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81 108 585.1

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Bezeichnung der Erfindung:
Title of invention: Lens assembly for a video recorder - playback machine
Titre de l'invention : machine

Klassifikation / Classification / Classement :
G11B 7/08

ENTSCHEIDUNG / DECISION

vom / of / du
5 February 1988

Anmelder / Applicant / Demandeur :
Discovision Associates

Patentinhaber / Proprietor of the patent /
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :
Lens assembly/Discovision

EPÜ / EPC / CBE
Article 123(2) EPC

Kennwort / Keyword / Mot clé :
Inadmissible generalisation
"subject-matter extending beyond content of application as filed"

Leitsatz / Headnote / Sommaire

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Case Number : T 24/85 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 5 February 1988

Appellant : DISCOVISION ASSOCIATES
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Decision under appeal : Decision of Examining Division 067 of the European Patent Office dated 27 August 1984 refusing patent application No. 81 108 585.1 pursuant to Article 97(1) EPC

Composition of the Board :

Chairman : P. Ford
Members : J.A.H. Van Voorthuizen
Y. Van Henden

Summary of Facts and Submissions

I. European patent application 81 108 585.1, filed on 20.10.81 claiming priority of 20.10.80 (US), was refused by a decision of Examining Division 067 of the EPO dated 27.08.84. That decision was based on Claim 1 filed on 30.05.84 and Claims 2-10 filed on 24.11.83.

II. The reason given for the refusal was that the amended Claim 1 defined the electromagnetic drive means in the lens assembly which formed the subject of that claim in a very generalised way, and thereby was so broadened in respect to what was actually disclosed in the application as filed that its subject-matter extended beyond that of the application as filed. Article 123(2) therefore was contravened.

III. The Appellant lodged an appeal against this decision on 24.10.84. The appeal fee was paid on the same date. The Statement of Grounds was filed on 27.12.84.

IV. In the Statement of Grounds, in a letter submitted on 27.11.87 and in the course of oral proceedings held on 5.2.88, the Appellant argued essentially that, as there was no functional relationship between the electromagnetic drive means and the air bearing means which formed the main aspect of the invention, it would be clear to the person skilled in the art that any electromagnetic drive means might be used and not just the one defined in the original Claim 1. The description would lend support to a more general definition of such means as found in the current claims.

The Appellant furthermore argued that, in the application as filed, the accent was laid on the electromagnetic drive

means. The air bearing features were only briefly mentioned in Claim 1 and further specific details of it were given in dependent Claims 7-10. In the course of the proceedings, however, the main point of the invention became the specific construction of the air bearing and it is clearly there that the invention lies. He contended that deletion of a feature from the original claims should always be permissible, if a person of average skill in the art reading the original disclosure based on normal expert considerations would realise that not all of the features contained in the original claim were necessary to achieve the object of the invention. Therefore, in the present case, a main claim should be allowable which solely describes the air bearing features constituting the invention but need not be limited by features of the electromagnetic driving means which are technically unrelated to the features of that invention and are in fact not necessary to achieve the advantages resulting therefrom. The applicant referred to decisions T 52/82 and T 172/82 as supporting his position.

V. As his main request, the Appellant asked for the grant of a European patent on the basis of Claim 1 filed on 30.05.84 as amended on 27.11.87 and Claims 2-10 filed on 24.11.83. This Claim 1 reads as follows:

1. A lens assembly for focusing an optical beam upon an information storage disc in an information recorder and/or playback machine, comprising: an objective lens unit (36) for focusing the optical beam upon the disc, said lens unit being provided with a hollow portion (41); and a housing (37) having a generally cylindrical central bore (43) formed therein, and wherein said lens unit (36) has a generally cylindrical shape for sliding reception within said bore (43), said housing (37) also including means forming a fluid bearing for supporting said lens unit (36)

in reciprocating relationship relative to said housing (37) and means for communication of a fluid under pressure to the sliding interface between said lens unit (36) and said housing (37) within said bore (43) to accommodate movement of said lens unit (36) generally toward and away from the disc; electromagnetic means (90-95) in said housing for applying a force to said lens unit (36) and thereby adjusting the position of said lens unit (36) within said housing (37); and means (71, 69, 75, 77, 79) forming a plurality of passages for communication of said fluid to said sliding interface and comprising a port (71) receiving a supply of fluid under pressure, and a plurality of flow orifices (79, 81) for passage of the fluid under pressure to the sliding interface between said lens unit (36) and said housing (37) within said bore; characterized by: a plurality of open flow risers (77) formed in said housing (37) to extend generally in parallel with said lens unit (36) and circumferentially spaced about said lens unit each of said flow risers being in communication with an enlarged annular manifold chamber (69) for receiving pressurized fluid from the port (7), each of said flow risers (77) including at least two of said orifices (79, 81); said hollow portion (41), having a plurality of exhaust vents (83) formed therein generally between said two orifices (79, 81) of said flow risers (77) for passage of a portion of the pressurized fluid from the sliding interface through said exhaust vents (83) into said hollow portion (41).

VI. The Appellant's first auxiliary request was for the grant of a European patent on the basis of the alternative Claim 1 filed with the Statement of Grounds and amended on 27.11.87 and Claims 2-10 filed on 24.11.83. This alternative Claim 1 reads as follows:

1. A lens assembly for focussing an optical beam upon an information storage disc in an information recorder and/or playback machine, comprising: an objective lens unit (36) for focussing the optical beam upon the disc, said lens unit being provided with a hollow portion (41); and a housing (37) having a generally cylindrical central bore (43) formed therein, and wherein said lens unit (36) has a generally cylindrical shape for sliding reception within said bore (43), said housing (37) also including means forming a fluid bearing for supporting said lens unit (36) in reciprocating relationship relative to said housing (37) and means for communication of a fluid under pressure to the sliding interface between said lens unit (36) and said housing (37) within said bore (43) to accommodate movement of said lens unit (36) generally toward and away from the disc; electromagnetic means (90-95) for applying a force to said lens unit (36) and thereby adjusting the position of said lens unit (36) within said housing comprising magnetizable pole pieces forming an air gap within a magnetic field in which a current conducting coil is positioned; and means (71, 69, 75, 77, 79) forming a plurality of passages for communication of said fluid to said sliding interface and comprising a port (71) receiving a supply of fluid under pressure, and a plurality of flow orifices (79, 81) for passage of the fluid under pressure to the sliding interface between said lens unit (36) and said housing (37) within said bore; characterized by: a plurality of open flow risers (77) formed in said housing (37) to extend generally in parallel with said lens unit (36) and circumferentially spaced about said lens unit each of said flow risers being in communication with an enlarged annular manifold chamber (69) for receiving pressurized fluid from the port (7), each of said flow risers (77) including at least two of said orifices (79, 81); said hollow portion (41), having a plurality of exhaust vents (83) formed therein generally

between said two orifices (79, 81) of said flow risers (77) for passage of a portion of the pressurized fluid from the sliding interface through said exhaust vents (83) into said hollow portion (41).

VII. The Appellant filed a second auxiliary request on the basis of further alternative claims.

VIII. The Appellant finally requested that the Enlarged Board of Appeal should be asked to decide the point of law, whether it is permissible to delete features from the original claims, if a person with average skill in the art can, by applying his general expert knowledge when reading the original disclosure, realise that not all of the features contained in the original claim are necessary to achieve the object of the invention.

Reasons for the Decision

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

2. The first question to be decided in the present appeal is whether Claim 1, filed on 30.5.84 with the amendments of 27.11.87 (the main request) concerns subject-matter which extends beyond the content of the application as filed and therefore offends Article 123(2) EPC, as was found by the Examining Division in its decision.

3. This claim comprises, on the one hand, technical features relating to the electromagnetic drive means for the lens unit and, on the other hand, technical features relating to the formation of an air bearing between the lens unit and the housing in which it is movably supported.

4. Insofar as the electromagnetic drive means are concerned, the present Claim 1 states only that the lens assembly comprises "electromagnetic means in said housing for applying a force to said lens unit and thereby adjusting the position of said lens unit within said housing".

5. The Appellant has essentially argued that it would be immediately understood by a person skilled in the art that there is no functional relationship between the specific electromagnetic drive means and the specific air bearing means disclosed in the application and that for this reason it would be clear to such person that any electromagnetic drive means might be used in conjunction with the specified air bearing means according to the invention.

6. This argumentation cannot be accepted by the Board if only because it completely ignores the way in which the invention has been disclosed in the application as originally filed.

In the introductory part of the description, several known lens assemblies and their respective disadvantages are discussed. Moreover, it is stated there that the use of electromagnetic devices for controlling the position of a focusing lens supported for movement within an air bearing is already known. It is then stated that the invention provides an improved lens assembly which includes a simplified, compact and relatively inexpensive arrangement for electromagnetic adjustment of the position of a focussing lens carried within an air bearing. The description then continues (on page 3, lines 27 - page 4, line 36) by describing the lens assembly according to the invention and does so in a coherent form mentioning specific electromagnetic drive means as well as details of the air bearing.

The original description does not contain even the slightest indication that electromagnetic drive means other than those of the type comprising a coil moving in an air gap between magnetisable pole pieces could be used to achieve the advantages of the invention. Although electromagnetic drive means of other types would be known to the person skilled in the art, he could not, from the application, immediately understand that the use of such means was contemplated by the author of the application.

The skilled person, even if he could recognise that from a strictly technical point of view the features of the electromagnetic drive means in themselves and the features of the air bearing in themselves would be unrelated, would nevertheless understand the application as filed as only seeking protection for a particular combination of features leading to an integrated device having the advantages of simplicity, compactness and relative cheapness.

The Board is of the opinion that an electromagnetic drive means for reciprocating a cylindrical lens unit within a bore in a lens assembly which did not have a housing comprising magnetisable pole pieces forming an air gap in which a current conducting coil is positioned could not be reasonably expected by the skilled person to have these advantages on the basis of any information to be derived from the original disclosure.

7. This Board has already recently held that broadening of a claim by deletion of a technical feature does not contravene Article 123(2) EPC as long as there is a basis for a claim lacking this feature in the application as originally filed (Decision T 66/85 of 9.12.87, to be published). This Decision was shown to and discussed with

the Appellant's representative during the oral proceedings. For the reasons discussed above, the Board is satisfied that, so far as the Appellant's main request is concerned, there is no proper and sufficient basis for the broadened claim in the application as originally filed. Therefore, the main request must be refused.

8. In accordance with the Appellant's first auxiliary request (paragraph VI above) the electromagnetic drive means are defined as "comprising magnetisable pole pieces forming an air gap within a magnetic field in which a current conducting coil is positioned".

9. Claim 1 as originally filed was directed to: "A lens assembly ... comprising ... a housing ... for forming a pair of magnetizable pole pieces disposed with respect to each other to define a relatively narrow air gap; a magnet positioned for magnetizing said pole pieces to have opposite polarities on opposite sides of said air gap; and a current conducting coil mounted for movement with said lens unit and within said air gap, said coil being for responding to variations in current passing therethrough to apply a force to said lens unit and thereby adjust the position of said lens unit within said housing."

10. On page 4, lines 24-32 of the original description the electromagnetic drive means are described in somewhat more general terms as follows:

"The objective lens unit includes a radially outwardly projecting flange which provides support for a cylindrical sleeve having a current conducting coil wound thereon. This coil is positioned concentrically within an annular air gap defined by annular, circumferentially spaced pole pieces formed by the lens assembly housing. These pole pieces provide a high density flux path for a magnetic

field created by one or more permanent magnets mounted on the assembly housing".

In the following lines (32-36) a sort of summary is given reading: "Accordingly, the assembly housing defines both an air bearing for the objective lens unit and magnetizable pole pieces forming an air gap within a magnetic field in which the current conducting coil is positioned."

11. In fact, considering the technical significance of the terms used in the first alternative Claim 1 in their context, it is evident that the magnetisable pole pieces and the presence of a magnetic field in which they form an air gap implies the presence of permanent magnet means. It is also evident that the relatively heavy pole pieces and permanent magnet means must be defined by the fixed housing and not by the movable lens unit, to which the considerably lighter current conducting coil must then be attached. Furthermore, it is evident that the pole pieces must have opposite polarities as otherwise no field would be formed in the air gap which could properly cooperate with the coil so as to effect a reciprocating movement of the lens unit within the housing. The Board is, therefore, satisfied that the content of the alternative Claim 1 does not extend beyond the content of the application as filed, as required by Article 123(2) EPC.

12. As the Board is prepared to grant the Appellant's first auxiliary request there is no need to consider the second auxiliary request.

13. Concerning the Appellant's request to refer a point of law to the Enlarged Board of Appeal, the present Board is of the opinion that the legal point in question is basically already settled by the provisions of Article 123(2) EPC

and the Board's earlier Decision T 66/85 of 9.12.87. Any further questions in this respect could only relate to the interpretation of the application as filed and so cannot be examined isolated from the facts. They are, therefore, not suitable for submission to the Enlarged Board (cf. Article 112(1) EPC). For these reasons, the request for a reference to the Enlarged Board must be refused.

14. The Examining Division has in its decision expressed the opinion that Claim 1 as filed on 30.5.84 complied with the requirements of Articles 54 and 56 EPC. This must hold also for the alternative Claim 1 which is limited with respect to the aforementioned Claim 1 by the inclusion of further features concerning the electromagnetic drive means. Some further documents have, however, come to the knowledge of the Board which appear to be particularly relevant to the issue of inventive step, namely: Dubbel, Taschenbuch für den Maschinenbau, 13th edition (1974), pages 717-719 and Konstruktion, March 1967, pages 92-97; April 1967, pages 134-139. These documents have not been considered by the Examining Division. Furthermore, the Board has noted that no search has been carried out in the technical field of air bearings per se. In these circumstances the Board, which is disposed to set aside the whole of the decision under appeal, will make use of its discretionary power under Article 111(1) EPC to remit the case to the Examining Division for further prosecution.

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 continuation of the procedure on the basis of:

   Description: pages 1, 3 and 4 as filed on 29.05.84; pages 2, 5-18 as originally filed;

   Claims: alternative Claim 1 as filed with the Grounds of Appeal and amended on 27.11.87; Claims 2-10 as filed on 26.11.83;

   Drawings: sheets 1/3 - 3/3 as originally filed.

3. The request to refer a point of law to the Enlarged Board of Appeal is refused.

The Registrar: The Chairman: