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**Datasheet for the decision
of 4 June 2014**

Case Number: T 0141/11 - 3.2.04

Application Number: 05425291.1

Publication Number: 1719900

IPC: F02F3/00, F02F3/22

Language of the proceedings: EN

Title of invention:

High density metal alloy piston for internal combustion engine
and process for manufacturing such piston

Patent Proprietor:

Pistal Racing S.r.L.

Opponent:

KS Kolbenschmidt GmbH

Headword:

Relevant legal provisions:

EPC Art. 100(a), 54, 123(3)

Keyword:

Novelty - (no)
Amendments - allowable (no)

Decisions cited:

T 0068/94, T 0382/96

Catchword:



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

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Case Number: T 0141/11 - 3.2.04

**D E C I S I O N
of Technical Board of Appeal 3.2.04
of 4 June 2014**

Appellant: Pistal Racing S.r.L.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 1 December 2010
revoking European patent No. 1719900 pursuant to
Article 101(2) (b) EPC.**

Composition of the Board:

Chairman A. de Vries
Members: E. Frank
C. Heath

Summary of Facts and Submissions

- I. The appeal lies from the decision of the opposition division, dated 15 November 2010 and posted on 1 December 2010, to revoke European patent No. 1 719 900 pursuant to Article 101(2) EPC. The opposition division held that the subject-matter of claim 1 as granted lacked novelty over document D1: WO 2005/024216 A.

- II. The appellant (proprietor) filed a notice of appeal on 11 January 2011, paying the appeal fee on the same day. The statement of grounds of appeal was submitted on 21 March 2011.

- III. A communication pursuant to Article 15(1) RPBA was issued 28 March 2014 after a summons to attend oral proceedings. The parties were inter alia notified that, during the oral proceedings, the issue of whether or not claim 1 of the auxiliary requests complied with Article 123(3) EPC, would also arise. The oral proceedings were duly held on 4 June 2014. As announced by letter dated 2 June 2015, no one was present on behalf of the appellant. At the oral proceedings the opponent (respondent) did not comment further on its written submissions.

- IV. The appellant requested that the decision under appeal be set aside and the patent be maintained based on the claims as granted, alternatively based on the claims of the first or second auxiliary requests, both filed with its grounds of appeal.

The respondent requested that the appeal be dismissed.

V. The wording of independent claim 1 reads as follows:

Main request (as granted)

"High-density metal alloy piston for internal combustion engine, comprising a main body (10) having an external sliding skirt (19) along a cylinder of said engine and equipped with at least one seat (17) for inserting an elastic sealing band, characterised in that

- said main body (10) is made in a single piece and comprises a central recess (12) operating as fuel entry and combustion chamber and a circular recess (14) for internal cooling arranged between said central recess (12) and said skirt (19); and

- said piston is further equipped with a closing member (30) adapted to operate as crown of said piston when joined to said main body (10), said closing member (30) being made of the same high-density metal alloy as of said piston."

First auxiliary request

Claim 1 is as in the main request but for the opening line and the characterizing part which now read:

"Piston made of alloyed carbon steel for internal combustion engine,

...

characterised in that at least two ducts (16a, 16b) depart from said circular recess (14), said ducts (16a, 16b) being orthogonal to a seat (18) for inserting a pin and being longitudinal to a stroke direction of said piston."

Second auxiliary request

Claim 1 is as in the main request but for the opening line and the characterizing part which now read:

"Piston made of alloyed carbon steel for internal combustion engine,

...

characterised in that said closing member (30) is also made of steel, and in that from said circular recess (14) at least two ducts (16a, 16b) depart, which are orthogonal to a seat (18) for inserting a pin and are longitudinal to a stroke direction of said piston."

VI. The appellant argued as follows:

Notwithstanding its positive preliminary opinion prior to oral proceedings, the opposition division changed its view. Thus, the appellant had been subjected to unfair treatment during the procedure. Moreover, the reason as to why the opposition division refused to examine dependent claims 2 to 7, was not understood.

As to the novelty of claim 1 as granted, it was argued that:

(a) The ring element 6, but not the main body 4 of D1 constituted the piston's sliding skirt. Thus, since claim 1 as granted required the piston's main body to include an external sliding skirt, the main body 4 of D1 could not be made in a single piece, as was also defined by claim 1 (cf. feature d) of the feature numbering in the impugned decision).

(b) The circular recess of the piston's main body for internal cooling was not the same in D1 as required by claim 1 as granted (cf. feature f) in the impugned decision).

(c) The ring element 6 of D1 did not close the piston's main body as does the "closing member" of claim 1 as granted, but simply delimited the recess 22 in D1 while containing the gasket 20 (cf. feature g) in the impugned decision).

Thus, for these reasons, the subject-matter of claim 1 as granted (main request) differed from D1's disclosure.

VII. The respondent argued as follows:

The opposition division's view in its communication to the summons had been preliminary and, thus, non-binding.

With respect to novelty of claim 1 as granted (main request), the reasons of the impugned decision were referred to.

Reasons for the Decision

1. The appeal is admissible.
2. *Procedural matters*
 - 2.1 Provisional opinions of the opposition division are never binding (see T 68/94 (unpublished), point 2 of the reasons).
 - 2.2 The Board concurs with the opposition division's view (see its decision, page 6) that requests, which are not clearly formulated, cannot be considered as requests for maintenance of the patent in an alternative form (see T 382/96 (unpublished), points 5.1 to 5.3 of the reasons). Auxiliary requests should be filed as indicated in Legal Advice 15/05, OJ EPO 2005, 357, i.e. as complete claim sets presented in a specified order.
 - 2.3 The appellant's sole request was directed at the patent as granted. As independent claim 1 as granted was found not to meet the requirements of the EPC this sole request was held to be unallowable. It was therefore not necessary for the opposition division to consider any further claims of this sole request.
 - 2.4 Therefore, the Board finds that the opposition division acted properly in accordance with the established procedure.
3. *Novelty - main request*
 - 3.1 Document D1 relates to a piston for an internal combustion engine. The piston comprises two parts: a cylindrical main body (*Grundkörper 4*) and a ring

element (*Ringelement 6*) arranged on the main body at its upper end. See D1: page 2, 2nd paragraph, and figure 1.

- 3.2 Firstly, in the view of the Board the patent's claim 1 does not specify that the piston's main body is supposed to carry the entire external sliding skirt. Hence, as the main body 4 of D1 provides at least part of the external sliding skirt, namely from the region of the oil scraper ring recess (*Ölringnut 14*) downwards (*Mantelfläche 13*) it meets this requirement of granted claim 1.

As may be inferred from the corresponding hatching in figure 1 main body 4 with the external sliding skirt identified as above is further made "in a single piece" as required by claim 1 of the patent (cf. feature d) in the impugned decision).

- 3.3 Secondly, as in claim 1, the cooling channel (*ringförmiger Kühlkanal 22*) of D1 is formed by a circular recess (*eingeformte Ausnehmung 21*), which as shown in figure 1 is located between the central recess - operating as fuel entry and combustion chamber (*Brennkammer 7*) - and the main body's skirt, i.e. downstream of the oil scraper ring recess 14 (cf. feature f) of claim 1 in the impugned decision).

- 3.4 Thirdly, claim 1 does not require that the "closing member" necessarily forms the entire piston crown. Indeed, in the embodiment shown in figures 3 and 4 of the patent the annular body of the closing member 30 sits between inner and outer annular crown parts of the main body 10.

In D1 likewise the upper end face of the main body 4 constitutes part of the piston crown (*Kolbenboden* 5). The piston's ring element 6, which is radially arranged about the upper end of the main body 4 (D1, page 2, 2nd paragraph), completes the piston crown, forming an outer part of it, as shown in figure 1.

The Board therefore holds that the ring element 6 of D1 operates as piston crown, thus acting as a "closing member" according to claim 1 of the patent when joined to the main body 4 (cf. feature g) in the impugned decision).

3.5 Apart from the features discussed above in points 3.2 to 3.4 of this decision, the appellant does not dispute that the subject-matter of claim 1 is disclosed by D1. Indeed, the opposition division had already addressed the remaining features of claim 1 vis-à-vis D1, see the discussion of features a), c) on pages 3 and 4. The Board has no reason to take a different view.

3.6 For the above reasons, the Board confirms the decision's finding that D1 deprives claim 1 of the main request of novelty.

4. *Amendments - first and second auxiliary requests*

4.1 Claim 1 of the auxiliary requests has been limited by specifying that the "high-density metal alloy piston" was a "carbon steel piston". However, both versions of claim 1 no longer include the feature of granted claim 1 that the closing member is made of the same alloy as the piston, cf. the Board's communication, point 3.

- 4.2 As regards claim 1 of the first auxiliary request, the closing member now may be made of any material. Although claim 1 of the second auxiliary request now requires that the closing member is "also" made of steel, this does not necessarily imply that it is made of the same alloy as the piston. Even if it can be assumed that steel necessarily contains carbon, given that carbon content varies for different grades of steel (high-carbon steel as opposed to low-carbon steel) the closing member need not have the same carbon content and thus need not be made of the same steel alloy as the piston.
- 4.3 Consequently, as the requirement of same alloy has been omitted from the claim the scope of protection of claim 1 of both auxiliary requests has been extended, contrary to the requirements of Article 123(3) EPC.
5. The Board adds that from the opposition division's minutes and the decision it appears the appellant was given an opportunity to file auxiliary requests but refrained to do so. Therefore, it would appear that auxiliary requests 1 and 2 filed only on appeal could and should in principle have been filed before the first instance, Article 12(4) RPBA.

However, since both auxiliary requests are found to be unallowable for extension of scope of protection, their admissibility can be left undecided.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Magouliotis

A. de Vries

Decision electronically authenticated