be understood, and this the Board finds to be clearly so in the present case.

4.6 The solution as defined by the above distinguishing features is not apparent from any of the submitted citations belonging to the state of the art.

4.6.1 D2 and D4 do disclose control of the electric compressor by a microprocessor in response to detected pressure in the induction manifold, but this is manifestly different to the switching control in response to detected system capacity utilization of claims 1 and 2. Nor are the underlying technical problems and effects of prior art and the patent in any way related : in D2 and D4 compressor control serves to

optimize intake by adjusting the pressure of the air intake into the combustion chambers, see D2, column 2, lines 54 to 58; and D4, "Summary and Result", lines 25 to 26. That this is essentially different from that of avoiding saturation caused voltage drops behoves no further comment.

4.6.2 With regard to D4 the Board adds that this document does appear to recognize performance problems if the battery powering the compressor were to be recharged by an alternator : see "Summary and Result", lines 40 to 41. In the immediately following lines it expressly states therefore that "battery charging should be done not by using the alternator" and suggests a number of alternative approaches. D4 thus specifically teaches away from the direction chosen in the invention.

4.6.3 D8, see its abstract, relates to voltage ripple detection in an automotive alternator battery recharger in which significant alternator performance characteristics combine to form a combined signal level as variable threshold against which the detected alternator output is compared. The main aim and purpose is to detect and diagnose faults, i.e. malfunctions, in an operating alternator, column 2, lines 36 to 56. Other than the features of monitoring and of an automotive alternator, or engine driven battery recharger, there is no resemblance in design, function or purpose between the detector of D8 and the switching control scheme based on monitoring of capacity utilization as defined in granted claims 1 and 2.

4.6.4 D11 and D12, submitted with the Appellant's final submission, both pertain to the relatively remote field

of off-line battery charging, as opposed to automotive, engine-driven recharging as in the present case.

The aim of D11, see second paragraph of the description, is to "idiot proof" the charger against improper operation by a user as well as inadvertent disconnection of AC power. To this end, see its abstract, it suggests monitoring connection conditions at input and output of the charger and disconnecting AC power from the recharger input and, if necessary, maintaining conditions at the interrupted point in the cycle.

D12 is concerned with prevention of inductive input inrush current in the rectifier of an off-line battery at start up, see title and column 1, lines 4 to 15. Off-line input voltage is monitored and used to determine the point in time at which to switch on AC voltage supply, see abstract of D12.

Though a passing resemblance may exist in switching control in response to monitoring operation conditions of the battery, this prior art control is essentially different from that of granted claims 1 and 2: capacity utilization is not monitored and the switch does not connect battery and (re)charger.

4.7 The Board also has no compelling reason to believe that the solution defined by the distinguishing features of claims 1 and 2 might belong to the skilled person's common general knowledge. Other than the citations above, the Appellant has provided no evidence or arguments in this regard.

4.8 In conclusion the Board therefore finds that the opposition ground of inventive step raised by the Appellant does not prejudice the maintenance of the granted patent, and that therefore the opposition division was justified in its decision to reject the opposition.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar The Chairman

G. Magouliotis M. Ceyte