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D E C I S I O N
of 12 November 2002

Case Number: T 0744/98 - 3.4.1

Application Number: 94902973.0

Publication Number: 0677196

IPC: G07D 9/00

Language of the proceedings: EN

Title of invention:

Transport system for document validator

Patentee:

Mars Incorporated

Opponent:

Giesecke & Devrient GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 100(a), 52(1), 56

Keyword:

"Main request: Article 100(c) EPC Opposition grounds - lack of particularity"

"First auxiliary request: Article 56 EPC Inventive step - (yes) after amendment"

Decisions cited:

T 0176/84, T 0195/84, T 0813/93

Catchword:

-



Case Number: T 0744/98 - 3.4.1

D E C I S I O N
of the Technical Board of Appeal 3.4.1
of 12 November 2002

Appellant: Giesecke & Devrient GmbH
(Opponent) Prinzregentenstrasse 159
D-81677 München (DE)

Representative: -

Respondent: Mars Incorporated
(Proprietor of the patent) 6885 Elm Street
McLean,
Virginia 22101-3883 (US)

Representative: Musker, David Charles
R.G.C. Jenkins & Co.
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London SW1H 0RJ (GB)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 2 June 1998
rejecting the opposition filed against European
patent No. 0 677 196 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: G. Davies
Members: G. Assi
M. G. L. Rognoni

Summary of facts and submissions

- I. The appellant (opponent) lodged an appeal, received on 29 July 1998, against the decision of the opposition division, dispatched on 2 June 1998, rejecting the opposition against European patent No. 0 677 196 (application number 94 902 973.0). The fee for appeal was paid on 29 July 1998. The statement setting out the grounds of appeal was filed on 2 October 1998.
- II. Opposition had been filed against the patent as a whole and was based on Article 100(a) EPC, in particular on the ground that the subject-matter of the patent was not patentable within the terms of Articles 52(1) and 56 EPC.

In the decision under appeal, the opposition division held that the ground of opposition did not prejudice the maintenance of the patent as granted, having regard *inter alia* to the following documents:

(D1) EP-A-0 356 150,

(D2) FR-A-2 555 557,

(D5) US-A-4 054 092.

- III. Oral proceedings were held on 12 November 2002.
- IV. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed (*main request*) or the patent be

maintained on the basis of the following documents:

First auxiliary request

Claims: 1 to 9 filed during the oral proceedings
on 12 November 2002,

Description: Columns 1 to 5 filed during the oral
proceedings on 12 November 2002,

Drawings: Figures 1 to 4 of the granted patent,

Second auxiliary request

Claims: 1 to 12 filed with letter of 10 October
2002 as second auxiliary request and
submitted as third auxiliary request
with letter of 24 October 2002,

Description: Columns 1 to 5 of the granted patent
with the amendments of Pages 3, 6 filed
with letter of 10 October 2002 as second
auxiliary request,

Drawings: Figures 1 to 4 of the granted patent.

The respondent further requested that the following
question be referred to Enlarged Board of Appeal:

*"In Opposition Proceedings, if an Appeal Board intends
to reject a Patentee's submission for reasons not
presented by the Opponent, is the Patentee entitled to
hear and respond to those reasons before a decision is
made?"*

V. The wording of Claim 1 of the respondent's main request reads as follows:

"1. A document validator for validating documents of value, in which a document (17) is carried along a transport path, for example for purposes of identification, authentication, rotation, sorting or stacking, said validator comprising a transport system for carrying the document (17) along the path, said transport system comprising a plurality of parallel belts (13, 13', 14, 14') supported by pulleys (5, 5') rotating around axes (1, 11) that are supported by two plates (3, 4), the position of each of the axes (1, 11) being determined by said plates (3, 4) at either side of the belts (13, 14), characterized in that the serviceability of the belts is improved by said axes (1, 11) being individually removable from both plates (3, 4) without removing either of said plates."

The wording of Claims 1 and 9 of the respondent's first auxiliary request reads as follows:

"1. A document validator for validating documents of value, in which a document (17) is carried along a transport path, for example for purposes of identification, authentication, rotation, sorting or stacking, said validator comprising a transport system for carrying the document (17) along the path, said transport system comprising a plurality of parallel belts (13, 13', 14, 14') supported by pulleys (5, 5') rotating around axes (1, 11) that are supported by two plates (3, 4), the position of each of the axes (1, 11) being determined by said plates (3, 4) at either side of the belts (13, 14), characterized in that at least

one of said plates (4) has a slot (19) leading from an edge thereof to a position at which a said axis (1, 11) supports a said belt, said slot (19) defining a path along which said axis can be guided for insertion or removal, such that the serviceability of the belts is improved by said axes (1, 11) being individually removable from both plates (3, 4) without removing either of said plates."

"9. A method of servicing a document validator comprising a plurality of belts (13, 13'; 14, 14') carried on axles (1, 10) defining a transport system for carrying a document along a document path, said axles being supported by a pair of plates (3, 4) one on either side of the document path, at least one of said plates (4) having a slot (19) leading from an edge thereof to a position at which a said axis (1, 11) supports a said belt, said slot (19) defining a path along which said axis is guided for insertion or removal, comprising maintaining both plates in alignment, and removing only selected said axles to selectively remove a subset of said belts (13, 13', 14, 14') whilst leaving another belt or belts between said plates."

Claims 2 to 8 of the respondent's first auxiliary request are dependent.

VI. The appellant submitted that document D1 represented the closest state of the art disclosing a document validator according to the preamble of Claim 1 of the respondent's main request. Starting from D1, the technical problem to be solved by the present invention consisted in providing a document validator that could

easily be maintained, in particular with regard to replacement of worn belts.

In order to replace a belt arranged inside the supporting plates, only two alternatives could be envisaged, ie removing a plate, this solution, however, being complicated, or removing the axes without dismantling a plate. Claim 1 concerned the second alternative.

Since D1 showed a schematic mounting of the axes on the supporting plates without the details of workshop drawings, the skilled person had to look for a suitable mounting for the axes. Documents D2 or D5 showed how to insert or remove an axis supported by a pair of parallel plates without having to dismantle a plate. D2 disclosed the provision of slots in the supporting plates permitting transversal insertion or removal, whereas D5 showed the use of bearings allowing axial insertion or removal. These solutions could be used for the document validator according to D1 which left to the skilled person the choice of a suitable mounting system for the axes.

Therefore, the subject-matter of Claim 1 of the respondent's main request was not inventive having regard to the combination of D1 with either D2 or D5. The same conclusion applied to Claims 1 and 9 of the first auxiliary request for similar reasons with regard to the combination of D1 with D2.

VII. The respondent agreed that D1 represented the closest state of the art. Starting from D1, the problem to be solved was that addressed in the patent in suit concerning how to replace the belts of a document

validator, located between a pair of supporting side plates, as they became worn or broke.

D1 neither disclosed nor gave a hint towards a solution to this problem.

D2 concerned a conveyor, ie a device in a technical field far away from that of the present invention. There could be no doubt that the general technical knowledge of the skilled person in the field of document validators did not extend to conveyors. Anyhow, D2 showed rollers, which were not equivalent to the pulleys according to the invention, and a transport band, which was not driven by the rollers but merely supported by them. The rollers were supported by members having a shape different from that of the supporting plates of a document validator. Moreover, the alignment accuracy requirement of the conveyor rollers could not be compared to that of the axes of a document validator. Thus, D2 was not a relevant prior art document in the sense that it would not be consulted by the skilled person in attempting to improve a document validator.

D5 concerned a document validator, in which the belts were placed outside the supporting plates. The completely different arrangement of the belts made D5 unsuitable, in view of the stated problem, for application to the document validator known from D1, having the belts arranged between the supporting plates. It was denied that D5 gave any implicit suggestion for belt serviceability. However, to the extent that D5 might be considered to teach anything solving the problem of belt replacement, it taught to mount the belts outside the plates, thus rendering the belts immediately removable. In the context of belt replacement, D5 did not disclose removable axes. This

feature was not mentioned in the description nor inferable from the drawings. However, if the axes could be removed at all, it would be by loosening any pulleys carried on them, and then sliding the axes axially through their mounting holes and pulleys.

Therefore, the subject-matter of Claim 1 of the main request was inventive over D1 taken alone. The combination of D1 with D2 was not possible in view of the different technical fields whereas the combination of D1 with D5 implied hindsight. The same reasoning and conclusion applied equally to Claims 1 and 9 of the first auxiliary request.

The question to be referred to the Enlarged Board of Appeal was justified by the fact that the reasons summarized by the Board during the oral proceedings for rejecting the main request had not been presented by the appellant or the Board either in writing or orally at the oral proceedings.

Reasons for the decision

1. The appeal is admissible.
2. *Respondent's main request*
 - 2.1 It is not in dispute that document D1 discloses a document validator comprising all the features of the precharacterising portion of Claim 1. In particular, D1 shows a document validator comprising a transport system for carrying a document along a path. The transport system includes a plurality of parallel belts passing around pulleys rotating around axes that are

supported by two plates placed at either side of the belts.

- 2.2 With regard to D1, as the respondent submitted with letter of 19 February 1999 (see point 2.4.2), the technical problem addressed by the present invention is how to replace the belts of a document validator, located between a pair of supporting plates, as they become worn or break. This definition corresponds to the one given in the description of the patent in suit (see column 1, lines 27 to 35) and in Claim 1 (see the wording "*the serviceability of the belts is improved*" in the characterising portion).

There is no reason to change the problem according to the appellant's more general definition since the problem as presented in the specification of the patent in suit is solved and is based on a correct assessment of the prior art (T 813/93 (not published in the OJ EPO), see Reasons, point 3.2).

- 2.3 According to the respondent, there are two known solutions to this problem (see the above-mentioned letter, point 2.4.4). The first is to remove a side plate from the document validator in order to access the belts, this solution being, however, complicated. The second consists in providing a document validator with a single side plate.

- 2.4 In the appellant's opinion, another solution immediately evident to the skilled person would consist in removing the axes.

This view is convincing. Indeed, in the context of the particular geometry of a system comprising two side

plates supporting a plurality of axes on which belts are mounted, it is imperative to remove either a side plate or the axes interacting with a worn endless belt in order to replace the belt. In this respect, it is noted that there is no need to consider the possibility, going beyond the scope of the invention, that an old endless belt could be cut and replaced by a new one, the ends of which are joined together.

- 2.5 The question remains to be examined, whether the envisaged solution consisting in removing an axis supported by a pair of parallel plates without dismantling any of the plates would be technically viable for a document validator.

Document D5, discloses a document validator, like D1, comprising a transport system for carrying a document along a path. The transport system includes a plurality of parallel belts passing around pulleys rotating around axes. A pair of plates support the axes by means of shouldered bearings.

The respondent submits that D5 does not disclose removable axes. This view is not shared. Considering, for example, the axis 33 on Figure 2b, the pulleys 30a and 30b are secured on the axis by means of screws. Shouldered bearings 34a and 34b are accommodated in holes of the supporting plates 20a and 20b. The bearings are prevented from axial movement due to the presence of the pulleys 30a and 30b. On the other hand, considering the axis 18, it is also possible to prevent the bearings 19a and 19b from axial movement by means of suitable elements secured on the axis by screws, next to the bearings. It is clear to the skilled person that the said arrangement corresponds, from a

functional point of view, to that according to Figure 1 of the patent in suit, showing an axis which can be axially removed without dismantling any of the plates.

The respondent also submits that D5 leads away from the present invention because it teaches to place the belts outside the supporting plates. This argument is, however, irrelevant for answering the posed question which merely concerns the feasibility of a technical feature (removable axes) in a document validator. Moreover, as regards the belts, it is correct that they are not between the supporting plates. However, the replacement of the O-rings 36 mounted on the roller 35 placed between the supporting plates 20a and 20b by means of the axis 33 poses the same problem as replacing belts.

In view of the foregoing, the above-mentioned question is answered in the affirmative.

- 2.6 Summarizing, starting from the document validator according to D1 which does not disclose any particular system for supporting the axes on the plates, the skilled person, having to solve the problem of replacement of the belts placed between the supporting plates, knows that either a plate or the axes must be removed. These alternatives are not disclosed by D1 but necessarily result from the geometry of the arrangement consisting of the plates, axes and belts. If the former choice is disregarded as being complicated, the skilled person has to verify the technical feasibility of the latter. D5 shows that, in a document validator, an axis can be removed without dismantling any of the plates.

The characterising portion of Claim 1 of the patent as

granted simply recites the features that the axes are individually removable from the plates without removing either of said plates. Since the skilled person can arrive at this solution without any inventive skill having regard to D1 and D5, it is concluded that the claimed subject-matter is not patentable within the terms of Articles 52(1) and 56 EPC.

The respondent's main request is not allowable.

3. *Respondent's first auxiliary request*

3.1 The appellant has not raised any objection against the amendments to the claims or the description. There is no reason to take a different view.

3.2 Claim 1 differs from Claim 1 of the main request in that a particular way of removing or inserting the axes is claimed. This consists in "*at least one of said plates (4) having a slot (19) leading from an edge thereof to a position at which a said axis (1, 11) supports a said belt, said slot (19) defining a path along which said axis can be guided for insertion or removal*".

3.3 Document D2 concerns a conveyor, more precisely a device permitting the quick replacement of the rollers of the conveyor. It shows how to insert or remove a roller supported by a pair of parallel plates without having to dismantle a plate. In particular, it discloses the provision of slots in the supporting plates permitting transversal insertion or removal.

It is, however, in dispute whether this document forms part of the state of the art to be considered in the

present case when assessing inventive step, the appellant taking the view that D2 is a relevant prior art and the respondent considering that this document, belonging to a completely different technical field, would not be consulted by the skilled person in attempting to improve the document validator known from D1.

- 3.3.1 The question of neighbouring technical fields has been considered in the case law of the boards of appeal. In particular, attention is drawn to the following general principles.

In decision T 176/84 (OJ EPO 1986, 50), the board held that *"the state of the art to be considered when examining for inventive step includes, as well as that in the specific field of the application, the state of any relevant art in neighbouring fields and/or a broader general field of which the specific field is part, that is to say any field in which the same problem or one similar to it arises and of which the person skilled in the art of the specific field must be expected to be aware"* (see Headnote, underlining added).

Decision T 195/84 (OJ EPO 1986, 121) confirmed this opinion, pointing out that *"the state of the art to be considered when examining for inventive step includes, as well as that in the specific field of the application, the state of any relevant art in neighbouring fields and the state of the art in a non-specific (general) field dealing with the solution of any general technical problem which the application seeks to solve in its specific field. Such solutions of*

general technical problems in non-specific (general) fields must be considered to form part of the general technical knowledge which a priori is to be attributed to those skilled persons versed in any specific technical field" (see Headnote, underlining added).

The principles laid down rely on the criteria of the technical problem to be solved and the general technical knowledge of the skilled person.

As regards the former criterion, since the problem concerns the "*serviceability of the belts*" of a document validator, it is denied that the skilled person would look for a solution in document D2 which refers to a conveyor, *ie* a device having a completely different function and comprising a transport band rather than belts within the meaning given to this term by the patent in suit, the transport band being supported by rollers which are not equivalent to the pulleys of a document validator. Moreover, the alignment accuracy of the rollers cannot be compared to that of the axes of a document validator.

Even though the problem addressed by the patent in suit may be defined, in more general terms, as improving the maintenance of the transport system of the document validator, the meaning of "*maintenance*" is clearly different in D2 and in the context of the invention. Indeed, whereas according to D2 each roller can be replaced without having to dismantle the supporting structure and the transport band, in the present invention the belts must be replaced, when they become worn or break.

With regard to the latter criterion, the Board

considers that the general technical knowledge of the skilled person in the field of document validators does not comprise technical details concerning conveyors.

3.3.2 Therefore, it is concluded that D2 is not a relevant state of the art document for assessing inventive step.

3.4 None of the other documents considered by the first instance discloses a document validator with the above-mentioned features (see point 3.2 above).

With letter of 17 October 2002, the appellant received the amended claims according to the first and second auxiliary requests submitted by the respondent with letter of 10 October 2002. Claims 5 and 15 of the first auxiliary request as well as Claims 1 and 12 of the second auxiliary request recited the above-mentioned features. The appellant, however, has failed to produce relevant evidence, although the search report did not cite any document for the application Claim 6 concerning the provision of a slot in at least a supporting plate.

3.5 The mechanical complexity of a document validator, which includes many parts assembled in a very small space (see, for example, D5), does not permit to conclude, even on a *prima facie* basis, whether the skilled person would have envisaged to transversally remove or insert an axis by the provision of a slot in at least a supporting plate or whether such a solution might imply disadvantages which would have led away from it.

3.6 For these reasons, in the absence of relevant evidence, the subject-matter of Claim 1 is considered to involve

an inventive step. The same applies to Claim 9.

The respondent's first auxiliary request is allowable.

4. *Respondent's request for referral of a question to the Enlarged Board of Appeal*

4.1 The respondent's question is to be seen in relation to the main request which is not considered as allowable.

4.2 Pursuant to Article 113(1) EPC, the decisions of the EPO may only be based on "grounds" or "evidence" on which the parties have had an opportunity to present their comments. Article 113(1) EPC is to be understood as meaning that the facts, the legal considerations and the logical reasoning, which have led to a decision, must be given.

4.3 In the present case, the main request is refused because of lack of patentability in accordance with Article 100(a) EPC (see point II above), in particular because the subject-matter of Claim 1 does not involve an inventive step (Articles 52(1) and 56 EPC), having regard to the evidence relied upon by the appellant and represented by documents D1 and D5. In appeal proceedings, before the decision was issued, the respondent indeed had sufficient opportunity to comment on the said ground of opposition and evidence, both in writing (see letters of 19 February 1999, 10 October 2002 and 24 October 2002) and orally at the oral proceedings on 12 November 2002.

4.4 As regards the logical reasoning, the posed question implies that the Board's reasons for refusing the main request differ from those presented by the appellant.

In other words, the respondent draws attention to the importance of the right to be heard before an unfavourable decision is issued, which is based on new arguments.

The Board denies relying on new arguments, because the logical reasoning contained in the present decision with regard to the main request essentially corresponds to that submitted by the appellant with the exception that the technical problem to be solved has been defined, in agreement with the respondent, as mentioned in the patent in suit.

- 4.5 For these reasons, the posed question is not referred to the Enlarged Board of Appeal.

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 as amended with the following documents according to the respondent's first auxiliary request:

Claims: 1 to 9 filed during the oral proceedings on 12 November 2002,

Description: Columns 1 to 5 filed during the oral proceedings on 12 November 2002,

Drawings: Figures 1 to 4 of the granted patent.

3. The request for referral to the Enlarged Board of Appeal is refused.

The Registrar:

The Chairman:

R. Schumacher

G. Davies