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**Datasheet for the decision
of 5 November 2014**

Case Number: T 1312/10 - 3.5.05

Application Number: 00900338.5

Publication Number: 1067454

IPC: G06F3/033

Language of the proceedings: EN

Title of invention:

TOUCH PANEL

Applicant:

NISSHA PRINTING CO., LTD.

Headword:

TOUCH PANEL/NISSHA PRINTING

Relevant legal provisions:

EPC Art. 56

EPC R. 103(1)(a)

Keyword:

Inventive step (yes, main request)
Substantial procedural violation (yes)
Reimbursement of the appeal fee (yes)

Decisions cited:

T 1997/08

Catchword:



**Beschwerdekammern
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Chambres de recours**

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Case Number: T 1312/10 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 5 November 2014

Appellant: NISSHA PRINTING CO., LTD.
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 29 January 2010
refusing European patent application No.
00900338.5 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair A. Ritzka
Members: P. Corcoran
D. Prietzel-Funk

Summary of Facts and Submissions

- I. The decision under appeal is the decision of the examining division to refuse the application which was delivered during oral proceedings held on 19 November 2009, with written reasons being dispatched on 29 January 2010.
- II. The impugned decision was taken with respect to a main request comprising claims 1 to 6 as originally filed and two auxiliary requests both of which were submitted with the letter of 16 October 2009.
- III. Claim 1 of the aforementioned main request reads as follows:
"A touch panel in which an upper electrode sheet (1) having an upper transparent electrode formed on a transparent film of polyethylene terephthalate and a lower electrode sheet (2) having a lower transparent electrode formed on a transparent film of polycarbonate are arranged opposite to each other via a plurality of spacers (3) of an insulating substance between the upper and lower electrodes, while a transparent hold plate (5) of a polycarbonate plate is bonded over an entire face to a lower face of the lower electrode sheet via a transparent adhesion layer (4)."
- IV. The following documents were cited in the decision under appeal:
D1: JP 06 309101 A;
D2: EP 0 693 735 A;
D3: US 5 844 175 A.
- V. According to said decision, the subject-matter of claim 1 of the main request did not involve an inventive step

in the light of D1 and common general knowledge as exemplified by D2.

- VI. Claim 1 of the first auxiliary request was found not to comply with the requirements of Article 84 EPC. In an *obiter dictum* to the decision, an objection due to lack of inventive step was additionally noted with respect to said claim. Claim 1 of the second auxiliary request was also found not to comply with the requirements of Article 84 EPC and, likewise in an *obiter dictum*, an objection due to lack of inventive step was additionally noted with respect to said claim.
- VII. Notice of appeal was received at the EPO on 24 March 2010 with the appropriate fee being paid on the same date. A written statement setting out the grounds of appeal was received at the EPO on 27 April 2010.
- VIII. In the written statement setting out the grounds of appeal, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of one of the following claim sets:
- (i) A main request comprising claims 1 to 6 as originally filed;
 - (ii) A first auxiliary request comprising claims 1 to 6 as filed with the written statement setting out the grounds of appeal;
 - (iii) A second auxiliary request comprising claims 1 to 4 as filed with the written statement setting out the grounds of appeal.
- IX. In the written statement setting out the grounds of appeal, the appellant submitted that in the impugned decision the examining division merely re-stated the reasoning already expressed in the summons to oral proceedings, and failed to comment on the further

arguments and submissions put forward with the letter of 16 October 2009 filed in advance of the oral proceedings. In particular, it was asserted that the examining division failed to engage with the detailed reasoning set out on pages 3 to 9 of said letter and did not appear to have taken these arguments into consideration in arriving at its decision to refuse the application. The actions of the examining division in this regard were considered by the appellant to constitute a procedural violation.

- X. In a communication pursuant to Rule 100(2) EPC dated 4 August 2014, the board gave its preliminary opinion that, subject to amendment of the dependent claims 5 and 6, the appellant's main request appeared to provided a basis for a request which could be considered to comply with the requirements of the EPC.
- XI. With respect to its assessment of inventive step, the board introduced the following documents into the appeal proceedings pursuant to Article 114(1) EPC:
- D4: JP 11-297 160;
 - D5: "Organic Conductive Polymer Touch Panel", Fujitsu Semiconductor Magazine "FIND", Vol.26, No. 1, 2008, pp.1-5, URL: <http://www.fujitsu.com/downloads/EDG/binary/pdf/find/26-1e/11.pdf>.
- D4 was cited in the International Search Report for the present application and was also referred to by the appellant in the written statement setting out the grounds of appeal.
- D5 is an article which appeared in the Fujitsu Semiconductor Magazine "FIND" in 2008. Despite the fact that said document did not constitute prior art with respect to the present application, the board nevertheless considered its content to be useful for

understanding the technical context in which the question of inventive step was to be evaluated.

- XII. In its communication, the board further noted that it was inclined to agree with the appellant's submissions to the effect that the failure to consider the written submissions filed with the letter of 16 October 2009 effectively amounted to a substantial procedural violation. Although a reimbursement of the appeal fee did not appear to have been requested in the written statement setting out the grounds of appeal, the board informed the appellant that it intended to give due consideration to this matter in the event that it arrived at a final decision to the effect that the present appeal was allowable.
- XIII. With a letter of reply dated 3 October 2014, the appellant submitted an amended main request comprising claims 1 to 6 which was based on the original main request and comprised amendments to dependent claims 5 and 6 in response to the observations made in the board's communication. Corresponding amendments to pages 1, 4, 5, 11 and 16 of the description were also submitted.
- The appellant further maintained the first and second auxiliary requests on file and also requested the reimbursement of the appeal fee pursuant to Rule 103(1) (a) EPC due to the alleged substantial procedural violation which had been referred to in the the written statement setting out the grounds of appeal (cf. item IX above). A precautionary request for oral proceedings was also maintained.
- XIV. Claim 1 of the main request filed with the letter of 3 October 2014 is identical to claim 1 of the main request on which the decision under appeal was based,

i.e. claim 1 as originally filed (cf. Facts and Submissions, item III above).

XV. Insofar as they are relevant to the present decision, the written submissions made by the appellant in support of the main request, may be summarised as follows:

- (i) According to the appellant, the claimed invention relates to a touch panel having a construction of the so-called FFP (Film-Film-Plastic plate) type. A touch panel of the FFP type comprises upper and lower electrodes formed on respective upper and lower films whereby the lower film is supported by a plastic plate ("hold plate").
- (ii) More specifically, the present application is directed to the problem of the touch panel becoming warped under extreme temperature or humidity conditions, resulting in an unclear image being transmitted through the touch panel from an underlying screen (cf. Figure 5 of the originally filed application).
- (iii) To mitigate this problem, the claimed invention proposes that the lower electrode film and the base substrate should be of the same material so as to provide a touch screen which hardly warps even when exposed to a severe temperature or humidity environment (cf. originally filed application: p.7, 1.15 to p.8, 1.14). At the same time, it is desirable to have an upper electrode film having superior flexibility when pressed during an input operation (cf. originally filed application: p.7, 1.2 to 5).

- (iv) Claim 1 of the main request specifies that the hold plate 5 and the lower electrode film are of polycarbonate and the upper electrode film is of polyethylene terephthalate (PET). The appellant submitted that this represented a selection of a specific combination of materials in specific layers in a specific order for a particular purpose.

- (v) D1 discloses a touch panel of the FFP type in the which the upper and lower films are composed of PET. However, the disclosure of D1 is limited to using PET films for forming both electrodes, presumably so that the desired flexibility may be maintained during manufacture of the electrode sheets.

- (vi) With respect to D2 and D3, it was submitted that these documents disclose two-layer constructions in which the base layer may be glass, PET or polycarbonate (D2) or glass, PET, polycarbonate or polyacrylate (D3). The base layer in each of D2 and D3 is, however, equivalent to the transparent polycarbonate hold plate 5 of the present application, and is not equivalent to the lower electrode sheet 2.

- (vii) On this basis, it was argued that if the skilled person were to attempt to combine the teaching of D2 or D3 with the teaching of D1, the result would be a combination of two PET-film electrodes mounted onto a substrate either of polycarbonate, or alternatively of glass, PET or polyacrylate. Such a combination would not lead to the subject-matter of claim 1.

- (viii) The appellant also submitted that the skilled person would not have readily identified the problem addressed by the present invention (i.e. to provide a touch panel less susceptible to warping under extreme environmental conditions). Only one reference cited in the International Search Report appears to make reference to the problem of warping (viz. JP 11-297 160). Even if, at the claimed priority date, the skilled person had recognised that an FFP type touch panel was subject to the problem of warping he would have been inclined to use a two-layer FG (Film-Glass plate) type touch panel instead of an FFP type construction.
- (ix) In this regard, it was submitted that, at the claimed priority date, the use of touch panels was for the most part limited to ATMs (Automated Teller Machines) or electronic notebooks, and they were not widely used in portable devices. D1 was the only one of the cited documents to disclose an FFP construction comprising two electrodes formed on respective films both of the same material (PET) and further comprising an additional support layer of a different material (i.e. the polycarbonate "hold plate").
- (x) According to the appellant, the use of different materials for the substrates of the two electrodes is only suggested in D2 and D3 where one substrate is a rigid support and the other a flexible film. There is no disclosure or suggestion in either D2 or D3 of an FFP structure as specified in claim 1.

(xi) Based on the foregoing considerations the appellant submitted that it would not have been obvious for the skilled person to arrive at the subject matter of claim 1 of the main request starting from D1 and taking into account the disclosures of D2 and D3.

XVI. The appellant has requested that the decision under appeal be set aside and that a patent be granted on the basis of the aforementioned main request filed with the letter of 3 October 2014, or, subsidiarily, on the basis of one of the auxiliary requests filed with the written statement setting out the grounds of appeal. The appellant has also requested reimbursement of the appeal fee pursuant to Rule 103(1)(a) EPC.

XVII. In view of the fact that the board considered the appellant's main request to be allowable, there was no necessity to hold oral proceedings before issuing a written decision in the present case.

Reasons for the Decision

1. The appeal is admissible. The board judges that the appeal is allowable for the reasons which follow.

Main request

2. *Observations re prior art*

- 2.1 Referring to D5, various types of touch panel structure are disclosed in Fig. 4 thereof, in particular:

FG: film-glass;
FF: film-film;
FFP: film-film-plastic;
FP: film-plastic.

- 2.2 The aforementioned FG, FF and FP structures are two-layer structures whereas the aforementioned FFP structure is a three-layer structure.

- 2.3 It is common ground that D1, which discloses a touch panel having a three-layer FFP structure (in the terminology of D5), represents the closest prior art to the subject-matter of claim 1 of the main request.

3. *Inventive step*

- 3.1 The touch panel of D1 is a three-layer FFP structure which uses PET for both films and polycarbonate for the plastic plate.

- 3.2 There is no apparent mention in D1 of the problem of warping due to extreme environmental conditions. Neither does this problem appear to be mentioned in D2

or D3 which, as noted by the appellant, differ from D1 in that they disclose touch panels having two-layer structures.

- 3.3 The only cited document which appears to address the problem of warping is D4. However, having regard to the fact that said document is a Japanese patent application published after the claimed priority date, it does not constitute prior art with respect to the present application (cf. Articles 54(2) and (3) EPC).
- 3.4 The decision under appeal appears to rely on the premise that the skilled person would have recognised the problem of warping without the exercise of inventive skill. However, the board cannot identify any basis in the available prior art for concluding that, at the claimed priority date of 12 January 1999, this problem could be considered as having been generally known in relation to FFP touch panels.
- 3.5 The evident lack of disclosure in the available prior art concerning the aforementioned problem leads the board to conclude that, in the present case, the recognition of the underlying technical problem may be considered as making a contribution towards inventive step.
- 3.6 Furthermore, although it may be inferred from D2 that the use of polycarbonate as a potential alternative film material to PET was known *per se*, the board is not convinced that, in the given context, this would be sufficient to render obvious the substitution of polycarbonate for PET in respect of one of the film layers of the touch panel of D1.

- 3.7 Whereas it may be argued that the skilled person could have substituted a polycarbonate film for the lower PET film of the FFP touch panel D1 without undue difficulty, in the absence of any identifiable motivation to attempt such a substitution, the board is not convinced that it would have been obvious for him to modify the touch panel of D1 in the manner required to arrive at the subject-matter of claim 1 of the main request.
- 3.8 In particular, it is noted that the decision under appeal appears to take the position that the use of polycarbonate for the lower film layer of the FFP touch panel is a straightforward technical measure for reducing the risk of warping by eliminating or at least minimising the mismatch in terms of thermo-mechanical properties between the lower film and the hold plate. While this line of argument may appear plausible at first glance, the board considers that, in the context of an FFP touch panel as disclosed in D1, the skilled person would have been more likely to be inclined to use identical material for both film layers in order to simplify the manufacturing process and to eliminate or minimise the risk of a mismatch between said film layers in terms of electrical/ electronic properties.
- 3.9 The board therefore considers that, in the given context, the required modification with respect to D1 goes beyond what could be considered an obvious technical measure or a mere design choice in particular because, as argued by the appellant, it could be considered to introduce the risk of some kind of mismatch between the upper and lower films.
- 3.10 Accordingly, in the absence of any identifiable hint or suggestion in the prior art which would have prompted

the skilled person to attempt such a modification to the lower film of D1, the board concurs with the appellant's submissions to the effect that it cannot be dismissed as obvious.

4. *Conclusions*

4.1 In view of the foregoing, the board concludes that claim 1 of the main request involves an inventive step over the available prior art.

4.2 Since the board judges that the appellant's main request is allowable, there is no need to examine the merits of the auxiliary requests.

Alleged procedural violation

5. *Reimbursement of the appeal fee*

5.1 Pursuant to Rule 103(1)(a) EPC, where an appeal is deemed to be allowable, reimbursement of the appeal fee shall be made if such reimbursement is equitable by reason of a substantial procedural violation.

5.2 The board concurs with the appellant's submissions to the effect that the failure of the examining division to give due consideration to the written submissions filed with the letter of 16 October 2009 amounted to a substantial procedural violation (cf. for example T 1997/08).

5.3 Accordingly, in view of the aforementioned substantial procedural violation, the board judges that a reimbursement of the appeal fee is equitable in the present case.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The application is remitted to the department of first instance with the order to grant a patent based on claims 1 to 6 of the main request filed with the letter of 3 October 2014,
description pages 1, 4, 5, 11 and 16 of the main request filed with letter of 3 October 2014,
description pages 3, 6 and 17 filed with the letter of 12 September 2007,
description pages 2, 7 to 10 and 12 to 15 as originally filed and
drawing sheets 1/2 and 2/2 as originally filed.
3. The appeal fee is to be reimbursed.

The Registrar:

The Chair:



B. ter Heijden

A. Ritzka

Decision electronically authenticated