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Señor
SUPERINTENDENTE DE INDUSTRIA Y COMERCIO
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
Ciudad

REFERENCIA: Expediente No. 15-261438
TÍTULO: "PROCEDIMIENTO PARA PROPORCIONAR UNA
CARACTERÍSTICA DE SEGURIDAD A UN DOCUMENTO DE
SEGURIDAD, Y EL DOCUMENTO DE SEGURIDAD"
SOLICITANTE: FABRICA NACIONAL DE MONEDA Y TIMBRE - REAL CASA DE
LA MONEDA
TRÁMITE: MEMORIAL COMPLEMENTO DE INFORMACIÓN EN RESPUESTA
A REQUERIMIENTO DE FONDO OFICIO N° 9265

JAIME EDUARDO DELGADO VILLEGAS, en mi condición de apoderado de la sociedad
FABRICA NACIONAL DE MONEDA Y TIMBRE - REAL CASA DE LA MONEDA, dentro
del término legal presento MEMORIAL DE COMPLEMENTO DE INFORMACIÓN A LA
RESPUESTA a la acción oficial notificada mediante el oficio No. 9265 de 6 de septiembre
de 2016.

COMPLEMENTO DE INFORMACIÓN

Como se explicó en la respuesta a las objeciones del Examinador, el solicitante presentó
nuevo capítulo reivindicatorio que consta de 14 reivindicaciones, en el que se introdujeron
varias limitaciones para especificar y concretar mejor las características de la invención
atendiendo las amables sugerencias del Examinador.

1. Reivindicaciones

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Expresiones generales y no definen cantidades o productos a los cuales se refieren:

El solicitante explicó los referente a “cantidades o productos”: el Solicitante desea indicar que considera cuestionable considerar como generales términos tales como “sublimar” (tal como recoge la Real Academia Española o RAE en lo sucesivo, sublimar es “Pasar directamente del estado sólido al de vapor.”) o “sustrato de celulosa”; o términos que pese a ser comunes tienen un significado perfectamente conocido, por ejemplo, “retirar” (según la RAE: “Apartar o separar a alguien o algo de otra persona o cosa o de un sitio.”) o “embebido” (según la RAE: “Dicho de una cosa: Contener o encerrar dentro de sí a otra.”); y de considerar términos de forma aislada, p. ej., “registro” en vez de “a registro”, o “una característica” en vez de, por ejemplo, “una característica del sustrato del documento”. Precisamente, al considerar términos de forma aislada hace que estos no refieran a ningún “producto” como se indica en la objeción, pues es obvio que cuando se menciona “en el que dicho marcado (3) detectable se realiza a registro con una característica del sustrato (11) del documento”, el marcado detectable está dispuesto a registro con el producto “una característica del sustrato del documento”, mientras que la característica se refiere al producto “sustrato del documento”).

En relación con los términos objetados, el Solicitante quedó sorprendido puesto que estos términos no fueron objetados en el anterior Oficio Técnico (solo se objetaron algunos términos de las reivindicaciones 4 a 6 y a los cuales ya se dio respuesta), ni tampoco han sido objetados en el examen preliminar internacional realizado por la Oficina Europea de Patentes (EPO). En relación con esto último, se hace referencia al anuncio del 5 de febrero de 2016 (<https://www.epo.org/news-issues/news/2016/20160205.html>) en el que se comunica lo siguiente (subrayado y negrita añadido por nosotros):

“For the Superintendence of Industry and Commerce (SIC), having signed a Memorandum of Understanding and a Patent Prosecution Highway Agreement with the European Patent Office, which is one of the most prestigious patent offices for its excellent quality, confirms the commitment of the SIC to offer Colombian and foreign inventors the option of obtaining

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consistent decisions in various jurisdictions around the world and in turn to support their intention to address other markets with innovative products," said Colombia's Superintendent of Industry and Commerce Pablo Felipe Robledo del Castillo.

En este sentido, no parece que se esté adoptando un criterio para decisiones consistentes ni con lo aseverado por la EPO (se puede comprobar que en el examen preliminar internacional anexo a la presente respuesta no existen tales objeciones). Por otra parte, al no señalarse en qué parte(s) de la G. E. se basa esta objeción, resulta difícil para el Solicitante dar respuesta a la misma. También cabe resaltar que términos comunes tales como proporcionar, retirar, entre otros, no han sido objetados en otras solicitudes de patente ante la Superintendencia (y que, actualmente, son patentes concedidas).

Características funcionales

A este respecto, el solicitante, explicó que las características sí son características técnicas esenciales no meramente funcionales, y, por tanto, pueden dar novedad o nivel invento a la invención.

Una vez más, el Solicitante se ve sorprendido por estas objeciones, que no fueron comunicadas en el anterior Oficio Técnico.

Efecto o resultado a obtener puesto que las características son resultado del proceso reivindicado

Reivindicaciones 10, 12 y 13:

Las reivindicaciones objetadas han sido canceladas tal como se explicó en la respuesta al examen de Fondo.

No obstante, el solicitante explicó que es evidente que al menos en las reivindicaciones de las que dependen las reivindicaciones objetadas se definen las características técnicas que definen la invención y, por tanto, si las reivindicaciones 10, 12-13 realmente

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definieran efectos o resultados a obtener, algo que ni el Solicitante ni la Oficina Europea de Patentes en el examen preliminar internacional comparten, tampoco serían objetables.

Expresión “y/o” que no es limitativa

Las reivindicaciones 4 y 11: Esta expresión indica que el alcance de protección de la reivindicación engloba que se den una de las dos características técnicas definidas, o ambas. Dado que esta expresión no causa confusión tal como se explica a continuación en la siguiente objeción, la misma puede permanecer en la reivindicación.

Frases con falta de claridad

Reivindicación 1: ha sido modificada para aclarar la primera frase. La actual reivindicación 1 indica: “*proporcionar un documento (1) de seguridad que incluye un sustrato (11) del documento*”; es decir, el documento de seguridad incluye un sustrato (11) del documento.

Respecto a la segunda frase objetada por no ser clara, muy respetuosamente se indica que la frase tal cual está es clara: se proporciona al elemento (2) de seguridad un marcado (3), siendo este marcado detectable; ¿cómo se proporciona este marcado? Dirigiendo la luz (41) láser sobre el sustrato (11) del documento, lo que altera el material (22) sensible a la luz láser (produciéndose así el marcado detectable).

Las reivindicaciones 2, 3, 7 y 9 han sido objetadas por incluir los términos “al menos”, “de manera opcional”, “preferentemente” que son imprecisos y no permiten distinguir la invención del estado de la técnica.

Respecto al término “al menos”, y tal como se indicó en respuesta al anterior Oficio Técnico, muy respetuosamente se indica que en pro de avanzar con la tramitación, se ha eliminado la expresión “al menos” de las reivindicaciones objetadas.



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En lo relativo a los términos “de manera opcional” y “preferentemente”, ya fue indicado en el anterior Oficio Técnico que “preferentemente” se consideraba no limitativo, por lo que las respectivas características no limitaban el alcance de la reivindicación. No se comunicó que fuera confusa la presencia de dicho término en la reivindicación (algo que además ya se argumentó en respuesta a dicho Oficio Técnico), ello permite que figure en las reivindicaciones tal como estipula la G. E. en la sección 2.6.5.7:

Expresiones del tipo “preferentemente”, “por ejemplo”, “tal como”, “en especial” precediendo una característica en una reivindicación, se deben interpretar como no limitativos, es decir, la característica es meramente opcional y no limita el alcance de la reivindicación (en particular al analizar novedad y nivel inventivo). Si causan confusión en la reivindicación, el examinador debe requerir por falta de claridad y sugerir que las características opcionales, o preferentes se convierten en una reivindicación dependiente.

Es perfectamente identificable qué características de las reivindicaciones son las que se consideran “preferentes” o “opcionales” y, por tanto, no generan ningún tipo de confusión para entender las reivindicaciones correspondientes.

Hacer referencia a un producto que depende del método:

Reivindicación 17: Muy respetuosamente se indica que este tipo de reivindicaciones sí son permitidas tal como indica la G. E. en las páginas 81-82:

2.6.5.10 Producto definido por su proceso de fabricación

Las reivindicaciones de productos definidas en términos de un proceso de fabricación son admisibles, solamente si los productos como tales cumplen los requisitos de patentabilidad, es decir, cuando son nuevos e inventivos, y cuando no se pueden definir por sus características estructurales. Un caso típico es de los polímeros. Preferentemente se deben redactar de la forma “Producto X obtenible por el proceso Y”.

Tanto es así, que la página 82 muestra un ejemplo de una solicitud de patente colombiana en la que se tiene una reivindicación de producto dependiendo de una reivindicación de método:



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CO 07-79127

Reivindicación 1. Un proceso para la oxidación de carbohidratos que comprende los pasos de proveer un carbohidrato, combinando el carbohidrato con un oxidante seleccionado de hipoclorito caracterizado porque se expone el carbohidrato y el hipoclorito a luz ultravioleta, bajo condiciones alcalinas a un pH de 8 o más.

Reivindicación 2. Carbohidrato oxidado obtenido mediante el proceso de la reivindicación 1.

Aparte, el párrafo citado en el Oficio Técnico no es aplicable a la reivindicación 17:

"El objeto de la invención de producto está constituido por un cuerpo cierto destinado a llenar una necesidad industrial que el estado de la técnica aún no ha satisfecho."

El producto de la reivindicación 17 está constituido por un cuerpo cierto y el cual claramente llena una necesidad industrial que todavía no ha satisfecho el estado de la técnica. Aquí no se dice en ningún momento que el producto no pueda depender de un procedimiento. Seguidamente, el párrafo continúa:

"En cambio, el objeto de la invención de procedimiento se encuentra conformado por "una serie o sucesión de operaciones que inciden sobre una materia (solida, liquida o gaseosa) que se encamina a la obtención de una cosa o un resultado".

Tal como ya se ha evidenciado anteriormente, el procedimiento es una serie o sucesión de operaciones que inciden sobre una materia que se encamina a la obtención de una cosa o un resultado. Por tanto, se cumplen ambas premisas.

En la respuesta, el solicitante pidió tener en cuenta las **modificaciones realizadas en las reivindicaciones**, así como la **argumentación** indicada en el escrito, se ruega sean reconsideradas y retiradas las objeciones a las reivindicaciones. Se ruega también **tengan en cuenta el anterior Oficio Técnico**, la respuesta al mismo, y las modificaciones ya realizadas sobre las reivindicaciones en dicha respuesta.

Asimismo, se ruega que también tengan en cuenta el **informe preliminar internacional realizado por la EPO** para comprobar que no se realizaron las objeciones aquí comunicadas y que, por consistencia entre las decisiones de la EPO y de la Superintendencia, también ello debería reflejarse en el presente expediente.

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2. Examen de Patentabilidad (Art. 14 D486)

El solicitante presentó los argumentos respectivos con relación a la Novedad y Nivel Inventivo de la invención que se pueden apreciar detalladamente en la respuesta a la acción oficial notificada mediante el oficio No. 9265.

Adicionalmente, el solicitante desea reiterar que en el informe preliminar internacional sobre la patentabilidad (“*International Preliminary Report on Patentability*”) emitido por la Oficina Europea de Patentes en la fase internacional se indica que lo reivindicado no solo es nuevo sino también inventivo frente a los documentos D1 y D3. Se adjunta al presente complemento de la respuesta una copia de la respuesta al informe de búsqueda internacional, a saber, el informe del 9 de marzo de 2015 con el que se rebatía la relevancia de los documentos D1 y D3 (denominados D1 y D2 en dicho informe), con argumentos que convencieron a la EPO.

El solicitante señala nuevamente que ninguno de los documentos D1-D3 refleja la modificación de un material sensible a luz láser en un elemento de seguridad embebido en un sustrato de papel de un documento, mediante el paso de dirigir la luz láser al sustrato de documento. Más bien los documentos citados se refieren a tratamiento superficial mediante luz láser o, en el caso del documento D2, a la perforación de un sustrato de papel. La presente invención rompe con el estado de la técnica, presentando las ventajas comentadas más arriba. No hay nada en los documentos D1-D3 que hubiera inducido a la persona del oficio normalmente versada en la materia a modificar lo descrito en uno de estos documentos de modo que llegara a la invención: la presente invención representa un enfoque conceptualmente diferente al tradicional, e implica una actividad inventiva.

Se reitera que la reivindicación independiente 15 (actualmente reivindicación 12 tras las modificaciones realizadas) es también nueva e inventiva respecto a los documentos D1-D3 por al menos los mismos motivos expuestos para la reivindicación 1, *mutatis mutandis*.

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Asimismo, las reivindicaciones dependientes 2-11 y 13-14, al menos por depender de las reivindicaciones 1 o 12, son también a su vez nuevas e inventivas respecto a los documentos D1-D3.

Conclusión

Teniendo en cuenta las modificaciones realizadas en las reivindicaciones, así como el complemento de información a la argumentación indicada en la respuesta anterior, se ruega sean reconsideradas y retiradas las objeciones emitidas por el Examinador.

En vista de las modificaciones efectuadas es evidente que los cambios efectuados cumplen con los requisitos de patentabilidad y claridad.

ANEXO

- La respuesta presentada al informe de búsqueda internacional, y
- El informe preliminar internacional sobre la patentabilidad

PETICIÓN

Con base en los argumentos expuestos y el complemento de información, se considera que la totalidad de las objeciones presentadas por el Examinador han sido superadas, y que el nuevo capítulo reivindicatorio adjunto a la respuesta presentada cumple con los requisitos de claridad y de Patentabilidad. En consecuencia, solicito a esa Superintendencia proceder a **CONCEDER** el título de Patente de Invención, según el capítulo reivindicatorio adjunto a este memorial.

Marcas – Patentes
Modelos – Diseños
Nombres Comerciales – Enseñas
Propiedad Intelectual
Registros en el Exterior
Registros Sanitarios INVIMA – ICA
Acciones Judiciales – Administrativas
Derecho Comercial – Industrial
Asesoría – Contratos – Otros
Corresponsalia a Nivel Mundial

MDE

Mario Delgado Echeverry e Hijos S.A.S.

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Atentamente,



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PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(PCT Rule 71.1)

To:

STIEBE, Lars Magnus
Balder IP Law, S.L.
Paseo de la Castellana 93
5º planta
28046 Madrid
ESPAGNE

Date of mailing (day/month/year)	08.09.2015
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Applicant's or agent's file reference
P140809WO

IMPORTANT NOTIFICATION

International application No.
PCT/EP2014/059309

International filing date (day/month/year)
07.05.2014

Priority date (day/month/year)
10.05.2013

Applicant
FABRICA NACIONAL DE MONEDA Y TIMBRE - REAL CASA DE

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:



European Patent Office
D-80293 Munich
Tel. +49 89 2399 - 0
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Authorized Officer

Pittorru, Rossella
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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P140809WO	FOR FURTHER ACTION See Form PCT/PEA416	
International application No. PCT/EP2014/059309	International filing date (day/month/year) 07.05.2014	Priority date (day/month/year) 10.05.2013
International Patent Classification (IPC) or national classification and IPC INV. D21H21/40		
Applicant FABRICA NACIONAL DE MONEDA Y TIMBRE - REAL CASA DE		
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☒ (sent to the applicant and to the International Bureau) a total of <u>5</u> sheets, as follows: ☒ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing, in the form of an Annex C/ST.25 text file, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3ter of Annex C of the Administrative Instructions).		
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the report ☐ Box No. II Priority ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☐ Box No. VII Certain defects in the international application ☐ Box No. VIII Certain observations on the international application		
Date of submission of the demand 09.03.2015	Date of completion of this report 08.09.2015	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Authorized officer Ponsaud, Philippe Telephone No. +49 89 2399-4688 	

INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY

International application No.
PCT/EP2014/059309

Box No. I Basis of the report

1. With regard to the language, this report is based on

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a) and (b))

2. With regard to the elements* of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-30 as originally filed

Claims, Numbers

1-17 filed in electronic form on 13-08-2015

Drawings, Sheets

1/8-8/8 as originally filed

- ☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-b/s)):

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):

5. ☐ This report has been established:

- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-b/s) and 70.2(e)).
- ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rules 66.4b/s and 70.2(e)).

INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY

International application No.
PCT/EP2014/059309

6. ☒ With regard to top-up searches (Rules 66.1 *ter* and 70.2(f)):
- ☐ A top-up search was carried out by this Authority on (all discovered documents are listed in the Supplemental Box Relating to Top-up Search).
 - ☐ Additional relevant documents have been discovered during the top-up search.
 - ☒ No top-up search was carried out by this Authority because it would serve no useful purpose.
7. ☐ Supplementary international search report(s) from Authority(ies) has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded".

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-17</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-17</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-17</u>
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Item V

1 Reference is made to the following documents:

- D1 US 2004/232691 A1 (LAZZERINI MAURIZIO [IT]) 25 November 2004
(2004-11-25)
- D2 US 2012/103545 A1 (RANCIEN SANDRINE [FR]) 3 May 2012
(2012-05-03)
- D3 US 2008/191462 A1 (DEPTA GEORG [DE] ET AL) 14 August 2008
(2008-08-14)cited in the application

2 Amendments

The amendments carried out in claims 15-17 do not add new subject-matter;
Art 34(2) PCT.

Former independent claim 17 has been renumbered as claim 15. Former
independent claim 15 has been renumbered as claim 16 and has been made
dependent on claim 15. Former independent claim 16 renumbered as claim
17.

3 Novelty

The subject-matter of claim 1 seems to be novel because none of the cited
documents discloses the step of laser marking a security element which is
already embedded onto a document substrate.

The subject-matter of claims 15 seems to be novel since none of the cited
documents discloses a security element embedded in a paper substrate, said
security element being laser-markable as defined in claim 15.

Notwithstanding the fact that claim 17 is redundant with independent claim 15
as to the substance, claim 17 seems to be novel over D1 to D3 for the same
reasons as those put forward vis-à-vis claim 15 or claim 1 above.

Independent claims 1, 15 and 17 are therefore considered to be novel; Art. 33 (2) PCT.

4 Inventive step

D3 seems to be the closest prior art. It discloses a security document (see [0021] or Figure 3 of D3), comprising a paper substrate (see (4) of Figure 3) and a laser-marked security element. In Figure 3 of D3, said security element is in the form of a coating (see [0036]). However, according to [0022] of D3, the security element can be a strip.

Product claims 15 and 17 of the present application only differ from D3 in that the laser-marked security element is embedded into the document substrate, whereas in D3 said laser-marked security element is located on the surface of one of the sides of the document substrate.

D3 teaches clearly towards positioning the security element onto the surface of the substrate (§22 refers to foil coating).

The skilled person, wishing to find an alternative to D3 has therefore not reasons to contemplate modifying the subject-matter of D3 in such a manner that he arrives at the subject-matter of claims 15 or 17, respectively claim 1 (manufacturing process).

Independent claims 1, 15 and 17 are therefore considered to be inventive; Art. 33(3) PCT.



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VERY URGENT – REPLY TO WRITTEN OPINION

Madrid, 13 August 2015

Re.: International application no. PCT/EP2014/059309
FABRICA NACIONAL DE MONEDA Y TIMBRE – REAL CASA DE LA
MONEDA
Y/ref.:
O/ref.: P140809WO/MS

Dear Sirs:

With reference to the Written Opinion dated 11 August 2015, we first of all thank the Examiner for his detailed analysis of the claims. In response to the objections raised by the Examiner, we herewith filed amended claims. More specifically, we are enclosing:

- ✓ Working sheets 31-33, wherein the amendments to the claims as originally filed are shown using "track changes" (additions are underlined, deletions are crossed through)
- ✓ Replacement sheets 31-33 with the amended set of claims.

The amendments are as follows:

- Original claim 17 has been renumbered and is now claim 15.
- Original claim 15 has been renumbered as is now claim 16. The claim has further been amended to depend from claim 15, as requested by the Examiner.
- Original claim 16 has been renumbered and is now claim 17.

That is, the application has been amended as suggested by the Examiner, with one exception: claim 16 is maintained, although now renumbered as claim 17.

Contrarily to what is suggested by the Examiner, we most respectfully submit that this claim is not redundant. Original product claims 15 and 17, now 15 and 16, specify that the element substrate of the security element is "*in the form of a cellulose strip or patch*". No such limitation is laid down in claim 1, to which claim 16 –now 17– refers. Thus, this claim is not redundant, but defines a scope of protection complementary to the one defined in claim 15.

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We are aware of the fact that certain PCT Contracting States have legislations that limit the number of independent claims and/or the possibility of using product-by-process claims. However, this is something that we should not be forced to deal with in the International phase of the application. We will deal with the local particularities once we enter the respective national phases

Respectfully submitted,

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Enc.: amended claims (working sheets 31-33 + replacement sheets 31-33)

CLAIMS

1.- Method of providing a security document (1) with a security feature, said security document (1) comprising a document substrate (11), said document substrate
5 being a paper substrate, said security document (1) further comprising a security element (2) embedded in said document substrate (11), said security element comprising an element substrate (21), said security element further comprising a material (22) sensitive to laser light,

characterized in that the method comprises the step of directing laser light (41)
10 onto the document substrate (11) so as to alter said material (22), so as to provide said security element (2) with a detectable marking (3).

2.- Method according to claim 1, wherein the step of directing laser light (41) onto the document substrate (11) is carried out so as to substantially remove at least
15 part of said material (22), so as to provide said security element with said detectable marking (3).

3.- Method according to claim 2, wherein the step of directing laser light (41) onto the document substrate (11) is carried out so as to substantially sublimate at least
20 part of said material (22), so as to provide said security element with said detectable marking (3).

4.- Method according to claim 2 or 3, wherein said material (22) is a conductive material and/or a metallic material.

25

5.- Method according to claim 4, wherein said material is in the form of metallic particles.

6.- Method according to any of the preceding claims, wherein said material
30 sensitive to laser light is present as a layer on the security element (2).

7.- Method according to any of the preceding claims, further comprising the step of producing perforations in the material (22) and, optionally, also in the element

substrate (21), after incorporation of said material onto or into said element substrate but prior to embedding the security element (2) in the document substrate (1).

8.- Method according to any of the preceding claims, wherein the security
5 element (2) is a strip or a patch.

9.- Method according to any of the preceding claims, wherein the security
element (2) comprises a cellulose substrate, preferably a paper or cellophane
substrate.
10

10.- Method according to any of the preceding claims, wherein said detectable
marking (3) is visible by transmission but not by reflection, and/or wherein said
detectable security marking is detectable using magnetic detectors.

11.- Method according to any of the preceding claims, wherein said detectable
15 marking (3) is made in register with a feature of the document substrate (11),
- such as in register with a marking (5) on or within the document substrate,
such as a mark printed on the document substrate or a watermark within the document
substrate, and/or
20 - such as in register with a side (12, 13) of the document substrate (11).

12.- Method according to any of the preceding claims, wherein said detectable
marking (3) is used to customize the security document (1).

13.- Method according to claim 12, wherein said detectable marking (3) is
25 selected to identify an owner of the security document (1).

14.- Method according to any of the preceding claims, wherein the step of
directing laser light (41) onto the document substrate (11) so as to alter said material
30 sensitive to laser light (22) so as to provide said security element (2) with a detectable
marking (3), is carried out without substantially affecting the document substrate (11).

15.- Security document, comprising a document substrate (11), said document

substrate being a paper substrate, said security document further comprising a security element (2) embedded in said document substrate (11), said security element (2) comprising an element substrate (21) in the form of a cellulose strip or patch, characterized in that said element substrate (21) is provided with a material (22) that is
5 sensitive to laser light arranged so that said material can be sublimated with laser light, so as to provide said security element (2) with a detectable marking (3) due to partial sublimation of said material with laser light.

16.- Security document according to claim 15, wherein the paper substrate
10 comprises at least two paper layers (11A, 11B), said security element (2) being embedded between said two paper layers (11A, 11B), wherein said security element (2) has been provided with the detectable marking (3) due to partial sublimation of the material with laser light.

15 17.- Security document, obtained or obtainable with a method according to any of claims 1-14.



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Subject: Comments on the Written Opinion issued by the
International Searching Authority (ISA) in relation to
the international application no. PCT/EP2014/059309

To: The International Preliminary Examining Authority

Date: 9 March 2015

Y/Ref.: -

O/Ref.: P140809WO/MS

Dear Sirs:

The present PCT application claims priority of the European patent application no. 13382175.1 (o/ref. P130052EP). In the priority application, an extended European search report (EESR) was mailed on 20/8/13, citing the following prior art documents:

US-2004/232691-A1
US-2012/103545-A1
US-4462867-A
US-2006/145468-A1

In the international search report (ISR) mailed on 9/7/14, the ISA cited the following five documents:

D1 US-2004/232691-A1
D2 US-2012/103545-A1
D3 US-2008/191462-A1
D4 US-2006/145468-A1
D5 EP-2692539-A1

The ISA alleged that the subject-matter of claims 1 and 15-17 lacked novelty and that the remaining claims lacked an inventive step in view of the cited prior art references, for the reasons set out in the written opinion accompanying the ISR.

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According to the written opinion of the ISA, at least documents **D1, D2, D3** and **D5** disclose "*clearly and unambiguously*" the subject-matter of claim 1. Some of these documents are also alleged to disclose the subject-matter of claims 15, 16 and 17. The ISA recites some paragraphs of these documents. However, unfortunately, the ISA completely fails to explain where in these documents each and every feature of claim 1 (and of claims 15, 16 and 17) can be found, in combination. This lack of explanation makes it difficult to address the objections raised by the ISA in the written opinion. In addition, the written opinion does not include any analysis of dependent claims 2-14, but merely indicates that these claims "*appear to cover only usual features in the field of security elements for security papers, in particular comprising laser-marked security elements*". This is surprising, as the description of the

present application explains, in detail, important advantages provided by the subject-matter of some of the dependent claims.

In any case, we have reviewed prior art references **D1-D5**, and our comments are set out below.

REGARDING CLAIM 1

In order to facilitate the discussion of novelty and inventive step, we have itemised claim 1 as follows:

- (1a) *Method of providing a security document (1) with a security feature,*
 - (1b) *said security document (1) comprising a document substrate (11),*
 - (1c) *said document substrate being a paper substrate,*
 - (1d) *said security document (1) further comprising a security element (2) embedded in said document substrate (11),*
 - (1e) *said security element comprising an element substrate (21),*
 - (1f) *said security element further comprising a material (22) sensitive to laser light,*
- [characterized in that]*
- (1g) *the method comprises the step of directing laser light (41) onto the document substrate (11) so as to alter said material (22), so as to provide said security element (2) with a detectable marking (3).*

REGARDING DOCUMENT D1:

Document **D1** is the U.S. counterpart to EP-1291827-B1 and is already discussed in the description of the present application as filed, namely, in the paragraph bridging pages 5 and 6:

"EP-1291827-B1 and its U.S. counterpart US-2004/0232691-A1 disclose a method for the customization of security documents. They teach laser marking of at least two materials superimposed on a substrate, each of the at least two materials having different resistances to laser. An example is given in figure 3, where a first layer of material having a high resistance to laser and a second layer composed of two materials having different resistances are deposited on a banknote, and laser marked with a serial number of the banknote. The banknote also includes the serial number printed in another corner, and additional security elements such as a silver coated strip on which the serial number is provided, and a logo. According to the descriptions, the invention also makes it possible to provide a security thread or strip with a marking. The marking can be provided by the thread or strip manufacturer."

That is, **D1** teaches laser marking of at least two materials superimposed on a substrate, each of the at least two materials having different resistances to laser (cf., for example, claim 1). In the example given in figure 3, a first layer of material 30 having a high resistance to laser and a second layer composed of two materials 10 and 20 having different resistances are deposited on a banknote, and laser marked with a serial number of the banknote. The banknote also includes the serial number printed in another corner, and additional security elements such as a silver coated strip 55 on which the serial number is provided, and a logo 60. According to the description, the invention also makes it possible to provide a security thread or strip with a marking; **D1** teaches that this marking can be provided by the thread or strip manufacturer (cf. paragraphs [0044]-[0045]). **D1** teaches that the strip is fully or partially made of plastic (cf. paragraph [0041]).

D1 does not teach feature (1g) of claim 1 of the present application. Especially, **D1** is completely silent on the laser marking of a security element embedded in the document substrate, by directing laser light onto the document substrate so as to alter a material sensitive to laser light that forms part of said embedded security element. For example, in what regards security strips that can be embedded in a paper substrate as suggested in paragraph [0041], **D1** teaches that the marking can be provided at the manufacturers end (cf., for example, paragraph [0045] of **D1**). Although there may be other possibilities, **D1** is completely silent on marking of the security element after that it has been embedded in the document substrate, by directing laser light onto the document substrate, said document substrate being a paper substrate.

The advantages of laser marking of the security element after embedding it in the document substrate are clear from the description of the present application, and include the possibility of customizing a security document or document blank by laser marking a security element embedded in its substrate, and the possibility of providing the laser marking in register with other security features of the security document. Reference is made to, for example, page 7 line 30 - page 10 line 22 of the description, where the advantages involved with the subject-matter of claim 1 are set out.

D1 is not only silent on feature (1g) as such, but also fails to teach or even suggest the advantages involved with feature (1g) in combination with features (1d)-(1f). Actually, document **D1** teaches away from any use of feature (1g), as paragraph [0044] suggest a different approach: marking the security thread prior to insertion thereof into the substrate.

REGARDING DOCUMENT D2:

Also document **D2** was cited in the description of the application as filed, cf. page 6 lines 24-27 of the description:

"US-2012/0103545-A1 relates to the production of colored markings on a substrate using laser light, and teaches combining a material for forming a colored mark under laser irradiation, and an antitampering agent. The

substrate can be a paper substrate used in a security document and/or a security article."

That is, **D2** relates to the production of colored markings on a substrate using laser light. **D2** is about combining a material for forming a colored mark under laser irradiation, and an antitampering agent.

The substrate to which **D2** refers can be a paper substrate, and it can comprise a security element, cf. paragraphs [0099]-[0102]. Paragraph [0108] refers to the *"use of a laser-markable substrate, as defined above, in a security document and/or a security article"*. It is clear from the statement in paragraph [0099] (*"The substrate may comprise an authentication and/or identifying security element"*), especially in view of paragraphs [0108] and claim 20, that the laser markable substrate corresponds to what is referred to as the "document substrate" in claim 1 of the present application. This substrate can additionally comprise security elements. There is nothing in **D2** that suggests anything in line with feature (1g) in combination with features (1d)-(1f).

Regarding document **D3**:

Also this document was cited in the description of the application as filed, cf. page 4 line 26 – page 5 line 2:

"A known way of arranging a security feature of a security element in register with a substrate consists in forcing, in a controlled manner, the variation of the visual appearance of the security element after it has been applied to the substrate.

For instance, US-2008/0191462-A1 discloses a security document with a paper substrate, having a coating on a portion of its surface. The coating includes a metallic layer which is modified by laser light, thereby marking the coating. This marking can be made in register with markings on the paper outside the coating, as shown in US-2008/0191462-A1.

However, a problem with the method is that the marking is carried out on the surface of the document, wherefore the marked portions can easily be subjected to wear and degradation during use of the document, which can lead to doubts about its authenticity. Also, superficial markings can sometimes be subjected to fraudulent alterations."

That is, document **D3** refers to the laser marking of an element placed on a paper substrate. Also document **D3** fails to teach or suggest feature (1g) in combination with features (1d)-(1f). There is nothing in document **D3** that suggest laser marking a security element embedded in a paper substrate.

REGARDING DOCUMENT **D4**:

Also this document was cited in the description of the application as filed, cf. page 7 lines 6-7:

"US-2006/0145468-A1 D4 refers to the production of a security document with at least one tangible marking in the form of a relief structure, produced by laser."

Different options are discussed, but none of them involves feature (1g) in combination with features (1d)-(1f).

REGARDING DOCUMENT D5

This document, published 5/2/14 and with a filing date of 31/7/12, teaches a security cellulose element comprising a laser heat-treated area, wherein the plant fibers located in the heat-treated area are degraded due to the heat treatment. Also this document fails to teach feature (1g) in combination with features (1d)-(1f). Document **D5** seems to suggest an alternative approach, in which cellulose security elements are laser marked and thereafter inserted into a security document substrate. The ISA cited claims 1-11 as allegedly disclosing the invention of claim 1 of the present application, but these claims fail to teach the combination of features (1d)-(1g). On the other hand, from the examples it is clear that laser marking of the strips takes place prior to insertion of the strips into the substrate, cf., e.g., paragraphs [0050] and [0061].

CONCLUSION REGARDING CLAIM 1

That is, it is observed that none of the cited prior art references teach the combination of features (1a)-(1g) and especially not the combination of features (1d)-(1g), involving the laser marking of security elements embedded in paper document substrates. Rather, documents **D1-D4** relate to conventional prior art arrangements and were discussed in the description of the present application. **D5** is an example of a laser marked security strip that is inserted into a paper document substrate after having been marked. This approach does not provide for the advantages of the present invention in terms of, for example, the possibility of customization and the possibility of assuring that the marking on the security element is in register with markings in the document substrate, cf. page 7 line 30 – page line 22.

It is respectfully submitted that the claimed subject-matter is novel over the cited prior art documents. It also involves an inventive step. We have not observed anything in the cited prior art references that would appear to induce the skilled person to modify what is taught in any of them so as to arrive at the invention as defined in claim 1.

REGARDING CLAIMS 15 AND 17

Claims 15 and 17 are focused on security documents including, embedded therein, security elements comprising an element substrate in the form of a cellulose strip or patch, said element substrate being provided with a material that is sensitive to laser light arranged so that said material can be sublimated with laser light. Also the document substrate is of paper. This arrangement makes it possible to mark

the cellulose strip or patch based security elements after embedding them in the paper document substrate, using laser light.

None of documents **D1** to **D5** seem to disclose a security document as defined in claim 15, including a paper substrate comprising at least two paper layers, and a security element embedded in said document substrate between said two paper layers, said security element comprising an element substrate in the form of a cellulose strip or patch, wherein said element substrate is provided with material sensitive to laser light, wherein said security element has been provided with a detectable marking due to partial sublimation of said material with laser light. The Examiner has cited document **D1** and **D2** in relation to claim 15, but none of these documents seem to teach this kind of approach. Should the Examiner disagree, we most respectfully request the Examiner to explain where in the cited prior art documents the different features of claim 15 can be found in combination.

The same applies to claim 17, *mutatis mutandis*.

In this context, it is observed that the prior art is generally silent on the possibility of laser marking of cellulose strip or patch based security elements by partial sublimation of a material sensitive to laser light. Considering documents **D1-D5**, only document **D5** seems to deal with cellulose based security elements, and this document suggests marking them by degrading the plant fibers prior to embedding the security element in the document substrate, cf. for example claim 1 of **D5** as well as paragraphs [0050] and [0061] of document **D5**. In what regards the advantages involved with the use of cellulose security threads or patches, cf. page 12 lines 2-18 of the description as filed. The invention makes it possible to use this kind of security elements and to mark them after embedding them in the security document substrate, with the advantages that this implies in terms of customization and register between marks in the security element and the document substrate, as explained in the description of the present application.

Thus, also the subject-matter of claims 15 and 17 is novel and involves an inventive step over the cited prior art references.

Respectfully submitted,

BALDER

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