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# D E C I S I O N
# of 24 June 1997

**Case Number:** T 0603/94 - 3.3.1

**Application Number:** 88310763.3

**Publication Number:** 0319157

**IPC:** D21H 21/40

**Language of the proceedings:** EN

**Title of invention:**
Security paper for bank notes and the like

**Patentee:**
PORTALS LIMITED

**Opponent:**
Crane & Co., Inc.

**Headword:**
Security paper/PORTALS

**Relevant legal provisions:**
EPC Art. 56

**Keyword:**
"Inventive step (yes) - problem and solution approach - assessment of technical results over the closest state of the art - problem to be solved - "could/would" approach"

**Decisions cited:**
T 0039/82

**Catchword:**
-

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Case Number: T 0603/94 - 3.3.1

# D E C I S I O N
## of the Technical Board of Appeal 3.3.1
## of 24 June 1997

**Appellant:** (Opponent)
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**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted 19 May 1994 rejecting the opposition filed against European patent No. 0 319 157 pursuant to Article 102(2) EPC.**

**Composition of the Board:**

**Chairman:** A. J. Nuss
**Members:** J. M. Jonk
R. E. Teschemacher

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal against the decision of the Opposition Division by which the opposition based on Article 100(a) EPC, which had been filed against the European patent No. 0 319 157 (European patent application No. 88 310 763.3) as a whole, was rejected.

II. The opposition was supported by several documents including:

(1) US-A-4 652 015, and

(4) US-A-4 462 867.

III. The decision was based on the claims as granted, independent Claim 1 reading as follows:

"Security paper comprising opposed surfaces for the provision of printing to identify a document formed from the paper, and positioned between the two surfaces of the paper as a public security feature a security device which device comprises a flexible, water-impermeable substrate with a layer of metal on one side of the substrate, characterised in that the security device, which is of not more than 5mm width, is positioned at least partially between the surfaces of the paper and in that there is present on at least one side of the device a continuous metal path along its length, wherein said device has metal-free light permeable portions of between 10% and 50% of the area of the device, said metal-free portions along the length of the device providing a repeating pattern, design or indicia with at least some of the metal-free portions across the transverse direction of the device being wholly surrounded by metal".

IV. The Opposition Division held that the subject-matter of Claim 1 was novel and also involved an inventive step. Concerning inventive step they considered that in view of document (1), the problem to be solved by the patent in suit was to provide the possibility to detect the security thread in the paper by existing machines designed for detecting a continuous metal thread, and to achieve an increased contrast of the security thread when the security paper was viewed in transmitted light. They concluded that the solution of this technical problem by providing a security paper in accordance with Claim 1 of the patent in suit was not obvious to a skilled person, since the security thread as disclosed in document (1) contained electrically isolated metal characters, so that the known advantages of a totally metallised security strip were deliberately waived. Moreover, they held that document (1) did not give any incentive to apply the negative printing technique. Furthermore, they considered that the other documents cited in the written submissions were not mentioned during the oral proceedings at all, and that consequently these documents were deemed less relevant.

V. Oral proceedings were held on 24 June 1997.

VI. The Appellant accepted that the subject-matter of Claim 1 was novel in view of document (1), since this document did not disclose a security device containing a continuous metal path along the length of the security device and having metal-free light permeable portions of between 10% and 50% of the area of the device. However, he argued that in the light of document (1) the subject-matter of the claims did not involve an inventive step.

In particular, the Appellant argued that the teaching of document (1) was not restricted to paper comprising a security device containing electrically isolated metal characters, but actually concerned the broad feature of encoding of printed information onto a strip of clear plastic film which is later incorporated in the paper, so that the provision of printed information comprising a continuous metal path covering more than 50% of the surface area as claimed in the patent in suit was not excluded. In this context, he contended that document (1) clearly suggested applying the printed information in the form of a continuous conductive metal path by indicating that the methods of detection included variations in the electrical current within a tuned resonance circuit, and also suggested to provide metal-free light permeable portions of between 10% and 50% of the area of the device by indicating that the printed information on the security strip comprised bar codes.

Concerning the disclosure of document (1) and, in particular, with respect to the feature of a continuous conductive path and its detectability, the Appellant referred in support to document

(7) Affidavit by Mr. Kayani filed on 23 May 1997,

and to document

(8) Supplemental declaration of Mr. T. T. Crane during oral proceedings,

in which Mr. Crane emphasised that detection equipment based on variations in electrical current within a tuned resonance circuit as indicated in document (1) required a continuous metal path and that his comments concerning the detection of discrete metal characters in his earlier affidavit, namely document

(9) Affidavit by Mr. T. T. Crane dated 14 April 1994, filed during the proceedings before the Opposition Division on 20 April 1994,

contemplated the use of modified detection equipment which was actually developed by him in the period of time from 1991 to 1994, i.e. well after the filing date of document (1).

With respect to the feature of metal-free light permeable portions of between 10% and 50% of the area of the device as claimed in the patent in suit the Appellant emphasised that the explicit disclosure in document (1) of the embodiment providing printed information on the security device in the form of a legible phrase according to Figure 6 represented only a non-limiting example and that a skilled person in reading document (1) would have understood that the scope of the invention as disclosed in said document with respect to the metal covering of the security thread was not restricted to less than 50%. Moreover, he argued that in providing printed information in the form of abstract patterns the question of using a negative or positive printing technique was not relevant.

The Appellant disputed the submissions made in document

(10) Affidavit by Mr. M. R. M. Knight dated 17 December 1993, filed by the Patentee during the proceedings before the Opposition Division on 27 December 1993,

concerning alleged advantages with respect to visual appearance and machine detectability. In this context, he argued by referring to document

(11) Affidavit by Mr. A. J. Bart submitted with the statement of grounds of opposition,

that positively printed images having a metal coverage of more than 50% falling under the scope of both the patent in suit and document (1) were clearly discernable to the unaided eye, and in accordance with document (9) that the detectability of a continuous metal path according to the patent in suit was not advantageous compared with that of demetallised threads having a discontinuity of metal.

The Appellant also argued that the subject-matter as claimed in the patent in suit was obvious in the light of document (1) in combination with document

(12) BEP Specification for Paper: "Distinctive, Web, With Security Threads", July 11, 1984, filed on 8 August 1995,

and/or document (4), since document (12) suggested providing security threads comprising a printed continuous metallic or metallised script so that the conductive properties of the thread would render the security paper machine readable, and document (4) described the use of metallised security threads comprising metal-free light permeable portions falling under the scope of Claim 1 of the patent in suit.

The Appellant concluded that if a skilled person wanted to use electrical conductivity testing machines, while obtaining the benefit of the invention of document (1), as well as to obtain a great contrast between the area of the security strip and the remainder of the paper, it would have been immediately obvious to him in the light of the cited documents and his common general knowledge that a continuous metal path could be provided in several ways, such as by "negative

printing" or by providing characters which were joined together, and that an improved contrast between the strip and the remainder of the paper when it was held up to the light could be achieved by increasing the proportion of the area of the security strip that was metallised. In support he relied on document

(13) Affidavit by Mr. Giustiniani, filed on 8 August 1995.

Finally, the Appellant informed the Board that the corresponding German patent was revoked, and a translation of the Decision of the German Federal Patent Court was filed by him on 9 June 1997. However, the Appellant declared during the oral proceedings that he did not want to rely on this decision.

VII. The Respondent argued that none of the cited documents, alone or in combination, rendered the subject-matter of the patent in suit obvious.

By referring to documents (10) and

(14) Statement by Mr. M. R. M. Knight dated 20 May 1997, filed on 23 May 1997,

he argued in particular that a security paper as claimed in the patent in suit was advantageous compared with a paper as disclosed in document (1), since the security thread in a paper as claimed in the patent in suit and the clear regions therein in the form of repeating pattern, design or indicia were easier to detect in transmitted light and more difficult to counterfeit, and because the security thread in the paper could be detected by existing machines designed for detecting a continuous metal thread.

Moreover, he maintained his point of view that document (1) by disclosing the provision of printed information in the form of separated metal characters on the security device as the preferred embodiment, and by only teaching the application of the positive printing technique, did not give any pointer to the claimed invention. In this respect, he submitted that the teaching of document (1) in that the printed information on the security thread should be virtually undetectable under reflected light rather lead away from using a continuous metal path and heavily metallised characters and that this point of view was confirmed by a later published patent document, namely

(15) US-A-4 941 687

designating the same inventor and the same assignee as in document (1). In addition, he submitted in accordance with document

(16) Affidavit by Mr. M. Potter, filed on 18 June 1997,

that the method of detection including variations in the electrical current within a tuned resonance circuit as indicated in document (1) only concerned the use of detection equipment adapted for detecting discrete metal characters, and that this point of view was actually supported by Mr. Crane in document (9).

With respect to documents (4) and (12) the Respondent argued that the first document related to a totally different technical problem and also to a different solution thereof, since it concerned the provision of a security paper having the security strip partially embedded in the paper and partially exposed by using security strips containing fibre deposition permitting regions, i.e. water permeable regions, and that the second document did not give any pointer to the use of

demetallised security threads as claimed in the patent in suit either. He concluded therefore that also these documents alone or in combination with document (1) did not render the claimed subject-matter obvious.

Concerning the decision of the German Federal Patent Court the Respondent observed that this decision was not relevant and actually improper, since it was based on a combination of document (1) with a document not relied upon by the Appellant in the present proceedings.

VIII. The Appellant (Opponent) requested that the decision under appeal be set aside and that the European patent No. 0 319 157 be revoked.

The Respondent (Patentee) requested that the appeal be dismissed and that the patent be maintained as granted - main request, or on the basis of one of the two sets of claims submitted on 23 May 1997 - first and second auxiliary request.

IX. At the conclusion of the oral proceedings the Board's decision was pronounced.

## Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 The only issue arising on this request is whether the subject-matter of the claims as granted involves an inventive step.

2.2 Article 56 EPC provides that an invention involves an inventive step if, having regard to the state of the art (within the meaning of Article 54(2) EPC), it is not obvious to a person skilled in the art.

2.3 For deciding whether or not a claimed invention meets this criterion, the boards of appeal consistently apply the "problem-solution-approach", which implies essentially (a) identifying the "closest prior art", (b) assessing the technical results (or effects) achieved by the claimed invention when compared with the "closest state of the art" established, (c) defining the technical problem to be solved as the object of the invention to achieve these results, and (d) examining whether or not a skilled person, having regard to the state of the art within the meaning of Article 54(2) EPC, would have suggested the claimed technical features for obtaining the results achieved by the claimed invention.

2.4 The Board considers, in agreement with the parties, that the closest state of the art with respect to the security paper according to present Claim 1 is the disclosure of document (1).

This document is concerned with security paper comprising a plastic security strip positioned between the two surfaces of the paper, which security strip contains metallic characters on its surface being virtually undetectable under reflected light while becoming legible in transmitted light (cf. Claim 1; column 2, lines 52 to 56 and lines 63 to 67; column 3, lines 3 to 7; and column 5, line 17 to column 6, line 7). According to the preferred embodiment the security strip consists of a polyester film containing legible printed metallic letters on its surface (cf. column 3, line 43 to column 5, line 7; in particular column 4, line 47 to column 5, line 7, and Figure 6).

According to another embodiment the security strip comprises optically readable metallic codes (cf. column 5, lines 11 to 14; and column 6, lines 1 to 7).

The object of the invention according to document (1) was to overcome the drawback of a continuously metallised plastic security strip, i.e. its relative visibility under reflected light and its easily achievable counterfeit by means of a pale but opaque printed line (cf. column 2, lines 12 to 32), and the drawback relating to conventional printing on a plastic strip, i.e. the legibility of the ink used to form the printed information under reflected light, a printing easily replicated by counterfeit means (cf. column 2, lines 33 to 40).

2.5 The Respondent submitted that the security papers as claimed in the patent in suit are better suited than the ones known from document (1) to defeating the aim of counterfeiters and to provide the public with readily verifiable security documents, since the security strips in the papers as claimed in the patent in suit

(a) are detectable by existing machines designed for detecting a continuous metallised strip,

(b) simultaneously present a stronger contrast in appearance when the papers are viewed firstly in reflected and then in transmitted light by virtue of the fact that the major portion of the area of the security strip is metallised and there is continuity of metal along the length of the strip, and

(c) comprise clear regions in the form of repeating pattern, design or indicia which are, in particular when the papers are worn or dirty, easier to detect by the unaided eye in transmitted light and difficult to counterfeit (cf. the patent in suit, page 3, lines 19 to 33, and page 4, lines 37 to 46; document (10), paragraphs 4 to 7 and 10 to 12; and document (14), paragraphs D and H).

2.6 The Appellant denied that the above stated advantages existed by arguing that document (1) does not exclude security strips comprising metal characters covering more than 50% of the surface of the strips, and that security strips containing such characters are clearly discernable to the unaided eye in transmitted light. Thus, in the Appellant's opinion, papers according to the patent in suit did not provide any improvement regarding visibility and legibility of the security strips when embedded in the papers (cf. document (9), in particular paragraphs 8 to 10 and 16; and document (11), in particular paragraph 11).

The Appellant also contended that a continuous metallised negative-image strip with its extensive opaque area as claimed in the patent in suit could be more closely simulated by a white opaque line than a positive character image in accordance with document (1) (cf. document (9), in particular under point 22).

Furthermore, although the Appellant did not actually dispute that security strips as defined in the present claims can be detected by means of existing machines designed for detecting a continuous metallised strip, he argued that the papers according to the patent in suit rather show an unsatisfying machine detectability performance due to the rapidly forming of breaks in the

continuous but partly demetallised metal coating of the security strips during circulation of the papers, and because of the possibility to simulate the continuous metallisation by a conductive graphite pencil line (see document (9), in particular paragraphs 13 and 14).

2.7 However, the Appellant's arguments must fail, since in the Board's judgment, a skilled person would immediately understand that according to the invention as presented in document (1) only such metallic characters should be provided on the plastic strip which are, on the one hand, as undetectable as possible under reflected light but, on the other hand, clearly readable in transmitted light, i.e. characters having a low degree of metallisation in order to reduce their visibility under reflected light, avoiding any optical similarity with a continuous metallised strip under reflected light, and simultaneously providing by way of their design and separation an optimum legibility (cf. column 1, lines 52 to 56).

In this context, the Board observes, that this point of view is actually confirmed by the disclosure of document (15), referred to by the Respondent, in which the Appellant, in the context of another security paper for currency and banknotes, acknowledged that the metal characters of document (1) appear brighter and lighter in reflected light than the surrounding paper and thus become legible, and that these lighter characters could be counterfeited with a white toner (see column 1, lines 13 to 35). Moreover, a further confirmation in this respect can be seen in the Appellant's submission that the version of the security strip chosen for US banknotes, which version corresponds essentially to the

preferred embodiment of the security strip of document (1), should be as near to invisibility as possible (cf. document (9), under points 3 to 6, in particular point 6, last sentence, and under point 19, last paragraph).

Moreover, a simple inspection of the evidence on file represented by a number of banknotes obtained in accordance with the patent in suit as well as the prior art document (1) convinced the Board that a security strip as now claimed can be immediately spotted in the paper as a dark line in transmitted light, and that simultaneously the light permeable portions against said dark background of the black line can easily be detected by the unaided eye, making it at the same time also plausible that a security strip in accordance with document (1) comprising metal characters required to be **invisible** under reflected light - in the absence of a guiding dark contrasting line - will be less easily noticed by a member of the general public. Furthermore, the visibility and legibility of said metal characters of the papers according to document (1) must also be expected to be generally less pronounced, since these properties will be rather strongly influenced by the background of the surrounding paper, the type of printing, the degree of smudginess and/or the extent of wear.

Consequently, a member of the general public in detecting a black line in transmitted light would simultaneously and easily recognise a falsification because of the absence of the clearly visible metal-free light permeable portions. In this context, the Board notes, that there is no evidence on file that this would not be the case for other embodiments falling under the scope of the present claims.

Finally, the Appellant's contention that security papers as now claimed would show an unsatisfying machine detectability and could be simulated by a conductive graphite pencil line cannot be accepted either since the Appellant did not provide any evidence that metallised strips according to the invention showed these alleged deficiencies, so that there is no support for considering that these problems would concern an unacceptable large part of security papers, in particular banknotes. This conclusion is confirmed by the undisputed fact that banknotes containing strips in accordance with the patent in suit have been issued in a large number of states.

2.8 Therefore, the Board concludes, that it is credible that the security papers in accordance with the claims of the patent in suit show the advantages as presented by the Respondent.

2.9 Thus, in the light of the above identified closest state of the art, the technical problem underlying the patent in suit can be seen in the provision of security papers comprising security strips which are detectable by existing machines designed for detecting a continuous metallised strip, and simultaneously are easier to control on counterfeits by the unaided eye in transmitted light (see also page 2, lines 22 to 31, and page 3, lines 19 to 33, of the patent in suit).

2.10 According to present Claim 1 this technical problem is essentially solved by providing a security paper comprising a security strip, which strip contains a continuous metal path along its length and metal-free light permeable portions of between 10% and 50% of the area of the strip, said metal-free portions along the length of the strip forming a repeating pattern, design or indicia.

2.11 Having regard to the considerations above (see points 2.5 to 2.7) and in conjunction with the examples of the patent in suit, the Board considers it plausible that the technical problem as defined above has been solved.

2.12 In assessing inventive step the question thus is whether a skilled person starting from document (1) would arrive at something falling within Claim 1 by following the suggestions made in the prior art.

2.13 Although document (1) relates to security paper comprising a plastic security strip positioned between the two surfaces of the paper, which security strip contains metallic characters on its surface, in the Board's judgment, it does not give any incentive to the skilled person to solve the technical problem as defined above by providing security papers containing security strips as claimed in the patent in suit, since - as set out above (cf. point 2.4) - document (1) as a whole clearly teaches that in order to provide a security strip which is virtually undetectable under reflected light the metal characters on the security strip should not form a continuous line and preferably should not be heavily metallised.

In this respect, the Appellant also submitted that it is indicated in document (1) that the metallic printed information on the security strip can be machine detected making use of variations in the electrical current within a tuned resonance circuit (cf. column 2, line 66 to column 3, line 2), and that such a detection equipment required a continuous metal path along the length of the strip. However, while it is accepted by the Board that said characterisation of equipment as such does not exclude a detector suitable for detecting security strip containing a continuous metal coating, the Board concurs with the Respondent's submissions

(cf. document (16), in particular point 4.3) that a skilled person in reading document (1) would understand said passage to mean that detectors utilising this principle would need to be suitably configured to be compatible with the invention as disclosed therein and, in particular, with its preferred embodiment involving the provision of discrete metal characters on the strip, and that this point of view would have been technically realistic, since it would have been within the ordinary skill of a skilled person to construct a detector adapted for detecting discrete metal characters based on the principle that the presence of any conductive object within an electro-magnetic field will lead to detectable variations of the electrical current. In this context, the Board observes that the Appellant in accordance with document (9) acknowledged that it is typical to introduce new security threads and a detector to go along with them, and that the thread in US currency, i.e. a thread in accordance with the invention as presented in document (1), is detectable using modified metal detecting sensor designs (cf. points 11, 12 and 14). Furthermore, in the Board's judgment, the Appellant's later submission according to document (8) that said considerations in document (9) related to the use of modified detection equipment, which was actually developed in a period of time after the filing date of document (1), is of no relevance, since the disclosure of document (1) does not exclude such modifications.

2.14 Document (4) concerns a process for forming a paper, such as security paper, having a plastic strip in part embedded therein and in part exposed on one surface thereof, by

(a) depositing paper fibers onto a support surface from a suspension by drainage of the suspension fluid through the support surface,

(b) laying a strip over the deposited paper fibers, which strip comprises water-impermeable (first) regions obstructing a further drainage sufficiently to prevent any substantial deposition of paper fibers there over and water-permeable (second) regions which do not obstruct a deposition of paper fibers from a suspension by drainage (cf. column 1, lines 38 to 59; and column 2, lines 8 to 13), and

(c) depositing further paper fibers by drainage through the support surface so as to form a paper having the strip in part embedded therein and in part exposed on one surface thereof.

The permeable regions should preferably allow a substantially free flow of water there through (cf. column 2, lines 34 and 35).

In considering the disclosure of document (4) as a whole, in the Board's judgment, a skilled person would immediately understand that the underlying technical problem to be solved was to provide a process for the forming of papers, containing a strip in part embedded in the paper, which process should be in particular suitable for using relatively broad strips, and that this problem was essentially solved by using strips consisting of impermeable materials in which selected regions have been made permeable, or by using strips made from permeable materials in which selected regions have been made impermeable (cf. column 1, lines 20 to 59; column 2, lines 42 to 44 and 65 to 68; and the preferred embodiments).

Therefore, the disclosure of document (4) does not have any relationship with the problem underlying the patent in suit as define above, so that the Board cannot see any reason why the skilled person should ever consider

this document as a possible source of useful hints in solving said technical problem (cf. T 39/82, OJ EPO 1982, 419, point 7.3 of the Reasons). Moreover, it is clear that the teaching of document (4) cannot give any incentive to produce papers, containing a security strip consisting of a metallised water-impermeable substrate as now claimed.

2.15 In this context, the Appellant, in arguing that the subject-matter as claimed in the patent in suit would have been obvious to a skilled person in the light of the combined teaching of documents (4) and (1), referred to particular isolated passages in document (4) indicating that

- the strip materials may form a characteristic pattern readily detectable by transmitted light, but not reflected light (cf. column 3, lines 31 to 38),

- this optical effect may be enhanced by any convenient means, for example by metallisation of the permeable regions of the strip (cf. column 3, lines 38 to 41),

- the presence of metallisation may be detected by virtue of its substantially greater electrical conductivity (cf. column 3, lines 41 to 44),

- the permeable regions of the strip may form a characteristic pattern readily recognisable in transmitted light but not in reflected light (cf. column 3, lines 45 to 47, and Figure 3),

- the characteristics may additionally, or alternatively, be incorporated into the impermeable regions of the strips (cf. column 4, lines 3 to 7),

- the strips according to Figures 7 and 8 comprise a permeable base strip bearing a ribbon bonded thereto, which ribbon may be a metal foil forming a continuous path (cf. column 6, lines 3 to 21), and

- the strip according to Figure 9 consists of a metallised plastic film comprising holes being 50 mm long and "islands" being 16 mm long (cf. column 8, lines 8, 9 and 22 to 33).

However, the Board observes that none of the relevant features or embodiments selected by the Appellant, namely those comprising metallisation, i.e. the strips according to Figures 7, 8 and 9, show a metallisation falling within the scope of Claim 1 of the patent in suit. In this respect, it is noted by the Board that the wider "islands" of the metallised ribbons of the embodiments according to Figures 7 and 8 are at least 3 mm in diameter so that in view of the dimensions of the respective drawings the strips must have a width of at least 10 mm (cf. column 8, lines 15 to 17, and the respective figures), and that the metallised strip according to Figure 9 contains such large holes that the area of the remaining part of the strip is clearly smaller than the part which has been cut out. Thus, the embodiments according to Figures 7, 8 and 9 only relate to strips having large metal-free regions which clearly fall outside the range of between 10% and 50% as claimed in the patent in suit.

Moreover, the Board emphasises that such picking out of features or embodiments from numerous possibilities represents nothing more than a typical *ex post facto* analysis of the disclosure of document (4), which is clearly unallowable in the assessment of inventive step, which must be carried out without hindsight in order to be objective.

2.16 Document (12) concerns a specification establishing the requirements for distinctive currency paper containing security threads, which specification was meant for use in the printing of securities for experimental purposes in the Bureau of Engraving and Printing, Washington D.C. (referred to as the "BEP"). Regarding the security threads it is stated in this specification under point 3.4.2.2 that

"The security threads shall be microprinted in continuous script with the words "United States of America". The thread and microprinting shall be visible only when observed by means of transmitted light. The thread should, to the maximum extend possible, not be visible when the paper is viewed in reflected light. The script shall be metallic or metallized so that it is conductive, but non-magnetic. The conductive properties of the thread shall render the paper machine readable."

The Appellant contended without any support that in the last quoted sentence the word "readable" was erroneously used should be replaced by the word "detectable". However, even if it were so, this would not be relevant at all, since what in the Board's judgment really matters is that this document clearly suggests providing security threads comprising printed information forming a machine detectable continuous metal path such that - in accordance with the teaching

of document (1) - **to the maximum extent possible, this printed information should not be visible in reflected light**. Moreover, apart from the fact whether or not a person skilled in the art would have been able to provide a security thread containing paper meeting these requirements, in the Board's judgment, this document does not give any incentive to apply a security strip comprising metal-free light permeable regions as defined in Claim 1 of the patent in suit. Furthermore, in view of the above considerations relating to documents (1) and (4), such an incentive would also be lacking if the teaching of document (12) would be combined with the teachings of these two documents.

2.17 The Appellant also argued that if a skilled person wanted to use electrical conductivity testing machines, while obtaining the benefit of the invention of document (1), as well as a great contrast between the area of the security strip and the remainder of the paper, it would have been immediately obvious to him in the light of the cited documents and his common general knowledge that a continuous metal path **could** be provided in several ways, such as by "negative printing" or by providing characters which were joined together, and that the contrast between the strip and the remainder of the paper when it was held up to the light **could** be improved by increasing the proportion of the area of the security strip that was metallised. However, apart from the fact that - as set out above - according to document (1) the object of the invention as claimed therein, namely that the technical information on the strip had to be virtually invisible, would not be achievable by heavily metallising the strip, in accordance with the established case law of the boards of appeal, the decisive question to be answered in determining inventive step is not whether a

skilled person **could** have performed the claimed subject-matter of the patent in suit but rather whether he **would** have done so in the expectation of solving the underlying technical problem.

2.18 The Decision of the German Federal Patent Court referred to by the Appellant is essentially based on a combination of document (1) with another document which none of the parties relied upon in the proceedings before the EPO. As the Board could not see any reason to introduce that other document into the present proceedings, there is no need to consider this matter further.

2.19 In conclusion, the Board finds that the security papers according to Claim 1 of the main request involve an inventive step in the sense of article 56 EPC.

Since Claims 2 to 10 relate to particular embodiments of the compositions claimed in Claim 1, and Claim 12, relating to a process of making the papers, is based on the same inventive concept, they are also allowable.

3. *Auxiliary requests*

3.1 In the light of the above findings, it is not necessary to consider the Respondent's auxiliary requests.

## Order

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

The appeal is dismissed.

The Registrar:

E. Görgmaier

The Chairman:

A. Nuss