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D E C I S I O N
of 31 March 1995

Case Number: T 0270/93 - 3.2.5

Application Number: 87118945.2

Publication Number: 0273348

IPC: B42D 15/10

Language of the proceedings: EN

Title of invention:
High-security identification card obtained by thermal dye transfer

Patentee:
EASTMAN KODAK COMPANY (a New Jersey corporation)

Opponent:
Thomas De La Rue & Company Ltd.
GAO Gesellschaft für Automation und Organisation mbH

Headword:
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Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (denied)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0270/93 - 3.2.5

D E C I S I O N
of the Technical Board of Appeal 3.2.5
of 31 March 1995

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office dated 15 February 1993 revoking European patent No. 0 273 348 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: C. V. Payraudeau
Members: A. Burkhart
M. H. M. Liscourt

Summary of Facts and Submissions

I. Oppositions were filed by two Opponents against the patent No. 0 273 348 and based on Article 100(a) and (b) EPC.

At the end of oral proceedings held before the Opposition Division, its Chairman announced the decision of the Opposition Division to revoke the patent on the ground that its subject-matter did not involve an inventive step having regard to the following documents:

R1: DE-A-2 907 809,
R2: EP-A-0 084 064,
R3: JP-A-61 152 477 (partially translated into English),
D10: GB-A-2 026 945 and
D11: GB-A-1 427 581.

The Appellant (Proprietor of the patent) lodged an appeal against this decision.

II. Oral proceedings were held before the Board of Appeal.

(i) The duly summoned Respondent I (Opponent I) informed the Board beforehand in writing that he would not attend the oral proceedings.

(ii) The Appellant requested that the decision under appeal be set aside and the patent be maintained in amended form according to the following requests:

- Main request: On the basis of Claims 1 and 2, designated "main request", filed with the Statement of Grounds,
- First auxiliary request: On the basis of Claims 1 and 2, designated "second auxiliary request", filed with the Statement of Grounds,
- Second auxiliary request: On the basis of Claims 1 and 2, filed at the oral proceedings and designated "second auxiliary request", and
- Third auxiliary request: On the basis of Claims 1 and 2, filed at the oral proceedings and designated "third auxiliary request".

(iii) The Respondent II (Opponent II) requested that the appeal be dismissed.

(iv) Claim 1 according to the main request reads as follows:

"1. A process of producing a high-security photographic identification card comprising:

(a) printing indicia approximately 40-120 µm in width onto a dye image-receiving layer of a dye-receiving element comprising a support having thereon said dye image-receiving layer; and

(b) imagewise-heating a dye-donor element comprising a support having thereon a dye layer so that a dye image photograph is transferred to said dye image-receiving layer."

Claim 1 according to the first auxiliary request reads as follows:

"1. A process of producing a high-security photographic identification card comprising:

(a) printing indicia approximately 40-120 µm in width using an ultraviolet-curable ink onto a dye image-receiving layer of a dye-receiving element comprising a support having thereon said dye image-receiving layer;

(b) curing said ink; and

(c) imagewise-heating a dye-donor element comprising a support having thereon a dye layer so that a dye image photograph is transferred to said dye image-receiving layer."

Claim 1 according to the second auxiliary request reads as follows:

"1. A process of producing a high-security photographic identification card comprising:

(a) printing indicia approximately 40-120 µm in width onto a dye image-receiving layer of a dye-receiving element comprising a support having thereon said dye image-receiving layer, said dye image-receiving layer comprising a polycarbonate, a polyurethane, a polyester, polyvinyl chloride, poly(styrene-co-acrylonitrile), poly(carprolactone) or mixtures thereof; and

(b) imagewise-heating a dye-donor element comprising a support having thereon a dye layer so that a dye image photograph is transferred to said dye image-receiving layer."

Claim 1 according to the third auxiliary request reads as follows:

"1. A process of producing a high-security photographic identification card comprising:

(a) printing indicia approximately 40-120 µm in width using an ultraviolet-curable ink onto a dye image-receiving layer of a dye image-receiving layer, said dye image-receiving layer element comprising a support having thereon said dye-receiving element comprising a polycarbonate, a polyurethane, a polyester, polyvinyl chloride, poly-(styrene-co-acrylonitrile), poly(caprolactone) or mixtures thereof;

(b) curing said ink; and

(c) imagewise-heating a dye-donor element comprising a support having thereon a dye layer so that a dye image photograph is transferred to said dye image-receiving layer."

(v) The Appellant argued essentially as follows:

The invention provides a dry and instantly available process for producing a high-security photographic identification card. The specific sequence of process steps according to Claim 1 of the main request has the advantage that step (a) could be performed at a centralised location distinct from the location where the photograph would be imparted to the card by means of step (b). Moreover, in the identification-card obtained by

the process according to the invention the security indicia and the photograph were contained in the same layer as a "monolithic structure" which was not easily forged.

Although document R3 discloses a process for producing photographic ID-cards comprising the feature (b) of the claimed process, it does not give any hint as to the way to provide such a card with a security feature.

Document R1 discloses a process for producing a high-security photographic ID-card. However this process does not relate to a thermal dye transfer process but to a completely different photographic method using a black-and-white photo sensitive layer printed with a pattern of lines which appeared in the developed photograph as a security shadow image.

Due to the different nature of the image producing methods used in documents R3 and R1, the person skilled in the art would not combine the teachings of these documents, and even a combination of the process steps according to documents R3 and R1 would not lead to the process according to Claim 1 of the main request.

The use of ultraviolet-curable ink according to Claim 1 of the first and third auxiliary requests provided the further advantage that the security indicia were cured to the dye image-receiving layer so that the ink was prevented from being easily removed during the subsequent thermal printing step.

By the use of the specific polymeric dye image-receiving layers according to Claim 1 of the second and third auxiliary requests good resistance to heat and pressure during the subsequent printing process was obtained.

(vi) The Respondent II argued essentially as follows:

The document R3 discloses a process for producing a photographic identification card comprising step (b) of Claim 1 of the main request, which process presents the advantage of being dry and instantly available.

The person skilled in the art wishing to modify the process according to document R3 so as to obtain a high-security ID-card, would consider the prior art documents which deal with the production of high-security photographic identification cards, and would find document R1, which teaches him that, in a process for producing the high-security photographic ID-card, the photograph should contain a security pattern of fine lines which should be printed onto the photosensitive layer before the transfer of the photograph to this layer. Document R1 mentions already that this process offers the advantage that the security pattern on the card stock can be prepared at a centralised location distinct from the location where the photograph will be imparted to the card stock.

Being aware of these teachings of documents R1 and R3, and being also aware of the obvious advantages of the thermal dye transfer method over a photographic method, the person skilled in the art

would apply the teaching concerning the security measure according to document R1 in an analogous manner in a thermal dye transfer method according to document R3.

Since in the field of security printing very thin indicia of a width between 40 and 120 µm are usual, as can be seen, for example, from document D10, cf. Claim 8, the person skilled in the art would, of course, use such a line width for the security pattern.

Therefore, the process according to Claim 1 of the main request did not involve an inventive step.

The use of UV-curable ink according to Claim 1 of the first auxiliary request does not add inventive subject-matter to the process according to Claim 1 of the main request, since it is common practise in the printing of ID-cards to use UV-curable inks.

The late filed second and third auxiliary requests should be disregarded by the Board, if the polymers specified in these claims were to be considered as an inventive selection from the polymers commonly used in the dye receiving layer in thermal transfer dye printing technique.

III. The Respondent I had essentially submitted in writing that the process according to Claim 1 of the main request and the first auxiliary request did not involve an inventive step having regard to the documents D11, D12 (US-A-4 536 015) and D13 (US-A-4 298 217), which documents all described ID-cards which also had security printing, and having regard to document D1 (English

translation of JP-Y-58-112569) which described a process for producing a card, wherein indicia were printed onto a dye-image receiving layer of a card stock and wherein this printed card stock was then passed to a station where thermal sensitive transfer character printing was carried out.

With respect to the first auxiliary request, he referred to documents D16 (WO 86/04299) and D17 (GB-A-1 466 469), which rendered obvious the use of UV-curable ink on identity cards.

The Respondent I had also requested that the appeal be dismissed.

Reasons for the Decision

1. All amendments made in the new claims are based on the disclosure of the originally filed application documents, and the scope of these claims has not been broadened by these amendments.

Therefore, the amended claims according to the main and auxiliary requests of the Appellant do not contravene Article 123 EPC.

Since, in this respect no objections were made by the Respondents, there is no need to further substantiate this issue.

2. *Main request*

2.1 Novelty

None of the documents referred to by the Respondents discloses a process of producing a high-security ID-card comprising all the features of Claim 1 of the main request.

Novelty, in fact, has not been in dispute in these proceedings.

Therefore, the process according to Claim 1 of the main request is new.

2.2 *Inventive step*

2.2.1 Problem

The problem underlying the invention consists in providing a process for producing a photographic identification card, which process is dry and instantly available and produces a high-security identification card (see page 2, lines 42 to 44 of the patent in suit).

2.2.2 Solution

This problem is solved according to Claim 1 of the main request by the process steps

(a) printing indicia approximately 40-120 µm in width onto a dye image-receiving layer of a dye-receiving element comprising a support having thereon said dye image-receiving layer; and

(b) imagewise-heating a dye-donor element comprising a support having thereon a dye layer so that a dye image photograph is transferred to said dye image-receiving layer.

2.2.3 This solution is rendered obvious by the state of the art for the following reasons.

Claim 1 relates to a process for the production of photographic ID-cards by means of the so-called thermal dye transfer technique. Such a process is, for example, known from the document R3, wherein a dye-donor element comprising a support having thereon a dye layer is image-wise heated so that a dye image photograph is transferred to a dye image-receiving layer of a dye-receiving element comprising a support having thereon said dye image-receiving layer (see document R3, partial translation of pages 1, 3, 9 and Figures 1 and 2).

While this process is dry and instantly available, it has the drawback that it does not provide a security feature by which forging is rendered more difficult.

The person skilled in the art wishing to avoid this drawback and looking for an appropriate security means will consider the prior art documents which deal with the production of high-security photographic identification cards, and will find the document R1, which discloses a process of producing a photographic high-security identification card, wherein a security pattern is printed onto a photographic layer, so that in the developed photographic image the security pattern appears as a line pattern within the photograph.

On page 7, lines 20 to 28 of document R1 is indicated that this process, while providing high-security against forgery, has the advantage that the security pattern on

the card stock can be prepared at a centralised location which is distinct from the location where the photograph will be imparted to the card stock.

Following this teaching the person skilled in the art will modify the thermal dye transfer process known from document R3, and print in a first step a security pattern of thin indicia onto the dye image-receiving layer, before the dye image photograph is transferred to the dye image-receiving layer in a second step which can be carried out at a location distinct from the location of the performance of the first step.

Since in the field of security printing very thin indicia of a width between 40 and 120 µm are considered to be useful (see, for example, document D10, cf. Claim 8), the person skilled in the art would, of course, use such a line width for the security pattern.

The Board does not agree with the contention of the Appellant that the different nature of the methods of documents R3 (thermal dye transfer method) and of document R1 (photographic method) would prevent the person skilled in the art from combining the teachings of these documents.

A person skilled in the art involved in further developing a newer technology (here: thermal dye transfer process) normally will also consider a corresponding older technology (here: photographic method) concerning the same technical field (here: production of high-security photographic identification cards) for obtaining suggestions for the solution of specific problems arising in the development work, and, of course, the person skilled in the art will apply such suggestions in an analogous manner in the newer technology.

The Board cannot see any technical obstacles or prejudices which, in the present case, could prevent the person skilled in the art from printing a security pattern onto a dye image-receiving layer in a thermal dye transfer method according to document R3 in an analogous manner as is done in the photographic method according to document R1 onto the photosensitive layer.

The submission of the Appellant that document R1 discloses only a black-and-white image photographic method and that therefore the person skilled in the art involved in a colour image method would not consider the method according to Claim R1, is irrelevant, since, on the one hand, the document R1 also refers to a colour image photographic method (see page 9, lines 17 to 19), and on the other hand, Claim 1 is not restricted to a colour image producing method.

In conclusion, the person skilled in the art facing the problem underlying the invention of the patent in suit, being aware of the teachings of documents R3 and R1 and using his normal technical knowledge, arrives at the process as claimed in Claim 1 of the main request.

2.2.4 Therefore, the process of Claim 1 according to the main request does not involve an inventive step in the meaning of Article 56 EPC, and consequently, the main request is not allowable.

3. *First auxiliary request*

The process of Claim 1 according to the first auxiliary request differs from the process of Claim 1 according to the main request in that the ink used in step (a) is specified as being an ultraviolet-curable ink and that the step of curing that ink is inserted.

Since it is common practise in the production of identification cards to use ultraviolet-curable inks as printing medium in order to improve the adherence of the ink onto the card (see for example document D16, cf. abstract and page 5), the person skilled in the art would use such ultraviolet-curable inks also for the printing of the security indicia in the process according to the main request, if he wants to prevent the indicia from being easily removed during the subsequent thermal printing step.

Therefore, the process of Claim 1 according to the first auxiliary request does not involve an inventive step in the meaning of Article 56 EPC and consequently, the first auxiliary request is not allowable.

4. *Second auxiliary request*

The process of Claim 1 according to the second auxiliary request differs from the process of Claim 1 according to the main request in that the dye image-receiving layer is specified as comprising a polycarbonate, a polyurethane, a polyester, polyvinyl chloride, poly(styrene-co-acrylonitrile), poly(caprolactone) or mixtures thereof.

It is known to the person skilled in the art to use polymers, like polyester as constituents in the dye image-receiving layer in thermal dye transfer methods in order to improve the adherence of the dye layer to the polymer card support and to enhance the infiltration of the subliminal dyes, as can be seen from document D1, cf. page 3, lines 3 to 6.

Therefore, the person skilled in the art would use for the same purpose also in a thermal dye transfer process

according to Claim 1 of the main request a polyester constituent in the dye image-receiving layer. Likewise, he would take into consideration the use of any of the other most commonly known polymers, like polycarbonates, polyurethanes, polyvinyl chlorides, polystyrenes, polycaprolactones, or mixtures thereof. He would thereby just obtain the effect he could have expected.

Therefore, the process of Claim 1 according to the second auxiliary request does not involve an inventive step in the meaning of Article 56 EPC, and consequently, also the second auxiliary request is not allowable.

5. *Third auxiliary request*

Claim 1 according to the third auxiliary request comprises in combination the features of Claim 1 according to the first auxiliary request and of Claim 1 according to the second auxiliary request.

Since a synergetic effect which would be obtained by combining said features is neither recognisable nor has been alleged by the Appellant, also the third auxiliary request is not allowable for the same reasons as set out with respect to Claim 1 according to the first and second auxiliary request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

A. Townend

The Chairman:

C. Payraudeau