CAVELIER ABOGADOS – Colo: 10369-801-002-4.

PETITORIO

Industria y Comercio
SUPERINTENDENCIA

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Dependencia: 250 DIVISION DE NUEVAS CREACIONES

FORMULARIO UNICO DE SOLICITUD DE PATENTE 2000-3

1 SOLICITUD DE:

☒ Patente de Invención ☐ Patente de Modelo de Utilidad

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5 TITULO (54) PRÓTESIS DE DISCO MEJORADA

6 Clasificación Internacional (51) A61F 2/00, 2/44

7 Prioridad SI ☐ NO ☒	(33) País de Origen	(32) Fecha	(31) Número de Solicitud

8 Para publicar a partir de la fecha de la presente solicitud a los

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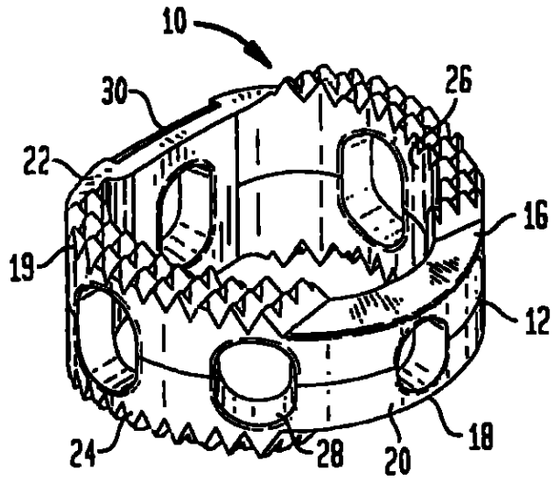
ANEXOS

- [x] Comprobante de pago de la tasa de presentación de la solicitud
- [ ] Comprobante de pago de la tasa por concepto de excedente de palabras en la publicación
- [ ] Comprobante de pago por reivindicación de prioridad
- [ ] Certificado de existencia y representación legal cuando el solicitante sea persona jurídica
- [x] Poderes, si fuere el caso
- [ ] Copia certificada de la primera solicitud, si se reivindica prioridad
- [ ] Traducción simple de la primera solicitud, si se reivindica prioridad
- [ ] Documento de cesión del inventor al solicitante o a su causante
- [x] Descripción de la invencion (En inglés)
- [x] Una o más reivindicaciones (En inglés)
- [x] Dibujos y/o planos necesarios (1 pág.)
- [ ] De ser el caso, copia del contrato de acceso
- [ ] De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas
- [ ] De ser el caso, certificado de depósito del material biológico
- [x] Arte final 12 x 12.

11

FIGURA CARACTERISTICA:

FIG. 1



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NOMBRE: EMILIO FERRERO

FIRMA:

C.C. 438.019 de Usaquén T.P. 31.929

MRE/mrm-ld-17

(A) 2

Attorney Ref. 2632/59414

IMPROVED DISC PROSTHESIS

FIELD OF THE INVENTION

This invention relates to artificial biocompatible synthetic vertebral prostheses; and more particularly to prosthetic metal intervertebral discs.

BACKGROUND OF THE INVENTION

Many types of vertebral prostheses have been proposed and patented for implantation in the vertebral disc space after surgical removal of a diseased or damaged disc. Such devices fall into three broad categories. One category of prostheses includes the use of pliable synthetic materials in an attempt to mimic the compressibility of the human spinal disc. For example, U.S. Patent No. 5,171,281 (Parsons) discusses a disc spacer which purports to possess mechanical properties akin to those of the normal disc by varying the hardness of the elastomeric material in its nucleus and annulus. U.S. Patent No. 5,192,326 (Bao) illustrates a prosthetic disc formed from a multiplicity of hydrogel beads having a water content of at least 30%. According to the patent, a semi-permeable membrane covers the beads and is said to permit fluids to flow in and out of the prosthetic nucleus. U.S. Patent No. 5,071,437 (Steffee) proposes another approach to a pliable implant. That approach appears to involve upper and lower flat rigid plates sandwiching an elastomeric core made from a polyolefin rubber. U.S. Patent No. 5,002,576 (Fuhrmann) also discusses a variation on the foregoing approach.

Another type of prosthesis attempts to mimic the shape of a natural spinal disc. For example, U.S. Patent No. 4,714,469 (Kenna) discusses a spinal implant adapted to replace a disc between adjacent vertebrae using a predetermined thickness and profile to match the space between the vertebrae. The implant includes a porous coating on its surface. U.S. Patent 4,759,766 (Buettner-Janz) illustrates a metallic disc endoprosthesis which has two symmetrical, concave end plates with an intermediate spacing piece. Similarly, U.S. Patent No. 5,314,477 (Oka) discusses a disc prosthesis including two plates separated by a joint composed of a spherical cap and cylindrical base which attempts to ensure connection between the vertebrae.

More recently, the present inventor has patented (U.S. Patent No. 5,865,845, Thalgott) a prosthetic intervertebral disc which takes into consideration the anatomy and the geometry of the intervertebral space sought to be filled by the prosthetic device. That device, while an improvement over prior available devices, does not work for all applications or geometries. Further, continuing experience with its use has increased understanding of areas where its design could be improved to mesh more precisely with the surrounding anatomy in the spine. Accordingly, a need continues to exist for an improved intervertebral implant which better addresses the need for a disc replacement which improves over prior spinal implants.

SUMMARY OF THE INVENTION

The foregoing objects are achieved and the disadvantages of the prior art are overcome by providing a spinal disc implant comprising an implant of a biocompatible metallic body having a front wall, a rear wall, and two side walls extending therebetween to define an interior space. Each side wall defines a substantially arcuate curve joining one end of the front wall and one end

of the rear wall. Further, each wall contains at least one opening therein, and the upper and lower surfaces of the two side walls having a plurality of teeth extending therefrom for engaging adjacent vertebral bodies. The side walls of the implant taper in height from the rear wall to the front wall; and the front wall and the rear wall each lack teeth, and have a height substantially similar to that of a portion of the side wall adjacent the front and rear walls. The implant is made of a biocompatible metal such as titanium or an alloy thereof, and the first and second sides taper from the junction between the back wall and the side wall to the junction between the front wall and the side wall. Preferably, the interior space includes a porous hydroxyapatite block shaped and press fit, cemented or screwed in to fill the interior space. The porous hydroxyapatite substance helps the prosthesis integrate into the vertebral structure by allowing bone to grow into pores.

BRIEF DESCRIPTION OF THE DRAWINGS

Other features and advantages of the invention will be apparent from the following detailed description of the preferred embodiments taken in conjunction with the accompanying drawings as follows:

FIG. 1 shows a perspective view of one embodiment of the spinal disc implant of the present invention;

FIG. 2 is a top view of the spinal disc implant of FIG.1;

FIG. 3 is a side view of a representative side of the spinal disc implant of FIG. 1;

FIG. 4 is a front view of the spinal disc implant of FIG. 1;

FIG. 5 is a schematic cross-sectional view of the teeth of the implant shown in FIG. 1;

FIG. 6 is a top view of a portion of the teeth on an upper surface of the implant; and

FIG. 7 is a cross-sectional view of the implant of FIG. 1, taken along line 7-7 (before boring the central opening or machining the teeth).

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 illustrates a spinal disc implant of the present invention, generally indicated by the reference numeral 10. The implant 10 has a generally D-shaped body 12 including a central opening 14. The implant further includes upper and lower faces 16, 18 having a plurality of teeth 19 or other gripping means included on each face. The implant 10 has a front wall 20, a back wall 22, and first and second side walls 24, 26, which are all joined. The back wall 22 is relatively straight, while the front wall 20 and side walls 24 and 26 are curved. The openings or holes 28 in the walls are preferably of an elliptical shape, although they may be square, circular, or rectangular. The embodiment of FIG. 1 has a hole or opening 28 in the center of the back wall 18 and in the center of the front wall 20. There is an opening or hole 28 at the junction between each side wall 24, 26 and the front wall 20, as well as in the approximate center of each side wall 24, 26 for a total of six openings or holes 28 in the implant 10. Teeth 19 appear on the upper or lower surfaces 16, 18 of the side walls 24, 26, but not on the upper or lower surfaces of the front and rear walls 20, 22. The upper and lower surfaces 30, 32 of the rear wall 22 includes notches 34, 36 to provide a structure to engage a gripping tool (not shown) to aid in placement of the implant 10 in the intervertebral space. The space defined by the central opening 14 (best viewed in FIG. 2) openings are preferrably filled with hydroxyapatite combined with any biological factor

or composition which helps to induce growth of bone and cartilage against the surface of the implant and in the spaces defined by the teeth 19.

The teeth 19 (shown in FIGS. 1 and 5) are preferably steeply sloped four-sided pyramids of approximately .08 inches in height. They are preferably arranged in straight rows across and down the upper and lower faces 16, 18 of the side walls 24, 26 of the implant 10, as shown in FIG. 2. The pyramidal faces of each tooth 19 preferably form a 45° angle with the vertical. They can be formed by machining the implant 10, or as part of the casting process.

An important aspect of the present invention is its geometric compatibility with its environment. Referring to FIGS. 1 and 3, the implant 10 slopes from the rear wall 22 to the front wall 20. This shape enables the implant 10 to fit between adjacent vertebral bodies (not shown) when the spine is in an upright position. The exact angle formed at the vertex defined by the top and bottom faces varies depending on which disc is being replaced. In the lumbar region of the spine, for example, the opposed faces adjacent vertebral bodies define an angle ranging from about 0 to about 20 degrees. Similarly, since the vertebral body, which engages the first and second faces 16, 18 of the implant 10 from above, has a defined curvature, the implant 10 has a curvature which mimics that of the intervertebral space to allow it to conform to the domed shape of the vertebral body surface.

The implant 10 is preferably made from pure titanium or an alloy thereof, preferably anodized to increase its biocompatibility by making it more inert. The implant 10 may be made from bar stock, or tubing or by molding, or from titanium powder using powder metallurgy techniques. The dimensions of the implant 10 vary depending on where in the spine the implant will be inserted. The vertebral bodies in the lumbar area of spine, for example, are larger than

the vertebral bodies in the thoracic area. Therefore, an implant intended for the thoracic region would be smaller than one for the lumbar region. Likewise, lower lumbar disc replacements would be larger than upper ones. By way of example, an implant sized for implantation between the third and fourth lumbar vertebrae may have approximate dimensions of 2.7 cm long, 2.5 cm wide, about 2 cm high anteriorly, and would slope down to about 1.3 cm high posteriorly. The slope from rear to front in a typical implant increases by about 3 mm. A person of ordinary skill could adapt the basic dimensions of the implant 10 to make the implant 10 suitable for the space formerly occupied by the particular vertebral disc which needs replacement. The present invention therefore includes implants having varying angles and dimensions to allow implantation at different levels of the spine.

The shape and curvature of the implant 10 provide several advantages. In the lumbar region of the spine, the discs and vertebral bodies are held at an angle creating a lordosis or curvature of the lumbar spine. To have the implant 10 parallel or coplanar would be physiologically and anatomically unacceptable. The natural discs in the lumbar spine are wider anteriorly than they are posteriorly. The disc replacement implant 10 of the present invention is therefore also wider posteriorly than it is anteriorly. This recreates the natural anatomic curvature of the spine.

Further, the implant 10 of the present invention takes into consideration the anatomy of the undersurface of the vertebral body or end plate of the vertebra on which the lower face of the implant 10 rests. The end plate is made of very compact bone circumferentially, but as the bone centralizes towards the middle, it becomes thinner. The thinner portion is dome shaped, and is responsible for the hydraulic stress middle of the end plate. This shape is mimicked by the

secondary curvature in the disc implant of the present invention. The secondary arc which corresponds to the dome in the vertebral body provides a mechanism to lock the cage in place and prevent slippage or extrusion. The teeth 19 disposed on portions of the top and bottom faces of the side walls 24, 26 of the implant 10 grip the vertebral body and cause a mechanical interface between the prosthesis and the end plate of the vertebral body.

Preferably, the implant 10 optionally includes an insert of synthetic bone material, such as porous hydroxyapatite or other equivalent substance. Preferably, the synthetic bone material is Interpore ProOsteon 500 brand of porous coralline hydroxyapatite, available from Interpore Cross International, Irvine, California. The porous synthetic bone material is held in place by press fit (friction), or by set screws on the sides of the implant 10 (not shown). The porous synthetic bone allows independent placement of the implant 10 into the intervertebral disc space without use of a bone graft. This will help reduce morbidity and complications associated with harvesting a bone graft from the patient, reported to be as high as 21%. It will also obviate the need for use of an allograft, which carries the risk of disease transmission and added expense.

The implant 10 provides a non-articulating disc prosthesis which can be provided in multiple sizes depending on the size needed for the specific lumbar region, and can be furnished in smaller sizes for the cervical and thoracic spine, as miniature cages for placement using endoscopic techniques for minimally invasive spine surgery.

During implantation surgery, the surgeon exposes the herniated or damaged disc, and removes it. A spinal disc implant 10 (optionally including a central core of porous synthetic bone), is inserted with a tool which grips the implant 10 to enable the surgeon to lift and insert the implant 10 in the intervertebral space defined by adjacent vertebral bodies from which the

damaged or diseases disc was removed. The implant 10 is positioned on the vertebral body so that its transverse curvature conforms to the dome shape of the vertebral body. At the same time, the implant 10 is positioned so that its anterior to posterior position will create the proper angulation between vertebrae to help to restore the natural anatomic curvature of the human spine. The implant 10, once implanted, encourages osseointegration in two distinct ways. The teeth 19 form an irregular surface which grip the vertebral body and allow bone tissue to grow in and around the teeth 20. Also, the synthetic porous bone segment, if present, allows bone tissue to grow into the pores, to help anchor the implant 10 in place without resorting to bone grafts orallografts. The advantages to the present implant 10 include the following: (1) the pattern of teeth is different than previous discs; (2) the front of the device fits within the end plates of the vertebral bodies in a much more anatomic fashion as compared with previous discs; and (3) the implant provided herein can be used in the lumbar spine. However, smaller versions for use in the cervical and thoracic spine are intended to be part of the invention.

Various modifications will be apparent to those skilled in the art. Such modifications and changes are intended to be included within the scope of the invention, which is defined by the following claims.

I CLAIM:

1. An implant of a biocompatible metallic body having a front wall, a rear wall, and two side walls extending therebetween to define a substantially *D*-shaped interior space, and wherein each side wall defines a substantially arcuate curve joining one end of the front wall and one end of the rear wall, and wherein each wall contains at least one opening therein, the upper and lower surfaces of the two side walls having a plurality of teeth extending therefrom for engaging adjacent vertebral bodies, the implant being made of a biocompatible metal, the side walls tapering in height from the rear wall to the front wall; wherein the upper and lower surfaces of the front and rear walls each lack teeth, and have a height substantially similar to that of a portion of the side wall adjacent the front and rear walls.

2. A spinal disc implant in accordance with claim 1, wherein the height of the rear wall ranges from about 11 mm to about 15 mm, and the height of the front wall ranges from about 8 mm to about 12 mm.

3. A spinal disc implant in accordance with claim 2, wherein the difference in height between the rear wall of the implant and the front wall of the implant is about 3 mm.

4. A spinal disc implant in accordance with claim 1 wherein the rear wall of the implant has a notch in an upper and lower edge thereof.

5. A spinal disc implant in accordance with claim 1 wherein the biocompatible metallic body is titanium or an alloy thereof.

6. A spinal disc implant in accordance with claim 5 wherein the interior space includes a porous hydroxyapatite block shaped to be held by the implant within the interior space.

7. A spinal implant in accordance with claim 1 wherein upper and lower surfaces of the implant are curved to mate with a domed surface of adjacent end plates of vertebrae between which the implant is inserted.

8. A spinal disc implant in accordance with claim 7, wherein the upper and lower edges of the implant are convexly curved to mate with the surface of adjacent end plates of vertebrae between which the implant is inserted.

9. An implant of a biocompatible metal for replacing a diseased spinal disk, comprising: a generally D-shaped body, the body including a curved front wall, a substantially straight rear wall, and a pair of spaced apart arcuate side walls connecting the front and rear walls, the side walls including a plurality of teeth on upper and lower surfaces thereof; the front and rear walls lacking teeth and having a height equal to that of the side walls less approximately twice the height of the teeth; the rear wall also having a notch on an upper and lower edge thereof for engaging an insertion instrument; the side walls sloping from the front wall to the rear wall such that the height of the front wall exceeds the height of the rear wall by about 3 mm.

10. A spinal disc implant in accordance with claim 9, wherein the height of the front wall ranges from about 8 mm to about 12 mm, and the height of the rear wall ranges from about 11 mm to about 15 mm.

11. A spinal disc implant in accordance with claim 10, wherein the biocompatible metal is titanium or an alloy thereof.

12. A spinal disc implant in accordance with claim 11, wherein the implant includes a plurality of openings spaced around the periphery thereof.

IMPROVED DISC PROSTHESIS

ABSTRACT OF THE DISCLOSURE

The invention provides a spinal disc implant comprising two side walls which are opposed and substantially parallel spaced apart by a front wall and a back wall to define an interior space. The side walls define substantially elliptical curves joining the front and back walls. The front wall is also curved and the back wall may be either curved or straight. The walls may have openings or holes which may be circular or elliptical in shape. The upper and lower edges of the implant have a plurality of teeth extending therefrom for engaging adjacent vertebrae. The implant is made of a biocompatible metal such as titanium or an alloy thereof, and the first and second sides tapering from the second end to the first end. The interior space has a porous hydroxyapatite block shaped to fill the interior space. The porous hydroxyapatite substance helps the prosthesis integrate into the vertebral structure by allowing into the pores.

FIG. 1

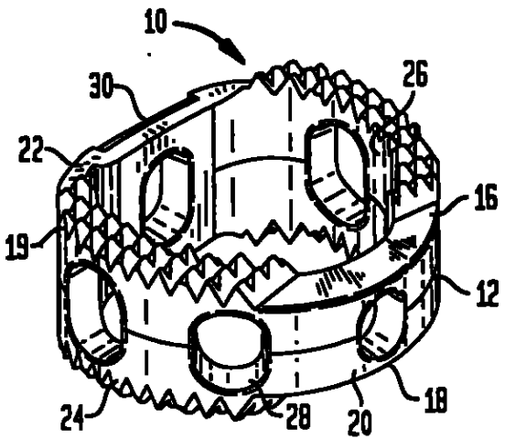


FIG. 2

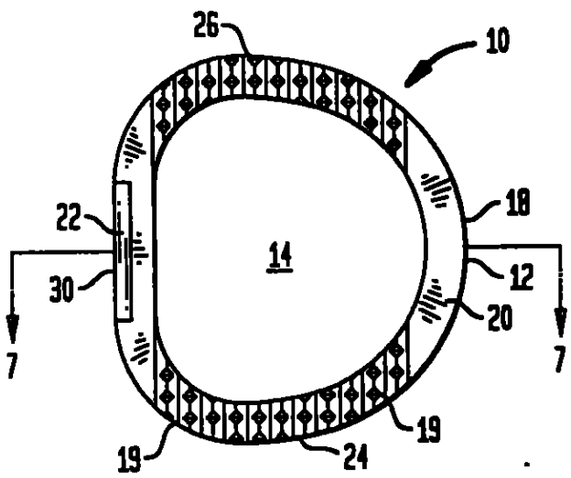


FIG. 3

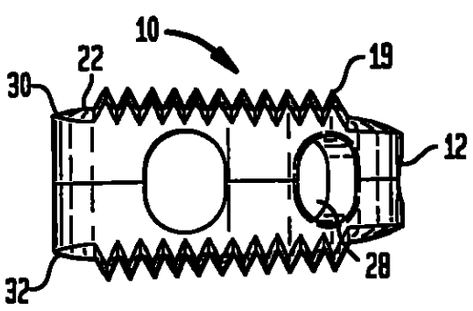


FIG. 4

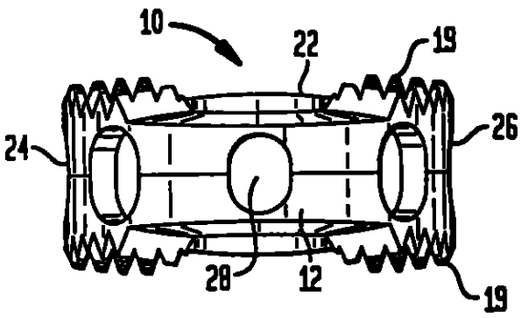


FIG. 5

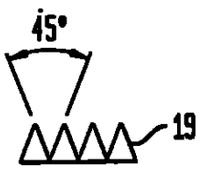


FIG. 6

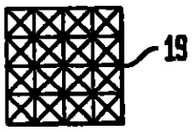
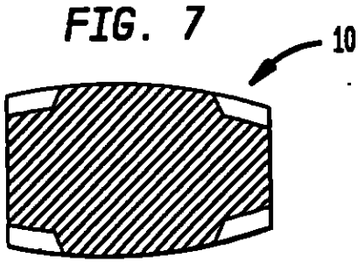


FIG. 7



CAVELIER
ABOGADOS
EDIFICIO SISKI
CARRERA 4ª Nº 72-35
BOGOTA, S - COLOMBIA

For patents, utility models, industrial designs, trademarks, commercial names, trade emblems, slogans.

Para patentes, modelos de utilidad, diseños industriales, marcas de fábrica, nombres comerciales, enseñas, lemas comerciales.

15

REPRESENTACION Y PODER

REPRESENTATION AND POWER OF ATTORNEY

10369
6075

I (we), the undersigned/Yo (nosotros), abajo firmado (s)

John S. THALGOTT

of/domiciliado (a) en 600 South Rancho, Ste 107

Las Vegas, Nevada 89106, United States of America, hereby ratify

the patent application No. 97.011.881 filed by EMILIO FERRERO on March 5, 1997, and

por el presente nombramos a GERMAN CAVELIER, tpa. 832; GONZALO PERDOMO, tpa. 831; EMILIO FERRERO, tpa. 31929; y LUZ CLEMENCIA DE PAEZ, tpa. 23555; domiciliados en la Carrera 4ª Nº 72-35, Bogotá, Colombia, en obedecimiento a lo dispuesto en el parágrafo 1º del Artículo 543 del Código de Comercio, el primero como principal y los demás como suplentes, en su orden, como mis (nuestros) representantes en todos los asuntos de propiedad industrial con facultad para recibir notificaciones y nombrar apoderados judiciales o extrajudiciales. El primer representante suplente reemplazará al principal en caso de ausencia o impedimento temporal o definitivo de aquél. La misma regla se aplicará cuando el segundo representante suplente haya de reemplazar al primero, o el tercero al segundo. En tales casos, el representante principal, o el primero, o segundo suplente, en su caso, o ambos, declararán su intención de no ejercer la representación mediante declaración autenticada por Notario Público en Colombia, o por Notario u otro Funcionario Público, o Cónsul de Colombia, en el extranjero; y si se tratare de impedimento, con el certificado respectivo. Si alguno de los nombrados faltare definitivamente, el siguiente tomará su lugar. Cuando cesare la ausencia o impedimento del representante principal, o de su primero o segundo suplentes, en su caso, podrán ejercer la representación, en su orden, uno u otros según el caso, asumiéndola por el solo hecho de ejercerla, cesando en ese momento el ejercicio de la representación por el primero, segundo o tercer suplente en su caso.

Además, confiero (conferimos) poder a los abogados arriba nombrados, para obtener la protección de mi (nuestra) propiedad industrial y contra la competencia desleal, a cuyo efecto autorizo (amos) a los dichos apoderados para que me (nos) representen ante cualesquiera entidades o personas, ejerzan o no jurisdicción, especialmente ante las del orden administrativo, contencioso-administrativo y judicial, así como los tribunales de arbitramento, en todo lo concerniente a los siguientes asuntos: a) Obtención de patentes de invención, modelos de utilidad y diseños industriales; el registro de marcas de fábrica, colectivas, defensivas, de servicio, lemas comerciales, nombres comerciales, enseñas, variedades vegetales y denominaciones de origen; su renovación, traspaso, cambio de nombre o domicilio, cancelación voluntaria; y el registro de licencias de uso de esos derechos; b) Las acciones de competencia desleal, protección del consumidor, oposiciones u observaciones, cancelación administrativa y judicial, nulidad, medidas cautelares, concesión de licencias, la tutela, la protección de secretos industriales, y en general los juicios civiles, penales, administrativos o contencioso-administrativos relacionados con estos derechos; acciones y procesos que promovamos o se nos promuevan. Y para que en todos los asuntos arriba determinados, puedan sustituir este mandato, transigir, conciliar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar, y ratificar los actos de agentes oficiosos.

In due compliance with the terms of paragraph 1st. of article 543 of the Commercial Code, do hereby appoint GERMAN CAVELIER, tpa. 832; GONZALO PERDOMO, tpa. 831; EMILIO FERRERO, tpa. 31929; and LUZ CLEMENCIA DE PAEZ, tpa. 23555; domiciled at Carrera 4ª Nº 72-35, Bogotá, Colombia, the first as principal and the others as alternates, in the order of their appointment, as our representatives for all industrial property matters with faculty to receive notifications and to appoint attorneys in and out of Court. The first alternate shall replace the principal in case of his absence or of temporal or definitive impediment. The same rule will apply when the second alternate representative is to replace the first one, or when the third is to replace the first or second alternates in their turn, or both of them, second. In such cases, the principal representative, or the first or second alternates in their turn, or both of them, shall state their intention not to act as representatives through a declaration given before a Notary Public in Colombia, or before a Notary or another Public Official or a Colombian Consul abroad; and in case of impediment, the appropriate certificate shall suffice. If any of the appointees were to be definitely absent, the following alternate shall take his place. When the absence or impediment of the principal representative, or of the first or second alternate in their turn ceases, the representation can be taken again in their sequence, by the principal, the first or second alternate depending on case, and the mere fact or its exercise will suffice. The exercise of the representation by the first, second or third alternates in their turn shall end at such time.

In addition, we grant a Power of Attorney in favor of the above-named attorneys-at-law so that they may obtain the protection of my (our) industrial property and against the unfair competition, for which purpose I (we) authorize the said attorneys to represent me (us) before any authorities or persons, with or without jurisdiction, specially those administrative, administrative contentious and judicial, as well as before Arbitration Court, in all matters concerning the following: a) Obtainment of patents, utility models and industrial designs; the registration of trademarks, collective, defensive and service marks, slogans, commercial names, trade emblems, vegetal varieties and denominations of origin; its renewal, assignment, change of name or domicile, voluntary cancellation; and the registration of licenses of use of the above rights; b) Actions of unfair competition, protection to the consumer, oppositions or observations, administrative or Court cancellation, nullity, infringement, granting of licenses, the action for writ mandamus, the protection of trade secrets, and in general the civil, penal, and administrative suits relating to those rights; actions and suits instituted by me (us) or against me (us). And that in all the above matters they may substitute this Power of Attorney, compromise, conciliate, admit the facts of the case, desist, cancel, receive, [illegible] by representatives without a

Given and signed this/Dado y firmado hoy _____

in/en _____

Signature _____ Firma

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16 ENE 2002
PABLO MENDEZ DARAJAS
NOTARIO (E)

TRADUCCION No: 1405/97
MARIA ELVIRA MARTELO
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

CAVELIER ABOGADOS
WP\PODERE-3 (MINUTA Nº 12.1.1.2.6 USA)

021-15

CERTIFICADO NOTARÍAL (INDIVIDUO)

A los ___ días del mes de _____ de 19_____

ante mí, Notario Público de _____

compareció(eron) personalmente John S. THALGOTT

_____

a quien(es) doy fe de conocer y me consta que es(son) la(s) persona(s) firmante(s) del documento que precede, y quien(es) tiene(n) capacidad legal para otorgarlo.

NOTARIAL CERTIFICATE (INDIVIDUAL)

On this ___ day of _____ 19_____

before me, a Notary Public of _____

personally appeared John S. THALGOTT

_____

to me known, and known to me to be the person(s) who executed that foregoing document, and who has(have) legal capacity to execute it.

_____ Notario Público — Notary Public _____

CERTIFICADO NOTARIAL (SOCIEDAD)

Hoy, _____ de _____ de 19_____

compareció(eron) ante mí

_____

a quien(es) conozco personalmente y que firma(n) este documento en representación de la Sociedad/compañía

denominada _____

_____

Certifico:

1. Que he visto los siguientes documentos:*

2. Que dichos documentos prueban lo siguiente:

2.1. Que _____

es una Sociedad/Compañía legalmente constituída y existente

de acuerdo con las leyes de _____

_____

2.2. Que el domicilio de dicha Sociedad/Compañía es

_____

2.3. Que el objeto u objeto para los cuales se otorga el presente poder están comprendidos dentro del objeto social de la mencionada Sociedad/Compañía.

2.4. Que el(los) Sr.(Sres.) _____

_____

está(n) autorizado(s) para otorgar el presente Poder.

Ciudad

Estado

Hoy de 19

NOTARIAL CERTIFICATE (CORPORATION)

On this _____ day of _____ 19_____

appeared before me

_____

who(m) I know personally and who(m) signed this document as representative(s) of the Corporation/Company

named _____

_____

I Certify:

1. That I have seen the following documents:*

2. That the above documents duly prove the following:

2.1. That _____

is a Corporation/Company legally constituted and in existence

in accordance with the laws of _____

_____

2.2. That the domicile of said Corporation/Company is

_____

2.3. That the [illegible] present Power of Attorney is [illegible] comprised within the corporation purposes set forth in the charter of the mentioned Corporation/Company.

2.4. That Mr.(Mrs.) _____

_____

is(are) authorized to grant the present Power of Attorney.

City

State

This day of 19

COMO NOTARIO SEXTO ENCARGADO DEL CIRCUITO HAGO CONSTAR QUE [illegible] 16 ENE 2002 PABLO MENDEZ SARAVIA NOTARIO (S)

Notary Public-State Of Nevada
COUNTY OF CLARK
PEGGY ANN GRAEF
My Commission Expires
February 22, 1999

4-28-97

Peggy Ann Graef

_____ Notario Público — Notary Public

* Los documentos deben identificarse con fecha y origen.

* Documents must be identified with date and origin.

16

PAGADO IMPUESTO DE TIMBRE
DERECHOS CONSULARES
US $ 27.-

TRADUCCION No. 140
MARIA ELVIRA CASTILLO CORTELO
Traductora e Intérprete Oficial
Inglés — Español — Inglés
Res. No. 2879 Min. Justicia

CONSULADO GENERAL DE COLOMBIA
595 Market Street
Suite 2130

San Francisco, California Mayo 8/97 **No.** _____

El suscrito Consul General de Colombia CERTIFICA que el Señor Dean Heller **quien autoriza el presente documento, ejercía legalmente, en la fecha allí expresada, las funciones de** Secretario de Estado **de** Nevada, USA **y que la firma y sello que en el documento aparecen como suyos son los que usa y acostumbra en sus actos oficiales. El Consulado no asume responsabilidad alguna por el contenido del documento.**

Miguel Castiblanco
Consul De Colombia

ENE 2002

PABLO [illegible] DARAJAS

17

SECRETARY OF STATE

STATE OF NEVADA

CERTIFICATION

1. Country **United States of America**

   This public document

2. has been signed by PEGGY ANN GRAEF

3. acting in the capacity of NOTARY PUBLIC STATE OF NEVADA

4. bears the seal/stamp of PEGGY ANN GRAEF

CERTIFIED

5. at **Carson City, Nevada, U.S.A.**

6. the SIXTH DAY OF MAY, 1997

7. by **Dean Heller** Secretary of State, State of Nevada, U.S.A.

8. Number 7470

9. Seal/Stamp:

10. Signature:

Dean Heller

Secretary of State

MARY C. PIERETTI

Certification Clerk

TRADUCCION No.: 14.05.97
MARIA ELVIRA MARTELO
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

CONSULADO GENERAL DE COLOMBIA

CONSULADO GENERAL DE COLOMBIA
COMO NOTARIO SEXTO ENCARGADO DEL CIRCULO
DE SANTAFE DE BOGOTA, HAGO CONSTAR QUE:
ESTA COPIA FOTOSTATICA CORRESPONDE CON EL ORI-
GINAL QUE HE TENIDO A LA VISTA
16 ENE
PABLO MENDEZ BA
NOTARIO (E)

TRADUCCION OFICIAL No.14.05/97 de un documento escrito en inglés el cual para su identificación se sella con el sello del Traductor al mismo tiempo que la presente. Esta traducción ha sido preparada por María Elvira Martelo, Traductora Oficial debidamente reconocida por el Ministerio de Relaciones Exteriores y aprobada por el Ministerio de Justicia de Colombia mediante Resolución No. 2879 de 1995.

(Traducción de un documento escrito en inglés y español por el cual **JOHN S. THALGOTT** ratifica la solicitud de patente No. 97.011.881 presentada por Emilio Ferrero el 5 de marzo de 1997 y otorga poder a favor de **GERMAN CAVELIER, GONZALO PERDOMO, EMILIO FERRERO Y LUZ CLEMENCIA DE PAEZ**). (Firma ilegible)
(CERTIFICADO NOTARIAL (INDIVIDUO) en inglés referente a la capacidad legal de John S. Thalgott para otorgar poder. Dado en el Condado de Clark. (Firma) Peggy Ann Graef, Notario Público, 4-28-97. (Sello notarial en tinta) Notario Público-Estado de Nevada, CONDADO DE CLARK, Peggy Ann Graef, Mi Comisión expira el 22 de febrero de 1999.

SECRETARIO DE ESTADO

GRAN SELLO DEL ESTADO DE NEVADA

ESTADO DE NEVADA

CERTIFICACION

1. País Estados Unidos de América
   Este documento público
2. ha sido firmado por PEGGY ANN GRAEF
3. actuando en su capacidad de NOTARIO PUBLICO ESTADO DE NEVADA
4. lleva el sello/estampilla de PEGGY ANN GRAEF

SE CERTIFICA

5. en Carson City, Nevada, Estados Unidos de América.
6. el 6 de mayo de 1997

COMO NOTARIO SEXTO ENCARGADO DEL CIRCULO DE SANTAFE DE BOGOTA, HAGO CONSTAR QUE ESTA COPIA FOTOSTATICA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA
16 ENE 2002
PABLO MENESES DARAJAS
NOTARIO

7. por Dean Heller, Secretario de Estado, Estado de Nevada, Estados Unidos de América

8. Número 7470

9. Sello/estapilla (sello plateado) El Gran Sello del Estado de Nevada)

10. Firma: (firma facsimilar ilegible), Dean Heller, Secretario de Estado. (Firma) Mary C. Pieretti, funcionarios de autenticaciones.

(En español) Certificación de la firma que antecede expedida por el Consulado General de Colombia en San Francisco el 8 de mayo de 1997, bajo el número (en blanco). Pagados impuesto de timbre y derechos consulares. Sello consular en tinta. Firmado por MIGUEL CASTIBLANCO M., Cónsul de Colombia.

(Al dorso) Legalización de la firma que antecede expedida por el **MINISTERIO DE RELACIONES EXTERIORES** bajo el **No.036066** del 15 de mayo de 1997, firmado por el Jefe de Legalizaciones.

Es traducción fiel y completa de la cual se deja copia en los archivos de esta oficina para su confrontación y a la cual me remito.

COLO 10369-801-001-6

Id.4

May 19/97

TRADUCCION No.: 14.05/97
MARIA ELVIRA MARTELO
Traductora e Interprete Oficial
Inglés - Español - Inglés
Res. No. 2879 Min. Justicia

CONSULADO GENERAL DE COLOMBIA
COMO NOTARIO SEXTO ENCARGADO DEL CIRCULO DE SANTAFE DE BOGOTA, HAGO CONSTAR QUE ESTA COPIA FOTOSTATICA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA
16 ENE 2002
PABLO MENDEZ BARAJAS
NOTARIO (E)

MINISTERIO DE RELACIONES EXTERIORES
JEFE DE LEGALIZACIONES
SANTAFE DE BOGOTA D.C.
97 MAY 20 PM 2:01
NO SE ASUME RESPONSABILIDAD DEL TEXTO

...O NOTARIO SEXTO ENCARGADO DE SANTAFE
DE BOGOTA HAGO CONSTAR QUE ... DE

C. C. _____

COINCIDE CON LA ...)
EN ESTA NOTARIA 19 MAYO 1997

SANTAFE DE BOGOTA, D.C.

NOTARIA 7
BOGOTA
Sexto Encargado

COMO NOTARIO SEXTO ENCARGADO DEL CIRCULO
DE SANTAFE DE BOGOTA, HAGO CONSTAR QUE
ESTA COPIA FOTOSTATICA CONCIDE CON EL ORI-
GINAL QUE HE TENIDO A LA VISTA

16 ENE 2002

PABLO MENDEZ BARAJAS
NOTARIO (E)

CAVELIER
ABOGADOS

EDIFICIO SISKI
CARRERA 4 No. 72 - 35
BOGOTA 8, COLOMBIA

WEB SITE: www.cavelier-abogados.com
E-MAIL: cavelier@colomsat.net.co

TELEFONO: (57) (1) 347-3611
TELEFAX: (57) (1) 217-9211 (57) (1) 310-4995

Señor Jefe de la
DIVISION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

Poderdante: JOHN S. THALGOT

Poder conferido el: 28-04-97

Yo, GERMAN CAVELIER, obrando en mi calidad de apoderado principal del poderdante arriba mencionado, atentamente manifiesto a Usted que sustituyo el poder que me ha sido conferido en la persona del doctor EMILIO FERRERO, Abogado con Tarjeta Profesional No. 31.929, con todas las facultades que me fueron conferidas.

Hago la anterior sustitución conforme al artículo 66 del Código de Procedimiento Civil ya que los otros sustitutos faltan en este momento.

Señor Jefe,

GERMAN CAVELIER
T.P.A. No. 832
C.C. No. 2.877.924 de Bogotá

Acepto:

EMILIO FERRERO
T.P.A. N° 31.929
C.C. No. 438.019 de Usaquén

COMO NOTARIO SEXTO ENCARGADO DEL CIRCULO DE SANTAFE DE BOGOTA, HAGO CONSTAR QUE ESTA COPIA FOTOSTATICA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA
16 ENE 2002
PABLO MENDEZ NARAJAS
NOTARIO (E)

2e-780-2

NOTARIA SEXTA DE BOGOTA

RECONOCIMIENTO Y PRESENTACION PERSONAL

Bogotá,,D. C. Diciembre 14/2001

Ante Mí, PABLO MENDEZ BARAJAS S.

NOTARIO SEXTO ENCARGADO DEL CIRCULO DE BOGOTA.

Compareció(eron) [illegible]

quien(es) exhibió(eron) la(s) C. C. 28779[illegible]

y la(s) Libreta(s) Militar(es) [illegible]

domiciliado(s) en Bogotá y declaró(aron) que la(s) firma(s) que aparecen(n) en el presente documento es(son) la(s) suya(s) y que el contenido del mismo es cierto.

En constancia se firma esta Diligencia.

[illegible]

[illegible]

EL SUSCRITO NOTARIO ENCARGADO DEL CIRCULO DE BOGOTA, HAGO CONSTAR QUE LA FOTOSTATICA CONCUERDA CON EL ORIGINAL QUE HE TENIDO A LA VISTA

16 ENE 2002

PABLO MENDEZ BARAJAS
NOTARIO (S)

NOTARIA SEXTA
PABLO MENDEZ BARAJAS

[redacted]

FORMATO DE DIGITALIZACION
RELACI N DE ANEXOS

Royal Technologies S.A.

2

Item		Expediente No 02003292	No de Folio
		No de Unidades	√
1	CD		
2	DVD		
3	REVISTA		
4	LIBRO		
5	PERIODICO		
6	DISQUETES		
7	SOBRE DE MANILA	1	✓
8	SOBRE BLANCO TAMAÑO CARTA		
9	SOBRE BLANCO TAMAÑO OFICIO		
10	OTROS:		

Observaciones: arte final

22

Industria y Comercio
SUPERINTENDENCIA

NIT : 900176099-2

SUPERINDUSTRIA Y COMERCIO
Radicacion : 0e003222 [illegible]
Fecha (Aid): 2002-01-16 16:35:08
Tramite : 642 PATENTES D 1 REGISTRO/ 411 PRESENTAC
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

RECIBO OFICIAL DE CAJA : 01 - 79,713
FECHA : DICIEMBRE 20 DE 2001

Folios: 23

C O N S I G N A C I O N

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	6482742	20/12/2001	29.169.480.00

C O N C E P T O

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	30005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	356.640.00
		TOTAL : $	356,640.00

SON: TRESCIENTOS CINCUENTA Y SEIS MIL SEISCIENTOS CUARENTA PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No.

Colo 10369-801-002-4

Carrera 13 No. 27-00 Pisos 5, 7 y 10
Conmutador 382 0840
Fax 350 5220
E-mail: info@sic.gov.co
www.sic.gov.co
Bogotá, D.C., Colombia

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Industria y Comercio

SUPERINTENDENCIA

NIT : 800176089-2

SUPERINDUSTRIA Y COMERCIO
Radicacion : 02003292 0=00000 Folios: 23
Fecha (AMD): 2002-01-16 16:55:48
Tramite : 042 PATENTES D 1 REGISTRO/ 411 PRESENTAC
Dependencia: PAGA DIVISION DE NUEVOS RECAUDOS

ERTIFICACION DE EXCEDENTE : 02 - 497
ECHA : ENERO 9 DE 2002

C O N S I G N A C I O N

EPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
AVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	6482963	08/01/2002	1,219,502.00

C O N C E P T O

ANT. [redacted]ISTICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-09 OTROS SERVICIOS DE PROPIEDAD I	99 OTROS SERVCIOS ADMINISTRATIVOS	21,360.00
	TOTAL : $	21,360.00

ON: VEINTIUNO MIL TRESCIENTOS SESENTA PESOS

ESPONSABLE :

ECIBO DE CAJA APLICADO AL EXPEDIENTE No.

ESTA CERTIFICACION DE EXCEDENTE DE PAGO SOLO PODRA SER UTILIZADA COMO PARTE DE LA CANCELACION DE UNA TARIFA VIGENTE Y NO PODRA SER SUSTITUIDA POR NINGUN RECIBO.

Solo 10369-801-002-4

Carrera 13 No. 27-00 Pisos 5, 7 y 10
Conmutador 382 0840
Fax 350 5220
E-mail: info@sic.gov.co
www.sic.gov.co
Bogotá, D.C., Colombia

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Industria y Comercio
SUPERINTENDENCIA

REQUISITOS NECESARIOS PARA PRESENTACIÓN Y AGILIZACIÓN DEL TRAMITE

	USUARIO	RADICADOR
PATENTE DE INVENCIÓN [ ] **MODELO DE UTILIDAD**	[ ]	[ ]
• Indicación de que se solicita la concesión de una patente	[ ]	[ ]
• Datos de identificación del solicitante o de la persona que presenta la solicitud	[ ]	[ ]
• Descripción de la invención	[ ]	[ ]
• Dibujos de ser estos pertinentes	[ ]	[ ]
• Comprobante de Pago de las tasas establecidas	[ ]	[ ]
COMPLETA [ ] INCOMPLETA	[ ]	[ ]
DISEÑO INDUSTRIAL [ ]		
• Indicación de que se solicita el registro de Diseño Industrial.	[ ]	[ ]
• Datos de identificación del solicitante o de la persona que presenta la solicitud.	[ ]	[ ]
• Representación gráfica y fotográfica del Diseño Industrial o muestra del material que incorpora el diseño .	[ ]	[ ]
• Comprobante de pago de las tasas establecidas.	[ ]	[ ]
COMPLETA [ ] INCOMPLETA	[ ]	[ ]
ESQUEMA DE TRAZADO [ ]		
• Indicación de que se solicita el registro de un Esquema de trazado.	[ ]	[ ]
• Datos de Identificación del solicitante o de la persona que presenta la solicitud.	[ ]	[ ]
• Representación gráfica del esquema de trazado	[ ]	[ ]
• Comprobante de pago de las tasas establecidas.	[ ]	[ ]
COMPLETA [ ] INCOMPLETA	[ ]	[ ]

Firma Responsable

SUPERINDUSTRIA Y COMERCIO
Radicacion : 02003292 0000000 Folios: 23
Fech Fecha (AMD): 2002-01-16 16:55:08
Tramite : 004 PATENTES D 1 REGISTRO/ 411 PRESENTAC
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

Carrera 13 No. 27-00 Piso 2 mezzanine
Conmutador: 382 06 40
Fax: 350 52 20 e-mail: info@sic.gov.co
Bogotá D.C. - Colombia

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

25

Folio 25

2020
Bogotá, D. C.

Doctor(a)
EMILIO FERRERO
Apoderado(a)

Oficio No. 09422

REFERENCIA:	Radicación	02-3292
	Trámite	002
	Evento	001
	Actuación	430
	Folios	001

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica que:

- Debe aportar la traducción de la solicitud presentada como solicitud colombiana.

En cumplimiento del artículo 39 de la Decisión 486, en concordancia con el artículo 85 de la misma decisión, se le requiere para que dentro del término de dos (2) meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el artículo 8 de la Resolución 210 del 15 de enero del 2001.

ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de la División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista de fecha 14 MAR. 2002

Se recuerda al interesado que debe presentar, dentro de los dieciséis meses siguientes contados a partir de la fecha de presentación de la solicitud cuya prioridad se invoca, copia de la misma certificada por la autoridad que la expidió y, en los casos en que haya lugar, la traducción simple del capítulo reivindicatorio. El incumplimiento de este plazo, acarreará la pérdida de la prioridad invocada.

202027

Carrera 13 N° 27-00 Pisos 5° y 10°
Conmutador 334 1221-2-3-4
Fax 281 3125
Santafé de Bogotá, D.C. - Colombia