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**Datasheet for the decision
of 5 August 2021**

Case Number: T 0749/17 - 3.3.06

Application Number: 09717020.3

Publication Number: 2275602

IPC: D21H21/42, D21F1/44, D21H21/48

Language of the proceedings: EN

Title of invention:
Security paper, production method thereof and security
document produced from same

Patent Proprietor:
FABRICA NACIONAL DE MONEDA Y TIMBRE - REAL CASA DE
LA MONEDA

Opponent:
GIESECKE & DEVRIENT GmbH

Headword:
Security paper containing watermark beside security thread /
FABRICA NACIONAL DE MONEDA Y TIMBRE

Relevant legal provisions:
EPC Art. 100 (a), 100 (b), 100 (c)

Keyword:

Sufficiency of disclosure (yes) - Claims to be construed with common sense - Clear terms in the claims not to be interpreted in the light of the description

Added subject-matter - (no)

Novelty - (yes)

Inventive step - (yes)

Decisions cited:

T 0190/99, T 0197/10

Catchword:



Beschwerdekammern

Boards of Appeal

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Case Number: T 0749/17 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 5 August 2021

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
3 February 2017 concerning maintenance of the
European Patent No. 2275602 in amended form.**

Composition of the Board:

Chairman G. Santavicca
Members: L. Li Voti
R. Cramer

Summary of Facts and Submissions

- I. The appeals of the opponent and of the patent proprietor are against the decision of the Opposition Division to maintain European patent no. **2 275 602** in amended form on the basis of the first auxiliary request filed during the oral proceedings (based on claims 1-16 as granted, i.e. with the deletion of granted claim 17 as the sole amendment).
- II. With its statement of grounds of appeal, the appellant/opponent cited documents **D1** (GB 2 410 003 A) and **D2** (EP 0 059 056 A1) and maintained its objections under the raised grounds of opposition against the upheld patent, in particular in connection with Articles 54, 56, 83 and 123(2) EPC.
- III. With its statement of grounds of appeal, the appellant/patent proprietor defended the patent as granted and also filed auxiliary requests 1 to 17.
- IV. In its reply to the proprietor's statement of grounds, the opponent confirmed its initial objections/arguments also against the granted claims of the main request and raised additional objections against the auxiliary requests.
- V. With letter of 15 January 2018, the patent proprietor filed new auxiliary requests 5 to 7 and 10 to 12 in replacement of the previously filed ones.
- VI. Following the communication pursuant to Article 15(1) RPBA dated 21 January 2020 expressing the board's preliminary opinion, the opponent reiterated by letter

dated 8 April 2020 its objections against novelty and inventive step of the claimed subject-matter.

VII. During the oral proceedings before the board held on 5 August 2021, the opponent submitted arguments against novelty and inventive step only. As regards the objections raised under Articles 83 and 123(2) EPC it referred to its written submissions.

VIII. The final requests of the parties were the following:

The patent proprietor requested that the decision under appeal be set aside and that the opposition be rejected, or auxiliarily that the patent be maintained in amended form on the basis of any one of

- auxiliary requests 1-4 filed with letter of 7 June 2017, or

- auxiliary requests 5-7 filed with letter of 15 January 2018, or

- auxiliary requests 8-9 filed with letter of 7 June 2017, or

- auxiliary requests 10-12 filed with letter of 15 January 2018, or

- auxiliary requests 13-17 filed with letter of 7 June 2017.

The opponent requested that the decision under appeal be set aside and that European patent No. 2 275 602 be revoked.

IX. Claims 1 and 17 as granted read respectively as follows:

"1. A security paper for a security document that comprises:

- an embedded security thread, and
- an electrototype watermark

for providing security and preventing the forgery of the document, wherein the security [sic] thread is visible through windows at spaced locations and hidden in dark areas with the greatest accumulation of fibres [sic] forming the most opaque area of the document, characterized in that the electrototype watermark is located beside the security thread in the dark areas where said security thread is [sic] hidden."

"17. A process for the manufacture of a security paper on a mould on which recesses and raised portions have been created in order to accumulate respectively more or less fibres on said mould, comprising:

- inserting a security thread
- by means of said recesses creating areas with the greatest accumulation of fibres for covering the security thread in some areas [sic],
- inserting electrototype watermarks beside the security thread in the areas created to cover the security thread
- depositing the fibres forming the base of the paper on the mould surface
- extracting water through the mould in order to manufacture the sheet of paper
- drying the sheet of paper formed in this manner, with the electrototype watermark and the security thread or strip inside, in the subsequent processes of paper manufacture."

Dependent claims 2 to 14 relate to particular embodiments of the claimed security paper whilst claims 15 and 16 relate to a security document and a banknote,

respectively, comprising a security paper according to claims 1 to 14.

Reasons for the Decision

Proprietor's main request (patent as granted)

1. Sufficiency of the disclosure (Articles 100(b) and 83 EPC)

1.1 As regards sufficiency of the disclosure the opponent submitted in writing that claim 1, considering the text of the description (column 5, lines 1-2) and figures 1-3, would require that the watermark be located at once

- beside the thread in a first dark area not hiding the thread and
- above the thread in a second dark area hiding the thread,

which claimed embodiment cannot be realised.

Moreover, as regards the claimed feature that the dark areas hiding the thread form the most opaque portion of the security document containing the claimed security paper, the opponent submitted that the patent would not disclose how this embodiment could be made, since a document like a banknote would necessarily contain printed parts which are not less opaque than the darkest areas hiding the thread. Therefore, also such embodiment would not be feasible.

1.2 The board remarks that all of these objections are based on the opponent's own interpretation of claim 1,

which the board cannot agree upon for the following reasons.

1.2.1 Claim 1 concerns a security paper for a security document. Therefore, as already exposed in the board's communication pursuant to Article 15(1) RPBA, a skilled person reading claim 1 with a mind willing to understand would directly and unambiguously understand from the initial wording "*security paper for ...*" that all of the features listed in the following text of the claim concern a security paper. In particular the wording "*hidden in dark areas with the greatest accumulation of fibres forming the most opaque area of the document*" should be understood as referring to the most opaque area of the security paper which is indeed made of such fibres.

1.2.2 Claim 1 thus concerns a security paper for providing security and preventing the forgery of a document containing it, wherein the security paper comprises the following features:

(A): an embedded security thread being visible through windows at spaced locations but hidden in dark areas **with the greatest accumulation of fibres** forming the **most opaque area** of the security paper, and

(B): an electrotpe watermark which is located **beside** the security thread **in the dark areas where the thread is hidden**.

1.2.3 Hence, by reading/construing the claim with a mind willing to understand (see T 0190/99, catchword), it would be clear to the skilled person that the electrotpe watermark is located in the **same** areas having the greatest accumulation of fibres, which hide portions of the security thread and form the most

opaque area of the paper. In particular, they are located in the portions of such areas which extend at both sides of the hidden security thread and allow the watermark to be located **beside** the thread, thus being next to the thread and not far away. Furthermore, since these areas form **the most opaque area** of the security paper, they **cannot occupy** the whole security paper, as less opaque areas have to be necessarily present in the remaining part of the paper not including the security system composed of window thread and electrottype watermark.

1.2.4 Moreover, the wording of the claim requiring that the electrottype watermark be located **beside** the security thread (thus not under or above the security thread) is clear and does not need interpretation on the basis of the description (see for example T 0197/10, catchword). Consequently, even considering the text of the description (column 5, lines 1-2) relied upon by the opponent and reading "*Figure 1 shows the section of a mould superimposing the security measures of the invention*", it would be clear to the skilled person that this wording represents an inappropriate definition of the claimed invention since figure 1 indicates only the place where the electrottype watermarks are introduced during the paper preparation whilst figure 2, representing a perspective view of the **same** elements shown in figure 1, clearly shows that the watermarks are placed **beside** the security thread and in the same dark areas hiding the thread as required by claim 1 at issue. The claimed embodiment is also clearly represented in figure 3.

1.2.5 Therefore, claim 1 requires that the security paper comprises a security system consisting of the combination of the above listed features (A) and (B).

- 1.2.6 Thus, the board cannot agree with the interpretation of claim 1 invoked in writing and orally by the opponent.

- 1.3 All hypothetical embodiments mentioned by the opponent in its objections/arguments against sufficiency of the disclosure are thus not encompassed by granted claim 1 as understood by a skilled person. The board has thus no reason to diverge from its preliminary opinion, exposed in its communication pursuant to Article 15(1) RPBA, nor from the decision of the opposition division, that the invention is sufficiently disclosed.

- 2. Invoked extension beyond the content of the application as originally filed (Articles 100(c) and 123(2) EPC)

- 2.1 The only objection raised by the opponent in this respect (under Articles 100(c) and 123(2) EPC) is also based on the its particular interpretation of the wording of claim 1 as relating to a security paper wherein the watermark is located at once beside the thread in a first dark area not hiding the thread and above the thread in a second dark area hiding the thread, an embodiment which is however, as shown above, not disclosed in the application as originally filed.

- 2.2 Since the board does not agree with the opponent's interpretation of claim 1 and the embodiment mentioned by the opponent is not encompassed by granted claim 1 as understood by a skilled person, the board has no reason to change its preliminary opinion, exposed in its communication pursuant to Article 15(1) RPBA, that the claims comply with the requirements of Article 123(2) EPC.

- 2.3 The board also remarks that the claimed subject-matter is clearly supported by the application as originally filed (page 4, line 28 to page 5, line 16).
3. Novelty (Articles 100(a) and 54 EPC)
- 3.1 The opponent cited figures 4 and 5 of D1, representing security papers containing each two embedded, windowed security threads and several electrotpe watermarks, against the novelty of granted claim 1. However, it is directly apparent from these figures that the electrotpe watermarks of the security papers disclosed in figures 4 and 5 of D1 are not present/located **beside** the two narrow, parallel, windowed threads contained in such papers but indeed are located on the threads and extend to areas overlapping the threads. Therefore, these security papers of figures 4 and 5 of D1 do not contain a security system having the combination of features (A) and (B) required by granted claim 1.
- 3.1.1 The board can also not follow the opponent's additional argument according to which a watermark overlapping for example the left sided thread of cited figures 4 and 5 had to be considered as being located beside the right sided thread, thus complying with the requirements of claim 1 at issue. In fact, even if such a watermark could indeed be considered to be located spatially beside the right sided thread, the cited figures, as already explained above, disclose only watermarks extending to an area overlapping the threads. Therefore the cited figures do not disclose a security paper comprising a security system as claimed comprising the combination of features (A) and (B), i.e. comprising the combination of a windowed hidden thread and a watermark located beside (not overlapping) the thread.

- 3.1.2 Therefore, already on this ground, D1 cannot take away the novelty of the subject-matter of claim 1 at issue.
- 3.2 The opponent cited also the method of preparation of the security paper represented in figure 5 of D1 (page 31, lines 2-11), wherein the electrotypes are so positioned to partially expose the thread in the bridges between the main windows formed according to the process disclosed in D2, against the novelty of granted process claim 17.
- 3.2.1 However, claim 17 as granted requires the use of a mould on which **recesses** and raised portions have been created in order to accumulate respective more or less fibres on said mould and includes the steps of
- inserting a security thread,
 - by mean of said **recesses** creating areas with the greatest accumulation of fibres for covering the security thread in some areas, and
 - inserting electrotypes watermarks **beside** the security thread **in the areas created to cover the security thread**.
- 3.2.2 As explained above, the watermarks disclosed in figure 5 of D1 are not located **beside** the thread but extend to an area overlapping the thread. Therefore the electrotypes watermarks of D1, by applying the process of D2, are not inserted **beside** the security thread during preparation of the security paper.
- 3.2.3 Moreover, it is directly apparent from figure 3 of D2 that the mould used in this process contains protrusions 6 and support surface 7 (the space of the support surface between protrusions 6 being called valley) but does not contain recesses with respect to the support surface. Recesses as required in the patent

in suit are disclosed in D2 only in the passage on page 12, lines 12-18, reading: "*In particular, at either side of the raised portions, small valleys whose lowest points lie below the general level of the support surface and valleys 7 (thus recesses as intended in the patent) may be incorporated). These cause an increase in paper thickness at each side of the exposed portion of the thread which serves to enhance the appearance, to define the exposed portion more clearly and to reinforce the sheet.*" Therefore, the paper obtained by this method of D2 would contain only a very limited darkest area, which does not cover the security thread and does not incorporate any electrotpe watermark as required instead by claim 17 at issue.

3.2.4 Therefore, the preparation of the embodiment of figure 5 of D1 according to the process of D2 does not include all the process steps required by granted claim 17.

3.3 The board thus concludes that the subject-matter of the granted claims at issue is novel over D1.

4. Inventive step (Articles 100(a) and 56 EPC)

4.1 The present patent (paragraph [0001]) relates to a security paper suitable for security documents, for example banknotes.

As acknowledged in the patent (paragraph [0017]), it was known in the prior art to use windowed threads and high contrast electrotpe watermarks separately within a security paper or security document in order to offer a certain degree of safety to the document that includes them.

The invention (paragraph [0002] and column 3, lines 22-25) uses instead the synergistic effect obtained by the combination of two security measures, a windowed security thread and an electrotype watermark.

The purpose of the patent in suit (paragraphs [0019] - [0020]) is thus formulated as the provision of a security paper that is suitable for a security document and incorporates more effective security measures, which are more easily recognisable by the public and also more difficult to be copied by forgers. Moreover, such security measures should not notably affect the final cost of the security document to be obtained.

- 4.2 Both parties agreed that D1 discloses the most promising closest prior art for assessing obviousness (Article 56 EPC). The board has no reason to take a different stance since D1 (page 1, lines 2-5; page 3, lines 26-27; page 4, lines 17-22; page 29, line 3 to page 31, line 11) indeed provides a security paper containing a combination of windowed security thread and electrotype watermarks as security measures, which are easily recognisable by the public and also more difficult to be copied by forgers, i.e. D1 has a similar objective as the patent in suit.

In particular, as submitted by the opponent, the embodiment represented in figure 5 of D1 can be considered to represent the closest prior art embodiment.

- 4.3 Since D1/figure 5 already provides a security paper that is suitable for a security document and incorporates more effective security measures, which are more easily recognisable by the public and also more difficult to be copied by forgers, i.e. a solution

to the technical problem identified in the patent, the objective technical problem underlying the claimed invention has to be reformulated.

4.3.1 The opponent argued that the security paper of the patent would provide a less advantageous solution than that of D1/figure 5. In fact, even though both D1/figure 5 and the patent provide two different security measures, electrotpe high contrast watermarks and a windowed security thread in a restricted part of the security paper (see D1: page 9, line 29 to page 10, line 4; page 10, lines 14-18; and the patent: paragraphs [0024] -[0025]), the closest prior art (D1: page 31, lines 5-8) provides the further advantage to partially expose the thread in the dark areas of the bridges between the main windows, thus making the hidden thread more visible.

4.3.2 However, though the location of the watermarks in D1/ Figure 5 renders the thread more visible, their location in the patent beside and not overlapping the thread instead clearly improves the contrast and visibility of the watermarks. In fact, as convincingly submitted by the patent proprietor during oral proceedings, the high contrast of the electrotpe watermark could at least partly be disturbed by the thread underneath the watermark in the embodiment of D1.

Moreover, the patent in suit expressly does not seek additional visibility of the thread that must remain hidden in the bridges formed by the greatest accumulation of fibres (darkest area of the paper) but aims (paragraphs [0022] -[0025]) at creating additional visible security measures (electrotpe watermarks) in this area which are distinct from the windowed thread

and easily recognisable by the public, thus aiming at least in part at an advantage not present in the embodiment of D1.

Nevertheless, both the solutions offered by D1/figure 5 and by the patent in suit are certainly similarly difficult to reproduce.

The patent in suit and D1 thus aim at different solutions of the same technical problem and it cannot be affirmed that one of these solutions is absolutely better than the other one since it depends also on the specific type of security document in which the security paper is incorporated, which could possibly contain further security measures, and on the specific security level desired and appropriate for the end use.

4.3.3 The technical problem underlying the invention, seen in the light of the closest prior art, is thus to be reformulated less ambitiously as the provision of an alternative security paper containing both a windowed thread and an electrotype watermark as security measures. It is in this respect evident from the patent itself that the claimed subject-matter offers a solution to this technical problem.

4.4 As explained above D1 discloses a security paper differing from that of claim 1 at issue insofar as it does not contain a security system comprising the combination of features (A) and (B) above, wherein the electrotype watermark is located beside the windowed thread in the darkest areas of the security paper.

4.4.1 The board remarks that D1 does not contain any suggestion that would have motivated the skilled person to depart from the specific teaching of figure 5 (page

31, lines 12-17) to locate the watermarks overlapping the threads so as to obtain a larger exposing of the thread and electrotpe derived complex windows which are difficult to be counterfeited, and to locate the watermark instead beside the windowed threads, thus losing the desired effects of D1.

- 4.4.2 Moreover, even though the skilled person could have envisaged to add other security means to the security paper of D1, he would have certainly not envisaged to add a separate electrotpe watermark between the two threads of figure 5 since the threads of D1 have to be inserted side by side in close proximity (see in this respect page 12, lines 7-20, and the passage from page 12, line 30, to page 13, line 2). This was not disputed by the opponent during oral proceedings.

Similarly, the skilled person would also not have envisaged to insert additional electrotpe watermarks close to the other sides of the two threads of figure 5 since these areas are already largely occupied by the watermarks overlapping the threads.

Furthermore, the addition of other electrotpe watermarks into the paper at a major distance from the threads, which could still be considered as being a location beside the thread, would create in the embodiment of figure 5 other areas of high contrast and would at least partially impair the purpose of D1 of increasing the overall visual impact of the security elements by using two windowed threads combined with electrotpe watermarks close to each other and in a restricted part of the security paper (see D1: page 4, lines 17-22). In any case, there is no explicit suggestion for such an addition in D1.

Therefore, the skilled person faced with the technical problem posed would have rather considered the alternatives with or without electrotype watermarks also offered in D1 (figures 2, 3, 3a, 4, 6-8), which do not include the hypothetical addition of further electrotype watermarks distanced from the two threads, and would have refrained, without hindsight, from adding high contrast watermarks onto other parts of the security paper.

- 4.4.3 The board thus concludes that the solution offered by the patent to the technical problem posed is not obvious in the light of the teaching of D1, seen that it requires a different location of the electrotype watermarks.

- 4.5 The subject-matter of claim 1 thus involves an inventive step (Article 56 EPC).

 - 4.5.1 For the same reasons also the subject-matter of claims 2 to 16 involves an inventive step.

- 4.6 As regards the process of claim 17, it was also not obvious for the skilled person, for similar reasons, to modify the process of D2, used for preparing the embodiment of D1/figure 2, by inserting the electrotype watermarks **beside** the threads and not overlapping them. Moreover, as explained in the novelty discussion, D2 does not suggest to use a mould containing recesses for creating areas with the greatest accumulation of fibres for covering the security thread in some areas and for inserting the electrotype watermarks beside the thread.

 - 4.6.1 Therefore, also the process of claim 17 is not obvious, and involves an inventive step.

4.7 The board thus concludes that none of the invoked grounds of opposition or objections thereof prejudices the maintenance of the patent as granted, which thus complies with all the requirements of the EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:



A. Pinna

G. Santavicca

Decision electronically authenticated