

TRADUCCIÓN OFICIAL No. 119/CKM REALIZADA POR DIEGO F. VARGAS ZAMORA, TRADUCTOR E INTÉRPRETE OFICIAL INGLÉS-ESPAÑOL, RECONOCIDO POR EL MINISTERIO DE JUSTICA E INSCRITO ANTE EL MINISTERIO DE RELACIONES EXTERIORES.

BIO5823CONP1

CERTIFICACIÓN

Por el presente certifico que el 31 de mayo de 2019 comparé el documento adjunto con el original, y que dicho documento es una copia fiel de la cesión original presentada ante la Oficina de Marcas y Patentes de los Estados Unidos en relación con la solicitud USSN 15/983035, presentada el 5/17/18.

Firma Ilegible
BRIAN POLANSKY

Firma Ilegible
Amanda Lin Blyth
(Notario Público de Nueva Jersey)
Mí Comisión Vence:
28 de octubre de 2023

DIEGO F. VARGAS Z.
TRADUCTOR E INTÉRPRETE OFICIAL
ESPAÑOL - INGLÉS - INGLÉS - ESPAÑOL
RES. 0001 DE ENERO 4 DE 1999
MINISTERIO DE JUSTICIA



OFICINA DE MARCAS Y PATENTES DE LOS ESTADOS UNIDOS

Subsecretario de Comercio para los Propiedad Intelectual y
Director de la Oficina de Marcas y Patentes de los Estados Unidos

8 de agosto de 2018

PTAS

505039627

DAWN M. CASALVERA

30 SOUTH 17TH STREET

SUITE 1800

PHILADELPHIA, PA 19103

OFICINA DE MARCAS Y PATENTES DE LOS ESTADOS UNIDOS

NOTIFICACIÓN DE INSCRIPCIÓN DE DOCUMENTO DE CESIÓN

EL DOCUMENTO ADJUNTO HA SIDO INSCRITO POR LA SECCIÓN DE REGISTRO DE CESIONES DE LA OFICINA DE MARCAS Y PATENTES DE LOS ESTADOS UNIDOS. UNA COPIA COMPLETA ESTÁ DISPONIBLE EN LA SALA DE BÚSQUEDAS DE CESIONES CON EL NÚMERO DE ROLLO Y CUADRO INDICADOS A CONTINUACIÓN.

POR FAVOR REVISE TODA LA INFORMACIÓN QUE CONTIENE LA PRESENTE NOTIFICACIÓN. LA INFORMACIÓN QUE CONTIENE ESTA NOTIFICACIÓN DE INSCRIPCIÓN REFLEJA LA INFORMACIÓN PRESENTE EN EL SISTEMA DE CESIONES DE MARCAS Y PATENTES. SI ENCUENTRA ERRORES O TIENE PREGUNTAS RELATIVAS A ESTA NOTIFICACIÓN, PUEDE CONTACTAR LA SECCIÓN DE INSCRIPCIÓN DE CESIONES AL 571-272-3350. POR FAVOR ENVÍE SU SOLICITUD DE CORRECCIÓN A: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOC 1450, ALEXANDRIA, VA 22313.

DIEGO VARIAS Z.
Traductor e Interpreté Oficial
ESPAÑOL - INGLES - INGLES - ESPAÑOL
RES. 0001 DE ENERO 4 DE 1999
MINISTERIO DE JUSTICIA

FECHA DE INSCRIPCIÓN: 08/07/2018 ROLLO/CUADRO: 046573/0150

NÚMERO DE HOJAS: 6

RESUMEN: CESIÓN DEL INTERÉS DE LOS CEDENTES (VER DOCUMENTO PARA MAYOR INFORMACIÓN)

REFERENCIA DEL APODERADO NÚMERO: JNJBIO-5823USPSP

CEDENTE:

GOVARI, ASSAF

FECHA DOCUMENTO: 08/05/2018

CEDENTE:

ALGAWI, YEHUDA

FECHA DOCUMENTO: 07/12/2018

CESIONARIO:

BIOSENSE WEBSTER (ISRAEL) LTD.

4 HATNUFA STREET

YOKNEAUM, ISRAEL 2066717

NÚMERO DE SOLICITUD: 15983035 FECHA DE PRESENTACIÓN: 05/17/2018

NÚMERO DE PATENTE:

FECHA DE EXPEDICIÓN:

TÍTULO: IMPLANTE MAMARIO EXPANDIBLE

SECCIÓN DE INSCRIPCIÓN DE CESIONES

DIVISIÓN DE REGISTROS PÚBLICO

REFERENCIA DEL APODERADO NÚMERO: JNJBIO-5823USPSP

DECLARACIÓN Y CESIÓN CONJUNTA

Título de la Invención: IMPLANTE MAMARIO EXPANDIBLE

La presente declaración y cesión se relaciona con:

☐ La solicitud adjunta o la cual se presenta con este documento (lista de inventores nombrados) _____

DIEGO F. VARGAS Z.
TRADUCTOR E INTERPRETE OFICIAL³
ESPAÑOL - INGLÉS - INGLÉS - ESPAÑOL
RES. 0001 DE ENERO 4 DE 1996
MINISTERIO DE JUSTICIA

o

☒ La solicitud de los Estados Unidos o la solicitud internacional PCT número 15/983,035 presentada el 17 de mayo de 2018

Declaración

Como inventor mencionado a continuación, por el presente declaro que:

La anterior solicitud ("Solicitud") fue presentada o autorizada por el suscrito.

Considero que soy el inventor original o uno de los inventores originales de una invención o descubrimiento reivindicado en la Solicitud.

He revisado y comprendido el contenido de la Solicitud, incluyendo las reivindicaciones, y reconozco la obligación de divulgar la información que sea sustancial para la patentabilidad, según se define en el Artículo 1.56 del Título 37 del Código de Regulaciones Federales de los Estados Unidos, para la presentación de esta Solicitud en los Estados Unidos de América.

Por el presente reconozco que cualquier manifestación falsa deliberada, realizada en la presente declaración, será castigada de conformidad con el Artículo 1001 del Título 18 del Código de los Estados Unidos, con multa o encarcelamiento no superior a los cinco (5) años o ambos para la presentación de esta solicitud en los Estados Unidos de América.

Cesión

DIEGO F. VARELA Z.
TRADUCTOR E INTERPRETE OFICIAL
ESPAÑOL - INGLES - INGLES - ESPAÑOL
RES. 0001 DE ENERO 4 DE 1996
MINISTERIO DE JUSTICIA

Biosense Webster (Israel) Ltd.

4 Hatnufa Street

Yokmean, 2066717 Israel

Una sociedad del estado o país de Israel
(denominada en adelante como la "Cesionaria"),

☐ Por el presente reconozco que he cedido la invención identificada anteriormente mediante cesión precedente (adjunta al presente) a la Cesionaria, la cual se confirma por el presente, para su inscripción ante la Oficina de Marcas y Patentes de los Estados Unidos y confirmo que he cedido y transferido y efectivamente cedo y transfiero:

o

☒ Por contraprestación legal y válida, la suficiencia de la cual se reconoce por el presente, por medio de este instrumento cedo y transfiero y/o he cedido y transferido a la Cesionaria;

todo mi derecho, título e interés en, para y según la Solicitud, incluyendo todos los derechos de prioridad para otros países que surjan de la misma y el derecho a reivindicar prioridad a la Solicitud, a todas las invenciones o descubrimientos divulgados en esta, y a cualquier y todas las Patentes de Invención de los Estados Unidos, de la Oficina Europea de Patentes y de todos los demás países, que se lleguen a otorgar para dichas invenciones o descubrimientos, o para cualquiera de estos, a todas dichas invenciones o descubrimientos y todos los derechos en dicha Solicitud, incluyendo cualquier y todas las solicitudes provisionales, de sustitución, de división y continuación de la misma y a todas las Patentes de Invención que se lleguen a

DIEGO VARRAS Z.

TRADUCTOR E INTERPRETE OFICIAL

ESPAÑOL - INGLÉS - INGLÉS - ESPAÑOL

RES. 0001 DE ENERO 4 DE 1994

MINISTERIO DE JUSTICIA

otorgar a dichas invenciones y descubrimientos, así como en y a todas las prórrogas, certificados complementarios de protección, nuevos exámenes, renovaciones y reexpediciones de las mismas, para que sean tenidas y disfrutadas por parte de la Cesionaria para su propio uso y beneficio, hasta el vencimiento del término o términos para los cuales dichas Patentes de Invención se lleguen a otorgar, tan cabal y totalmente como estas habrían sido tenidas y disfrutadas por parte mía, si no se hubiere realizado esta cesión y venta.

Me comprometo a firmar todos los documentos que sean necesarios con respecto a la Solicitud ante la Oficina de Marcas y Patentes de los Estados Unidos, la Oficina Europea de Patentes, cualquier otra oficina de patentes y de conformidad con el Tratado de Cooperación de Patentes, así como cualquier solicitud de continuación, divisional o reexpedición de las mismas, cualquier nuevo examen de cualquiera de dicha solicitudes y cualquier prórroga del término de patente o certificado complementario de protección de cualquiera de dichas solicitudes y también a suscribir cesiones independientes con respecto a cualquiera de dichas solicitudes que la Cesionaria pueda considerar conveniente o necesaria.

Me comprometo a firmar todos los documentos que sean necesarios en relación con cualquier litigio u otra clase de proceso judicial en los Estados Unidos o en otro país o en cualquier proceso administrativo ante la Oficina de Marcas y Patentes de los Estados Unidos, ante la Oficina Europea de Patentes o ante cualquier otra oficina de patentes, o de conformidad con el Tratado de Cooperación de Patentes, relativo a la(s) Solicitud(es) o cualquier solicitud de

continuación, divisional o de reexpedición de las mismas o cualquier nuevo examen de cualquiera de dichas solicitudes o de cualquier Patente de Invención expedida con base en estas o cualquier prórroga al término de patente o certificado de protección complementaria, para cualquiera de dichas solicitudes y a cooperar con la Cesionaria, de cualquier forma que sea posible, para obtener pruebas y avanzar en el trámite de dichos litigios o procesos.

Me comprometo a firmar todos los instrumentos y documentos y a ejecutar cualquier acto que pueda ser necesario con respecto a las reivindicaciones o disposiciones de la Convención Internacional para la Protección de la Propiedad Industrial o acuerdos similares.

Me comprometo a realizar todos los demás actos que puedan ser necesarios o convenientes, en opinión de la Cesionaria, para asegurar el otorgamiento de Patentes de Invención a la Cesionaria o a su nominataria, en los Estados Unidos, por parte de la Oficina Europea de Patentes y en todos los demás países en donde la Cesionaria llegue a desear patentar dichas invenciones o descubrimientos o cualquiera de ellos, con especificaciones y reivindicaciones en la forma que apruebe la Cesionaria y para investir y confirmar en la Cesionaria o en su nominataria el pleno y total título legal y en equidad a todas dichas Patentes de Invención.

Por el presente (i) autorizo y solicito al Comisionado de Marcas y Patentes de los Estados Unidos a expedir cualquiera y todas las Patentes de Invención de los Estados Unidos, que resulten de la Solicitud o de cualquier solicitud divisional, de continuación o de reexpedición y de cualquier

DIEGO F. VARGAS Z
Diego Vargas
TRADUCTOR E INTERPRETE OFICIAL
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MINISTERIO DE JUSTICIA

nuevo examen de cualquiera de dichas solicitudes a la Cesionaria, y (ii) garantizo que poseo todo el derecho de enajenar la participación cedida por el presente y que no he suscrito ni suscribiré ningún acuerdo que esté en conflicto con el presente.

Por el presente otorgo poder al apoderado que aparece en el registro, para inscribir en la presente cesión cualquier identificación adicional que pueda ser necesaria o conveniente, con el fin de obtener la inscripción legal de este documento.

Assaf GOVARI

Firma Ilegible
Firma

5 Ago. 2018
Fecha

[EN OTRO EJEMPLAR IDÉNTICO DE DECLARACIÓN Y CESIÓN CONJUNTA]

Yehuda ALGAWI

Firma Ilegible
Firma

12/7/2018
Fecha

Recibo de Reconocimiento Electrónico	
Identificación EFS:	33386679
Número de Solicitud:	15983035
Número de Solicitud Internacional:	
Número de Confirmación	9143
Título de la Invención:	IMPLANTE MAMARIO EXPANDIBLE
Primer Inventor Nombrado/Nombre Solicitante:	Yehuda Algawi
Número de Cliente:	148260
Peticionario:	Dennis DeFino/Dawn Casalvera
Peticionario Autorizado Por:	Dennis DeFino
Número de Referencia del Apoderado:	JNJBIO-5823USNP

DIEGO F. VARGAS Z.
TRADUCTOR E INTERPRETE OFICIAL
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Fecha de Recibo:	07-AGO-2019
Fecha de Presentación:	17-MAYO-2018
Timbre de Hora:	15:20:49
Tipo de Solicitud:	Modelo Utilidad Art. 111(a) del 35 USC

Información de Pago:

Presentado con Pago:	No
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Listado de documentos:

Documento Número	Descripción del Documento	Nombre Archivo	Tamaño Archivo (Bytes)/ Compendio Mensaje	Multi Part/zip	Pag. (si aplica)
1	Juramento o Declaración Presentada	JNJBIO5823USNP_EXECUTED_ DEC_AS_EFS_20180807.PDF	4755587 bc796ep13p5cb7bf15dd61641051cbd41d 682c89	no	4

Advertencias:

Información:

Tamaño Total Archivos (en bytes):	4755587
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El presente Recibo de Conformación evidencia el recibo en la fecha indicada por parte de la Oficina de Marcas y Patentes de los Estados Unidos de los documentos relacionados, caracterizados por el Solicitante e incluye el conteo de páginas, en caso de ser aplicable. Sirve como evidencia de recibo de forma similar a una tarjeta postal.

Nuevas Solicitudes según Artículo 111 del Título 35 del Código de los Estados Unidos

Si se está presentando una nueva solicitud y la solicitud incluye los componentes necesarios para una fecha de presentación (consultar Art. 153(b)-(d) del Título 37 del Código de Regulaciones Federales y Art. 506 del MPEP) se expedirá un Recibo de Presentación (Art. 154 del Título 37 del Código de Regulaciones Federales) en su debida oportunidad y la fecha que refleja este Recibo de Confirmación establecerá la fecha de presentación de la solicitud.

Fase Nacional de un Solicitud Internacional según Artículo 371 del Título 35 del Código de los Estados Unidos

Si es una solicitud oportuna para entrar a la fase nacional de una solicitud internacional que cumple con las condiciones del Art. 35 del Título 371 del Código de los Estados Unidos y otros requisitos aplicables, se expedirá un Formato PCT/DO/EO/903 indicando la aceptación de la solicitud como una presentación de fase nacional de conformidad con el Art. 35 del Título 371 del Código de los Estados Unidos, en adición al Recibo de Presentación, en su debida oportunidad.

Nueva Solicitud Internacional Presentada ante la Oficina de Marcas y Patentes de los Estados Unidos como Oficina Receptora

Si se está presentando una nueva solicitud internacional y dicha solicitud internacional cumple los componentes necesarios para una fecha de presentación internacional (ver Artículo 11 del PCT y 1810 del MPEP), se emitirá en debida oportunidad una Notificación de Número de Solicitud Internacional, así como de la Fecha de Presentación Internacional (Formulario PCT/RO/105) con sujeción a las prescripciones relativas a seguridad nacional y la fecha reflejada en este Recibo de Confirmación establecerá la fecha de presentación internacional de la solicitud.

FIN DE LA TRADUCCIÓN

Bogotá D.C., 10 de junio de 2019

Es traducción fiel y completa del documento original realizada por: DIEGO F. VARGAS ZAMORA,
Traductor e Intérprete Oficial Según Resolución No. 0001 de 1999 Ministerio de Justicia de
Colombia.

DIEGO F. VARGAS Z.
TRADUCTOR E INTERPRETE OFICIAL
ESPAÑOL - INGLÉS - INGLÉS - ESPAÑOL
RES. 0001 DE ENERO 4 DE 1999
MINISTERIO DE JUSTICIA

BIO5823CONP1

CERTIFICATION

I hereby certify that on May 31, 2019, I have compared the attached document with the original, and that such said document is a true copy of the original assignment as filed with the United States Patent Office in connection with USSN 15/983035 filed 5/17/18.



BRIAN POLANSKY



Amanda Lin Blyth
(Notary Public of New Jersey)
My Commission Expires:
October 28, 2023



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

AUGUST 8, 2018

PTAS

DAWN M. CASALVERA
30 SOUTH 17TH STREET
SUITE 1800
PHILADELPHIA, PA 19103

505039627

UNITED STATES PATENT AND TRADEMARK OFFICE NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT RECORDATION BRANCH OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 08/07/2018

REEL/FRAME: 046573/0150
NUMBER OF PAGES: 6

BRIEF: ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

DOCKET NUMBER: JNJBIO-5823USNP

ASSIGNOR:
GOVARI, ASSAF

DOC DATE: 08/05/2018

ASSIGNOR:
ALGAWI, YEHUDA

DOC DATE: 07/12/2018

ASSIGNEE:
BIOSENSE WEBSTER (ISRAEL) LTD.
4 HATNUFA STREET
YOKNEAM, ISRAEL 2066717

APPLICATION NUMBER: 15983035
PATENT NUMBER:
TITLE: EXPANDABLE BREAST IMPLANT

FILING DATE: 05/17/2018
ISSUE DATE:

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

COMBINED DECLARATION AND ASSIGNMENT

Title of Invention: EXPANDABLE BREAST IMPLANT

This declaration and assignment is directed to:

☐ The attached or filed herewith application of (list of named inventors) _____,
Or

☒ The United States application or PCT international application
number 15/983,035 filed on May 17, 2018

Declaration

As the below named inventor, I hereby declare that:

The above-identified application ("Application") was made or authorized by me.

I believe that I am the original inventor or an original inventor of a claimed invention or discovery in the Application.

I have reviewed and understood the contents of the Application, including the claims, and I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of this Application in the United States of America.

I hereby acknowledge that any wilful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both for filings of this Application in the United States of America.

Assignment

Biosense Webster (Israel) Ltd.
4 Hatnufa Street
Yokneam, 2066717 Israel
A corporation of the state or country of Israel
(hereinafter designated as the "Assignee").

☐ I hereby acknowledge that I have assigned the above-identified invention by previous assignment (attached hereto) to Assignee which is hereby conformed for recordation in the US Patent Office and I confirm I have and do assign and transfer:

or

☒ For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or have assigned and transferred to Assignee:

my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom and the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, all such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, and continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extensions, supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use and enjoyment to the full end of the term or terms for which such Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

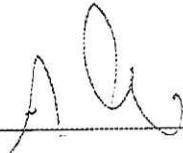
I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

Assaf GOVARI

Signature



Date

5, Aug, 2018

COMBINED DECLARATION AND ASSIGNMENT

Title of Invention: EXPANDABLE BREAST IMPLANT

This declaration and assignment is directed to:

☐ The attached or filed herewith application of (list of named inventors) _____.

Or

☒ The United States application or PCT international application number 15/983,035 filed on May 17, 2018

Declaration

As the below named inventor, I hereby declare that:

The above-identified application ("Application") was made or authorized by me.

I believe that I am the original inventor or an original inventor of a claimed invention or discovery in the Application.

I have reviewed and understood the contents of the Application, including the claims, and I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, the United States Code of Federal Regulations, §1.56 for filings of this Application in the United States of America.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both for filings of this Application in the United States of America.

Assignment

Biosense Webster (Israel) Ltd.

4 Hatnufa Street

Yokneam, 2066717 Israel

A corporation of the state or country of Israel
(hereinafter designated as the "Assignee").

☐ I hereby acknowledge that I have assigned the above-identified invention by previous assignment (attached hereto) to Assignee which is hereby conformed for recordation in the US Patent Office and I confirm I have and do assign and transfer:

or

☒ For good and valuable consideration, the sufficiency of which is acknowledged, I hereby assign and transfer and/or have assigned and transferred to Assignee:

my entire right, title, and interest in, to, and under the Application, including all priority rights for other countries arising therefrom and the right to claim priority to the Application, all inventions or discoveries therein disclosed, and any and all Letters Patent of the United States, European Patent Office and of all other countries, which may be granted for such inventions or discoveries, or any of them, all such inventions or discoveries and all rights in such Application including any and all provisionals, substitutions, divisions, and continuations thereof, and to all Letters Patent that may be granted for said inventions and discoveries, and in and to all extensions, supplementary protection certificates, reexaminations, renewals, and reissues thereof, to be held and enjoyed by Assignee for its own use and enjoyment to the full end of the term or terms for which such Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made.

I shall execute all papers necessary in connection with the Application in the United States Patent and Trademark Office, European Patent Office, any other patent offices, and under the Patent Cooperation Treaty, and any continuing, divisional, or reissue applications thereof, any reexamination of any of such applications, and any patent term extensions or supplementary protection certificates of any such applications and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

I shall execute all papers necessary in connection with any litigation or any other judicial proceeding in the United States or other country, or any administrative proceeding in the United States Patent and Trademark Office, European Patent Office, any other patent office, or under the Patent Cooperation Treaty concerning the Application(s) or any continuation, divisional, or reissue applications thereof, or any reexamination of any such applications, or any Letters Patent issued therefrom or any patent term extensions or supplementary protection certificates of any such applications and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such litigation or proceeding.

I shall execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

I shall do all other acts which, in the opinion of Assignee, may be necessary or desirable to secure the grant of Letters Patent to Assignee or its nominees, in the United States, by the European Patent Office and in all other countries where Assignee may desire to have such inventions or discoveries, or any of them, patented, with specifications and claims in such form as shall be approved by Assignee and to vest and confirm in Assignee or its nominees the full and complete legal and equitable title to all such Letters Patent.

I hereby (i) authorize and request the Commissioner of Patents to issue any and all Letters Patent of the United States resulting from the Application or any divisional, continuation, or reissue applications thereof, and any reexamination of any of such applications, to Assignee, and (ii) covenant that I have full right to convey the interest herein assigned, and that I have not executed, and will not execute, any agreement in conflict herewith.

I hereby grant the attorney of record the power to insert on this assignment any further identification which may be necessary or desirable in order to obtain legal recordation of this document.

Yehuda ALGAWI

Signature



Date

12/7/2012

Electronic Acknowledgement Receipt	
EFS ID:	33386679
Application Number:	15983035
International Application Number:	
Confirmation Number:	9143
Title of Invention:	EXPANDABLE BREAST IMPLANT
First Named Inventor/Applicant Name:	Yehuda Algawi
Customer Number:	148260
Filer:	Dennis DeFino/Dawn Casalvera
Filer Authorized By:	Dennis DeFino
Attorney Docket Number:	JNJBIO-5823USNP
Receipt Date:	07-AUG-2018
Filing Date:	17-MAY-2018
Time Stamp:	15:20:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	JNJBIO5823USNP_EXECUTED_DEC_AS_EFS_20180807.PDF	4755587	no	4
			ac796eb13a5cb7bf15dd61641a51cb841d682c89		

Warnings:

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Total Files Size (in bytes):	4755587
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ESTADOS UNIDOS DE AMERICA
A TODOS AQUELLOS A QUIENES EL PRESENTE LLEGUE:

DEPARTAMENTO DE COMERCIO DE LOS ESTADOS UNIDOS
Oficina de Patentes y Marcas de los Estados Unidos

21 de mayo de 2019

La presente es para certificar que el anexo es una copia fiel de los registros de la Oficina de Patentes y Marcas de los Estados Unidos, de los documentos de la solicitud de patente identificada más adelante, que cumplieron con los requerimientos para concederse una fecha de presentación de acuerdo con 35 USC 111.

Número de Solicitud: **15/983,035**

Fecha de Presentación: **17 de mayo de 2018**

EL CÓDIGO DEL PAÍS Y EL NÚMERO DE SU SOLICITUD DE PRIORIDAD, PARA SER USADA EN LA PRESENTACIÓN EXTRANJERA BAJO EL CONVENIO DE PARÍS ES **US 15/983,05**

Por autorización de la
Subsecretaría de Comercio para Propiedad Intelectual y
Director de la Oficina de Patentes y Marcas de los
Estados Unidos de América

(fdo) **R. Glover**
Oficial Certificador

(Sello oficial de la Oficina de Patentes y Marcas de los
Estados Unidos de América)

P-2019/20486

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIRECCIÓN DE NUEVAS CREACIONES

E. S. D.

Ref.: Expediente No. **NC2019/0005091**
Solicitud de registro de patente de invención a nombre de **BIOSENSE WEBSTER (ISRAEL) LTD**

1. Yo, CAROLINA DAZA MONTALVO, identificada como aparece al pie de mi firma, domiciliada en la Carrera 11 No. 86-53, piso 3, obrando como apoderada de la sociedad solicitante de la patente de invención de la referencia, **BIOSENSE WEBSTER (ISRAEL) LTD**, en respuesta al Oficio No. **2717** del 20 de mayo de 2019, atentamente me permito presentar el siguiente documento:

- 1.1. **Poder:** Adjunto se encuentra el poder otorgado por la sociedad solicitante.
- 1.2. **Cesión:** Junto con este escrito se allega a este Despacho la cesión de los derechos de los inventores.
- 1.3. **Prioridad:** Así mismo, se anexa la copia certificada de la solicitud objeto de examen de la cual se reivindica prioridad.

2. Habiendo dado cumplimiento al requerimiento de este Despacho, solicito respetuosamente se continúe con el trámite de la referencia.

Atentamente,

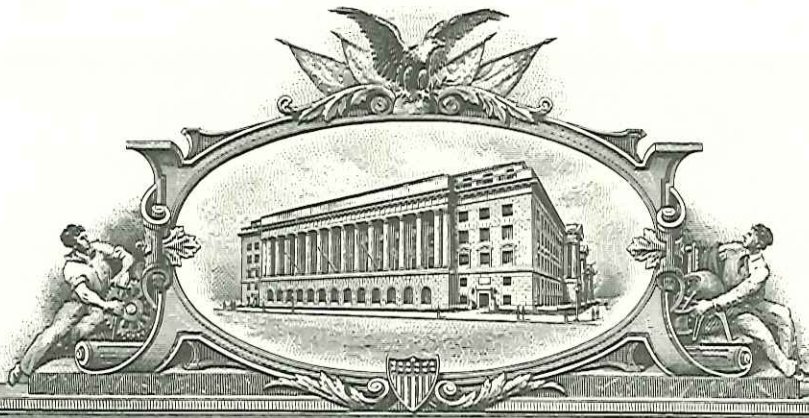


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THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

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May 21, 2019

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 15/983,035

FILING DATE: May 17, 2018

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US15/983,035

By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office




R GLOVER
Certifying Officer

Electronic Acknowledgement Receipt	
EFS ID:	32653097
Application Number:	15983035
International Application Number:	
Confirmation Number:	9143
Title of Invention:	EXPANDABLE BREAST IMPLANT
First Named Inventor/Applicant Name:	Yehuda ALGAWI
Customer Number:	148260
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Authorized User	Kathleen O'Donnell
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.17 (Patent application and reexamination processing fees) 37 CFR 1.19 (Document supply fees)	

37 CFR 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Drawings-only black and white line drawings	JNJ_BIO5823USNP_Drawings_EFS.PDF	307893	no	14
			a41fb4e788f6291e333d409db58d08957ac472ed		
Warnings:					
Information:					
2	Application Data Sheet	JNJBIO_5823USNP_ADS_EFS.PDF	1256105	no	8
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Warnings:					
Information:					
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Warnings:					
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Information:					
5	Information Disclosure Statement (IDS) Form (SB08)	JNJBIO_5823USNP_SB08_EFS.PDF	1034388	no	4
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Warnings:					
Information:					
6		JNJBIO_5823USNP_Application_EFS.PDF	81158	yes	16
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	Document Description		Start	End	

	Specification		1	12	
	Claims		13	15	
	Abstract		16	16	
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	36715	no	2
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Total Files Size (in bytes):			3048945		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

EXPANDABLE BREAST IMPLANT

SUMMARY

[0001] Current breast implant procedures involve a complicated series of major and minor medical procedures, which are a source of pain and inconvenience for the patient. In the first major medical procedure, a physician makes an incision in the patient and inserts a tissue expander to create space between the skin and the muscle. Thereafter, a series of minor medical procedures are required to expand the tissue expander to the desired size. This procedure is done through multiple saline injections performed by a physician every few weeks. In addition to the inconvenience of multiple physician visits, the saline injections involve a long, painful, and uncomfortable process for the patient. After the tissue expander has been expanded to the desired size, a second major medical procedure is performed to remove the expander and insert a permanent breast implant into the space created by the tissue expander.

[0002] There have been developments in expandable breast implants to reduce the number of procedures and physician visits. For example, some devices used pressurized carbon dioxide cartridges, which were susceptible to failure at high elevations. With such implants, a patient could not travel by air for an extended period of time. Accordingly, these implants were not an optimal solution.

[0003] It would therefore be desirable to have an expandable breast implant that eliminates the need for multiple medical procedures and injections. It would also be desirable to have an expandable breast implant capable of self-administered expansion that is safe and convenient.

[0004] There is provided, according to the described embodiments, a medical apparatus including an expandable breast implant that eliminates the need for multiple procedures and injections, with the capability for self-administered expansion that is safe in any environment. The expandable breast implant includes

an upper matrix, a lower matrix, and a middle layer that separates the upper matrix and lower matrix. The upper matrix is covered by a hydrophobic membrane. The upper matrix comprises a plurality of cells containing a first reagent. The lower matrix comprises a plurality of wells containing a second reagent. The middle layer acts as a barrier between the upper matrix and the lower matrix. The middle layer may be activated and controlled to form openings at selected locations. The first reagent from the cells in the upper matrix mixes with the second reagent from the wells in the lower matrix through the selected openings in the middle layer. The reagents react to generate a gas, which is released through the hydrophobic membrane top of the upper matrix. The gas permeates the hydrophobic membrane into an expandable shell to enlarge the breast implant.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0005] The present embodiments are illustrated by way of example, and not by way of limitation, in the figures of the accompanying drawings in which:
- [0006] FIG. 1 is an example cross-sectional view of a multi-layer design for an expandable breast implant;
- [0007] FIG. 2 is a top view of an example upper matrix;
- [0008] FIG. 3 is an isometric view of the top of the upper matrix;
- [0009] FIG. 4 is a bottom view of the upper matrix;
- [0010] FIG. 5 is a bottom view of the upper matrix in an alternative embodiment;
- [0011] FIG. 6 is an isometric view showing the bottom of the upper matrix in the alternative embodiment;
- [0012] FIG. 7 is a top view of an example lower matrix;
- [0013] FIG. 8 is a top view of the lower matrix in an alternative embodiment;
- [0014] FIG. 9 is a bottom view of the lower matrix;
- [0015] FIG. 10 is an isometric view of the multi-layer structure comprising the upper matrix, lower matrix, and middle layer;

[0016] FIG. 11 is an example cross-sectional view of a folded expandable breast implant;

[0017] FIG. 12 is a plan view of an example middle layer comprising a flex printed circuit ("FPC");

[0018] FIG. 13 is a top view of a FPC showing a magnified view of a cell in the FPC;

[0019] FIG. 14A is a top view of a resistor;

[0020] FIG. 14B is a top view of a resistor in an alternative embodiment;

[0021] FIG. 14C is a top view of a resistor in another alternative embodiment;

[0022] FIG. 15 is a block diagram of a control system that is electrically coupled to the FPC; and

[0023] FIG. 16 is a flow diagram of a procedure which is used in conjunction with the disclosed embodiments.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0024] Various embodiments are described in the following paragraphs. Where like elements have been depicted in multiple embodiments, identical or similar reference numerals have been used for ease of understanding.

[0025] FIG. 1 is an example cross-sectional view of a multi-layer expandable breast implant 100. The expandable breast implant 100 includes an expandable shell 160, an upper matrix 110, a lower matrix 130, and a middle layer 120. In one embodiment, the expandable shell 160 may comprise silicone, and the shell 160 is filled with one or more different types of silicone. In other embodiments, the shell may be filled with saline or another material, or even unfilled.

[0026] The upper matrix 110 comprises a plurality of cells 105. As shown in FIG. 1, the cells 105 may be angularly shaped with the cell 105 gradually increasing in size toward the middle layer 120. Each cell 105 contains a first reagent. The lower matrix 130 comprises a plurality of wells 135. Each well 135 is aligned with a complimentary cell 105. The wells 135 contain a second reagent. The middle layer

120 forms a barrier between the upper matrix 110 and lower matrix 130. The upper matrix 110, lower matrix 130, and middle layer 120 may be coupled together with glue, heat-sealing, or any other appropriate manner to form the multi-layer structure 140. The multi-layer structure 140 may be encased in a hydrophobic membrane 150, such that gases permeate the hydrophobic membrane 150 while liquid is denied passage. In one alternative embodiment, the hydrophobic membrane 150 covers only the top of the upper matrix 110. In this embodiment the hydrophobic membrane 150 may be coupled to the top of the upper matrix 110 via any appropriate manner such as glue, heat-sealing, or the like. The multi-layer structure 140 and the hydrophobic membrane 150 are further encased in an expandable shell 160 to form the expandable breast implant 100. In an alternative embodiment, the hydrophobic membrane 150 may cover the lower matrix 130, or both the upper matrix 110 and the lower matrix 130. In the event that the hydrophobic membrane 150 covers the lower matrix 130, complimentary holes would be located in the wells 135 of the lower matrix 130.

[0027] FIG. 2 is a top view of the upper matrix 110. The upper matrix 110 may comprise polyurethane, rubber or silicone. FIG. 2 depicts a top view of the plurality of cells 105 in the upper matrix 110, which comprise openings in the top side 210 of the upper matrix 110. Although the cells 105 are shown as hexagonal in shape, the shape of the top of the cells 105 is illustrative, and those skilled in the art would understand that the cells 105 may be configured in any geometric shape that would properly accommodate the first reagent. The hydrophobic membrane 150 covers the entire top side 210 of the upper matrix 110. However, FIG. 2 does not show a portion of the hydrophobic membrane 150, for explanatory purposes. The hydrophobic membrane 150 is flexible and permits the gas that is generated to permeate through the hydrophobic membrane 150. The top side 210 of the upper matrix 110 may include at least one upper groove 220 to increase the pliability of the upper matrix 110. FIG. 2 depicts one upper groove 220 spanning the diameter of the upper matrix 110, although more than one groove may be utilized.

[0028] FIG. 3 shows a perspective view of the top side 210 of the upper matrix 110 illustrating the tops of the cells 105 and the upper groove 220. In this figure, as with FIG. 2, a portion of the hydrophobic membrane 150 is not shown for simplicity.

[0029] FIG. 4 shows the bottom side 205 of the upper matrix 110. The bottom side 205 is configured to be in contact with the middle layer 120. The cells 105 are shown as hexagonal in shape. However, as aforementioned, the shape of the cells 105 is illustrative and may be in any appropriate geometric shape. As illustrated in FIG. 4, the cells 105 may be arranged in a honeycomb pattern. The bottom side 205 of the upper matrix 110 may include a number of holes 230 configured to receive pegs from the lower matrix 130, in order to keep the upper matrix 110 and the lower matrix 130 properly aligned.

[0030] The cells 105 contain a first reagent 235. In one embodiment, the first reagent 235 by way of example is sodium bicarbonate. The first reagent 235 may fill a few cells 105 or a portion of the cells 105. However, it is most likely that most or all of the cells 105 contain the first reagent 235. In this embodiment, each cell may contain approximately 0.06g of sodium bicarbonate. However, more or less reagent, or a different reagent, may be utilized.

[0031] FIG. 5 is an alternative embodiment of the upper matrix 110 whereby a plurality of cells 105 may be grouped together to form a larger cell, or a cell "cluster". As shown in FIG. 5, and also in the perspective view of FIG. 6, for example, cluster A is a 5 cell grouping and cluster B is a 4 cell grouping. Any size cell or grouping may be configured, depending upon the amount of gas desired to be generated at one time. The cells 105 may be the shape of an inverted funnel. The inverted funnel shape of the cells 105 optimizes the mixing of the first reagent and the second reagent. The purpose and process of the mixing of the reagents will be described in greater detail hereinafter.

[0032] FIG. 7 shows a top view of the lower matrix 130. The lower matrix 130 may comprise polyurethane, rubber or silicone. The top side 610 of the lower matrix 130 is configured to be in contact with the middle layer 120. The lower matrix 130

may include a number of pegs 630 that are complimentary to, and insert into, the holes 230 of the upper matrix 110. The hole 230 and peg 630 configuration is an optional means of coupling the upper matrix 110, lower matrix 130, and middle layer 120 together and also the membrane. The arrangement of the wells 135 in the lower matrix 130 should optimally match the configuration of the cells 105 in the upper matrix 110. The perimeter of each well 135 preferably aligns with the perimeter of a cell 105 in the upper matrix 110, although exact alignment is not required. As an example, FIG. 7 shows single wells 135 that align with the single cells 105 depicted in FIG. 4. Typically, all wells 135 contain the second reagent 635, which may be at least 70% acetic acid depending upon the volume of the wells. However, more or less reagent, or a different reagent, may be utilized. Although the second reagent 635 is graphically illustrated as filling only a few wells 135, it is most likely that most or all of the wells 135 contain the second reagent 635.

[0033] As explained in a process described hereinafter, when one or more openings in the middle layer 120 are formed, the first reagent 235 in the cells 105 passes through openings in the middle layer 120 and mixes with the second reagent 635 in the wells 135. The reagents 235, 635 mix and react to generate a gas.

[0034] In one embodiment, the first reagent 235 is sodium biocarbonate and the second reagent 635 is acetic acid, wherein the reaction produces carbon dioxide. Each cell 105 and well 135 may contain enough materials to produce 15 cc of carbon dioxide.

[0035] FIG. 8 is a top view of the lower matrix 130 in an alternative embodiment. This embodiment includes one or more groupings of wells 135, comprising a plurality of wells 135 joined together to form a well "cluster." Alternatively, these wells 135 may simply comprise a larger-sized well 135. As with the embodiment shown in FIG. 7, each well 135 cluster is configured to be generally aligned with a complimentary cell 105 in the upper matrix 110. Accordingly, the embodiment of the lower matrix 130 shown in FIG. 8 would be complimentary with the embodiment of the upper matrix 110 shown in FIG. 5. As such, the perimeter of

each well 135 may be configured to overlap the same area as a cluster of cells 105 in the upper matrix 110. Well A is an example of a well 135 configured to accommodate a 5 cell 105 cluster, and Well B is an example of a well 135 configured to accommodate a 4 cell 105 cluster.

[0036] FIG. 9 is a bottom view of the lower matrix 130. The bottom side 710 comprises a surface which encloses the wells 135 and contains the second reagent 635 within the wells 135. The bottom side 710 may comprise at least one lower groove 720 that spans the diameter of the lower matrix 130 to increase the pliability of the lower matrix 130, and is complimentary to the upper grove 220.

[0037] FIG. 10 is an isometric view of the multi-layer structure 140 comprising the hydrophobic membrane 150, the upper matrix 110, the lower matrix 130, and the middle layer 120. As shown in FIG. 10, the upper matrix 110 includes at least one upper groove 220, and the lower matrix 130 includes at least one complimentary matching lower groove 720. The at least one upper groove 220 in the upper matrix 110 and the at least one lower groove 720 in the lower matrix 130 increase the pliability of the multi-layer structure 140 and allows the multi-layer structure 140 to fold. Advantageously, these grooves 220, 720 may provide the physician with the option to bend the expandable breast implant to create an easier insertion process and to allow a small incision. Although only one upper groove 220 on the upper matrix 110 and one lower groove 720 on the lower matrix 130 are shown, it should be understood that the upper matrix 110 and lower matrix 130 may have multiple grooves to allow the expandable breast implant 100 to fold at multiple locations.

[0038] FIG. 11 is a cross-sectional view of a folded expandable breast implant 100. The expandable breast implant 100 may fold at the location of the upper and lower grooves 220, 720 in the upper matrix 110 and lower matrix 130, respectively. FIG. 11 depicts one upper groove 220 in the upper matrix 110 and one lower groove 720 in the lower matrix 130.

[0039] FIG. 12 is a plan view of an example middle layer 120. The middle layer 120 comprises a flexible circuit "board." In one embodiment, the flexible circuit board is a printed circuit on thin, flexible film 800 (hereinafter "flex printed circuit" or "FPC") as depicted in FIG. 12. In one embodiment, the FPC 800 is polyurethane. The FPC 800 comprises a plurality of cells 805. Each cell 805 may be hexagonally shaped. The configuration of the cells 805 in the FPC 800 should generally align with the cells 105 in the upper matrix 110 and the wells 135 in the lower matrix 130. Accordingly, the shape of the cells 805 is illustrative, and the cells 805 may be constructed in any geometric shape that is complimentary to the cells 105 and the wells 135. The cells 805 may be arranged in a honeycomb structure as shown in FIG. 12. Each cell 805 comprises a resistor 815, conductors 820, and an area of thin film 810. FIG. 12 depicts a circular resistor 815. The conductors 820 terminate at a first end at the resistor 815, and at a second end at a power bus 825. The power bus 825 is electrically coupled via a conductor 830 to the control system 835.

[0040] Although the circuit may be printed on the polyurethane sheet as shown, the circuit may be coupled to the polyurethane sheet by glue heat or another appropriate manner.

[0041] FIG. 13 shows a top view of a FPC 800 and a magnified view of a single cell 805 in the FPC 800. The magnified view of a cell 805 shows a resistor 815, conductors 820, and an area of thin film 810 substantially surrounded by the circular resistor 815.

[0042] In an alternative embodiment, the cell 805 may also include a sensor 840. The sensor 840, which is coupled to the control system 835 by one or more conductors (not shown) may comprise a pressure sensor or chemical sensor, and detects whether the reagents have mixed and reacted successfully. Alternatively, the sensor 840 may comprise any sensor that one skilled in the art would understand would detect successful completion of the reaction. Although the sensor 840 is shown in Figure 13 as integral to each cell 805, one or more sensors 840 may be utilized for the entire implant.

[0043] As will be explained in greater detail hereinafter, as current is applied to the conductors 820, it flows through the resistor 815, thereby energizing and heating the resistor 815. In one embodiment, the resistor 815 receives 1 W of electric power. When the resistor 815 achieves the melting temperature of the FPC 800, the FPC 800 melts and ruptures, thereby allowing the first and second reagents 235, 635 to mix together and generate the gas. In one embodiment, each resistor 815 may have a resistivity of approximately 123 ohms and heat to a temperature of approximately 120°C. Because the melting temperature of the FPC 800 is lower than 120°C, the area of thin film 810 will melt and rupture as each resistor 815 achieves a temperature of approximately 120°C.

[0044] The resistors 815 in FIG. 12 and 13 are shown to have a circular design. However, the design of the resistors 815 may be in any shape. FIG. 14A, 14B, and 14C are diagrams of top views of example resistors 815. FIG. 14A, 14B, and 14C illustrate alternative designs of the resistors 815.

[0045] FIG. 15 is a block diagram of a control system 835 in which one or more features of the disclosure may be implemented. The control system 835 includes a power source 1500, one or more input devices 1505, a memory 1510, one or more output devices 1515, and a processor 1520. It should be understood that the control system 835 may include additional components not shown in FIG. 15.

[0046] The power source 1500 supplies power to the control system 835. The power source 1500 may include, but is not limited to, a battery or an inductive power receiver, which receives power through an inductive power generator (not shown) external to the implant 100.

[0047] The input devices 1505 may include an antenna or other wireless network connection (e.g., any wireless interface for transmission and/or reception of wireless signals). In one embodiment, the processor 1520 receives and transmits information via radio frequency (RF) communication such as Bluetooth, near field communication (NFC), or Wi-Fi. In one embodiment, the input devices 1505 may

include signals from sensors 840 in the cells 805 to indicate whether a chemical process, explained in FIG. 16 hereinafter, has been successfully completed.

[0048] The memory 1510 may include a volatile or non-volatile memory, for example, random access memory (RAM), dynamic RAM, or a cache. The memory 1510 stores information which may include the unique address of each cell 805.

[0049] The output devices 1515 include one or more current drivers that are coupled to the conductors 820 of selected cells 805. These current drivers may apply current to the appropriate conductors 820 to activate a desired resistor 815.

[0050] The processor 1520 is configured to receive a signal via an input device 1505. The processor 1520 determines the appropriate action to take, which may include selection of one more resistors 815 and ultimately energizing those resistors. As such, the processor 1520 selectively activates the appropriate resistor 815 of the desired cell 805.

[0051] FIG. 16 is a flow diagram of a process for expanding the breast implant 100. The process is initiated (step 1600) when the processor 1520 wirelessly receives an input from an input device 1505. Typically, the input comprises an instruction to activate one or more cells 805. If necessary, the processor 1520 "translates" the instruction into one or more addresses of one or more cells 805. Once the processor 1520 determines which cell 805 to activate, the output device 1515 drives current to the selected cell 805. Therefore, current is delivered to conductors 820 of the selected cell 805 (step 1610). The conductors 820 energize one or more resistors 815 (step 1620). As the selected resistor 815 heats up, the area of thin film 810 substantially surrounded by the heated resistor 815 melts (step 1630). As the area of thin film 810 melts, holes are introduced in the middle layer 120 (step 1640) allowing the first reagent 235 in the cells 105 from the upper matrix 110 to mix with the second reagent 635 in the wells 135 of the lower matrix 130 (step 1650). The mixed reagents 235, 635 react and release a gas (step 1660). The gas produced by the reaction is released through the openings in the top of the upper matrix 110

(step 1670). The released gas may permeate through the hydrophobic membrane 150 into the expandable shell 160 to expand the implant 100 (step 1680).

[0052] It should be understood that there may be different configurations of the implant once the gas is generated. In a first embodiment, the implant 100 may be filled with silicone, whereby the gas permeates throughout the silicone and inflates the expandable shell 160. In a second embodiment, the implant 100 is empty and only fills the expandable shell 160. In yet another embodiment, the implant 100 may include a plurality of separate compartments, and the gas inflates the plurality of separate compartments. Those of skill in that art would understand that other embodiments would be possible in accordance with the teachings herein.

[0053] This process may be repeated in accordance with a physician's care plan to expand the implant 100 to the desired size. The expandable breast implant 100 may be configured to limit the number of repetitions per hour and/or per day to avoid overexpansion of the expandable breast implant 100. In this manner, the processor 1520 may provide a limit on the number of resistors 815 that are activated within a certain amount of time. Additionally, the processor 1520 may be pre-programmed to activate the resistors 815 in a certain sequence, which may be automatically implemented with any intervention by the physician or the patient.

[0054] In yet another embodiment, the processor 1520 may wirelessly communicate the measurements taken by the one or more sensors 840 to a network (not shown), for ultimate reception by a physician. In this matter, a physician may remotely monitor the course of treatment (i.e. expansion) if the expansion process is self-administered or administered automatically via a pre-programmed sequence. As one optional safety precaution, if the sensor 840 comprises a pressure sensor, once the total pressure of the expandable implant reaches a predetermined level, power to the resistors 815 is removed, and alternatively permanently disconnected.

[0055] At least one advantage of this expandable breast implant 100 is that the patient may expand the size of the implant 100 without additional surgeries or invasive procedures. In addition, it is possible to avoid the issues that arise at high

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elevations as experienced in breast implants that contain pressurized carbon dioxide cartridges.

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CLAIMS

What is claimed is:

1. An expandable implant comprising:
a flexible shell, enclosing:
an upper matrix having a plurality of cells, each cell including a first reagent;
a lower matrix having a plurality of wells, each well being at least partially aligned with one of said cells, and each well including a second reagent; and
a middle layer between the upper matrix and the lower matrix, having at least one selectively activateable membrane, each said at least one membrane being located between a cell and its aligned well;
a controller, for activating at least one of said at least one membranes, and permitting the first reagent to mix with said second reagent to produce a gas, and expand said flexible shell.
2. The expandable implant of claim 1, further comprising hydrophobic membrane.
3. The expandable implant of claim 2, wherein each of the plurality of cells are arranged in a honeycomb structure.
4. The expandable implant of claim 2, wherein each of said at least one membrane includes a resistor, and current that is applied to the resistor activates the said at least one membrane .
5. The expandable implant of claim 2, wherein a plurality of cells comprise a cell cluster.

6. The expandable implant of claim 4 further comprising a controller, which selectively applies current to the resistors.
7. The expandable implant of claim 2, wherein each of the plurality of cells contains sodium bicarbonate.
8. The expandable implant of claim 1, further comprising at least one sensor, for determining whether said gas has been produced.
9. The expandable implant of claim 1, wherein the middle layer comprises a flex printed circuit.
10. The expandable implant of claim 9, wherein the flex printed circuit includes a plurality of resistors.
11. The expandable implant of claim 10, wherein each of the plurality of resistors are selectively activatable.
12. The expandable implant of claim 1, wherein the middle layer comprises a layer of polyurethane coupled to a flex printed circuit.
13. The expandable implant of claim 1, wherein each of the plurality of wells include ascertic acid.
14. The expandable implant of claim 1, wherein the controller automatically activates a plurality of said membranes in a predetermined sequence.
15. A method for expanding a breast implant comprising:
providing a flexible shell, enclosing:
an upper matrix having a plurality of cells, each cell including a first reagent;

a lower matrix having a plurality of wells, each well-being at least partially aligned with one of said cells, and each well including a second reagent; and

a middle layer between the upper matrix and the lower matrix, having a plurality of selectively activatable membranes, each membrane being located between a cell and its aligned well;

activating one of said membranes, and permitting the first reagent to mix with said second reagent to produce a gas, to expand said flexible shell.

16. The method for expanding a breast implant of claim 15, wherein the controller is programmed to automatically activate a plurality of said membranes

17. The method for expanding a breast implant of claim 16, wherein the automatic activation comprises a predetermined sequence on a predetermined schedule.

18. The method for expanding a breast implant of claim 17, further comprising utilizing at least one sensor to confirm whether said gas has been produced.

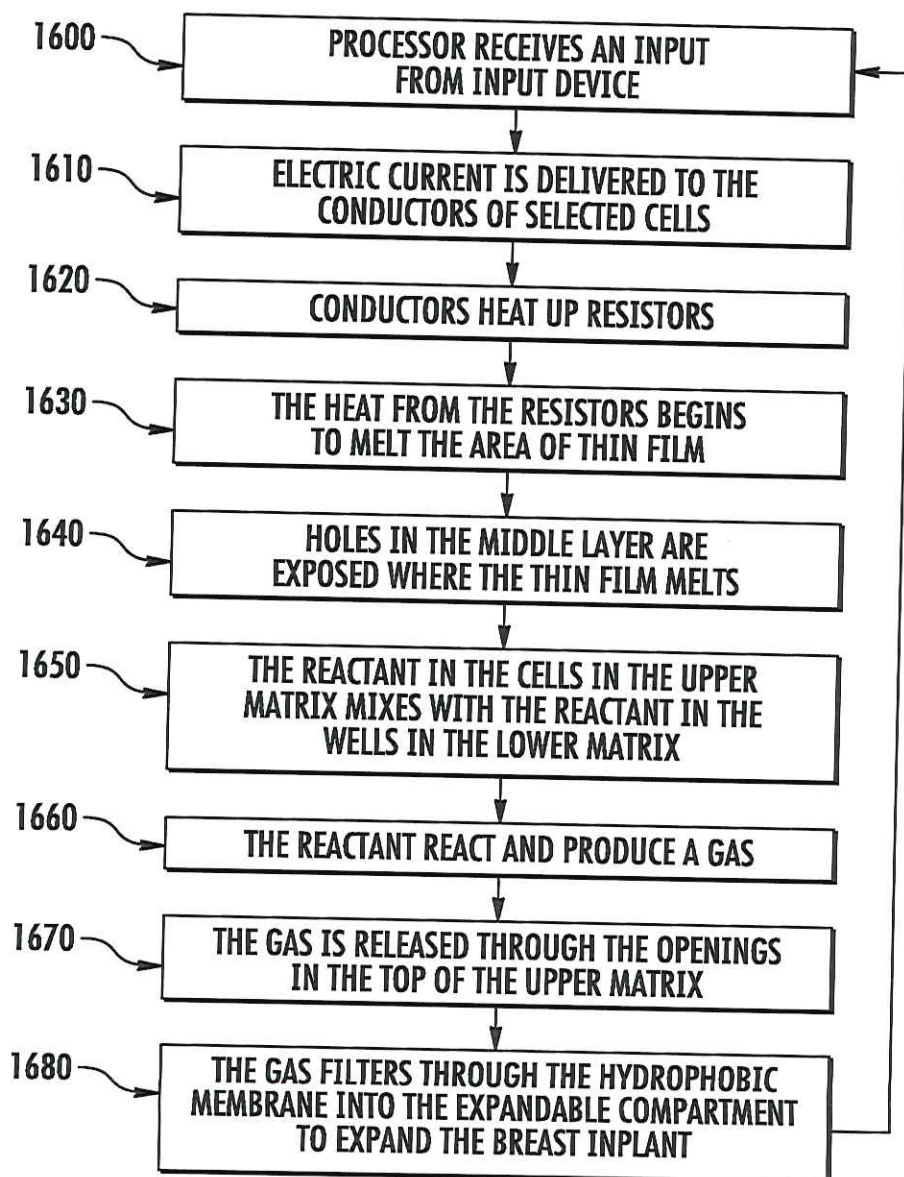
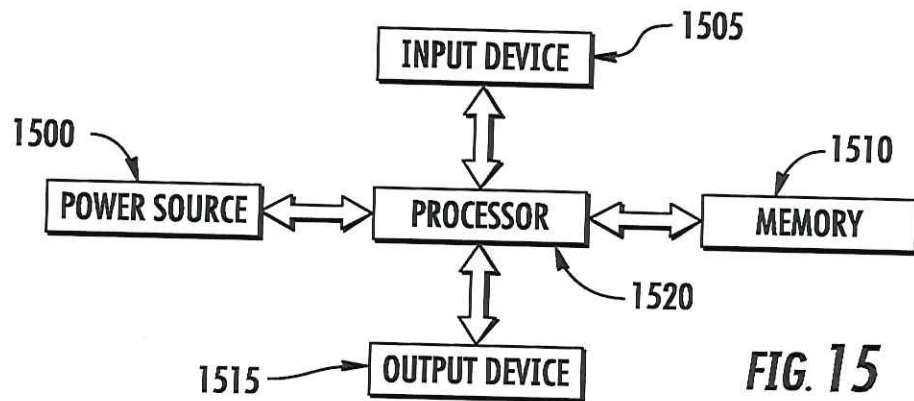
19. The method for expanding a breast implant of claim 18, further comprising wirelessly transmitting sensor data to a physician.

20. The method for expanding a breast implant of claim 16, further comprising the controller wirelessly programmed by a physician.

ABSTRACT

An expandable breast implant eliminates the need for multiple procedures and injections and is also capable of self-administered or automatic expansion that is safe in any environment. The expandable breast implant design includes an upper matrix, a lower matrix, and a middle layer. The upper matrix comprises a plurality of cells containing a first reagent. The lower matrix comprises a plurality of wells containing a second reagent. The middle layer acts as a barrier between the upper matrix and the lower matrix. The middle layer may be activated and controlled to form openings. The first reagent from the cells in the upper matrix mixes with the second reagent from the wells in the lower matrix through the selected openings in the middle layer. The reagents react to form a gas that permeates through a hydrophobic membrane into an expandable shell to enlarge the breast implant.

14/14



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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number: Not Yet Known
Filing Date:
First Named Inventor: Algawi et al.
Title: EXPANDABLE BREAST IMPLANT
Art Unit: Not Yet Known
Examiner Name: Not Yet Known
Attorney Docket Number: JNJBIO-5823USNP

SIGNATURE of Applicant or Patent Practitioner

Signature: /Gerald B. Halt, Jr./
Date (Optional):
Name: Gerald B. Halt, Jr.
Registration Number: 37,633
Title (if Applicant is a juristic entity):

Applicant Name (if Applicant is a juristic entity): Biosense Webster (Israel) Ltd.

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

*Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

OR

148260

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name	Volpe and Koenig, P.C.			
Address				
City		State		Zip
Country				
Telephone		Email		

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Biosense Webster (Israel) Ltd.

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	/Louis J. Capezzuto/	Date (Optional)	
Name	Louis J. Capezzuto		
Title	Authorized Signer		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor	1				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Yehuda		Algawi		
Residence Information (Select One) US Residency • Non US Residency Active US Military Service					
City	Binyamina		Country of Residence ⁱ	IL	
Mailing Address of Inventor:					
Address 1		4 Hatnufa Street			
Address 2		P.O. Box 275			
City	Yokneam		State/Province		
Postal Code	2066717		Country ⁱ	IL	
Inventor	2				Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Assaf		Govari		
Residence Information (Select One) US Residency • Non US Residency Active US Military Service					
City	Haifa		Country of Residence ⁱ	IL	
Mailing Address of Inventor:					
Address 1		4 Hatnufa Street			
Address 2		P.O. Box 275			
City	Yokneam		State/Province		
Postal Code	2066717		Country ⁱ	IL	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					
Add					

Correspondence Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ An Address is being provided for the correspondence Information of this application.

Customer Number	148260			
Email Address	eoffice@vklaw.com		Add Email	Remove Email

Application Information:

Title of the Invention	EXPANDABLE BREAST IMPLANT		
Attorney Docket Number	JNJBIO-5823USNP	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	14	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number			

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78. When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Remove
			Access Code ⁱ (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

- ☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.
- ☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant	1	Remove
-----------	---	--------

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
----------	--	----------------

Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest
---	--

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name

Biosense Webster (Israel) Ltd.

Mailing Address Information For Applicant:

Address 1	4 Hatnufa Street		
Address 2			
City	Yokneam	State/Province	
Country	IL	Postal Code	2066717
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		

Assignee	1
----------	---

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

	Remove
--	---------------------------------------

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	Biosense Webster (Israel) Ltd.
-------------------	--------------------------------

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	4 Hatnufa Street		
Address 2			
City	Yokneam	State/Province	
Country	IL	Postal Code	2066717
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

	Add
--	------------------------------------

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Gerald B. Halt, Jr./		Date (YYYY-MM-DD)	2018-05-17
First Name	Gerald B.	Last Name	Halt, Jr.	Registration Number
				37,633

Additional Signature may be generated within this form by selecting the Add button.

	Add
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	JNJBIO-5823USNP
		Application Number	
Title of Invention	EXPANDABLE BREAST IMPLANT		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

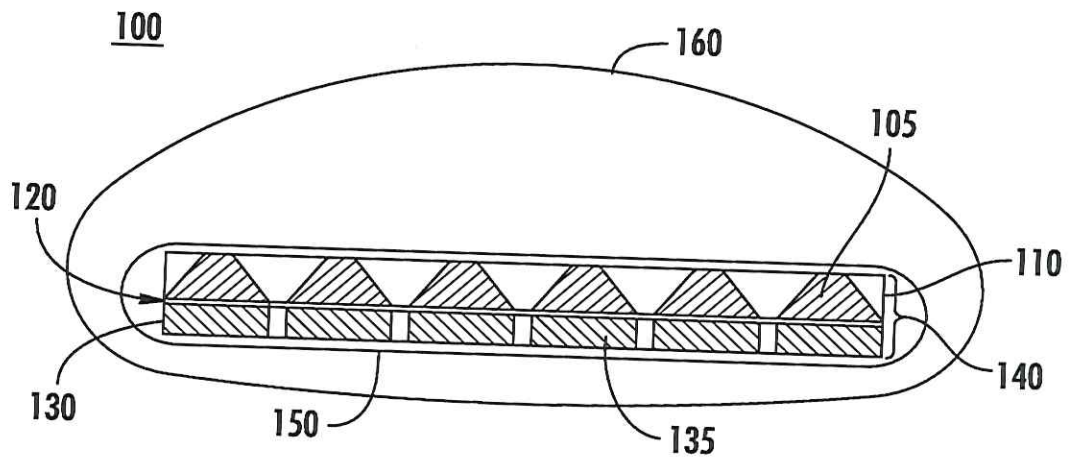


FIG. 1

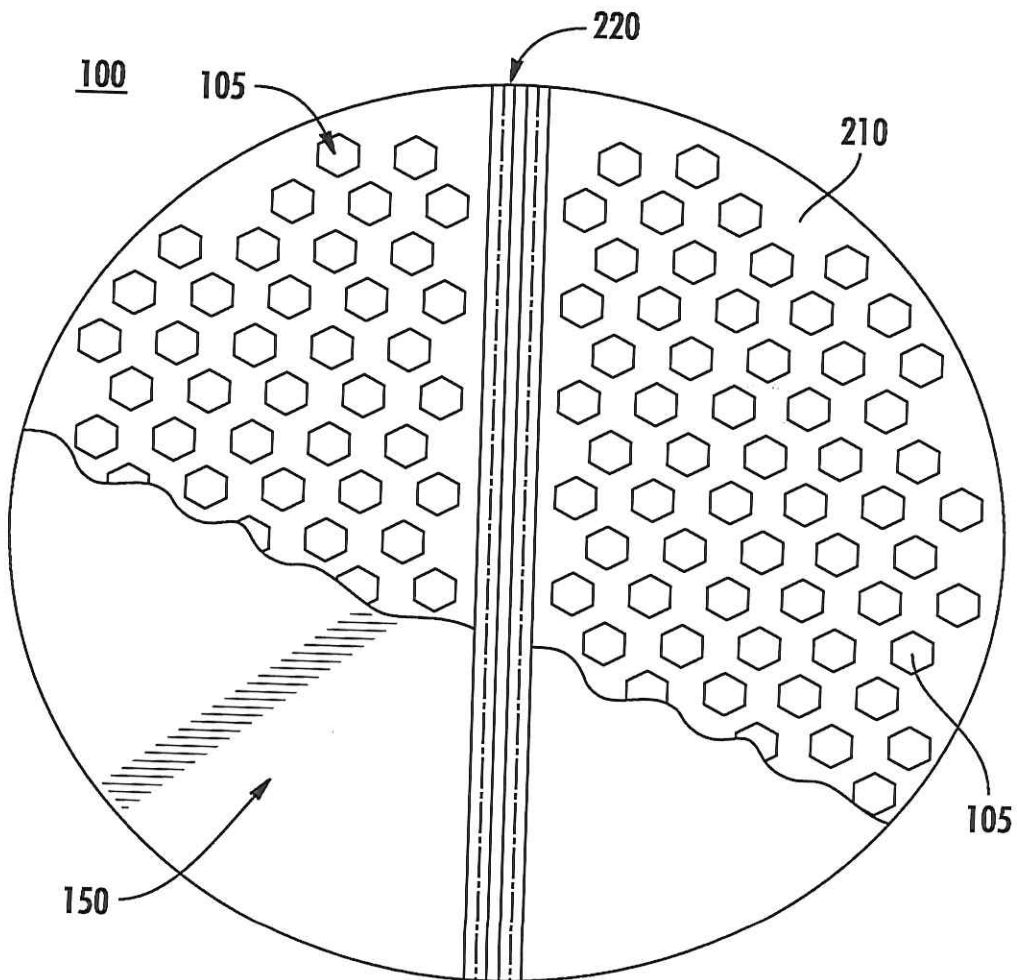


FIG. 2

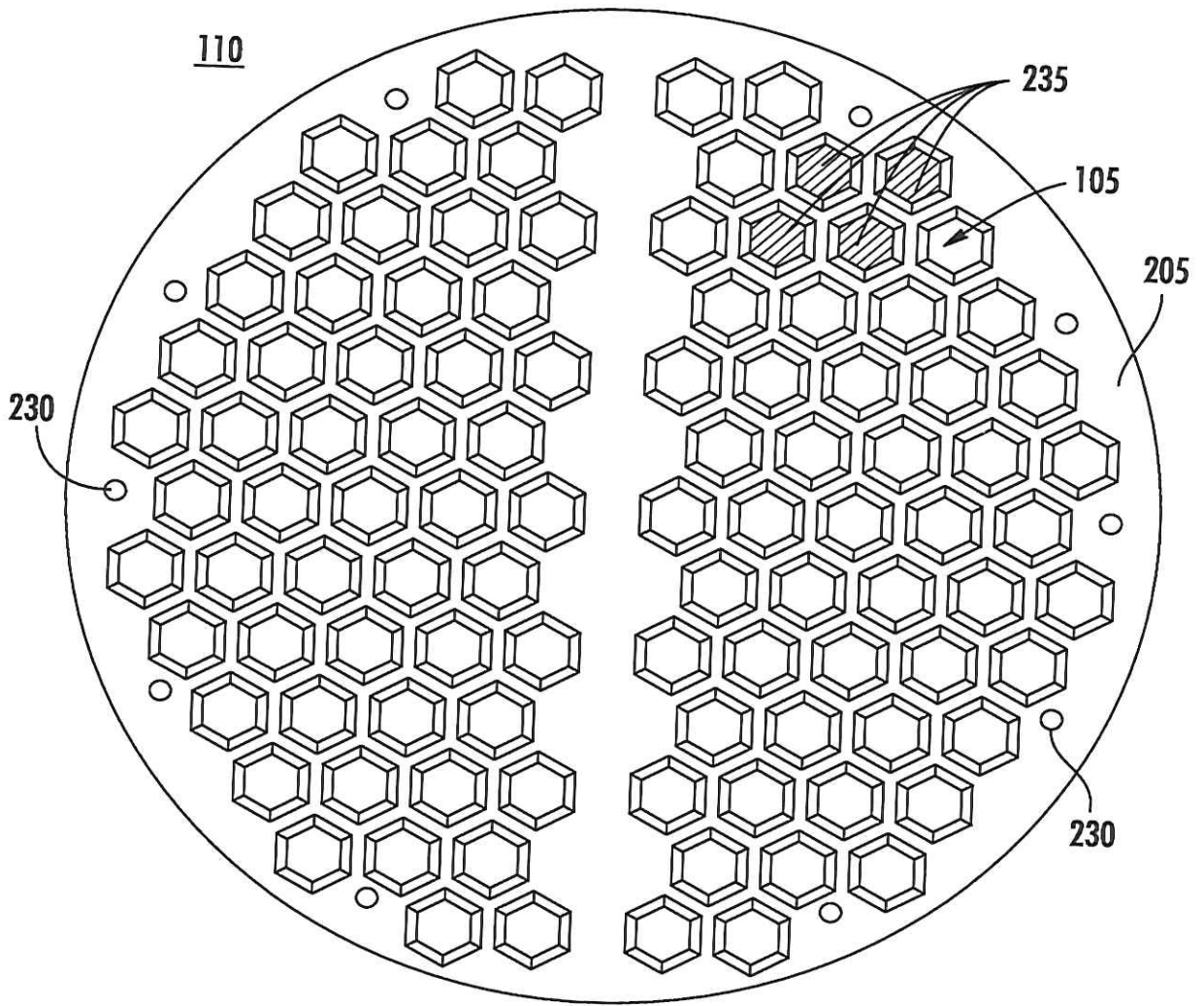


FIG. 4

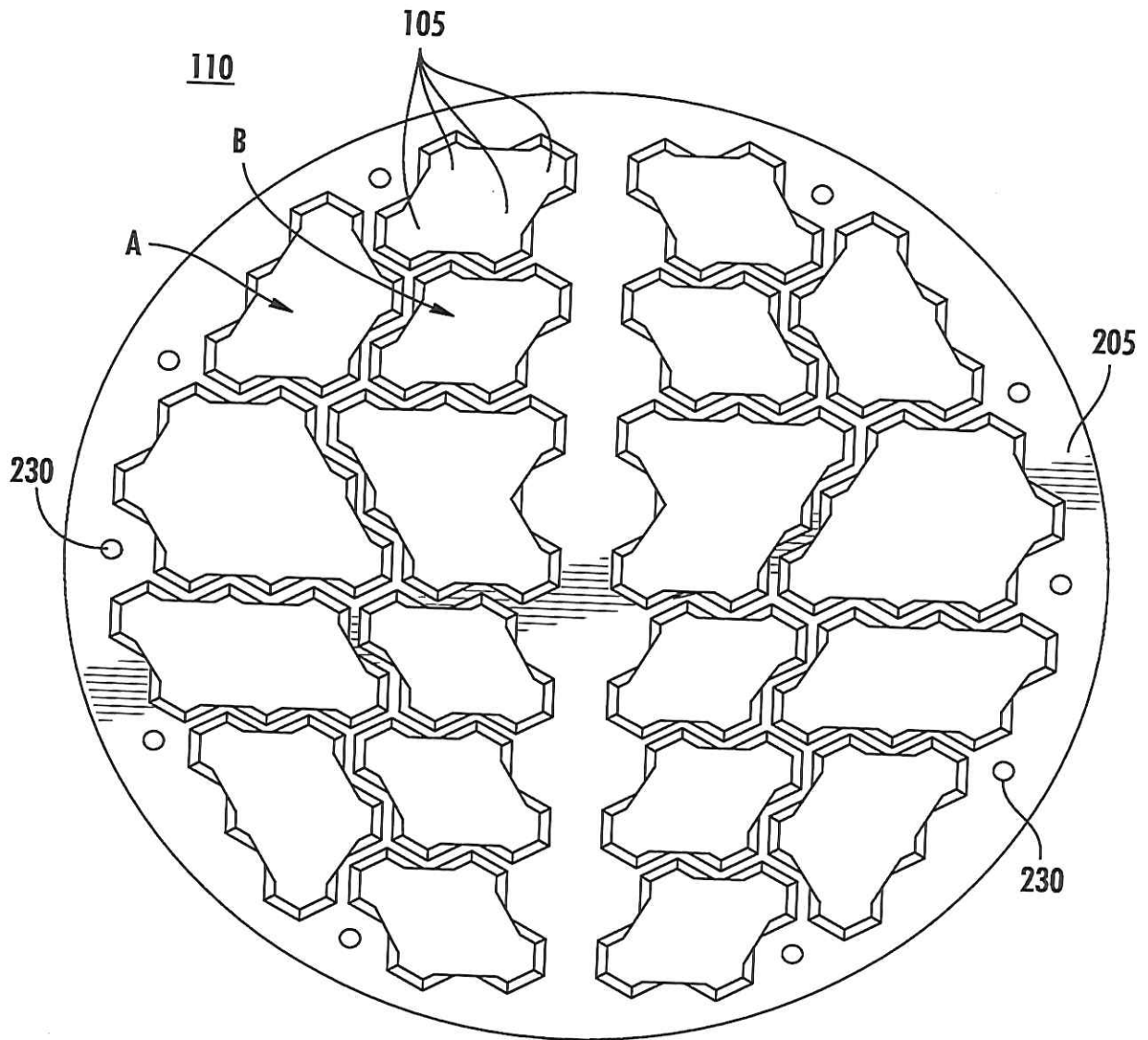


FIG. 5

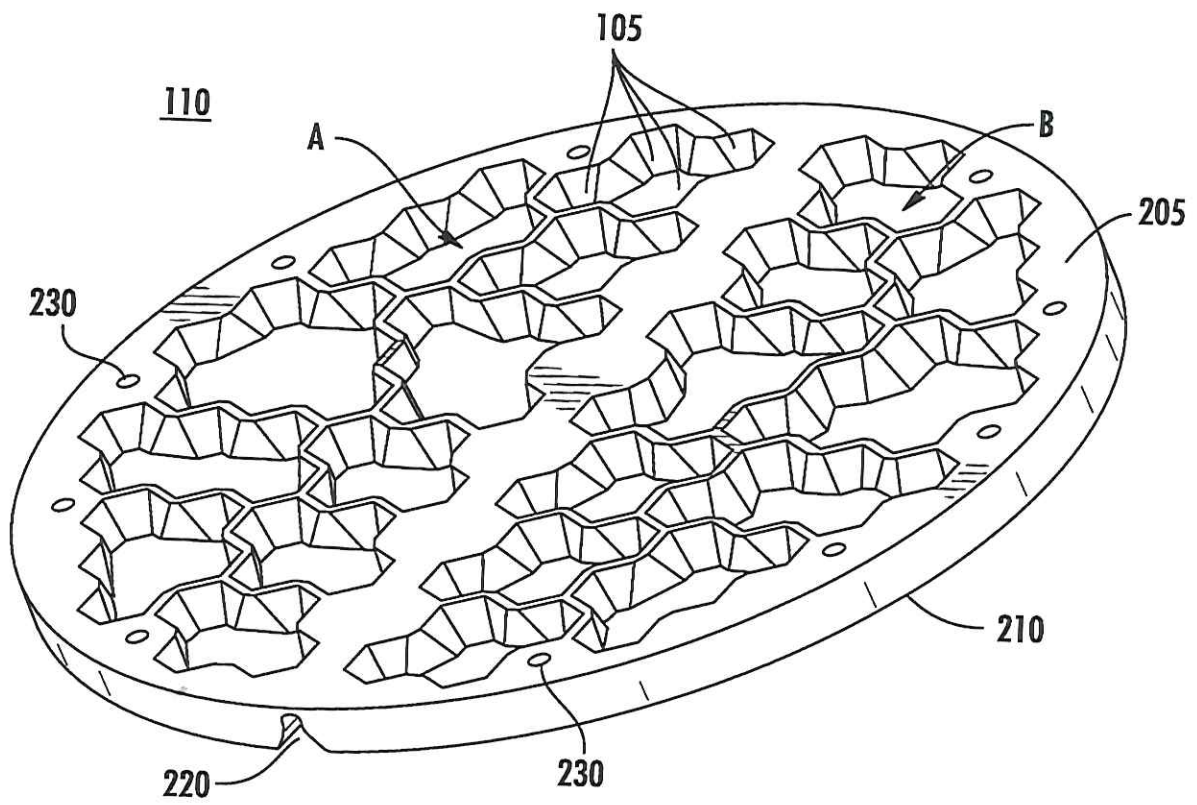


FIG. 6

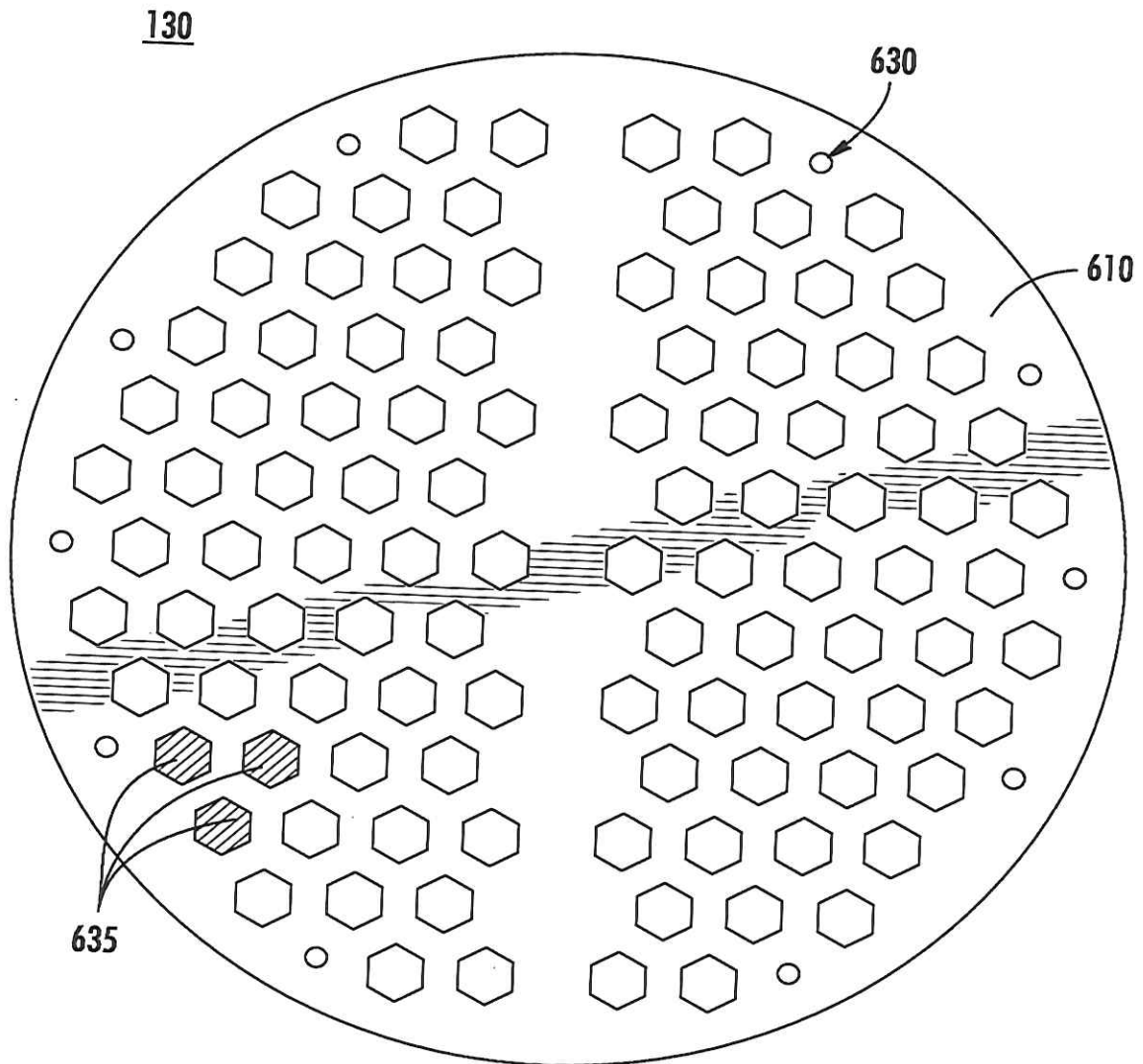


FIG. 7

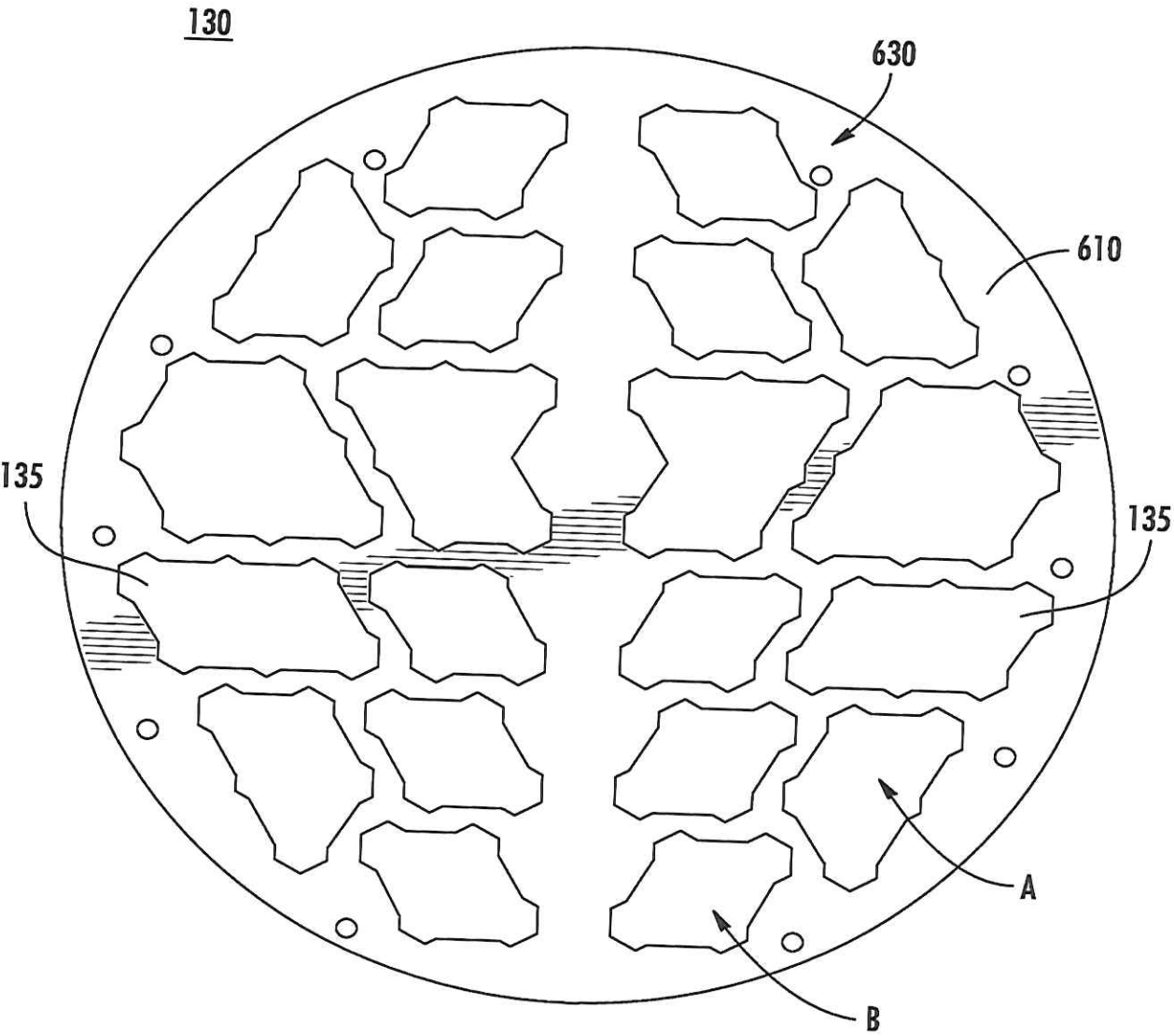


FIG. 8

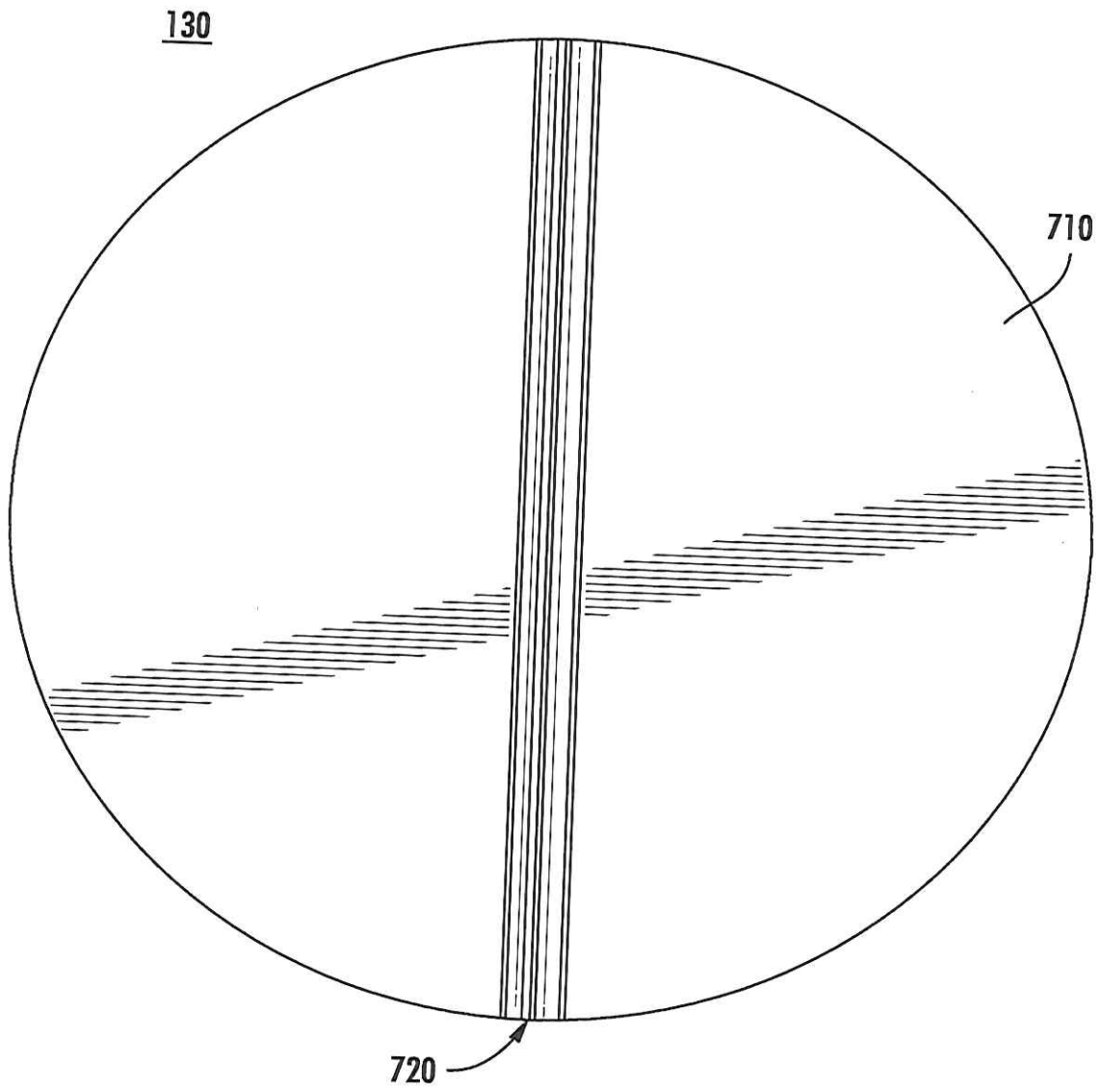


FIG. 9

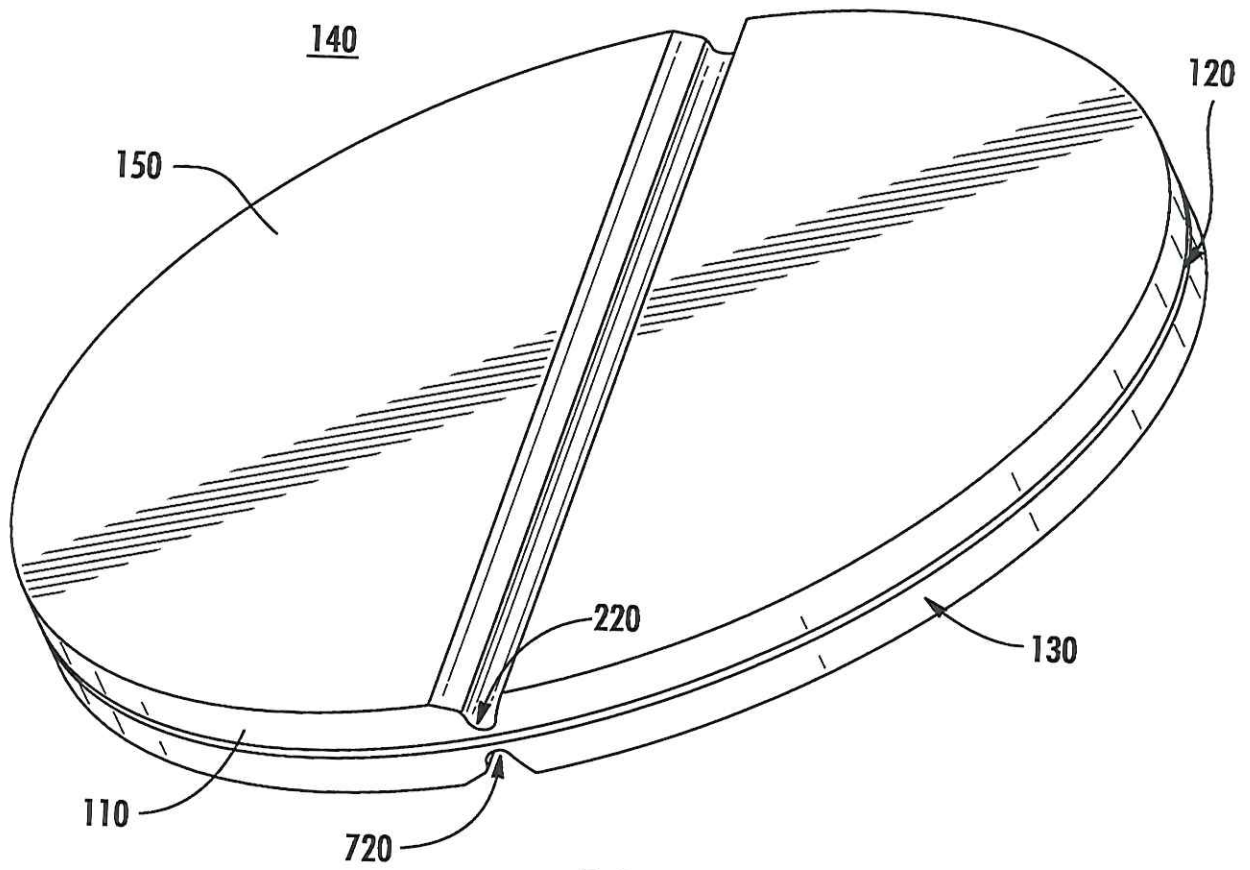


FIG. 10

100

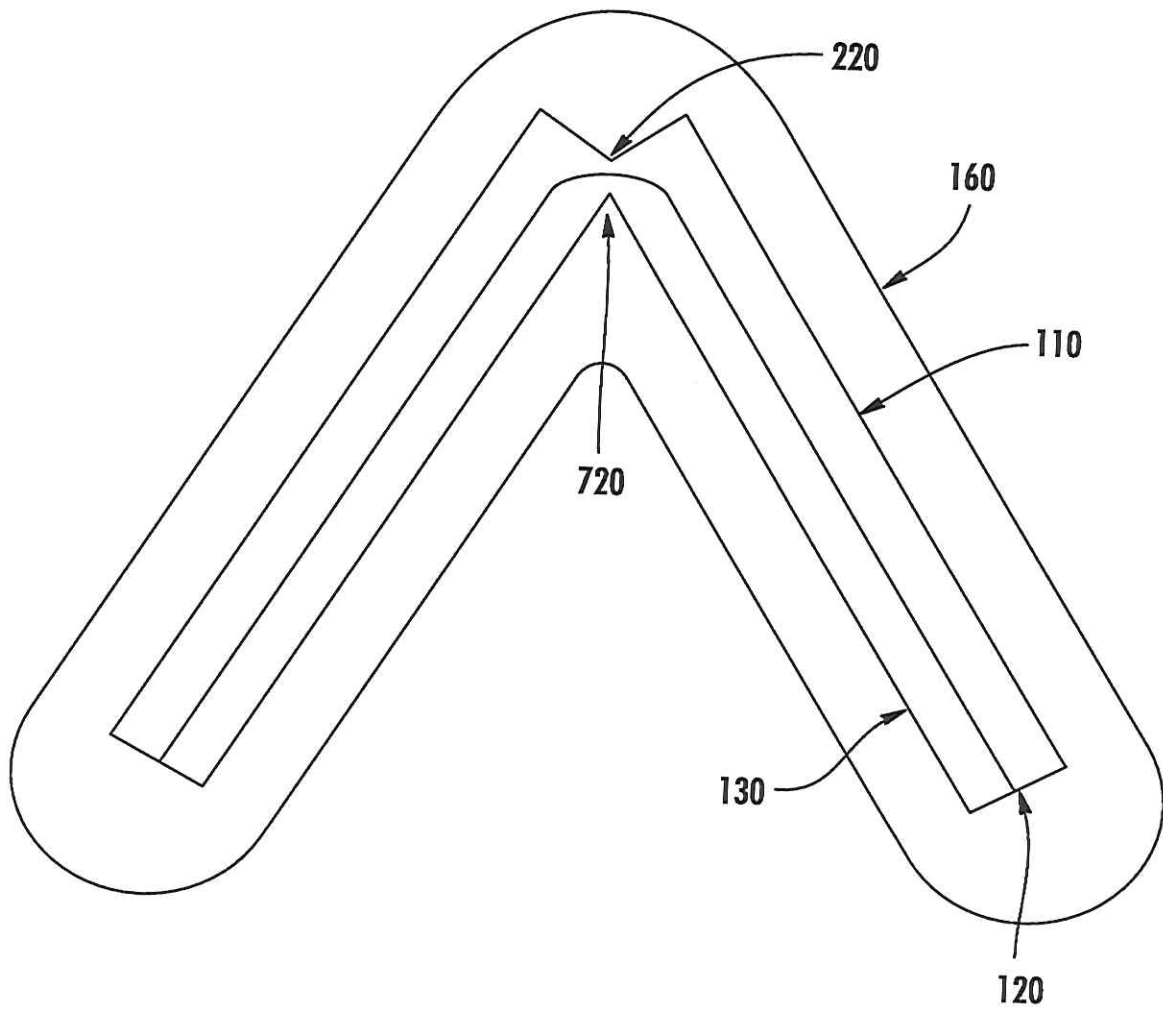


FIG. 11

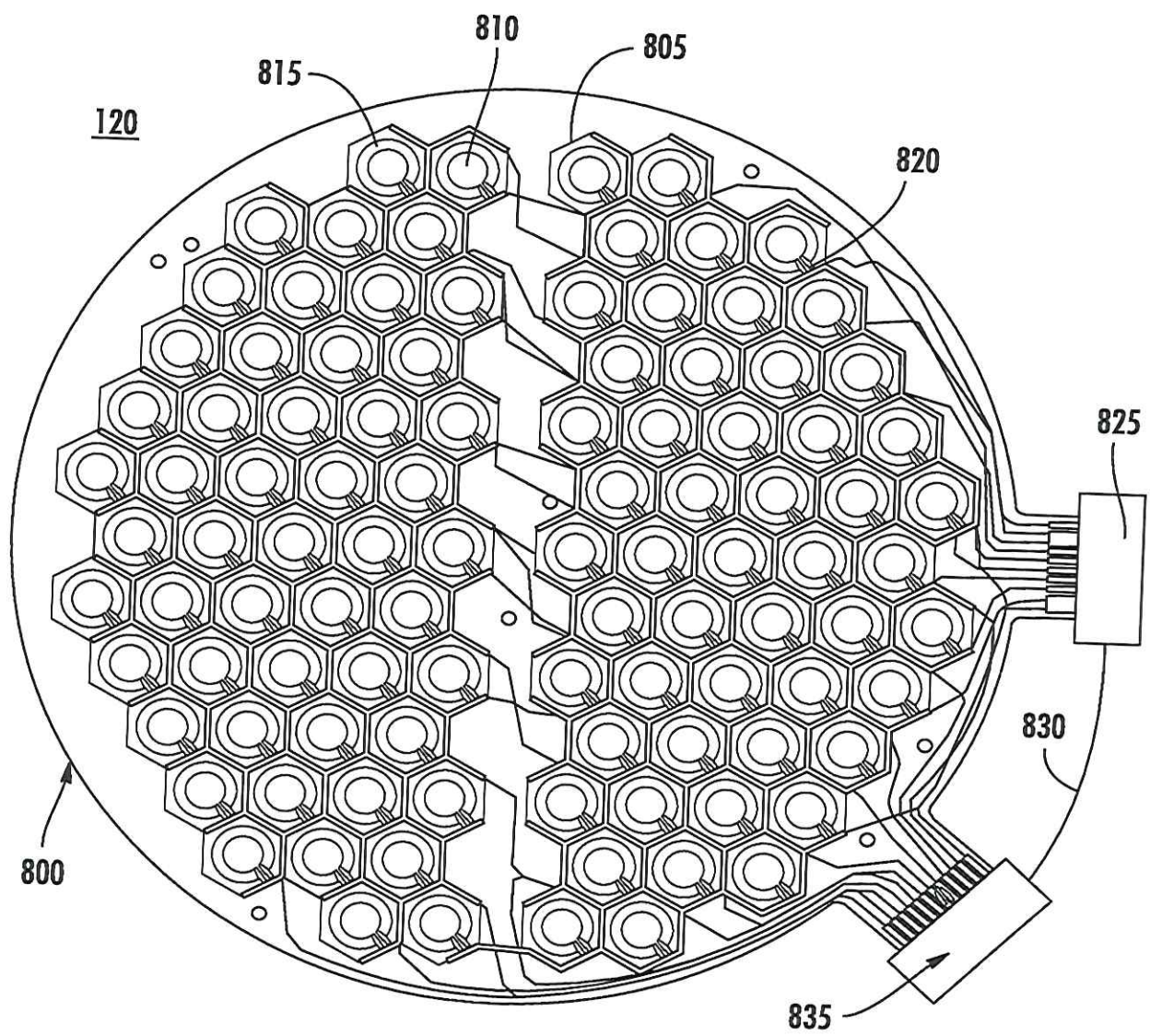
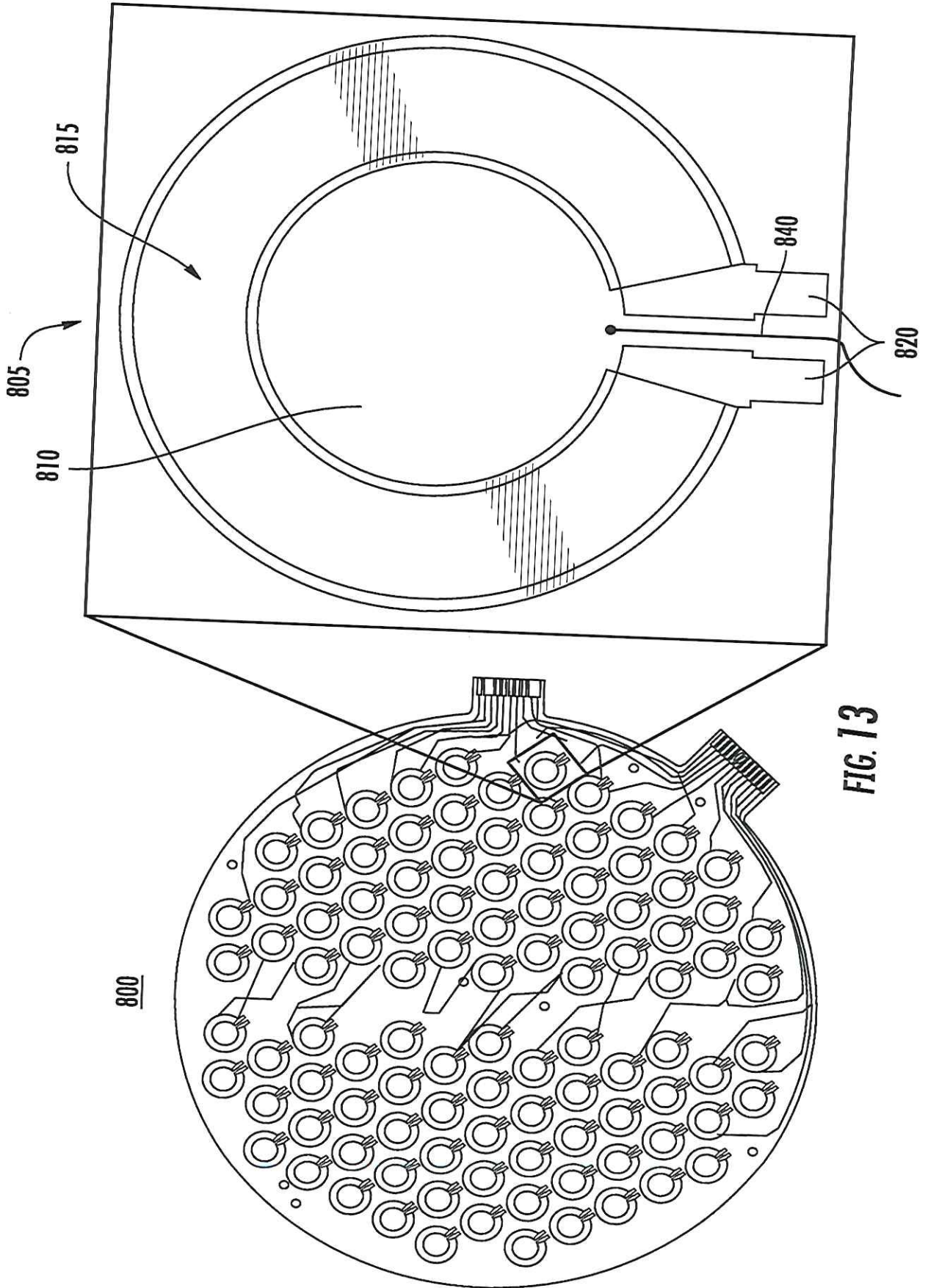


FIG. 12



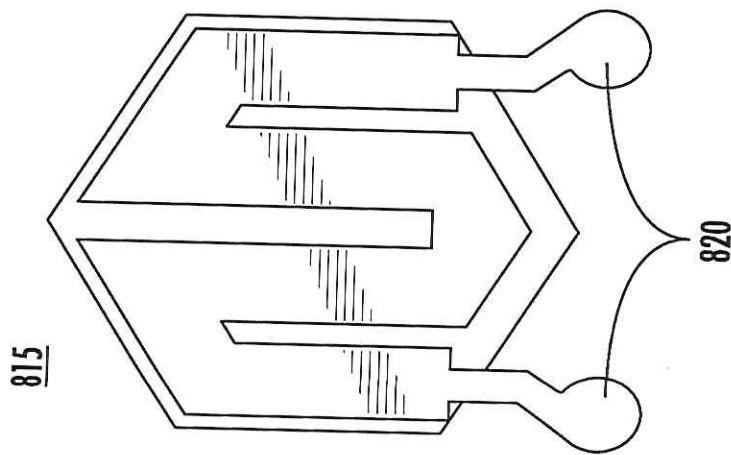


FIG. 14A

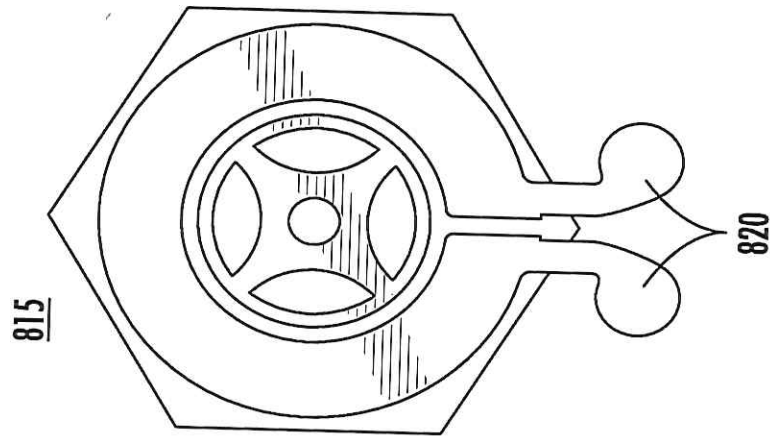


FIG. 14B

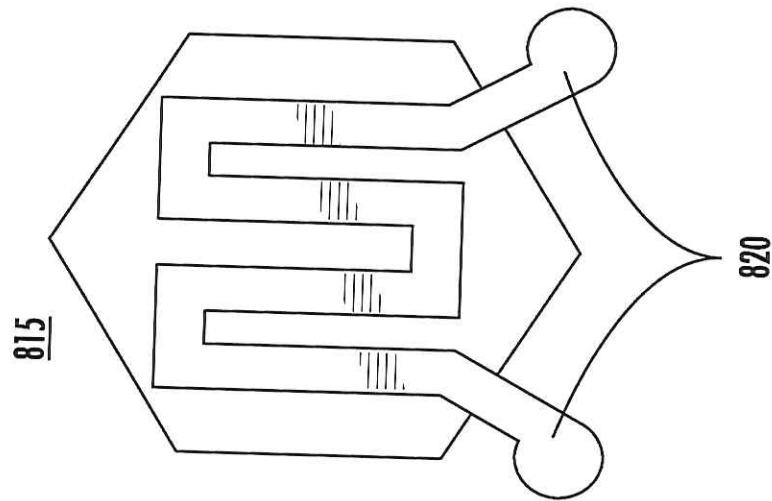


FIG. 14C

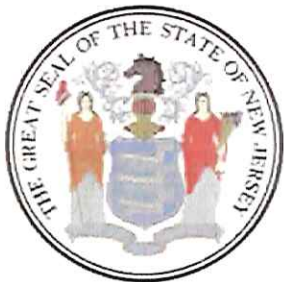
APOSTILLE

(CONVENTION DE LA HAYE DU 5 OCTOBRE 1961)

1. COUNTRY: UNITED STATES OF AMERICA
2. THIS PUBLIC DOCUMENT HAS BEEN SIGNED BY:
AMANDA L BLYTH
3. ACTING IN THE CAPACITY OF:
NOTARY PUBLIC OF NEW JERSEY
4. BEARS THE SEAL/STAMP OF:
AMANDA L BLYTH, NOTARY

CERTIFIED

5. AT TRENTON, NEW JERSEY
6. THE 23RD DAY OF MAY 2019
7. BY: Elizabeth Maher Muoio
State Treasurer
8. NO: A684583
9. SEAL/STAMP:
10. SIGNATURE



A handwritten signature in black ink, appearing to read "Elizabeth Maher Muoio".

Elizabeth Maher Muoio
State Treasurer

Certificate Number: 141425434

Verify this certificate at
https://www1.state.nj.us/TYTR_StandingCert/JSP/Verify_Cert.jsp

Clarke, Modet & C^o

COLOMBIA

PODER

Yo (nosotros), abajo firmante(s) _____
en mi (nuestro) carácter de representante(s) legales de

BIOSSENSE WEBSTER (ISRAEL) LTD.

una sociedad organizada y existente de acuerdo con las leyes de **Israel**

y en actual cumplimiento de su objeto social, con domicilio 4 **Hatnufa Street, Yokneam, Israel 2066717**

por el presente instrumento confiero (conferimos) poder especial a favor de **CAROLINA MERCEDES DAZA MONTALVO**, con Cédula de Ciudadanía No. 66.783.790 de Palmira Valle, y Tarjeta Profesional. 141563 con domicilio en Bogotá, Colombia, para que actuando en su orden en nombre del (de la) otorgante le (la) representen ante cualquier entidad, autoridad y/o persona, especialmente ante las del orden Administrativo, Contencioso Administrativo, Judicial, Tribunales de Arbitramento y/o cualquier otro en lo referente a los siguientes asuntos:

- 1) Solicitar, tramitar, obtener y/o registrar cualquiera de las modalidades de Propiedad Industrial, tales como: patentes de invención, modelos de utilidad; diseños industriales, variedades vegetales; marcas, lemas, nombres y enseñanzas comerciales y denominaciones de origen; así como sus renovaciones, prórrogas, transferencias, cambios de nombre y/o domicilio, contratos y licencias.
- 2) Solicitar, tramitar, obtener y/o registrar derechos de autor, en cualquiera de sus presentaciones, así como la protección de secretos industriales y know-how.
- 3) Solicitar, tramitar, obtener y/o registrar registros sanitarios, adicionar o excluir importador, permisos y/o licencias de funcionamiento; así como sus renovaciones o prórrogas, transferencias, cambios de nombre y/o domicilio, contratos y licencias.
- 4) Ejercer acciones de oposición, observación, reclamos, reconsideración, reposición, apelación, cancelación administrativa o judicial, nulidad, protección al consumidor, concesión de licencias, protección de secretos industriales y demás acciones y recursos relacionados con derechos derivados de los asuntos arriba indicados y en contra de la competencia desleal, acciones derivadas de la obtención o explotación de licencias, acciones de indemnización de perjuicios. También podrá(n) intervenir en juicios civiles, comerciales, penales, contencioso-administrativos, tutelas y de policía; en acciones o juicios promovidos por el (la) mandante o en contra él (ella).
- 5) Registrar nombres de dominio ante la entidad competente.
- 6) En el ejercicio de este mandato los mandatarios arriba mencionados quedan facultados para: conciliar, cancelar, transigir, comprometer en árbitros, desistir, recibir y tomar

POWER OF ATTORNEY

I (we), the undersigned Louis J Cappezuto
legal representative(s) of

BIOSSENSE WEBSTER (ISRAEL) LTD.

an organization existing under the laws of **Israel**

and in present execution of its business activity, domiciled 4 **Hatnufa Street, Yokneam, Israel 2066717**

do hereby grant POWER OF ATTORNEY to **CAROLINA MERCEDES DAZA MONTALVO** IA No. 66.783.790 of Palmira Valle, and Attorney ID No. 141563 residing in Bogotá Colombia, to act in the order of their appointment in behalf of grantor before any entity, authority and/or natural or juridical person, specially before those Administrative, Administrative-Contentious, Judicial, arbitration courts, and/or any other, in all matters concerning the following:

- 1) To apply, process, obtain and/or register any of the modalities of industrial property, such as: patents of invention, utility models; designs, plant varieties; trademarks, slogans, trade names, emblems and appellations of origin; as well as their renewals, time extensions, assignments, changes of name and/or domicile, agreements and licenses.
- 2) To apply, process, obtain and/or register copyrights of any kind as well as protection of industrial secrets or know-how.
- 3) To apply, process, obtain and/or register, health permits, add or exclude importers, operating authorizations and/or licenses; as well as their renewals, time extensions, or assignments, changes of name and/or domicile, agreements and licenses.
- 4) To bring actions of oppositions, observations, claims, reconsiderations, appeals or legal remedies, cancellations, nullity claims, consumer protection, granting of licenses, protection of trade secrets and other actions related with rights derived from the above-mentioned matters and against unfair competition acts, actions resulting from the obtaining or exploitation of licenses, recovering damages actions. They can also intervene or participate in Civil, Commercial, Criminal or Contentious-Administrative Trials; the actions for writ mandamus, police actions; in actions, lawsuits or litigations instituted by the grantor or against him.
- 5) To register domain names before the competent entity.
- 6) To the effect of this mandate the above-named proxy is empowered to: conciliate, cancel, settle, submit to arbitration, withdraw and to receive and take possession of the litigation related objet and waive or

Bogotá Colombia
Carrera 11 N° 86-53 Piso 3
Tel: (57 1) 6181088 · Fax: (57 1) 6350824
Email: info@clarkemodet.com.co

posesión de la cosa objeto de litigio y renunciar o desistir a derechos concedidos o en curso de concesión, admitir los hechos del proceso.

7) Ratificar o no la agencia oficiosa.

8) Así mismo faculto (facultamos) a los mencionados apoderados para recibir notificaciones y designar apoderados judiciales o extrajudiciales, sustituir el presente poder y revocar las sustituciones que hicieren.

renounce the rights granted or in process of granting, admit the facts of the case.

7) To ratify or not the officious agency.

8) I (we) hereby appoint the above mentioned attorney with powers to receive notifications and to designate judicial and extrajudicial attorneys, substitute this Power of Attorney and to revoke such substitutions.

Dado y firmado en _____

Granted and signed at New Brunswick, NJ USA

a los _____ días de _____

on this 17th day of MAY of 2019



Firma / Signature

Louis J Capezzuto
Assistant Secretary



AMANDA LIN BLYTH
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires 10/28/2023