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D E C I S I O N
of 13 January 1998

Case Number: T 0682/94 - 3.2.2

Application Number: 88113605.5

Publication Number: 0304092

IPC: A61B 5/10

Language of the proceedings: EN

Title of invention:
Apparatus for imaging surface pattern such as fingerprint

Applicant:
NEC Corporation

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 83, 84

Keyword:
"Clarity of a feature based on a technical effect (yes)"
"Adequate support by the description"

Decisions cited:
G 0002/88, T 0068/85, T 1055/92, T 0860/93

Catchword:
-



Case Number: T 0682/94 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 13 January 1998

Appellant: NEC Corporation
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 29 March 1994
refusing European patent application
No. 88 113 605.5 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: H. J. Seidenschwarz
Members: M. G. Noel
C. Holtz

Summary of Facts and Submissions

- I. European patent application No. 88 113 605.5 (publication No. 0 304 092) was refused by the Examining Division's decision dated 29 March 1994 for the reasons that neither of claim 1 of the main, nor claim 1 of any of the two auxiliary requests met the requirement of clarity under Article 84 EPC.

- II. According to the first instance, the feature under dispute did not unambiguously define the elasticity of the pliant layer, as the technical effect according to claim 1 of each of the requests did not merely relate to said elasticity. As a matter of fact, the effect of filling hollows between the finger ridges and the surface of the pliant layer was also dependent on the pressure by which the finger was pressed onto the layer. In the extreme this effect was also obtainable by a rigid plate under sufficient pressure. This meant that the claimed effect was obtainable by a broad spectrum of elasticities exhibited also by materials of the prior art. Therefore, this feature was indefinite as regards the scope of claim 1, which was thus rendered unclear. In addition, it was not possible to distinguish the elasticity of the pliant material as claimed from that of the prior art materials. The claimed effect was obtainable over a broad spectrum of elasticities exhibited also by materials of the prior art.

- III. The appellant lodged an appeal against the first instance's decision by notice filed on 17 May 1994. A statement of grounds was filed and the appeal fee was paid in due time.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the same requests as those made in the decision contested, namely:

claims: 1, 2 (main request): as filed with letter dated 10 November 1992,
 1, 2 (first auxiliary request): as filed with letter of 9 November 1993,
 1, 2 (second auxiliary request): as filed at the oral proceedings of 15 April 1994;

description: pages 1 to 6, 8, 9 as filed with letter dated 10 November 1992,
 page 7 as originally filed;

drawings: 5/9, 7/9 as filed with letter dated 10 November 1992,
 1/9 to 4/9, 6/9, 8/9, 9/9 as originally filed.

IV. Claim 1 according to the main request as annexed to the decision under appeal reads as follows:

"Apparatus for optically imaging surface pattern of a finger (66) which is pressed on a surface (61) of a transparent optical means (52,103), at least a layer (51,102) of said surface (61) being made of a pliant material; and with

 a light source (64,108) which directs light towards said surface (61) of said transparent optical means (52,103); and

 a light detector (65,109) which receives light reflected from said surface (61) of said transparent optical means (52,103);
characterised in that

- (a) the elasticity of the pliant layer (51,102) is sufficient to substantially eliminate any hollow between a finger ridge (31) and the surface (61) of said pliant layer (51,102);
- (b) said light source (64,108) directs light towards said pliant layer (51, 102) through said transparent optical means (52,103), wherein said light source is arranged such that light emitted therefrom is totally internally reflected at areas of said surface (61) of said optical means which are not in contact with the finger ridges (31), and wherein
- (c) said light detector (65,109) is positioned to receive the light totally internally reflected from said surface (61) and/or light scattered at the finger ridges."

Claim 1 according to the first auxiliary request differs from the main request only by replacing in feature (b) the word "is" between the terms "therefrom" and "totally" by the expression "has an angle of incidence greater than the critical angle of said pliant material so as to be".

As to claim 1 according to the second auxiliary request, it only differs from the main request by replacing, in the pre-characterising portion, the expression "a pliant material" by the expression "pliant natural or synthetic rubber, silicone, epoxy or the like elastomer".

V. In its written submissions the appellant argued as follows:

- The elasticity of the layer material is unambiguously defined since the person skilled in the art will be able to realise the invention and

to find out suitable pliant layer materials in view of their technical effects by carrying out some simple experiments. The more because the elasticity module of such materials varies broadly, in dependence of the production and the composition of the material considered, as shown eg in Table 24 of the textbook: Kunststoffhandbuch, vol. 11, Carl Hanser Verlag 1971, page 146.

- It is not precluded by the EPC to define a feature by way of the technical effect to be obtained, as supported by the Guidelines for examination, in particular C-III, 2.1 and C-III, 6.5.

- The invention is clearly distinguished from the prior art represented by either one of document (1) US-A-4 322 163 of document (2) EP-A-0 194 783, since none of them gives any limit at the fine structure of the finger ridges nor the necessary elasticity of a pliant layer to fill any hollows or the like of said finger ridge.

Reasons for the Decision

1. The appeal is admissible.

2. *Clarity of claim 1 (any request)*
 - 2.1 The refusal by the Examining Division is based exclusively on lack of clarity of the characterising feature (a), according to which: "the elasticity of the pliant layer is sufficient to substantially eliminate any hollow between a finger ridge and the surface of said pliant layer".

This feature, which is to be interpreted in the light of the description and drawings according to Article 69(1) EPC and the protocol on its interpretation (see T 0860/93, OJ EPO 1995, 47, Headnote II and point 5), is fairly supported by the following passages of the application as filed:

- Page 6, lines 8 to 16: "This layer (51) is made of an elastic and/or viscous material, or, in other words, is made of a pliant material. ... The feature of the instant invention resides in the provision of the layer 51. By way of example only, the layer may be formed of either natural and synthetic rubbers, the latter including silicon, epoxy and the like type elastomers".

- Page 6, lines 29 to 35: "As shown in Figure 5, when a finger is pressed against the layer 51, small recesses or hollows or the like, which exists on a finger ridge and form spaces between the finger ridge and the surface 21, are filled with the elastic and/or viscous material of the layer 51, thereby providing optical boundary conditions similar to those obtained with a wet finger".

As to the above wetting conditions, reference is made to the following additional passage:

- From page 3, line 32 to page 4, line 3: "As shown in these microscopical views (Figures 3(a) and 3(b)), the surface of a finger ridge is not flat and mirror-like but uneven as illustrated. As a consequence, if a finger is wet with sweat (for example), the spaces between the surfaces of a finger and the refractive surface 21 are filled with an aqueous liquid".

It results from these quotations that, feature (a) under consideration is sufficiently clear as being fairly supported by the description (Article 84, 2nd sentence).

- 2.2 The main objection as to clarity raised by the Examining Division was that feature (a) is defined functionally. However, it is the established case law of the Boards of Appeal (G 2/88, OJ EPO 1990, 93, point 2.5 and T 68/85, OJ EPO 1987, 228, point 8.4.1) that functional features such as those defined by the result or the technical effect to be obtained may be admissible, in particular if these features are not further specified or detailed in the description so that there is no possibility for them to be otherwise defined and if, in addition, they are combined with other structural features (see also the Guidelines for examination, C-III, 2.1 and 6.5). In other words, if proper protection could not otherwise be obtained, functional features are acceptable.

In the present case the elasticity of the pliant layer is not otherwise defined in the description, eg as is usually the case by giving a modulus value, but merely by way of some examples of suitable materials, in view of the technical effect to be achieved, here the filling of the small recesses between a finger ridge and the layer surface, as clearly shown on Figure 5. In this respect, the Board observes that there is no need for the finger ridge to be strongly pressed onto the pliant layer. It is sufficient that the finger simply is placed on said layer, resulting from the interchangeable use of the terms "pressed" and "placed" (cf. description, page 4, line 13; page 6, line 29; page 7, lines 4 to 9). In addition, it is to be noticed that the finger ridge is not part of the apparatus, so that the pressure by which the finger is pressed or placed cannot actually characterise the invention.

Therefore, the filling of the small recesses must principally be ascribed to the elasticity of the pliant layer as this is actually claimed.

As a consequence, the person skilled in the art is given sufficient instructions to be able to determine adequate elasticity for the pliant layer, starting from materials commercially available and known per se for their advantageous characteristics.

- 2.3 The objection of the first instance, that the elasticity of the layer material as defined in feature (a) is not sufficiently distinguished from the disclosure of the prior art documents, is not decisive for whether claim 1 lacks clarity under Article 84 EPC. This argument is to be considered in connection with the subsequent substantive examination of novelty and inventive step, ie resulting from the *a posteriori* comparison of the claimed subject-matter with the state of the art, here documents (1) and (2). Therefore, it is not acceptable to introduce the state of the art in order to examine whether a claim is unclear.

Further, this objection of the Examining Division is no clarity objection in itself, since a correspondence with prior art may very well exist even for perfectly clear features. The Board observes that clarity initially serves the purpose of enabling a reasonable novelty search, but the clarity requirement may still be met even though the claim is very broadly or generally worded. In the present case, the Board does not find that feature (a) is so broad as to make it impossible to undertake such a novelty search. The functional feature is to be read in conjunction with the application as a whole, in which case, as referred

to by the applicant, it appears possible for the skilled person to arrive at materials suitable to achieve the claimed effect.

- 2.4 The question as to whether the invention can actually be performed on the basis of the content of the application as filed relates to Article 83 EPC and is not relevant to Article 84 EPC (T 1055/92 OJ EPO 1995, 214, points 4 and 5 and T 0068/85 supra, points 8.1 and 8.4.3). It therefore lies outside the present appeal.
3. The examining procedure having been restricted to issues related to the clarity of claim 1 of the main request, the Board considers it appropriate to make use of its power conferred by Article 111(1) EPC to remit the case to the first instance for further prosecution on the substantive issues of all requests, in order to avoid loss of an instance.

Order

For these reasons it is decided that:

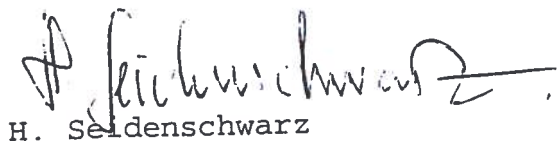
1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of the documents specified in point III above.

The Registrar:



S. Fabiani

The Chairman:



H. Seidenschwarz