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D E C I S I O N
of 3 December 1998

Case Number: T 0952/94 - 3.5.1

Application Number: 89905828.3

Publication Number: 0411044

IPC: G06K 1/12

Language of the proceedings: EN

Title of invention:
Label generation apparatus

Applicant:
ENGINEERED DATA PRODUCTS, INC.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no)"

Decisions cited:
-

Catchword:



Case Number: T 0952/94 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 3 December 1998

Appellant: ENGINEERED DATA PRODUCTS, INC.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 7 July 1994
refusing European patent application
No. 89 905 828.3 pursuant to Article 97(1) EPC.

Composition of the Board:

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

Summary of Facts and Submissions

- I. European patent application No. 89 905 828.3 (priority date 22 April 1988) was published under international publication no. WO 89/10601 and was refused by the examining division for the reason of lack of inventive step.
- II. The decision refusing the application was dated 7 July 1994; on 6 September 1994, the applicant filed a notice of appeal against the decision and paid the prescribed appeal fee on the same day. A written statement setting out the grounds of the appeal was filed on 15 November 1994. Oral proceedings took place upon request of the appellant on 3 December 1998.
- III. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis, as main request, of claim 1 submitted at the oral proceedings on 3 December 1998 and claims 2 to 18 submitted on 12 November 1996, or of claims 1 to 14 of an auxiliary request submitted on 3 December 1998.

Claim 1 of the main request reads as follows:

1. Apparatus for producing a series of color coded labels, each label in said series of labels containing a set of indicia individual to said label and varying from one label to the next according to a user defined ordering, characterised by:

means (101, 111, 114) for enabling the user to define a label template containing matter which is replicated in all labels of said series and also containing one or more writable indicia fields;

means (101) for storing data representing said label template;

means (101, 112, 114) for enabling the user to define arbitrarily the characteristics and ordering of the indicia which are to be produced for said series of labels and, in response thereto, for automatically generating data representing a set of indicia for one or more writable indicia fields of each of said labels in said series, wherein each successive set of indicia is individual to a label and in accordance with the arbitrary, user defined ordering;

means (101) for color coding said indicia according to a predetermined color to indicia correspondence;

means (101, 113) for combining said data representing each of said sets of indicia and said color coding with said label template data to produce a data file defining every label of said series; and

means (103, 105, 107) responsive to said data file for automatically printing each of said individual labels of said series onto label media.

Claim 1 of the auxiliary request reads as follows:

1. Label generating apparatus for producing a series of color coded labels, each label in said series of labels containing a set of indicia individual to said label and varying from one label to the next according to a user defined ordering, characterised by:

means (101, 111, 114) including a graphics software package for enabling the user to define a label template containing invariant textual or visual matter which is replicated in all labels of said series and also containing one or more writable indicia fields;

means (101) for storing data representing said label template;

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means (101, 112, 114) for enabling the user to define arbitrarily the characteristics and ordering of the indicia which are to be produced for said series of labels, said means allowing the user to define any arbitrarily selected sequence as the ordering and being operative to generate automatically by calculation data representing a set of indicia for one or more writable indicia fields of each of said labels in said series, wherein each successive set of indicia is individual to a label and in accordance with the arbitrary, user defined ordering;

means (101) for color coding said indicia according to a predetermined color to indicia correspondence to produce a duplication of said set of indicia in colour form;

means (101, 113) for combining said data representing each of said sets of indicia and said color coding with said label template data to produce a data file defining every label of said series; and

means (103, 105, 107) responsive to said data file for automatically printing each of said individual labels of said series onto label media.

- IV. In the course of the appeal procedure, the Board introduced, ex officio, the document "The Print Production Handbook" of David Bann (Quarto Publishing Ltd, London (GB), 1986), pages 32, 33, and 108 and extracts of a manual of the SPI © Software Products International (Deutschland) GmbH of 1984 for the integrated software package OPEN ACCESS®. In addition, the Board considered, as further relevant pieces of prior art, the Japanese application JP-A-5998229, a translation of which had been filed by the appellant, and the colour printers as well as the type of magnetic tape cartridge labels described already in the application as forming part of the prior art. The Board

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informed the appellant that having regard to the state of the art neither request met the requirements of inventive step.

- V. The appellant submitted extracts of depositions of two inventors taken under the law of the State of Colorado (US) to explain and to substantiate the actual background and the circumstances under which the alleged invention was conceived. According to the appellant and the testimony given in these depositions, the inventors had not been able, despite intensive and world-wide search, to find a label printing system on the market which satisfied the technical specifications at an acceptable price. The label printing system developed by the inventors was the first to meet these requirements and proved an immense commercial and technical success.

Although it was not easy to find a colour printer of sufficiently high printing quality, the inventors were able to use standard components, except for the software which had to be developed separately. It would be difficult, if not impossible, to define precisely which of the many steps which led to the invention provided a more important contribution to the prior art than other steps, but the sum of all these steps resulted in an important technical progress in the field of label printing. There were several advantages and features which distinguished the invention from the prior art in a non-obvious manner.

For the first time, the customer was allowed to specify the ordering and the characteristics of the indicia to be printed onto the label media in an arbitrary manner. The apparatus would even be able to generate and create indicia automatically on the basis of a selected algorithm. Furthermore, colour coding was a format

advantageous under security aspects since color marks would be less prone to complete illegibility as a result of an event damaging the label, than other coding formats. The same object was served by the duplication of indicia in colour form.

None of the prior documents cited by the examining division or by the Board disclosed these features in combination. Software packages such as OPEN ACCESS® only allowed black-and-white printing of address labels, which were clearly not suitable to label magnetic tape cartridges, for which the claimed apparatus could print suitable labels. Furthermore, the prior art allowed only the printing of the indicia in the form in which they had been input; in contrast to the invention, the prior art could not be said to automatically generate or create indicia.

The *Print Production Handbook* cited by the Board did indeed correctly reflect the state of the art, but those laser and ink-jet printers were not colour printers and did not allow the arbitrary definition and automatic generation of the indicia.

A synergistic effect achieved by the combination of the features distinguishing the invention from the prior art could be said to reside in the considerable increase in the flexibility of the apparatus with regard to the format and characteristics of the printable indicia.

Reasons for the Decision

1. The appeal is admissible.
2. The appellant has satisfied the Board that the amendments to the claims result only in subject-matter already contained in the application as originally filed so that the requirements of Article 123(2) EPC are considered to be fulfilled.
3. Novelty of the subject-matter claimed is not in question since none of the prior art documents on file describes the printing of colour-coded labels using data processing methods for generating the label information.
4. The main issue left is, therefore, whether the requirements of inventive step pursuant to Article 56 EPC are met. Having regard to the more limited character of the auxiliary request, compared to the subject-matter of claim 1 of the main request, it is convenient to examine the auxiliary request in the present case first.
 - 4.1 Claim 1 according to the auxiliary request is directed to a label generating apparatus comprising means for colour coding indicia to produce a duplication, in colour form, of the set of indicia generated for each label of the series of colour coded labels. Such a duplication in colour form is particularly useful for producing labels of the type shown in figure 4 of the application, a prior art label well-known for use with magnetic tape cartridges. These labels having the same indicia information printed on in colour-coded form and in numbers are significantly different from normal address labels and also different from those labels shown or described in the prior art documents cited in

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the European search report; with the exception of document JP-A-5998229 which discloses the use of coded numbers and colour-coded marks for labels. However, this document does not indicate that the colour-coded marks are duplications of other indicia.

Despite being only a short summary of printing technology lacking technical detail, the *Print Production Handbook* clearly discloses that computers and electronic data processing had already entered into the printing field in 1986. It describes furthermore that a suitably programmed laser (or ink-jet) printer controlled by digital data stored on a computer tape or disk had been used for printing a variety of products as for example personalized items and labels. The Board has no doubt that this handbook adequately summarizes the state of printing art in 1986.

The appellant referred to decision T 422/93 (OJ EPO 1997, 024) and in particular its second headnote reading "Since the technical problem addressed by an invention must be so formulated as not to anticipate the solution, the skilled person to be considered cannot be the appropriate expert in the technical field to which the proposed solution belongs if this technical field is different to the one considered when formulating the technical problem." The appellant's argument was that in the present case the problem arose in the field of commercial label manufacture, and in this field computer controlled printers were not used. However given that the prior art showed that computer controlled printers were already being used to provide labels for magazines and journals, that is in a commercial context, the Board cannot accept that the skilled person in the field of commercial label manufacture was not aware at least of the possibility of using computer controlled printers.

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Thus the fact that the said handbook clearly points to the usefulness of laser and ink-jet printers for printing, on the basis of digital data stored on magnetic tapes or disks, labels and personalized items in general, and therefore essentially all sorts of labels, leads the Board to the conclusion that the prior art as disclosed in this handbook is the appropriate starting point for assessing inventive step.

The submissions of the appellant that the inventors had not been able to find suitable printing machines anywhere in the world do not contradict this conclusion since the costs for such printing machines and the achievable printing quality were apparently important factors determining the purchasing decisions of the inventors. Their futile search was thus not necessarily the result of lack of technology but could well be the result of the then too high price level for suitable equipment.

- 4.2 The handbook gives a short survey only on laser and ink-jet printing systems; actually, in terms of claim 1 of the auxiliary request, it merely discloses, as prior art, an apparatus for producing a series of labels, each label in said series of labels containing a set of indicia individual to said label and varying from one label to the next according to a user defined ordering and the apparatus comprising means for producing a data file defining every label of said series and means responsive to said data file for automatically printing individual labels onto a label media.

Therefore, all other features of claim 1 have to be treated as novel relative to this piece of prior art. In addition, the handbook discloses clearly that computers and electronic data processing were already then used with printing machines.

Consequently, a person skilled in the field of printing should have been aware and informed about computer technology and in particular about software systems allowing the processing of textual and graphical elements as well as about database systems offering tools of direct interest for producing printing products. A skilled person not having sufficient knowledge of his own in such fields would be expected to consult a person having sufficient knowledge in the field of programming.

4.3 Starting from said prior art, such a skilled person would consider it obvious to print prior art labels of the type shown in figure 4 of the application by means of a laser or ink-jet printer, assuming that no particular specifications concerning quality, sizing, price, etc. had to be met. It should be noted that the definition given in claim 1 does not exclude an embodiment where the apparatus is used only for producing predrafts of label designs.

4.4 In view of such a printing product, the features of claim 1 defining that the label generating apparatus is suitable for producing a series of colour coded labels, and comprises means for colour coding said indicia according to a predetermined colour to indicia correspondence to produce, for each label, a duplication of the set of indicia in colour form are only a direct and necessary, and thus obvious consequence of the printing problem posed. The appellant's argument that no suitable colour printers

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were available at that time cannot be accepted by the Board since a variety of different type of computer-controlled colour printers, albeit relatively expensive and having relatively low printing quality, were widely available at that time.

- 4.5 In view of the disclosure given in the description and drawings, the remaining part of claim 1 can only be interpreted as defining software features for generating the data file in response to which the printing means automatically print the labels. This file thus can be understood essentially as a print file as usually generated by the computer for output to the printer. The software features are found in the functions of standard textprocessing, graphics, calculation and database programs or in integrated standard software packages such as the cited OPEN ACCESS® package.

Since printing any more complex type of personalized item or label requires the definition, generation and storage of invariant and variable textual and graphical elements, the skilled person would turn to the well-known standard software packages offering a set of useful and necessary data processing functions or, if writing his own programs, he would take such well-known functionality into consideration for implementing it at least partly in his own program. In particular, it is normal programming practice, and this practice has been exercised in software packages like OPEN ACCESS®, to keep data and data format definitions as flexible as possible and to enable the user to generate data automatically where feasible. A further common programming practice is to define value-colour correspondences for example to allow for a flexible device-independent colour definition. As exemplified by the software package OPEN ACCESS®, it is also common

practice to store the invariant label information in a separate template file which is later merged with the file containing the individual sets of indicia to produce the final print file. The software features defined in claim 1, therefore, are within the normal programming practice and are thus obviously derivable from the prior art by the skilled person.

The appellant argued that, since none of the printing systems available at the time of invention were useful for printing labels to the required specifications and costs, it was not obvious to apply the then known hardware and software products to print colour-coded labels as proposed by the alleged invention. It may well be true that under the constraints of particular specifications and cost levels, the printing systems available at that time were not able to satisfy the needs of the inventors. However, such constraints are not defined in claim 1, nor, it is to be noted, can they be found in the application. For the same reasons, the further advantages and synergistic effects to which the appellant referred in favour of the patentability of the alleged invention cannot be accepted by the Board as relevant either to the subject-matter as claimed or for the matters specifically described in the application.

From these considerations it follows that the subject-matter defined by claim 1 of the auxiliary request has to be considered as an obvious solution to the problem of printing labels of the known type shown in figure 4 and does thus not meet the requirements of inventive step (Article 56 EPC).

5. Since claim 1 of the main request differs from claim 1 of the auxiliary request only in being of broader scope, the same conclusion concerning lack of inventive step holds also for the main request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg