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

D E C I S I O N
of 4 April 2002

Case Number: T 0255/00 - 3.5.1

Application Number: 94301310.2

Publication Number: 0614314

IPC: H04N 5/64, H04R 1/02

Language of the proceedings: EN

Title of invention:
Audiovisual equipment and casing thereof and method of producing the same

Patentee:
MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD

Opponent:
Interessengemeinschaft für Rundfunkschutzrechte GmbH Schutzrechtsverwertung & Co. KG

Headword:
Audiovisual equipment/MATSUSHITA

Relevant legal provisions:
EPC Art. 56, 84, 123

Keyword:
"Inventive step - main request (no) - auxiliary request (yes)"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0255/00 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 4 April 2002

Appellant: (Opponent)
Interessengemeinschaft
für Rundfunkschutzrechte GmbH
Schutzrechtsverwertung & Co. KG
Bahnstrasse 62
D-40210 Düsseldorf (DE)

Representative:
Eichstädt, Alfred, Dipl.-Ing.
Maryniok & Partner
Kuhbergstrasse 23
D-96317 Kronach (DE)

Respondent: (Proprietor of the patent)
MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.
1006, Ohaza Kadoma
Kadoma-shi
Osaka 571-8501 (JP)

Representative:
Gray, John James
Fitzpatricks
39 Stukeley Street
London WC2B 5LT (GB)

Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 15 February 2000 rejecting the opposition filed against European patent No. 0 614 314 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: S. V. Steinbrener
Members: R. Randes
P. Mühlens

Summary of Facts and Submissions

I. This appeal is against the decision of the Opposition Division rejecting the opposition against the present European patent.

Claim 1 as granted, and upheld by the Opposition Division, reads as follows (the brackets inserted into the claim by the Board are for clarification purposes later on in the present decision):

"A casing (1A; 1B; 1C; 1D; 1E) for an audiovisual apparatus (100A; 100E), said casing (1A; 1B; 1C; 1D; 1E) including a sound transmitting hole area (5; 5C; 5D) in at least one surface of the casing, the sound transmitting hole area having a plurality of holes (6A; 6B; 6C; 6D) **[insert]**; said casing having a thickness T over the transmitting hole area of 0.5 mm or more, wherein the width d in millimetres of any one of said holes (6A; 6B; 6C; 6D) adjacent to the exterior of the casing (1A; 1B; 1C; 1D; 1E) obeys the relationship:

$$T/6 \leq d \leq 0.5 \text{ mm}".$$

The independent method claim 9 for a method of producing a casing corresponds fully to claim 1.

II. In its decision the Opposition Division found that the subject-matter of claim 1 and the corresponding method claim 9 was inventive over the following documents:

D1: DE-GM-72 15 384
D2: Loewe Opta Neuheiten-Kurier, season 1961/62, cover sheet and page 14,
D3: DE-C-38 00 471
D4: Funkschau 1979, Heft 21, page 76
D5: US-A-4 919 227

The Opposition Division held that the relationship between the wall thickness and the hole diameter defined in the independent claims satisfied the requirements of both visual unobtrusiveness and sound transmitting capability in a particular manner which was not hinted at in the prior art references cited and concluded that the subject-matter of claim 1 was not obvious to a skilled person.

III. The Appellant (Opponent) lodged an appeal against this decision and requested that the decision be set aside and the patent be revoked, arguing that the subject-matter of claims 1 to 26 did not involve an inventive step.

The Respondent (Patentee) in a response to the statement of the grounds of appeal requested dismissal of the appeal.

Both parties made auxiliary requests for oral proceedings.

IV. In an annex to the summons to oral proceedings pursuant to Article 11(2) of the Rules of Procedure of the Boards of Appeal the Board noted that the prior art documents did not suggest, neither for technical reasons nor on aesthetic grounds, a casing for an audiovisual apparatus having an unobtrusive hole area in the sense of the invention. However, it had to be discussed at the oral proceedings, whether the invention relied on aesthetic considerations or involved technical character.

V. Oral proceedings were held on 4 April 2002.

The Appellant (Opponent) requested that the decision under appeal be set aside and that the European patent be revoked.

The Respondent (Patentee) requested that the appeal be dismissed (main request) or, as an auxiliary request, that the patent be maintained in amended form on the basis of the following documents:

Claims: 1 to 21, filed in the oral proceedings;

Description: pages 2 to 5, filed in the oral proceedings;

Drawings: figures 1 to 8 as granted, figure 9 filed in the oral proceedings.

Claim 1 of the auxiliary request is identical to Claim 1 of the main request with the exception that the feature "formed by an injection moulding process and" has been inserted into claim 1 of the main request at the position of the brackets **[insert]** shown at point I above.

Also claim 9 of the auxiliary request is identical to independent claim 9 of the main request with the exception that a feature corresponding to the new feature of claim 1 of the auxiliary request has been added.

VI. The argumentation of the Appellant can be summerized as follows:

Starting from the prior art of D4, disclosing a TV-set (see Figure 9, "Farbgerät 3051") having a hole area with rather large holes covering the loud-speaker, it appeared that the invention according to claim 1 was distinguished from this prior art only by the formula given in the claim. This formula was apparently intended to define the size of the holes so that they were not perceivable by a TV-viewer, i.e. they should

be unobtrusive. An inventive step could however not rely on such a feature. The problem of making the hole area unobtrusive could not be regarded as a technical problem, but was rather an aesthetic problem. Moreover, in the introductory part of the description of the present patent specification it was pointed out that the purpose of the invention was to make the area "less noticeable in order to present an attractive outer appearance" (cf. specification, column 1, lines 11 and 12) and to give the outside of the casing a "luxurious appearance" (cf. column 1, line 18 and column 2, lines 31 to 35).

When the TV-set is not switched on the appearance of the TV-casing cannot of course affect the TV-viewer at all and a technical problem cannot be seen therein, as has been suggested by the Respondent, that the viewer is disturbed by an obtrusive hole area by the screen. When the TV-set is switched on the TV-viewer perceives the picture on the screen and concentrates on the dynamic image. It happens that the displayed TV-images contain additional labels, such as the names of the TV-transmitters (in Germany for example ARD, ZDF or RTL), however there is no evidence that such labels, although on the screen, influence the TV-viewer in a disturbing way. To make the grilles of a loudspeaker obtrusive or unobtrusive is a question of taste. The loudspeaker of the TV-set in D4 had apparently been made obtrusive because it was considered to have a positive effect on the design. On the other hand, it has also been customary practice to try to cover the sound outlet of the loud-speaker with fabric nets or punched sheets, as also pointed out in the introductory part of the patent specification. The metallic radio grilles disclosed in D2 ("Dandy" and "Tilly") had apparently, although having relatively small holes, been designed to have an attractive luxurious appearance instead. The only condition for the design of loudspeaker grilles was

that the sound transmission must be acceptable, and normally there was absolutely no problem in arriving at such a design. Moreover, according to claim 1 of the main request, the hole area did not need to be a supporting part of the casing and there was no reason to believe that the casing could not be made sufficiently strong because of the many small holes in the grille.

Thus it would be obvious for a skilled person to arrive at the invention if it was desirable to form the hole area as neutrally as possible. The construction of small holes was surely no problem to a skilled person. If the hole area was to be unobtrusive the diameter of the holes had to be chosen taking into account the resolution at a normal viewing distance of a TV-image and the colour of the whole area had to be dark. As far as could be estimated from D2, the radio shown ("Dandy") had a grille with holes of a diameter of about 1 mm. Document D3 disclosed not a loud-speaker casing but a mass-produced filter having a thickness (0.05 to 2 mm) and hole diameter (0.01 to 1 mm) corresponding to the claimed parameters of the hole area of the invention. From this prior art, it was clear that no problem of technical feasibility existed.

Having regard to claim 1 of the auxiliary request, it appeared that the feature inserted into claim 1 of the main request did not add anything to the claim, since a method feature did not add anything to the end product as such. Moreover casings for audio -and video apparatuses are normally made of plastics and injection molding is the normal way of fabricating them. Thus, the subject-matter of both claim 1 and the corresponding method claim 9 of the auxiliary request was also obvious to a skilled person.

VII. The argumentation of the Respondent can be summarized as follows:

It might be that the problem to be solved had an "aesthetic background". Nevertheless this background led to a technical problem. Perhaps it was not a serious technical problem to make the holes smaller, but to make the hole area unobtrusive and still maintain a good sound transmission from the loud-speaker under the condition that the construction of the casing still kept its strength and maintained its supporting characteristics had to be considered as a technical problem.

The solution to the problem was not obvious to the skilled person. The only document cited during proceedings before the first instance and before the Board that related to the present problem, i.e. to make it difficult for the consumer to identify a sound producing source of an audiovisual apparatus (TV-set), was document GB-A-2 249 454, cited in the present patent specification. However, the solution according to that document was to cover the sound outlet of a speaker with a perforated sheet having a plain gauze fabric bonded to the surface facing the viewers of the TV. Thus this solution was in line with the prior art solutions mentioned in the introductory part of the present patent specification.

Moreover the only document cited concerning a TV-set was D4. Although the Appellants had made serious attempts to find a better document against the invention, they had only found the "Neuheiten-Kurier" from 1961/62 (D2) in the library of Loewe Opta which disclosed radios having grilles with holes. However the fact that already 40 years ago radio grilles could have small holes does not prove that it was obvious to arrive at the present invention concerning an

audiovisual apparatus. Moreover the metallic grilles disclosed in D2 provided the "Dandy effect" in that these grilles could not be integrated in a smooth and unobtrusive way in the casing. On the contrary, they were very obtrusive.

Also the skilled person designing the casing had to take into account the method used to manufacture it. Punches, drills or the injection moulding apparatus to be used had to be selected during the design of the casing itself. In this respect document D3 disclosed a filter sheet, used for filtering gas, in particular air. This application had nothing to do with the present invention. Moreover, D3 did not disclose how the filter was manufactured. Documents D1 and D5 disclosed sound outlet structures of loudspeakers, however they related to structures very different from the present invention. D1 showed that the hole area could contain holes of rather different sizes and D5 disclosed a loudspeaker grille having two sheets covering each other in front of the speaker with mutually misaligned holes, so that nail files, keys and pens could not be used to break the grille.

Having regard to the auxiliary request, the Respondent was of the opinion that the skilled man could see whether a hole area had been formed by injection moulding or whether some other technique had been used. If injection moulding had been used, then it was clear that a plastic material was present in the hole area. Moreover injection moulding facilitated the recycling of the casing material, as suggested in the introductory part of the present patent specification, since the material used for the hole area could be the same as that of the casing or might be one that did not need to be recycled separately.

VIII. At the end of the oral proceedings the Board's decision was announced.

Reasons for the Decision

1. *Admissibility of the appeal*

The appeal complies with the provisions mentioned in Rule 65(1) EPC and is therefore admissible.

2. *Main request*

2.1 Inventive step

2.1.1 Starting from document D4, broadly discussed in the present proceedings and in opposition proceedings before the first instance, there was general agreement that the subject-matter of claim 1 as granted differed from this prior art by the formula specifying the upper and lower limits of the hole diameter and relating it to the thickness of the casing.

In particular, document D4 (see picture 9) discloses a casing for an audiovisual apparatus (a TV set) which includes a sound transmitting hole area in at least one surface of the casing (left-hand edge of the screen). The sound transmitting hole area has a plurality of holes, the diameter of which is not specified. Nor is there any indication of the casing thickness over the transmitting hole area. From the fact that these holes are clearly visible, and from their apparent dimensional relationship to the other elements of the TV set, in particular the screen, it is however clear that their diameter must be considerably larger than 0.5 mm.

2.1.2 According to the patent specification (see column 2, lines 31 to 35), an object of the claimed invention appears to be the provision of a casing which has a "good appearance" and may be fabricated at reasonable cost. By "good appearance" it is understood that the hole area has an attractive design and does not distract the viewer from the image displayed on the screen (see column 1, lines 8 to 18).

In the Board's view the latter aspect has at least some technical implications since in an audiovisual device the loudspeakers must of course be designed and arranged so as not to obscure, or visually interfere with, the screen, while still achieving the desired volume and quality of sound.

Since in D4 the hole area constitutes a conspicuous design element, the requirement of unobtrusiveness does not seem to be met. Hence, the objective technical problem to be solved with respect to this prior art may be seen in realising an unobtrusive hole area design whilst achieving a good sound quality at an acceptable cost.

2.1.3 The Board does not see any inventive contribution in defining this problem, since it would be manifest for a viewer from watching the prior art TV screen, the aspect of sound quality being self-evident for a loudspeaker grille, and the cost factor being a normal constraint which affects any approach to finding technical solutions. Moreover, as admitted by the respondent, the problem of visual interference was known in the technical field concerned before the priority date of the patent in suit (see GB-A-2 249 454, page 1, line 21 to page 2, line 2; the document being acknowledged in the patent specification at column 2, lines 20 to 25).

2.1.4 The Board agrees with the impugned decision in that it would indeed be obvious to make the holes very small for visual unobtrusiveness. Obviously, the smaller the holes are, the less noticeable they are. Moreover, the Board also considers it to be an obvious consequence of having smaller, less noticeable holes that the number of holes has to be increased correspondingly. This would be clear to a skilled person from the porosity of the speaker grille required for maintaining sound quality (see GB-A-2 249 454, page 2, lines 14 to 17).

2.1.5 In the Board's view, a casing designer would also be aware of the fact that the fabrication of an increasing number of increasingly fine holes implies an important cost factor, depending primarily on the thickness of the casing material to be perforated if no casing materials and perforation methods are specified: the thicker the material, the more difficult and time consuming it will be to make a large number of small holes. This seems to be particularly true for conventional perforation methods, such as the punching or drilling processes also mentioned in the contested patent (see, for example, column 6, line 57 to column 7, line 5).

2.1.6 In consequence, while making the hole area less obtrusive there would also be lower limits for the hole size depending on the casing thickness due to cost and feasibility considerations. The lower limit would be higher for thicker casings.

Since a skilled person must be assumed to be aware of these factors, the Board holds that it falls within normal practice to define such limits numerically so as to achieve as much unobtrusiveness of the hole area as is compatible with the costs accepted for its fabrication. Hence, no inventive step can be seen in arriving at the claimed formula.

Claim 1 of the main request is consequently not allowable (Article 56 EPC).

3. *Auxiliary request*

3.1 Admissibility and clarity

3.1.1 The feature inserted in claim 1 of the auxiliary request, i.e. the holes being "formed by an injection moulding process" (see point V above), has been disclosed at various places in the original application documents (see, for instance, column 4, lines 17 and 18 of the A-publication, corresponding to column 3, lines 36 and 37 of the patent specification) and does not extend the scope of protection. Hence, the requirements of Article 123 EPC are met.

3.1.2 In the Board's view, the feature is also clear in that it restricts the materials usable for the hole area to materials allowing injection moulding, i.e. plastics, and excludes conventional measures for hole fabrication like punching and drilling. The Board is also convinced that the fabrication process for the holes is apparent from the finished product for a casing specialist since any kind of mechanical or thermal perforation would be distinguishable by its characteristic traces from holes obtained with the aid of an injection mould having a plurality of elongated pins (see column 4, lines 13 to 15 of the patent specification).

3.2 Novelty

From the above assessment of inventive step with respect to claim 1 of the main request (see point 2.1) it is clear that novelty is not at issue in the present proceedings.

3.3 Inventive step

3.3.1 Even if, starting from document D4 and taking account of the fundamental requirements governing the improvement desired, the determination of the lower and upper limits for the hole diameter is considered to fall within the competence of a skilled person, there is no disclosure in the cited prior art as to how a high number of fine unnoticeable holes can be economically realised.

It may be true, as the appellant submits, that injection moulding was known in the art of casing making. However, even if the casing shown in document D4 was obtained by injection moulding, there is no indication that unobtrusiveness of the holes could be achieved by the same process. Similarly, GB-A-2 249 454, although providing a perforated sheet of polyvinyl chloride, does not disclose the perforation process, nor can the perforations be considered to be unobtrusive since they have to be covered by a plain gauze fabric for this purpose (see Figures 1A and 1B and associated text).

Document D1 discloses speaker grilles having hole sizes varying over the hole area without specifying the hole diameters and the fabrication process. Document D2 shows fine holes in a metal grille mounted in a plastics casing. Such holes cannot be made by injection moulding. Document D5 mentions polycarbonate plastic as material for a tamper-resistant speaker grille, but does not disclose the perforation process. Moreover, unobtrusiveness is not a goal, but rather break resistance, and the lower limit of the hole diameter is greater by a factor of two (see column 2, lines 54 to 62). Finally, document D3 does not relate to a speaker grille, but to a filter element comprising a perforated metal, alloy or plastics foil, the fabrication process

of which is not disclosed. This document was cited by the appellant merely to show that fine holes in thin sheets are in principle feasible.

3.3.2 Hence the Board concludes that the subject-matter of claim 1 of the auxiliary request, having further advantageous assembly and recycling properties, is not obvious from the cited prior art.

The same applies to independent claim 9 of the auxiliary request, relating to a method of producing a casing in accordance with claim 1.

Since the dependent claims and the description of the patent in suit have also been adapted to the wording of the independent claims, the auxiliary request is considered allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent in amended form on the basis of the following documents:

   Claims: 1 to 21, filed in the oral proceedings;

   Description: pages 2 to 5, filed in the oral proceedings;

   Drawings: Figures 1 to 8 as granted, Figure 9 filed in the oral proceedings.

The Registrar: The Chairman:

D. Sauter S. Steinbrener