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**Datasheet for the decision  
of 4 May 2007**

**Case Number:** T 1557/05 - 3.4.03

**Application Number:** 99304978.2

**Publication Number:** 0967851

**IPC:** H05K 13/04

**Language of the proceedings:** EN

**Title of invention:**

Electric component supplying apparatus

**Patentee:**

Fuji Machine Mfg. Co., Ltd.

**Opponent:**

Siemens AG

**Headword:**

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**Relevant legal provisions:**

EPC Art. 114(2)

Art. 10a RPBA

**Keyword:**

"Appeal admissible - yes"

"Replacement evidence filed on appeal - not more relevant -  
not admitted"

**Decisions cited:**

T 0389/95, T 0611/90

**Catchword:**

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Case Number: T 1557/05 - 3.4.03

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.03  
of 4 May 2007

**Appellant:** Siemens AG  
(Opponent) Abteilung CT IP SD  
Postfach 22 16 34  
D-80506 München (DE)

**Representative:**

**Respondent:** Fuji Machine Mfg. Co., Ltd.  
(Patent Proprietor) 19, Chausuyama,  
Yama-machi  
Chiryu-shi,  
Aichi-ken (JP)

**Representative:** Murray, Elisabeth Anne  
Mathys & Squire  
120 Holborn  
London EC1N 2SQ (GB)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
25 October 2005 concerning maintenance of  
European patent No. 0967851 in amended form.

**Composition of the Board:**

**Chairman:** R. G. O'Connell  
**Members:** V. L. P. Frank  
J. Van Moer

## Summary of Facts and Submissions

- I. This is an appeal by the opponent as sole appellant against the maintenance of EP 967 851 in amended form (Article 102(3) EPC).

Grounds of opposition were lack of novelty and of inventive step (Articles 100(a), 54 and 56 EPC).

- II. The independent claims of the respondent proprietor's main claim request are as maintained by the opposition division and read:

"1. An apparatus (32, 600) for feeding a plurality of electric-component tapes each of which includes a carrier tape and holds a plurality of electric components in a lengthwise direction of the carrier tape, and supplying, from said each electric-component tape, the electric components, one by one, to an object device, the apparatus comprising:

a feeding device (90) which feeds a first electric-component tape in a lengthwise direction thereof; and

a connection-portion detecting device (150/604/644/660/680) which detects a connection portion where a terminal end portion of the first electric-component tape being fed by the feeding device is connected to an initial end portion of a second electric-component tape;

wherein the connection-portion detecting device comprises a metal detector (150/604/644/60/680) which detects a metallic connection member (100) which connects the terminal end portion of the

first electric-component tape to the initial end portion of the second electric-component tape."

"13. An apparatus (32, 600) for feeding a plurality of electric-component tapes each of which includes a carrier tape and holds a plurality of electric components in a lengthwise direction of the carrier tape, and supplying from said each electric-component tape, the electric components, one by one, to an object device, the apparatus comprising:  
a feeding device (90) which feeds a first electric-component tape in a lengthwise direction thereof;  
a connection-portion detecting device (150/604/644/660/680) which detects a connection portion where a terminal end portion of the first electric-component tape being fed by the feeding device is connected to an initial end portion of a second electric-component tape;  
an input device (538) which inputs identification information identifying the second electric-component tape;  
a connection-relating-input judging device (500, S1, S2, S3, S4, S6, S7) which is connected to the input device and which judges whether the identification information has been input by the input device in relation with the connection of the first and second electric-component tapes to each other;  
and a non-input informing device (532, 534, S5, S8) which informs, when the connection-relating-input judging device judges that the identification information has not been input by the input device, an operator of a fact that the identification information has not been input by the input device."

"19. An apparatus (32, 600) for feeding a plurality of electric-component tapes each of which includes a carrier tape and holds a plurality of electric components in a lengthwise direction of the carrier tape, and supplying, from said each electric-component tape, the electric components, one by one, to an object device, the apparatus comprising:

a feeding device (90) which feeds a first electric-component tape in a lengthwise direction thereof;

a connection-portion detecting device (150/604/644/660/680) which detects a connection portion where a terminal end portion of the first electric-component tape being fed by the feeding device is connected to an initial end portion of a second electric-component tape; and

an electric-component counter (512) which counts a number of electric components supplied by the apparatus after the connection portion detecting device detects the connection portion."

"28. A method of feeding a plurality of electric-component tapes each of which includes a carrier tape and holds a plurality of electric components in a lengthwise direction of the carrier tape, supplying, from said each electric-component tape, the electric components, one by one, to an electric-component mounting system (16), and operating the electric-component mounting system to sequentially mount the electric components at respective positions on a print-wired board, thereby assembling an electric circuit on the

print-wired board, the method comprising the steps of:

feeding said plurality of electric-component tapes including two electric-component tapes one of which holds a first sort of electric components and the other of which holds a second sort of electric components different from the first sort of electric components, supplying, from each of said two electric component tapes, the electric components of a corresponding one of the first and second sorts, one by one, to the electric-component mounting system, connecting, to a terminal end portion of a first one of said plurality of electric-component tapes that currently supplies the electric components to the electric-component mounting system, an initial end portion of a second one of said plurality of electric-component tapes that holds the electric components of a same sort as the electric components held by the first electric-component tape,

detecting a connection portion (103/642/672) where the terminal end portion of the first electric-component tape and the initial end portion of the second electric-component tape are connected to each other, and

obtaining a remaining amount of the electric components which currently remain on the second electric-component tape, based on the number of the electric components supplied from the second tape after the detection of the connection portion and an initial number of the electric components which are initially present on the second tape connected to the first tape."

III. The following prior art document *inter alia* was cited in the opposition procedure:

D4: US 4 610 083 A

On appeal the appellant opponent filed the following new documents:

D6: Masuki Seno, Electronics packaging technology, vol. 8, no. 8, pp. 48 - 56 (1992) accompanied by a complete English translation, references are made to the translation.

D7: US 4 653 664 A

D8: US 3 967 994 A

D9: US 6 817 216 B

D10: DE 42 10 139 C

D11: G 93 14 832.1

IV. In the decision under appeal the opposition division found *inter alia* that document D4 represented the closest prior art. The subject-matter of the independent claims differed from this prior apparatus by a connecting-portion detecting device which detected a connecting portion between two electric-component tapes. None of the prior art documents disclosed or suggested a connection-portion detecting device. This held true even when considering that an apparatus for

connecting the respective end portions of tapes was *per se* known (point 3 of the reasoning).

V. The appellant opponent argued essentially as follows:

- The late filing of document D8 was not a delaying tactic. This document was filed as soon as possible, namely together with the statement of grounds of appeal, as soon as the appellants became aware of it. This arose from a study of document D9, published after the oral proceedings before the opposition division; D8 was cited therein as relevant prior art. Documents D6 and D7 were filed in order to present a complete case against the subject-matters of all the dependent and independent claims of the patent.
- Document D8 disclosed a method for detecting splices used for joining webs - ie tape-like products - in a manufacturing process. The skilled person would understand that the webs referred to in this document could also hold electric components. Consequently, document D8 disclosed all the features of the apparatus of claim 1.
- The apparatus of claims 1, 13 and 19 and the method of claim 28 did not involve an inventive step over the combination of documents D6 to D8. Document D6 which disclosed electric-component mounting production lines involving electric-component tapes should be regarded as the closest prior art from which the assessment of inventive step should start. To reduce the unproductive time required for changing tapes, the skilled person would learn from document D8 that successive tapes should be spliced

together and the connection portion be detected by a metal detector and would apply this teaching to the apparatus disclosed in D6.

- Document D9, the first page of a postpublished US patent directed to electric-component tape handling, cited document D8 as a relevant prior art in this field of technology.
- Documents D10 and D11 were cited in reaction to the first and second auxiliary claim request filed by the respondent proprietor.

VI. The respondent proprietor argued essentially as follows:

- Documents D6 to D11 should not be admitted for procedural reasons. All the features of the independent claims were already present in the first instance proceedings in the proprietor's response of February 2003 to the notice of opposition. On appeal in December 2005 the appellant merely filed new arguments based on new documents without indicating why the decision of the opposition division was incorrect. This amounted to a new opposition and was a delaying tactic of the opponent.
- The opposition division regarded document D4 as the closest prior art, but found that it did not disclose a connection portion detector. Neither D6 nor D7 disclosed such a detector and did not even disclose a connection portion. Document D8 belonged to a different technical field and addressed a different problem to the one of the patent, namely quality control of the manufactured product. The

metal detector disclosed in it was not suitable for electric components, since a microwave metal detector would destroy such components. Documents D6 to D8 were therefore less relevant than the documents already considered by the opposition division and should not be admitted into the appeal proceedings.

VII. At the oral proceedings before the board the parties made the following requests:

- the appellant opponent: that the decision under appeal be set aside and that the patent be revoked.
- the respondent proprietor: that the appeal be dismissed or in the alternative that the patent be maintained in accordance with the first or second auxiliary requests.

## **Reasons for the Decision**

### 1. *Admissibility of the appeal*

1.1 The appeal addresses the result but not the reasoning of the decision under appeal. It does not refer to the evidence on which that decision relies, but develops instead new arguments based on three documents D6 to D8 filed for the first time on appeal. The arguments are based on the same ground of opposition as the one on which the opposition was based, namely Article 100(a) EPC and in particular, lack of novelty and of inventive step.

1.2 The first issue to be decided is whether under these circumstances the appeal is admissible. Other boards of appeal have found an appeal based on a fresh case admissible when the grounds for opposition remained the same (eg T 389/95, point 1 of the reasons; T 611/90, OJ 1993, 50, point 2 of the reasons). Apart from the *ratio* developed in these decisions the present board is additionally persuaded by the pragmatic consideration that to do otherwise would risk inducing an appellant disingenuously to challenge the reasoning of the decision of the first instance department for formal procedural reasons only, even when their core interest lies in securing a review of the patent grant in the light of the new evidence.

1.3 There is moreover no doubt that the case presented with the statement of grounds of appeal, albeit based on what might be called replacement evidence, is a reasoned case meeting the requirement of Article 108 EPC, last sentence. As the other requirements for admissibility are also satisfied, the board considers the appeal admissible.

## 2. *Admissibility of Documents D6 to D9*

2.1 Although Article 10a (1)(a) RPBA stipulates that the appeal proceedings shall be based *inter alia* on the notice of appeal and the statement of grounds of appeal filed pursuant to Article 108 EPC, this does not imply that all evidence filed with the statement of grounds of appeal is automatically *admissible evidence* in the appeal proceedings and that the principles expressed in Article 114 EPC no longer apply. The board retains the discretionary power given to it by Article 114(2) EPC

to disregard facts or evidence not submitted in due time.

2.2 The respondent proprietor argued that documents D6 to D8 had not been submitted in due time. Absent a reason for the three year delay between the opponent having been made aware of the amended claims and the filing of these new documents, this delay appeared to be tactical. The patent was already nine years old and further delay by virtue of a remittal to the first-instance department would be unconscionable.

2.3 The appellant opponent explained that he became aware of document D8 when studying the post-published document D9 (published 16 November 2004, ie after the oral proceedings before the opposition division), the former being cited as prior art in the latter. He then filed D8 at the first available opportunity, ie with the statement of grounds of appeal. Documents D6 and D7 were filed to present a complete case against all the claims of the patent, so that the case was presented as succinctly as possible.

2.4 The board finds this explanation of the events plausible and absent evidence sees no reason to impute tactical abuse to the appellant. Nonetheless the board agrees with the respondent proprietor that the response to the claim amendment is objectively belated, ie not submitted in due time and it is the established jurisprudence of the boards that belated evidence is not admitted unless it is more relevant than that already on file.

2.5 The narrative of the appellant opponent that he accidentally discovered document D8 by the reference to it in document D9, while document D8 itself was published nearly 30 years ago, raises a doubt as to its real relevance for the technical field in question. As pointed out by the respondent proprietor, document D8 was not cited in the examination of D9 by the USPTO but by the applicant himself together with nearly twenty other prior art documents.

2.6 The opposed patent is about **joining** electric-component tapes. Electric-component tapes are tapes carrying electric-components for mounting them on printed circuit boards in an automatic manner. The takt time for mounting an electric component is about 0.48 sec/piece (D6, page 4, 1<sup>st</sup> paragraph), ie more than 7000 components per hour. It is therefore very important to reduce the down-time during which a new tape is inserted into the apparatus. The opposed patent addresses this problem and proposes connecting the end portion of one tape with the beginning of the next and detecting the connection portion. This feature is common to all the independent claims and can for the purpose of the following analysis be regarded as the "core" of the invention.

2.7 Document D8 is the only document disclosing a connection-detecting device. For this reason it will be discussed before the other documents.

2.7.1 It discloses a method for maintaining continuity in a manufacturing process employing one or more webs provided in the form of shorter raw material webs. The raw material webs are spliced together end-to-end by

means of a metal splicing tape, and those web portions containing splice material are detected at a later stage of the process by a microwave detector. The detector is provided in the form of a slotted microwave cavity through which the web may be continuously passed to detect the splicing tape in the web (Abstract).

- 2.7.2 As the respondent patent proprietor correctly pointed out, the method of D8 is a quality control method of the finished product, since it aims to detect the portions of the web which contains the splicing tape even when the splice cannot be seen from the outside. The concrete example given in document D8 is the manufacture of pre-packaged adhesive bandages which are formed from several thin web strips, assembled and cut into individual bandages. However, splice portions have to be removed from the finished product, since it is not acceptable that a metallic splice be part of a bandage (column 1, lines 7 to 55).
- 2.7.3 The appellant opponent submitted that document D8 took away the novelty of the apparatus of claim 1, as the skilled person would understand that the webs referred to in this document could also hold electric components, equating thus the webs of D8 with the electric-component tapes of the opposed patent.
- 2.7.4 Claim 1 is directed to an apparatus (suitable) for **feeding** a plurality of electric-component tapes and **supplying** from said tape the electric components to an object device. However, the apparatus disclosed in D8 is neither suitable for feeding electric-component tapes, since such tapes have at least the thickness of the components they carry which is much larger than the

- thickness of a thin web strip, nor, and this is the crucial difference, for supplying electric-components to an object device, since there is no disclosure in D8 on how this could be done. The board has no doubt therefore that the disclosure of document D8 does not take away the novelty of the apparatus of claim 1.
- 2.7.5 The relevance of a combination of document D8 with documents D6 or D7 will be discussed after having dealt with these documents.
- 2.8 The opposition division found in the contested decision that document D4 was the closest prior art, but that it failed to disclose a connecting-portion detecting device (see point 3 of the reasoning). The subject-matter of the independent claims was therefore considered to involve an inventive step, as none of the other prior art documents disclosed or suggested such a device.
- 2.9 It has thus to be considered whether documents D6 to D8 are more relevant, ie whether they disclose more features of the present invention, than D4 does or otherwise come closer to suggesting the invention.
- 2.10 Document D6 is a review article on taping techniques. Although it discloses a "W parts cassette" that facilitates the supply of two tapes to a space conventionally occupied by a single component cassette, it does not disclose that both tapes are connected to each other or any connection-detecting device (page 12 and Figure 3). It follows that document D6 does not disclose more features than document D4.

- 2.11 Document D7 also relates to a taping apparatus and discloses that a mark is provided in the vicinity of the end of the tape as a residual quantity indicator. When this mark is detected an alarm sounds to inform the operator that a new reel cassette should be prepared before the electronic components on the tape run out. This reduces the down-time of the apparatus, since the replacement tape can be prepared in advance (Abstract and column 1, lines 29 to 41). This document however does not disclose or even suggest joining two tapes, although it is concerned with the same problem as the opposed patent, namely to reduce the down-time.
- 2.12 The skilled person would not have considered document D8 when addressing the problem of reducing the down-time of an automatic electric-component mounting apparatus, since the technical field of this document, namely manufacture of web products, is far away from the highly sophisticated one of automatic mounting devices. Moreover, a skilled person would not consider the metal detector disclosed in document D8, namely a slotted microwave cavity, for detecting a metal connector in a tape carrying electric components, since the microwave radiation would destroy them. The fact that this document was cited by the applicant of D9 as prior art in the proceedings before the USPTO does not alter the board's view on this issue. This document therefore does not disclose a connection-detecting device that a skilled person would combine with the apparatus disclosed by documents D4, D6 or D7.
- 2.13 The board considers, for the above mentioned reasons, that documents D6 to D9 are not more relevant than the evidence already on file. These documents are therefore

disregarded (Article 114(2) EPC). The appellant opponent's case against the main claim request is based solely on documents D6 to D8, documents D10 and D11 having been cited only against the first and second claim requests. It follows therefore that the appellant's case on appeal is not substantiated.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

Registrar

Chair

V. Commare

R. G. O'Connell