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 E C I S I O N
of 6 December 1999

Case Number: T 0213/98 - 3.5.1

Application Number: 89306625.8

Publication Number: 0351103

IPC: G06K 7/06

Language of the proceedings: EN

Title of invention:
Card reader

Patentee:
Nokia Mobile Phones (U.K.) Limited

Opponent:
Framatome Connectors International

Headword:
Card reader/NOKIA

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (yes)"

Decisions cited:
-

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0213/98 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 6 December 1999

Appellant: (Opponent)
Framatome Connectors International
Tour Fiat - Cedex 16
92084 Paris La Défense (FR)

Representative:
Mayr, Claus-Michael, Dr. rer.nat
Patentanwälte Beetz & Partner
Steinsdorfstrasse 10
80538 München (DE)

Respondent: (Proprietor of the patent)
Nokia Mobile Phones (U.K.) Limited
Ashwood House
Pembroke Broadway
Camberley
Surrey GU15 3SP (GB)

Representative:
Frain, Timothy John
Nokia IPR Department
Nokia (UK) Limited
Summit Avenue
Southwood
Farnborough
Hampshire GU14 0NZ (GB)

Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 15 December 1997 rejecting the opposition filed against European patent No. 0 351 103 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. Randes
S. C. Perryman

Summary of Facts and Submissions

I. The opposition by the appellant against the present European patent was rejected by the opposition division in the decision under appeal. As granted, claim 1 reads:

"A card reader for reading a card (1) comprising information storage means and contact pads connected thereto which enable stored information to be read from the card, the card reader comprising a chassis (2) which supports a card receiving carriage (3) adapted for slidable movement between a card receiving position and a card reading position, said movement being due to card insertion, and a plurality of contacts (13a) for engaging the contact pads on the card to enable electrical connection to be made for reading the information from the card, **characterised in that**

the contacts 13(a) are provided on the chassis (2), and in that the card reader further comprises camming means (2a,2b) operable during card insertion to move the carriage towards the contacts in a direction transverse to the direction of the card insertion, and abutment means (4) spaced from and upstream of the carriage - in a direction of card insertion - , wherein the movement of the carriage to the card reading position presses the card against said abutment means causing the card to bend and thereby resiliently urge the contact pads on the card into engagement with the contacts on the chassis when the card is in the card reading position."

II. The opposition division held that the grounds for opposition mentioned in Articles 100(a) and 56 EPC did

not prejudice the maintenance of the patent as granted, having regard to i.a. the following relevant documents:

O2: US-A-4 236 667

O3: GB-A-2 198 595

O4: DE-A-3 602 668

O5: EP-A-0 263 746

III. The appellant (opponent) lodged an appeal against the decision, paid the prescribed fee and filed a statement of grounds of appeal in time. The appellant requested that the decision under appeal be set aside and that the patent be revoked. In a letter of reply the respondent requested that the appeal be dismissed and that the patent be maintained as granted. Both parties made auxiliary requests for oral proceedings.

IV. After a letter from the appellant (dated 7 May 1999) the Board summoned the parties to attend oral proceedings. These proceedings took place on 6 December 1999, in which both parties maintained their requests as mentioned under III above.

V. The appellant in the course of the appeal proceedings in summary argued as follows:

It appeared, in fact, that the invention did not provide the "resiliently urging effect" which, however, was read onto the present patent specification by the respondents. By investigating the card readers disclosed in the Figures 1 to 6 of the present patent

it could be seen that those reader arrangements did not cause "the card to bend and thereby resiliently urge the contact pads on the card into engagement with the contacts on the chassis" (cf. explaining Figures A, B and C filed with the letter of 7 May 1999). Such a bending effect was only achieved if the card was pushed with force into the card reader.

It was true that sufficiency had not been a ground for opposition. However, if the alleged effect did not exist, then an inventive step of the invention could not be supported by such non-existing effect.

If the patent specification and the wording of claim 1, nevertheless, were interpreted in the way that this claimed effect existed, then this additional resilient urging effect produced by the card did not add anything inventive to the main idea of the arrangement of claim 1, which proposed that camming means (grooves 2a, 2b in the chassis and integral projections 3a,3b of the carriage) provided in the card reader created the necessary pressure between the contacts on the chassis and the contact pads on the card. It was possible to design the camming means in the way that an additional resilient urging effect produced by the card was not necessary. Camming means as such were disclosed in the arrangement disclosed in the document O3.

Moreover, it appeared that the skilled person would easily arrive at the invention by combining the teachings of the documents O3 and O2.

According to O3 the card 7 was inserted into the carriage 6 from the side of the carriage. The card was

positioned in the carriage in the way that the leading edge of the card (i.e. "leading edge" in the sense that it was leading when the carriage with the card was moved forward towards the reading position) was urged against a wall or hook 9 at the front portion of the carriage by a spring 10 which in turn was positioned in the back part of the carriage and urged against the trailing edge of the card. The carriage with the card was then advanced forwards until the reading position of the card was reached. The leading edge of the card engaged an abutment 13 of the chassis in that position. The resilience of the spring 10, which held the card in position in the carriage during the forward movement, however, allowed the carriage to continue advancing somewhat before it engaged ramps (11,12) which compelled it to move transversely towards the contacts 4 on the chassis and engage them with adequate pressure.

In order to arrive at the invention from the arrangement of O3 it was necessary for the skilled person to make it possible to insert the card into the carriage according to O3 in the forward direction (in order to move the carriage into the reading position due to card insertion movement). Therefore the skilled person had only to remove the spring 10 from the back part of the carriage and thus open the carriage back wall for insertion of the card. It was obvious for a skilled man that the spring could be positioned as suggested in document O2, i.e. in a slot below the carriage engaging both the carriage and the chassis (Figures D and E filed with letter of 7 May 1999). The only difference between this card reader thus arrived at and the one of the invention was that the invention

had abutment means 4 which was said to produce the said "urging effect". However, since it had not been disclosed in the description of the present patent that the said "urging effect" at all in reality existed (cf. above), this feature did not add anything inventive.

VI. The respondent disagreed with the appellants on all points and argued as follows:

It was quite clear from the patent specification, in particular the drawings, that the said urging effect was, indeed, produced by the invention. The card was according to the description (cf. Figures) inserted into the reader by means of the carriage which during introduction was pressed downwards by the aid of the camming means. The trailing part of the card that remained outside of the carriage during the whole inserting operation was pressed against the abutment means 4 (which was upstream from the carriage). The leading part of the card, which was held by the carriage, however, was pushed downwards (transversely to the insertion direction). At the end of the insertion operation in the reading position the cross-section of the card, therefore, provided principally a kind of wave form (having a small amplitude). However, a card with this shape had forcibly parts that either urged resiliently in the upward or in the downward direction.

The arrangement of the present invention achieved the urging force between the contact pads on the card and the contacts on the chassis by two movement steps of the card, namely the first one by the transverse movement step caused by the camming means and the

second one by the additional movement step caused by the bending of the card. This function of the arrangement could not be compared to the single movement caused by only the camming means as shown in for example O3.

No teachings of the cited documents or any combination of them hinted, let alone taught, in the direction of the invention.

Reasons for the Decision

1. *Admissibility*

The appeal is admissible.

2. *Interpretation of the patent specification*

The sentence "causing the card to bend and thereby resiliently urge the contact pads on the card into engagement with the contacts on the chassis" in claim 1 has support in the description (see column 6, from line 25 onwards, in particular, line 55 to column 7, line 4). Thus the card according to the invention must be bent in the way that it **itself** urges the contact pads on the card in the direction of the contacts on the chassis. The Board agrees with the opinion expressed by the respondent that a card which is inserted in the card readers disclosed in the Figures 1 to 6 in the reading position always has a cross-section principally of a wave form. It is also true that a card having such a form always in the regions of the card

having convex surfaces exercises a resiliently urging force outwards from the surface. This is physically uncontestable. It is therefore apparent from the patent specification as a whole that the contact pads on the card should be positioned in those regions and that the pads should cooperate with corresponding contacts on the chassis. In the description of the patent no exact design data, such as sizes and distances between different means (e.g. details about the abutment means 4, the camming means 2a,2b or the carriage 3) have been given. This appears also not to be necessary, because such details appear to be dependent on the current measures and the design of the used components and, in particular, the card. From the figures of the patent it appears that it is quite possible to design the card reader and to position the abutment 4 and the carriage and the corresponding parts of the chassis (e.g. the measures of the carriage top portion 9, finger 11, the positions of the contact pads and the contacts) in the way that the claimed enforced engagement effect between the contact pads and the contacts on the chassis is achieved. The Board, therefore, feels that the invention meets the sufficiency requirements and that claim 1 meets the requirements of Article 84 EPC.

3. *Inventive step*

The appellant suggests that the combination of teachings of documents O3 and O2 leads to the suggested arrangement in Figure E of the letter of 7 May 1999 (see under V above). The arrangements of O3 and O2 are, however, very different from the invention and also from each other in the Board's opinion. In particular, it appears to be doubtful, whether spring 10 in the

arrangement of O3 could be compared with the one of O2, since the spring in O3 is principally designed to hold the card in position in the carriage, while the spring 60 in O2 is a forwardly biasing spring of a tray 18, thus having a quite different aim.

Moreover, the arrangement disclosed in O2 does not relate to a card reader of cards having electrical contacts, instead the cards have apertures 72, whereat contact tips 42 of resilient cantilever arms 40 fall into the apertures which are encountered by the contact tips. The bending effect of the card in accordance with the teaching of O2 is not provoked in order to improve the electrical connection (there are no electrical contact pads at all on the card), but only in order to lock the card and the tray in the reading position. The addition of such a locking feature to the arrangement in O3 is not necessary, since in O3 the card is firmly fixed in the carriage which in turn is fixed in the chassis in the reading position.

Even if the skilled person would arrive at the card reader suggested by the appellant by combining the teachings of O3 and O2, in order to arrive at the invention this card reader would have to be further changed, in that the carriage is made shorter so that the trailing end of the card is extended backwards out of the carriage. Moreover, abutment means 4 must be provided to cooperate with the free trailing end of the card. The combination of this short carriage, which must be appropriately designed, and correctly positioned abutment means in the chassis makes it possible to bend the card into the necessary wave form and enables the card to exercise the claimed

resiliently urging force.

The Board can see no hints or indications whatsoever in the cited documents O3 and O2 that would lead the skilled person in the direction of the invention.

Moreover, it appears to the Board that the two step movement of the card provided for by the invention, i.e. the engagement of the contact pads to the contacts by first moving the carriage with the aid of the camming means transversely in the direction of the contacts and then additionally the use of the bending force of the card itself to arrive at an appropriate engagement force, is a unique and sophisticated solution to the problem to achieve an appropriate pressure between the contact pads and the contacts. This solution is also quite different from the one suggested in EP-A-0 230 674 cited in the patent, (claiming priority from O4), the card reader of which according to the respondent is the starting point of the invention against which claim 1 is delimited. This card reader uses the conventional one step movement to engage the contact pads with the contact blocks. This is done with the aid of camming means 374, 375, which force the leading part of the carriage (spring tongue 373) together with the card to flex upwards, which however, causes a downward bias of the card (a concave contact surface) away from the contact blocks 309.

Also O5 has been mentioned in the appeal proceedings. This is the only document which could be so interpreted that a free part (not enclosed in a carriage) of the card (in this case the leading part) is bent. However, also in this case the card is so bent that the elastic

force generated biases the card away from the contacts of the reader. Moreover, this document does not disclose a carriage at all, the card is instead directly inserted in the reader slot. Therefore, it does not appear that the idea to the invention could be derived from the teaching of O5. Also, it is not apparent how O5 in combination with other prior art would in an obvious way lead to the invention.

4. *Assessment*

It is accordingly the Board's view that the subject-matter of claim 1 is not obvious from the prior art mentioned above. Thus the required inventive step is not lacking and the requirements of Articles 56 and 52(1) EPC are satisfied.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

M. Kiehl P. K. J. van den Berg