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SUPERINTENDENCIA



Organización y
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10
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Delegatura de propiedad Industrial
División de Nuevas Creaciones

SOLICITUD
PATENTE DE INVENCION

PCT
INVENTARIO

09-12639

21. EXPEDIENTE No.

54. TÍTULO

DISPOSITIVO DE INSERCIÓN DE TAMPÓN PARA MEJOR CONTROL Y LA COLOCACIÓN
DEL VENDAJE.

51. CLASIFICACIÓN INTERNACIONAL

A61F 13/20

71. SOLICITANTE

PLAYTEX PRODUCTS, INC.

DOMICILIO

WESTPORT, CONNECTICUT, ESTADOS UNIDOS DE AMERICA

74. APODERADO

DILIA RODRIGUEZ D'ALEMAN

22. BOGOTÁ, D. C.,



No. 09-012639- -00000-0000

Fecha: 2009-02-10 14:57:37
Tra. 11 PATENTE I/II
Act. 411 PRESENTACION

Dep. 2020 NUECREACION
Eve: 379 FASE NACIONAL II
Folios: 92

**FORMULARIO ÚNICO DE SOLICITUD DE PATENTE
PCT
ENTRADA EN FASE NACIONAL**

SOLICITUD DE:

1

☒

Patente de Invención

☐

Patente de Modelo de Utilidad

☐

Capítulo I.

☒

Capítulo II.

2

**SOLICITANTE
(71)**

Nombre: PLAYTEX PRODUCTS, INC.

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Lugar de Constitución: Connecticut 06880,
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C.C. ☐

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C.E. ☐

Otro ☐

Número

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O APODERADO
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TP 20824 CSJ

4

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Nacionalidad o domicilio:

5 **PCT (86)**

Solicitud Internacional No. PCT/US2007/017390 Fecha 3 de agosto de 2007

Publicación Internacional No. WO 2008/019095 A2 Fecha 14 de febrero de 2008

6 **TÍTULO (54)**

DISPOSITIVO DE INSERCIÓN DE TAMPÓN PARA MEJOR CONTROL Y LA
COLOCACIÓN DEL VENDAJE.

7 **Clasificación Internacional (51)** A61F 13/20

8 **Prioridad**

SI ☒ NO ☐

(33) País de Origen

Estados Unidos de América

(32) Fecha

4 de agosto de 2006

(31) Número de Solicitud

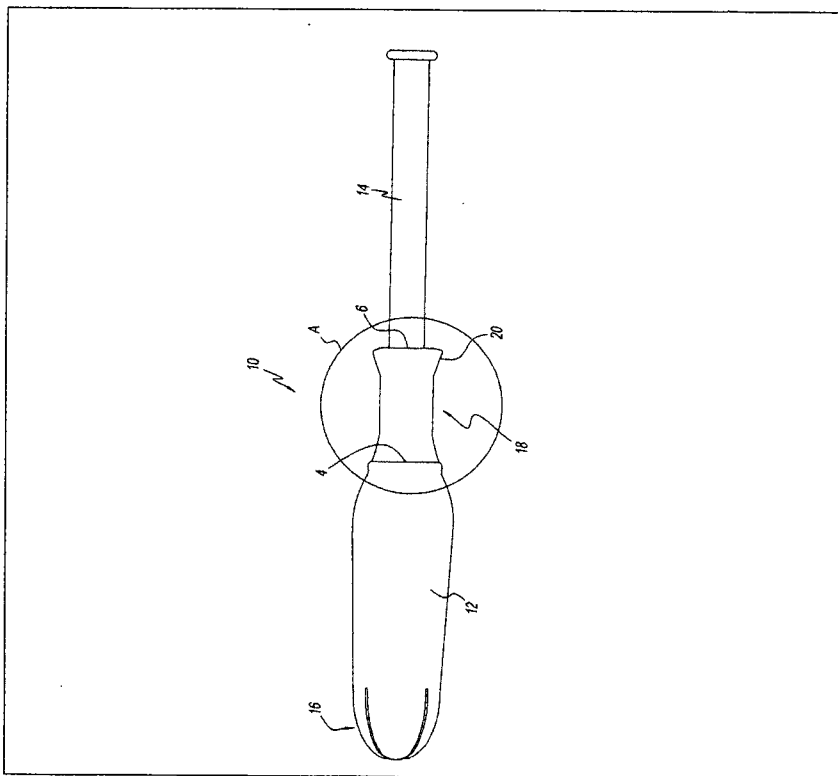
60/835,638

9 **Comprobante de pago No.** 9 - 8.784 // 09 - 2.876 // 09 - 2.612 // 09 - 8.449

Fecha 3/02/09 // 13/01/09 // 13/01/09 // 3/02/09

- ☐ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Documento que acredita la existencia y representación legal cuando el solicitante sea persona jurídica
- ☐ Poderes si fuere el caso
- ☐ Documento de cesión del inventor al solicitante o a su causante
- ☐ Declaraciones
- ☐ Copia de la solicitud internacional. (Resumen, descripción, reivindicaciones, dibujos)
- ☐ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicaciones, dibujos)
- ☐ Copia del examen preliminar internacional efectuado por la Autoridad Internacional de Examen Preliminar (IPEA).
- ☐ Traducción del examen preliminar internacional efectuado por la IPEA
- ☐ De ser el caso copia de contrato de acceso.
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas
- ☐ De ser el caso, certificado de deposito del material biológico
- ☐ Arte final 12 X 12 .
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud.
- ☐ De ser el caso, modificaciones efectuadas a la solicitud internacional
- ☐ Otros *Opinión escrita

11 FIGURA CARACTERÍSTICA



12 Solicito la concesión de la patente

NOMBRE : DILIA MARÍA RODRÍGUEZ D'ALEMAN

FIRMA:

C.C. 41.654.882

T.P. 20824

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 9 - 8,784
FECHA : FEBRERO 3 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 09-012639- -00000-0000

Fecha: 2009-02-10 14:57:37 Dep. 2020 NUECREACIONE
Tra. 11 PATENTEIYII Eve: 379 FASENACIONALI
Act. 411 PRESENTACION Folios: 92

***** CONSIGNACION

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	108004750	02/02/2009	31,570,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	
		32 CARATULAS DE PATENTE	1,000.00
		TOTAL :	\$ 1,000.00

SON: MIL PESOS

RESPONSABLE :

BO DE CAJA APLICADO AL ASUNTO No.

940.000
P-2119

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

CERTIFICACION DE EXCEDENTE : 09 - 2,876

FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 09-012639- -00000-0000

Fecha: 2009-02-10 14:57:37 Dep. 2020 NUECREACIONE

Tra. 11 PATENTEIYII Eve: 379 FASENACIONALII

Act. 411 PRESENTACION Folios: 92

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-09	OTROS SERVICIOS DE PROPIEDAD I	
		99 OTROS SERVICIOS ADMINISTRATIVOS	100,000.00
		TOTAL :	\$ 100,000.00

SON: CIENTO MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

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

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 09 - 2,612
FECHA : ENERO 13 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 09-012639- -00000-0000

Fecha: 2009-02-10 14:57:37 Dep. 2020 NUECREACION
Tra. 11 PATENTEIYII Eve: 379 FASENACIONALII
Act. 411 PRESENTACION Folios: 92

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	107995683	13/01/2009	40,435,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		82 INVOCACION DE UNA PRIORIDAD EN NU	151,000.00
		TOTAL :	\$ 151,000.00

SON: CIENTO CINCUENTA Y UNO MIL PESOS

RESPONSABLE :

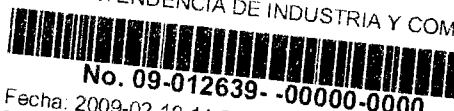
RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 09 - 8,449
FECHA : FEBRERO 3 DE 2009

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 09-012639- -00000-0000

Fecha: 2009-02-10 14:57:37 Dep. 2020 NUECREACIONE
Tra. 11 PATENTEIYII Eve: 379 FASENACIONALI
Act. 411 PRESENTACION Folios: 92

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CLARKE MODET Y CO. COLOMB	CONSIGNACION	BANCO DE BOGOTA	062754387	108004750	02/02/2009	31,570,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01	SOLICITUDES	
		3 PROC. REGISTRO DE MARCAS Y LEMAS	688,000.00
		TOTAL :	\$ 688,000.00

SEISCIENTOS OCHENTA Y OCHO MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

ANEXOS

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(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 February 2008 (14.02.2008)

PCT

(10) International Publication Number
WO 2008/019095 A2

(51) International Patent Classification:
A61F 13/20 (2006.01)

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(21) International Application Number:
PCT/US2007/017390

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date: 3 August 2007 (03.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/835,638 4 August 2006 (04.08.2006) US

(71) Applicant (for all designated States except US): PLAY-TEX PRODUCTS, INC. [US/US]; 300 Nyala Farm Road, Westport, CT 06880 (US).

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

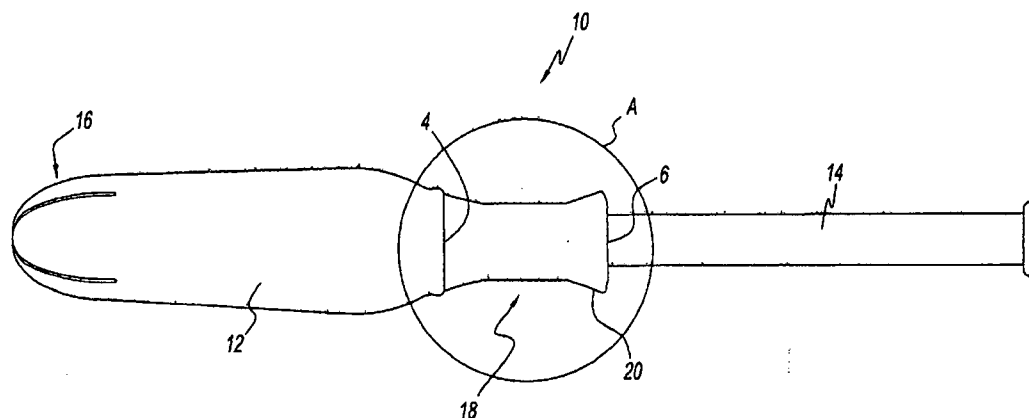
(72) Inventors; and

(75) Inventors/Applicants (for US only): JORGENSEN, Robert [US/US]; 106 Willow Grove Mill Drive, Middletown, DE 19709 (US). EDGETT, Keith [US/US]; 415 Laura Lane, Middletown, DE 19709 (US). DOUGHERTY, Eugene, P. [US/US]; 196 Pleasant-hill Drive, Camden-wyoming, DE 19934 (US).

Published:

— without international search report and to be republished upon receipt of that report

(54) Title: TAMPON INSERTION DEVICE FOR IMPROVED CONTROL AND PLEDGET PLACEMENT



(57) Abstract: There is provided a tampon applicator assembly having a barrel with an improved finger grip. The improved finger grip has one or more flared portions and/or one or more rib-like or ring-like gripping structures. As a result of these features, the tampon assembly provides a user with improved control, which results in proper pledget placement and thus comfort to the user.

WO 2008/019095 A2

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 February 2008 (14.02.2008)

PCT

(10) International Publication Number
WO 2008/019095 A3

(51) International Patent Classification:
A61F 13/20 (2006.01)

(21) International Application Number:
PCT/US2007/017390

(22) International Filing Date: 3 August 2007 (03.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/835,638 4 August 2006 (04.08.2006) US

(71) Applicant (for all designated States except US): **PLAY-
TEX PRODUCTS, INC.** [US/US]; 300 Nyala Farm Road,
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(72) Inventors; and

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415 Laura Lane, Middletown, DE 19709 (US).
DOUGHERTY, Eugene, P. [US/US]; 196 Pleasant-hill
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Ruggiero, & Perle, L.L.P., One Landmark Square, 10th
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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG,
ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK,
LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW,
MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL,
PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA,
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL,
PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

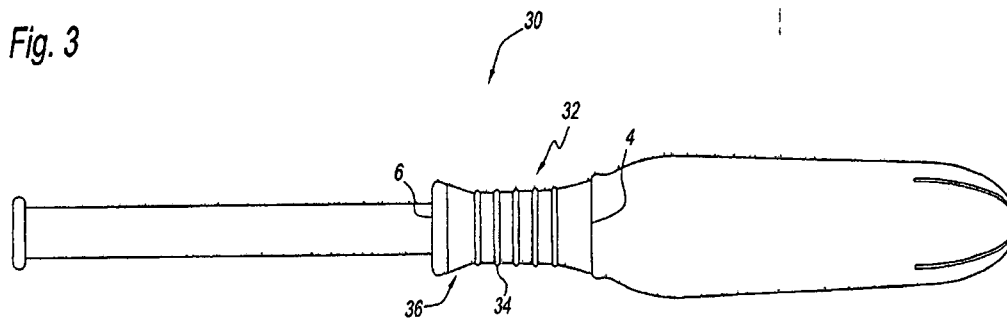
— with international search report

— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
31 July 2008

(54) Title: **TAMPON APPLICATOR FINGERGRIP**

Fig. 3



(57) Abstract: A tampon applicator assembly (10) having a barrel (12) with a finger grip (18). The finger grip (18) has one or more flared portions (20) and/or one or more ring-like or ring-like gripping structures (34). As a result of these features, the tampon assembly provides a user with increased control, which results in proper tampon placement and thus comfort to the user.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Playtex Products, Inc.
International
Application No. PCT/US2007/17390
International
Filing Date: 03 August 2007
Priority Date: 04 August 2006
For: TAMPON INSERTION DEVICE FOR IMPROVED
CONTROL AND PLEDGET PLACEMENT
Attorney Docket No.: 460.2475WOU

RESPONSE TO WRITTEN OPINION

Mail Stop PCT
Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant is submitting the present document in response to a Written Opinion of the International Searching Authority dated 4 June 2008 (hereinafter "the Written Opinion").

Remarks

Applicant notes with appreciation that the Examiner has indicated that claims 1 – 12, 30 and 31 meet the criteria set out in PCT Article 33(2) and (4) and claims 1 – 31 meet the criteria set out in PCT Article 33(4).

The Written Opinion objects to the drawings under PCT Rule 66.2(a)(iii). The Written Opinion also objects to the description under PCT Rule 66.2(a)(iii). The Written Opinion asserts that Figures 2, 5, and 8 and the description thereof on page

4-5 are not commensurate. Pages 4 and 5 are amended for clarification.

The Written Opinion asserts that on page 7, line 4, "20" should be "22" and on line 2 of paragraph 37, "diclosureis" should be "disclosure is". Page 7, line 4 of the application is amended to replace "20" with "22" and line 2 of paragraph 37 of the application is amended to replace "diclosureis" with "disclosure is".

The Written Opinion further asserts that the Summary of the Invention section, i.e. a description of the claimed invention, and the invention of the claims is not commensurate. Applicant respectfully submits that the claims and Summary of the Invention section are consistent.

Reconsideration and withdrawal of the objections are respectfully requested.

The Written Opinion indicates that claims 13 – 18 lack novelty under PCT Article 33(2) as being anticipated by United States Patent No. 5,437,628 to Fox et al. (hereinafter "Fox"). For at least the reasons set forth below, Applicant submits that claims 13 – 18 are not disclosed or suggested by Fox.

Claim 13 now recites "said fingergrasp section has a first section of a uniform diameter extending from said barrel and a flare extending from said first section on an end of said first section opposite said barrel".

Fox provides "The fingergrasp portion 20 structurally contains a first, relatively short, exterior section 48 which has an oval cross-sectional shape." (col. 6, lines 53-55). Fox further provides "Formed adjacent to the first section 48 is a second, generally longer, exterior section 50. The second section 50 has a generally rectangular cross-sectional configuration, as best shown in FIG. 7." (col. 6, lines 58-61). Thus, the fingergrasp portion of Fox has an oval exterior section and a rectangular exterior section, and fails to disclose or suggest that the fingergrasp section has a first section of a uniform diameter extending from the barrel and a flare extending from the first section on an end of the first section opposite the barrel, as recited by claim 13.

In addition, paragraph [0038] of the application provides "It has been unexpectedly found through consumer testing that fingergrip section 32 having one or more gripping structures 34 provides enhanced grippability, which results in improved insertion control."

Accordingly, Applicant respectfully submits that Fox fails to disclose or suggest the features of claim 13, and, thus, claim 13 is not anticipated by Fox. Claims 14 – 18 depend from claim 13, and are novel over Fox for at least the reasons described above for claim 13.

The Written Opinion indicates that claims 19 – 29 lack novelty under PCT Article 33(2) as being anticipated by United States Patent No. 6,511,452 to Rejai et al. (hereinafter "Rejai"). For at least the reasons set forth below, Applicant submits that claims 19 – 29 are not disclosed or suggested by Rejai.

Claim 19 now recites "a fingergrip section having one or more rib-like wavy ring gripping structures with an oscillating configuration."

Rejai provides "Fingergrip area 20 has at least one, and more preferably two or more gripping structures. The gripping structures are any multi-directional gripping structures. For example, the gripping structures are preferably one or more lances, slits, perforations, or any combinations thereof." Thus, Rejai fails to disclose or suggest a fingergrip section having one or more rib-like wavy ring gripping structures with an oscillating configuration, as recited in claim 19.

Accordingly, Applicant respectfully submits that Rejai fails to disclose or suggest the features of claim 19, and, thus, claim 19 is not anticipated by Rejai. Claims 20 – 29 depend from claim 19, and are novel over Rejai for at least the reasons described above for claim 19.

Dependent claim 20 recites "a second gripping portion that provides gripping in both an insertion direction and a removal direction".

Rejai provides "By alternating the direction of the arcuate lances in each

column, the edge or shoulder is formed in an opposite direction in each column, thus providing effective gripping in both the insertion direction and removal direction of applicator 10." (col. 4, lines 59-63). Thus, Rejai provides gripping structures in an insertion direction and removal direction. In contrast, paragraph [0043] of the application provides "one embodiment of the present disclosure tampon applicator 40 has a finger grip section 42 with one or more wavy ring gripping structures 44. A novel aspect of the one or more wavy rings 44 is that each ring has an oscillating configuration, similar to a sine or cosine wave. As a result, a multi-directional grip is formed. Referring to Fig. 5, which is an exploded view of area B in Figure 4, on each wavy ring 44, there is a first gripping portion 46 that provides a user with gripping in the insertion direction, a second gripping portion 47 that provides a user with gripping in both the insertion and removal directions, and a third gripping portion 48 that provides a user with gripping in the removal direction. (emphasis added)" Thus, Rejai fails to disclose or suggest a second gripping portion that provides gripping in both an insertion direction and a removal direction, as recited by claim 20.

Dependent claim 21 recites that "said one or more wavy ring gripping structures has an amplitude between about 0.01 inches to about 0.04 inches." Dependent claim 22 recites that "said one or more wavy ring gripping structures has an amplitude of about 0.025 inches."

The Written Opinion asserts that the structures have an amplitude between "about" 0.01 inches to "about" 0.04 inches, more specifically "about" 0.025 inches, see, e.g., col. 2, lines 48-52 and discussion of terminology "about" supra. The Written Opinion asserts that the claim language "about" allows some leeway from the dimensions it modifies. Paragraph [0044], lines 4-5, provides "Amplitude is defined as M in Figure 6, and is the maximum point of 44 measured to 50." Further, col. 2, lines 48-52 merely provides "The multi-directional gripping structure allows the user to securely hold the applicator during insertion of the applicator into the vagina, expulsion of the pledget from the barrel of the applicator, and removal of the applicator from the vagina." Thus, Rejai fails to disclose or suggest an amplitude between about 0.01 inches to about 0.04 inches, as recited by claim 21, or an amplitude of about 0.025 inches, as recited by claim 22.

In addition, dependent claim 26 recites "said first gripping portion comprises a first gripping tail that provides gripping in an insertion direction." Dependent claim 27 recites that "said first gripping tail is curved towards a removal end of the tampon applicator." Dependent claim 28 recites that "said third gripping portion comprises a second gripping tail that provides gripping in a removal direction." Dependent claim 29 recites that "said second gripping tail is curved towards an insertion end of the tampon applicator."

The Written Opinion asserts that the first gripping portion comprises a first gripping tail that provides gripping in an insertion direction and the third gripping portion comprises a second gripping tail that provides gripping in a removal direction, see discussion of claim 20 supra and col. 4, lines 6 – 15. Col. 4, lines 6 – 15. Rejai provides "Each arcuate lance 22 is preferably sheared into the outer surface of barrel 12, creating a cut through the entire thickness of the barrel. The raised edge of each arcuate lance creates an edge or shoulder, which results in an effective gripping structure." Paragraph [0046], lines 5-10 of the application provides "Wavy gripping structure 64 has a gripping tail 66, which provides gripping in the removal direction. Referring to Figure 8b, an exploded view of one of the wavy gripping structures 64 in area D of Figure 8 is depicted. Wavy gripping structure 64 has a gripping tail 68, which provides gripping in the insertion direction." Clearly the lances do not have a gripping tail of one or more rib-like wavy ring gripping structures, let alone gripping tails provided in claims 26 – 28.

The Written Opinion indicates that claims 1 – 13 lack inventive step under PCT Article 33(3) as being obvious over United States Patent Publication No. 2003/0236485 to Fedyk et al. (hereinafter "Fedyk"). The Written Opinion indicates that claims 30 and 31 lack inventive step under PCT Article 33(3) as being obvious over Fedyk.

Claim 1 provides, in part, "a curve represented by an equation range of $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, where y is an incremental increase in a height of said curve at a distance along a length of said curve".

Independent claim 7 recites, in part, "a curve represented by an equation range $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ to $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$, where y is an incremental increase in a height of said curve at a distance along a length of said curve".

Independent claim 30 recites, in part, "a curve represented by an equation range of $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$ where y is an incremental increase in a height of said curve at a distance along a length of said curve".

Independent claim 31 recites, in part, "a curve represented by an equation range $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ to $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$ where y is an incremental increase in a height of said curve at a distance along a length of said curve".

The Written Opinion asserts that paragraph 31 of the instant description discloses that such a curve, i.e. the slope, of the flared portion provides enhanced gripping ability. The Written Opinion further provides that not only does Fedyk teach the same angle but see also paragraphs 5 and 43 of Fedyk which recognize such flared finger grip, i.e. a finger grip with a slope/angle/curve, i.e. the same general conditions provides enhanced gripping ability, i.e., is a result effective parameter. The Written Opinion asserts that since at the very least the general conditions are disclosed by Fedyk, it is not inventive to discover optimum or workable ranges, i.e. the curve range, by routine experimentation. Applicant respectfully disagrees.

Fedyk provides "In FIG. 1, the first transition portion 20 and the grip region 17 span a radial arc, identified as angle alpha (α), which extends from the first transition portion 20 to the grip region 17. The angle alpha (α) can be between about 0° to about 180° . In FIG. 1, the second transition portion 21 and the grip region 17 span a radial arc, identified as an angle beta (β)..." Thus, Fedyk merely provides a radial arc between grip region and first transition portion and second transition portion, and, thus, fails to disclose or suggest a curve, let alone a curve represented by an equation range of $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, where y is an incremental increase in a height of said

curve at a distance along a length of said curve, as recited by claims 1 and 30, or a curve represented by an equation range $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ to $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$, where y is an incremental increase in a height of said curve at a distance along a length of said curve, as recited by claims 7 and 31.

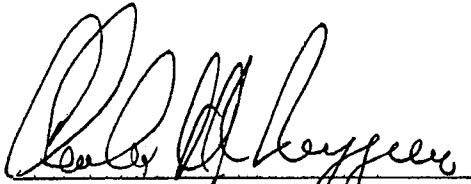
In addition, paragraph [0058] of the application provides a blind study was done comparing tampon applicators of claims 30 and 31 to commercially available tampon applicators. Paragraph [0060] of the application provides:

As is evident from the data, the tampon applicators according to the present disclosure were clearly preferred over the commercial products tested. This comes as no surprise since the enhanced properties imparted to a tampon applicator formed according to the present disclosure result in an applicator that has improved grip during use, which results in better control and proper placement of a pledget in the vaginal vault.

Accordingly, Applicant respectfully submits that Fedyk fails to disclose or suggest the features of claims 1, 7, 30 and 31, and claims 1, 7, 30 and 31 have inventive step over Fedyk. Claims 2 – 6 depend from claim 1 and claims 8 – 12 depend from claim 7, and have an inventive step over Fedyk for at least the reasons described above for claims 1 and 7.

Applicant respectfully submits that all claims presented in this application patentably distinguish over the prior art. Accordingly, Applicant respectfully requests that this application be given favorable consideration in the International Preliminary Examination Report.

September 4, 2008



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[0013] The above-described and other features and advantages of the present disclosure will be appreciated and understood by those skilled in the art from the following detailed description and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Figure 1 is a side view of a tampon applicator having a flared fingergrip according to the present disclosure;

[0015] Figure 2 is an exploded view of area A in Figure 1 of the flared fingergrip of the present disclosure;

[0016] Figure 3 is a side view of a tampon applicator having a flared fingergrip and a plurality of gripping rings in accordance with the present disclosure;

[0017] Figure 4 is a side view of a tampon applicator having a fingergrip section with a plurality of wavy ring gripping structures in accordance with the present disclosure;

[0018] Figure 5 is an exploded view of area B in Figure 4 of the fingergrip section with a plurality of wavy ring gripping;

[0019] Figure 6 depicts two wavy ring gripping structures oriented "in phase" in accordance with the present disclosure;

[0020] Figure 7 depicts two wavy ring gripping structures oriented "out of phase" in accordance with the present disclosure;

[0021] Figure 8 is a side cut away view of Figure 4 along line AA of the tampon applicator;

[0022] Figure 8a is an exploded view of a wavy ring gripping structure in Area C of Figure 8;

[0023] Figure 8b is an exploded view of a wavy ring gripping structure in Area D of Figure 8;

[0024] Figure 9 is an exploded side view of a tampon applicator having a plurality of wavy ring gripping structures and further exploded views of novel features of the wavy ring gripping structures according to the present disclosure;

[0025] Figure 10 is a graph representation the curvature of the flared finger grip for five Ultra tampon applicators according to the present disclosure; and

[0026] Figure 11 is a graph representation the curvature of the flared finger grip for five Regular tampon applicators according to the present disclosure.

surface 27 is a virtually uniformly radii surface as measured from the centerline X of barrel 12. Flare surface 29 has a uniformly enlarging radii, again as measured from the centerline X of barrel 12, thereby resulting in a flare. Flare angle 20, as shown in Fig. 2, is measured from the outer surfaces of surface 27 to flare surface 29.

[0031] In addition to flare angle 22, it has been unexpectedly found that when the flared portion 20 has an optimal curve and/or slope 24, enhanced grippability is provided. The optimal curve 24 of flared portion 20 can be determined by measuring the change in the increase of the height H of flared portion 20 at predetermined points over a predetermined length L of the flared portion. Height H is along the radii, while length L is parallel to centerline X.

[0032] In one embodiment according to the present disclosure, it has been found that enhanced grippability results from a flare angle 22 between about 139° and about 156° and an optimal curve 24 represented by the equation range of $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, where y is the incremental increase in height H of the curve at distance x along the length L of the curve.

[0033] In another embodiment according to the present disclosure, it has been found that a flare angle 22 of about 145° and an optimal curve 24

represented by the equation $y = 11.27x^3 - 1.0172x^2 + 0.024x + 0.0002$, provides maximized grippability.

[0034] In another embodiment according to the present disclosure, it has been found that a flare angle 22 between about 130° and about 147° and an optimal curve 24 represented by the equation range $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ to $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$, provides enhanced grippability.

[0035] In a further embodiment according to the present disclosure, it has been found that a flare angle 22 of about 140° and an optimal curve 24 represented by the equation $y = 1.7529x^3 - 0.7442x^2 - 0.0194x + 0.0006$, provides maximized grippability.

[0036] Tampon applicator 10 with improved fingergrasp 20 having the any one of the above-stated flare angles 22 and optimal curves 24 has been found to unexpectedly provide improved guidance, comfort and placement of a tampon pledget in the vaginal vault over those tampon applicators that do not have the improved and novel features according to the present disclosure.

[0037] Referring to Figure 3, another tampon applicator with an improved fingergrasp according to the present disclosure is represented generally by reference numeral 30. Applicator 30 is similar to applicator 10 in Figure 1 and further includes a fingergrasp section 32 having one or more

WE CLAIM:

1. A tampon applicator fingergrip comprising one or more flared portions having a flare angle between about 139° and about 156° and a curve represented by an equation range of $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, where y is an incremental increase in a height of said curve at a distance along a length of said curve.
2. The tampon applicator fingergrip of claim 1, wherein said flare angle is about 145° .
3. The tampon applicator fingergrip of claim 1, wherein said curve is represented by the equation $y = 11.27x^3 - 1.0172x^2 + 0.024x + 0.0002$.
4. The tampon applicator fingergrip of claim 1, further comprising one or more gripping structures.
5. The tampon applicator fingergrip of claim 4, wherein said one or more gripping structures have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combinations thereof.

6. The tampon applicator fingergrip of claim 4, wherein said one or more gripping structures are present in a number between about 2 to about 6.

7. A tampon applicator fingergrip comprising one or more flared portions having a flare angle between about 130° and about 147° and a curve represented by an equation range $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ to $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$, where y is an incremental increase in a height of said curve at a distance along a length of said curve.

8. The tampon applicator fingergrip of claim 7, wherein said flare angle is about 140° .

9. The tampon applicator fingergrip of claim 7, wherein said curve is represented by an equation $y = 1.7529x^3 = 0.7442x^2 - 0.0194x + 0.0006$.

10. The tampon applicator fingergrip of claim 7, further comprising one or more gripping structures.

11. The tampon applicator fingergrip of claim 10, wherein said one or more gripping structures have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combinations thereof.

12. The tampon applicator fingerrip of claim 10, wherein said one or more gripping structures are present in a number between about 2 to about 6.

13. A tampon applicator comprising: a barrel; and a fingerrip section extending from said barrel having three gripping structures, wherein each of said three gripping structures is spaced apart between about 0.175 inches to about 0.225 inches, wherein said fingerrip section has a first section of a uniform diameter extending from said barrel and a flare extending from said first section on an end of said first section opposite said barrel.

14. The tampon applicator of claim 13, wherein each of said three gripping structures is spaced apart about 0.2 inches.

15. The tampon applicator of claim 13, wherein said three gripping structures have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combination thereof.

16. A tampon applicator comprising a fingerrip section having five gripping structures, wherein each of said five gripping structures is spaced apart between about 0.075 inches to about 0.125 inches.

17. The tampon applicator of claim 16, wherein each of said five gripping structures is spaced apart about 0.1 inches.

18. The tampon applicator of claim 16, wherein said five gripping structures have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combination thereof.
19. A tampon applicator comprising a finger grip section having one or more rib-like wavy ring gripping structures with an oscillating configuration.
20. The tampon applicator of claim 19, wherein said one or more wavy ring gripping structures comprises:
- a first gripping portion that provides gripping in an insertion direction;
 - a second gripping portion that provides gripping in both an insertion direction and a removal direction; and
 - a third gripping portion that provides gripping in a removal direction.
21. The tampon applicator of claim 19, wherein said one or more wavy ring gripping structures has an amplitude between about 0.01 inches to about 0.04 inches.
22. The tampon applicator of claim 19, wherein said one or more wavy ring gripping structures has an amplitude of about 0.025 inches.
23. The tampon applicator of claim 19, wherein said one or more wavy ring gripping structures has a wavelength between about 0.1 inches to about 0.4 inches.

24. The tampon applicator of claim 19, wherein said one or more wavy ring gripping structures has a wavelength of about 0.25 inches.
25. The tampon applicator of claim 19, wherein said one or more wavy gripping structures are orientated in phase, out of phase, or any combination thereof.
26. The tampon applicator of claim 20, wherein said first gripping portion comprises a first gripping tail that provides gripping in an insertion direction.
27. The tampon applicator of claim 26, wherein said first gripping tail is curved towards a removal end of the tampon applicator.
28. The tampon applicator of claim 20, wherein said third gripping portion comprises a second gripping tail that provides gripping in a removal direction.
29. The tampon applicator of claim 28, wherein said second gripping tail is curved towards an insertion end of the tampon applicator.
30. A tampon applicator having a flared finger grip with a flare angle between about 139° and about 156° and a curve represented by an equation range of $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$ where y is an incremental increase

in a height of said curve at a distance along a length of said curve, and wherein said flared fingergrasp comprises five wavy gripping structures spaced apart from each other at about 0.075 inches to about 0.125 inches.

31. A tampon applicator having a flared fingergrasp with a flare angle between about 130° and about 147° and a curve represented by an equation range $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ to $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$ where y is an incremental increase in a height of said curve at a distance along a length of said curve, and wherein said flared fingergrasp comprises three ring gripping structures spaced apart from each other at about 0.175 inches to about 0.225 inches.

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) 460.2475WOU

Box No. I TITLE OF INVENTION

TAMPON INSERTION DEVICE FOR IMPROVED CONTROL AND PLEDGET PLACEMENT

Box No. II APPLICANT

☐ This person is also inventor

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

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Applicant's registration No. with the Office

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State (that is, country) of nationality:

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State (that is, country) of residence:

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This person is applicant
for the purposes of:

☐ all designated
States

☒ all designated States except
the United States of America

☐ the United States
of America only

☐ the States indicated in
the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of
the applicant(s) before the competent International Authorities as:

☒ agent

☐ common
representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

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☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S) <i>If none of the following sub-boxes is used, this sheet should not be included in the request.</i>	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> JORGENSEN, ROBERT 106 WILLOW GROVE MILL DRIVE MIDDLETOWN, DELAWARE 19709 US	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality: US	State <i>(that is, country)</i> of residence: US
This person is applicant ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> EDGETT, KEITH 415 LAURA LANE MIDDLETOWN, DELAWARE 19709 US	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality: US	State <i>(that is, country)</i> of residence: US
This person is applicant for the ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> DOUGHERTY, JR., EUGENE P. 196 PLEASANT-HILL DRIVE CAMDEN-WYOMING, DELAWARE 19934 US	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality: US	State <i>(that is, country)</i> of residence: US
This person is applicant for the ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> 	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality: 	State <i>(that is, country)</i> of residence:
This person is applicant for the ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental	
☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.	

Box No. V DESIGNATIONS				
The filing of this request constitutes under Rule 4.9(a), the designation of all Contracting States bound by the PCT on the international filing date, for the grant of every kind of protection available and, where applicable, for the grant of both regional and national patents. However, ☐ DE Germany is not designated for any kind of national protection ☐ JP Japan is not designated for any kind of national protection ☐ KR Republic of Korea is not designated for any kind of national protection ☐ RU Russian Federation is not designated for any kind of national protection <i>(The check-boxes above may only be used to exclude (irrevocably) the designations concerned if, at the time of filing or subsequently under Rule 26bis.1, the international application contains in Box No. VI a priority claim to an earlier national application filed in the particular State concerned, in order to avoid the ceasing of the effect, under the national law, of this earlier national application.)</i>				
Box No. VI PRIORITY CLAIM				
The priority of the following earlier application(s) is hereby claimed:				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member	regional application: regional Office	international application: receiving Office
item (1) 4 August 2006 (04/08/2006)	60/835,638	US		
item (2)				
item (3)				
☐ Further priority claims are indicated in the Supplemental Box.				
Transmit certified copy: the receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as: ☒ all items ☐ item (1) ☐ item (2) ☐ item (3) ☐ other, see Supplemental Box				
Restore the right of priority: the receiving Office is requested to restore the right of priority for the earlier application(s) identified above or in the Supplemental Box as item(s) (_____). (See also the Notes to Box No. VI; further information must be provided to support a request to restore the right of priority.)				
Incorporation by reference: where an element of the international application referred to in Article 11(1)(iii)(d) or (e) or a part of the description, claims or drawings referred to in Rule 20.5(a) is not otherwise contained in this international application but is completely contained in an earlier application whose priority is claimed on the date on which one or more elements referred to in Article 11(1)(iii) were first received by the receiving Office, that element or part is, subject to confirmation under Rule 20.6, incorporated by reference in this international application for the purposes of Rule 20.6.				
Box No. VII INTERNATIONAL SEARCHING AUTHORITY				
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used): ISA/ US				
Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority): Date (day/month/year) Number Country (or regional Office)				
Box No. VIII DECLARATIONS				
The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):				Number of declarations
☐	Box No. VIII (i)	Declaration as to the identity of the inventor	:	
☐	Box No. VIII (ii)	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent	:	
☐	Box No. VIII (iii)	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application	:	
☐	Box No. VIII (iv)	Declaration of inventorship (only for the purposes of the designation of the United States of America)	:	
☐	Box No. VIII (v)	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty	:	

Box No. IX CHECK LIST; LANGUAGE OF FILING																																				
This international application contains: (a) on paper, the following number of sheets: request (including declaration and supplemental sheets) : 4 description (excluding sequence listing and/or tables related thereto) : 16 claims : 6 abstract : 1 drawings : 13 Sub-total number of sheets 40 sequence listing : tables related thereto : (for both, actual number of sheets if filed on paper, whether or not also filed in electronic form; see (c) below) Total number of sheets : 40 (b) ☐ only in electronic form (Section 801(a)(i)) (i) ☐ sequence listing (ii) ☐ tables related thereto (c) ☐ also in electronic form (Section 801(a)(ii)) (i) ☐ sequence listing (ii) ☐ tables related thereto Type and number of carriers (diskette, CD-ROM, CD-R or other) on which are contained the ☐ sequence listing: ☐ tables related thereto: (additional copies to be indicated under items 9(ii) and/or 10(ii), in right column)	This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item): <table style="width: 100%;"> <tr><td>1. ☒ fee calculation sheet</td><td style="text-align: right;">: 1</td></tr> <tr><td>2. ☐ original separate power of attorney</td><td style="text-align: right;">:</td></tr> <tr><td>3. ☐ original general power of attorney</td><td style="text-align: right;">:</td></tr> <tr><td>4. ☐ copy of general power of attorney; reference number, if any:</td><td style="text-align: right;">:</td></tr> <tr><td>5. ☐ statement explaining lack of signature</td><td style="text-align: right;">:</td></tr> <tr><td>6. ☐ priority document(s) identified in Box No. VI as item(s):</td><td style="text-align: right;">:</td></tr> <tr><td>7. ☐ translation of international application into (language):</td><td style="text-align: right;">:</td></tr> <tr><td>8. ☐ separate indications concerning deposited microorganism or other biological material</td><td style="text-align: right;">:</td></tr> <tr><td>9. ☐ sequence listing in electronic form (indicate type and number of carriers)</td><td style="text-align: right;">:</td></tr> <tr><td> (i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application):</td><td style="text-align: right;">:</td></tr> <tr><td> (ii) ☐ (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter</td><td style="text-align: right;">:</td></tr> <tr><td> (iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing mentioned in left column</td><td style="text-align: right;">:</td></tr> <tr><td>10. ☐ tables in electronic form related to sequence listing (indicate type and number of carriers)</td><td style="text-align: right;">:</td></tr> <tr><td> (i) ☐ copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the international application)</td><td style="text-align: right;">:</td></tr> <tr><td> (ii) ☐ (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater)</td><td style="text-align: right;">:</td></tr> <tr><td> (iii) ☐ together with relevant statement as to the identity of the copy or copies with the tables mentioned in left column</td><td style="text-align: right;">:</td></tr> <tr><td>11. ☐ other (specify):</td><td style="text-align: right;">:</td></tr> </table>	1. ☒ fee calculation sheet	: 1	2. ☐ original separate power of attorney	:	3. ☐ original general power of attorney	:	4. ☐ copy of general power of attorney; reference number, if any:	:	5. ☐ statement explaining lack of signature	:	6. ☐ priority document(s) identified in Box No. VI as item(s):	:	7. ☐ translation of international application into (language):	:	8. ☐ separate indications concerning deposited microorganism or other biological material	:	9. ☐ sequence listing in electronic form (indicate type and number of carriers)	:	(i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application):	:	(ii) ☐ (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter	:	(iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing mentioned in left column	:	10. ☐ tables in electronic form related to sequence listing (indicate type and number of carriers)	:	(i) ☐ copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the international application)	:	(ii) ☐ (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater)	:	(iii) ☐ together with relevant statement as to the identity of the copy or copies with the tables mentioned in left column	:	11. ☐ other (specify):	:	Number of items
1. ☒ fee calculation sheet	: 1																																			
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3. ☐ original general power of attorney	:																																			
4. ☐ copy of general power of attorney; reference number, if any:	:																																			
5. ☐ statement explaining lack of signature	:																																			
6. ☐ priority document(s) identified in Box No. VI as item(s):	:																																			
7. ☐ translation of international application into (language):	:																																			
8. ☐ separate indications concerning deposited microorganism or other biological material	:																																			
9. ☐ sequence listing in electronic form (indicate type and number of carriers)	:																																			
(i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application):	:																																			
(ii) ☐ (only where check-box (b)(i) or (c)(i) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter	:																																			
(iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing mentioned in left column	:																																			
10. ☐ tables in electronic form related to sequence listing (indicate type and number of carriers)	:																																			
(i) ☐ copy submitted for the purposes of international search under Section 802(b-quater) only (and not as part of the international application)	:																																			
(ii) ☐ (only where check-box (b)(ii) or (c)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Section 802(b-quater)	:																																			
(iii) ☐ together with relevant statement as to the identity of the copy or copies with the tables mentioned in left column	:																																			
11. ☐ other (specify):	:																																			
Figure of the drawings which should accompany the abstract: 1	Language of filing of the international application: ENGLISH																																			
Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE <i>Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).</i> Ruggiero, Charles N.J.																																				

For receiving Office use only	
1. Date of actual receipt of the purported international application:	2. Drawings: ☐ received: ☐ not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):	
5. International Searching Authority (if two or more are competent): ISA/	6. ☐ Transmittal of search copy delayed until search fee is paid

For International Bureau use only
Date of receipt of the record copy by the International Bureau:

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ US

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:

The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only	
Identification of IPEA	Date of receipt of DEMAND
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION	
Applicant's or agent's file reference 460.2475WOU	
International application No. PCT/US2007/017390	International filing date (day/month/year) 03 August 2007 (03/08/2007)
(Earliest) Priority date (day/month/year) 04 August 2006 (04/08/2006)	
Title of invention TAMPON INSERTION DEVICE FOR IMPROVED CONTROL AND PLEDGET PLACEMENT	
Box No. II APPLICANT(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
PLAYTEX PRODUCTS, INC. 300 NYALA FARMS ROAD WESTPORT, CT 06880 US	
Telephone No. 203 341-4168	
Facsimile No. 203 341-4080	
Teleprinter No.	
Applicant's registration No. with the Office	
State (that is, country) of nationality: US	State (that is, country) of residence: US
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
JORGENSEN, ROBERT 106 WILLOW GROVE MILL DRIVE MIDDLETOWN, DELAWARE 19709 US	
State (that is, country) of nationality: US	State (that is, country) of residence: US
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
EDGETT, KEITH 415 LAURA LANE MIDDLETOWN, DELAWARE 19709 US	
State (that is, country) of nationality: US	State (that is, country) of residence: US
☒ Further applicants are indicated on a continuation sheet.	

Sheet No. 2.

International application No.

PCT/US2007/017390

Continuation of Box No. II APPLICANT(S)

If none of the following sub-boxes is used, this sheet should not be included in the demand.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

DOUGHERTY, JR., EUGENE P.
196 PLEASANT-HILL DRIVE
CAMDEN-WYOMING, DELAWARE 19934
US

State (that is, country) of nationality:
US

State (that is, country) of residence:
US

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:

State (that is, country) of residence:

☐ Further applicants are indicated on another continuation sheet.

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCEThe following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

RUGGIERO, CHARLES N.J.
OHLANDT, GREELEY, RUGGIERO & PERLE L.L.P.
ONE LANDMARK SQUARE, 10TH FLOOR
STAMFORD, CONNECTICUT 06901-2682
US

Telephone No.

203 327-4500

Facsimile No.

203 327-6401

Teleprinter No.

Agent's registration No. with the Office

28,468

☐ **Address for correspondence:** Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:***

1. The applicant wishes the international preliminary examination to start on the basis of:

☐ the international application as originally filedthe description ☐ as originally filed☐ as amended under Article 34the claims ☐ as originally filed☐ as amended under Article 19 (together with any accompanying statement)☐ as amended under Article 34the drawings ☐ as originally filed☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ Where the IPEA wishes to start the international preliminary examination at the same time as the international search in accordance with Rule 69.1(b), the applicant requests the IPEA to postpone the start of the international preliminary examination until the expiration of the applicable time limit under Rule 69.1(d).4. ☐ The applicant expressly wishes the international preliminary examination to start earlier than at the expiration of the applicable time limit under Rule 54bis.1(a).

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.**Box No. V ELECTION OF STATES**

The filing of this demand constitutes the election of all Contracting States which are designated and are bound by Chapter II of the PCT.

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|--|---|--------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | sheets |
| 6. other (specify) | : | sheets |

For International Preliminary Examining Authority use only

received	not received
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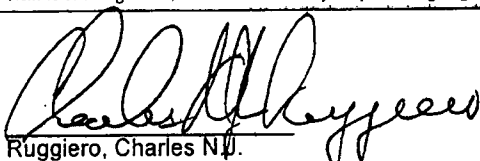
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

The demand is also accompanied by the item(s) marked below:

- | | |
|--|---|
| 1. ☒ fee calculation sheet | 5. ☐ statement explaining lack of signature |
| 2. ☐ original separate power of attorney | 6. ☐ sequence listing in electronic form |
| 3. ☐ original general power of attorney | 7. ☐ tables in electronic form related to a sequence listing |
| 4. ☐ copy of general power of attorney; reference number, if any: | 8. ☐ other (specify): |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).


Ruggiero, Charles N.

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.

☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the time limit of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

6. ☐ The date of receipt of the demand is AFTER the expiration of the time limit under Rule 54bis.1(a) and item 7 or 8, below, does not apply.

7. ☐ The date of receipt of the demand is WITHIN the time limit under Rule 54bis.1(a) as extended by virtue of Rule 80.5.

8. ☐ Although the date of receipt of the demand is after the expiration of the time limit under Rule 54bis.1(a), the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
CHARLES N.J. RUGGIERO
OHLANDT, GREELEY, RUGGIERO
& PERLE, L.L.P.
ONE LANDMARK SQUARE, 10TH FLOOR
STAMFORD, CT 06901-2682

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

Date of mailing
(day/month/year) **31 OCT 2008**

Applicant's or agent's file reference

460.2475WOU

IMPORTANT NOTIFICATION

International application No.

PCT/US07/17390

International filing date (day/month/year)

03 August 2007 (03.08.2007)

Priority date (day/month/year)

04 August 2006 (04.08.2006)

Applicant

PLATEX PRODUCTS INC.

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

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

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

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

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

Name and mailing address of the IPEA/ US

Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Authorized officer

Karin M. Reichle
Telephone No. (571)272-3700

Form PCT/IPEA/416 (January 2004)

RECEIVED

NOV 03 2008

OHLANDT, GREELEY
RUGGIERO & PERLE, LLP

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 460.2475WOU	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/US07/17390	International filing date (day/month/year) 03 August 2007 (03.08.2007)	Priority date (day/month/year) 04 August 2006 (04.08.2006)
International Patent Classification (IPC) or national classification and IPC IPC: A61F 13/20(2006.01) USPC: 604/11		
Applicant PLATEX PRODUCTS INC.		
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☐ (sent to the applicant and to the International Bureau) a total of <u>0</u> sheets, as follows: ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).		
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the report ☐ Box No. II Priority ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☒ Box No. VII Certain defects in the international application ☐ Box No. VIII Certain observations on the international application		
Date of submission of the demand 19 February 2008 (19.02.2008)	Date of completion of this report 19 October 2008 (19.10.2008)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Karin M. Reichle Telephone No. (571)272-3700	

Form PCT/IPEA/409 (cover sheet)(April 2007)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US07/17390

Box No. I Basis of the report

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

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

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

- ☒ the international application as originally filed/furnished
- ☒ the description:
- pages 1-16 as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the claims:
- pages 17-22 as originally filed/furnished
- pages* NONE as amended (together with any statement) under Article 19
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____
- ☒ the drawings:
- pages 1/13-13/13 as originally filed/furnished
- pages* NONE received by this Authority on _____
- pages* NONE received by this Authority on _____

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

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

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/figs NONE
- ☒ the sequence listing (*specify*): NONE
- ☒ any table(s) related to the sequence listing (*specify*): NONE

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

5. ☐ This report has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 70.2(e)).

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

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US07/17390

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

1. Statement

Novelty (N)	Claims <u>1-12 and 30-31</u>	YES
	Claims <u>13-29</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-31</u>	NO
Industrial Applicability (IA)	Claims <u>1-31</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US07/17390

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: The Summary of the Invention section, i.e. a description of the claimed invention, and the invention of the claims is not commensurate. Also the description of the barrel, fingergrasp section and flare in claim 19 and that in paragraph 28 are not commensurate, i.e. the barrel includes the fingergrasp section and flare in paragraph 28, they do not extend from the barrel.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:

Claims 13-18 lack novelty under PCT Article 33(2) as being anticipated by FOX et al '628

Claim 13: See Figures 1-2 and 8, the title and the paragraph bridging cols. 6-7 and note that the claim language "about" allows some leeway from the dimensions it modifies and does not require only 3 rings, i.e. '628 teaches a tampon applicator 10 comprising a barrel 18, a fingergrasp section 20 extending from the barrel having three gripping structures 68 with each of the structures being spaced apart between "about" 0.175 inches to "about" 0.225 inches, i.e. "about" 4.45 mm-5.7 mm, see last line of col. 6. The fingergrasp section has a first section of uniform diameter 48 extending from the barrel and a flare, i.e. a "flare" is defined as a spreading outward, e.g. compare Figure 7 to Figure 6 and note spreading/flaring out at corners 60-62 compared to shape in Figure 6, extending from the first section on an end of such section opposite the barrel, see lines 6-6 and 7-7 in Figure 1.

Claim 14: The structures are spaced apart "about" 0.2 inches, i.e. "about" 5.08 mm, see the discussion of claim 13.

Claim 15: The gripping structures have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combination thereof, i.e. a closed ring.

Claims 16-18: See the discussion of claims 13-15 and the number of structures 68 in Figures 1-2.

Claims 19-29 lack novelty under PCT Article 33(2) as being anticipated by REJAI et al '452.

Claim 19: See Figures and, title, and col. 3, line 22-col. 5, line 5, i.e. '452 teaches tampon applicator 10 comprising a fingergrasp section 20 having one or more ring gripping structures, see, e.g., col. 3, lines 36-43 and note the claims do not require such ring to be either continuous or discontinuous, i.e. could be either, with an oscillating/wavy configuration, see Figures. The structures are also "rib-like", i.e. "rib" is defined as "a ridge", which is defined as "a narrow raised strip", e.g. lines 22.

Claim 20: The gripping structures comprise a first gripping portion that provides gripping in an insertion direction and a third gripping

Supplemental Box

portion that provides gripping in a removal direction, see e.g. col. 3, lines 43-52 and a second gripping portion that provides gripping in both an insertion direction and a removal direction, i.e. the portions of the discontinuous ring straddling the cols. of structures or first and third portions.

Claims 21-22: The structures have an amplitude between "about" 0.01 inches to "about" 0.04 inches, more specifically, "about" 0.025 inches, see, e.g., col. 4, lines 48-52 and discussion of terminology "about" supra.

Claims 23-24: The structures have a wavelength between "about" 0.1 inches to "about" 0.4 inches, more specifically, "about" 0.25 inches, see, e.g., col. 4, lines 45-48, col. 4, lines 28-30, the Figures and discussion of terminology "about" supra, e.g. the wavelength is "about" twice the lance width, i.e. "about" 0.02 inches to "about", 0.07 inches.

Claim 25: The gripping structures are orientated in phase, out of phase; or any combination thereof, e.g. in phase, see Figures.

Claims 26 and 28: The first gripping portion comprises a first gripping tail that provides gripping in an insertion direction and the third gripping portion comprises a second gripping tail that provides gripping in a removal direction, see discussion of claim 20 supra and col. 4, lines 6-15.

Claims 27 and 29: The first gripping tail is curved towards a removal end of the tampon applicator and the second gripping tail is curved towards an insertion end of the tampon applicator, see Figures.

Claims 1-12 lack an inventive step under PCT Article 33(3) as being obvious over FEDYK et al '485.

Claim 1: See Figures, esp. 1 and 5 and paragraph 36 and discussion of the terminology "about" supra, i.e. '485 teaches a tampon applicator finger grip 17 comprising one or more flared portions 20, 21 having a flare angle between about 139° and about 156°. The claim also requires the portions have a curve represented by an equation range, i.e. $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, where y is an incremental increase in a height of the curve at a distance along a length of the curve. Paragraph 31 of the instant description discloses that such curve, i.e. the slope, of the flared portion provides enhanced gripping ability. However not only does '485 teach the same angle but see also paragraphs 5 and 43 of '485 which recognize such flared finger grip, i.e. a finger grip with a slope/angle/curve, i.e. the same general conditions, provides enhanced gripping ability, i.e. is a result effective parameter. Therefore, since, at the very least, the general conditions are disclosed by '485, it is not inventive to discover the optimum or workable ranges, i.e. the curve range, by routine experimentation.

Claims 2-3: See discussion of claim 1.

Claims 4-6: The tampon applicator finger grip further comprises one or more gripping structures, more specifically, between "about" 2 to "about" 6, see Figures and, e.g. paragraphs 38 and 41, have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combinations thereof, e.g. ribs.

Claims 7-12: See discussion of claims 1-6 which discussion/rationale also applies to these claims.

Claims 30-31 lack an inventive step under PCT Article 33(3) as being obvious over FEDYK et al '485.

Claims 30-31: See discussion of claims 1-12 supra and corrugations 23 which include a least 5 corrugations, i.e. wavy gripping structures, or three corrugations in a ring, i.e. three ring gripping structures. These claims further require that such structures be spaced a specific distance from each other. Paragraphs 40 and 41 of the instant description discloses that such spacing provides enhanced gripping ability. See also paragraphs 5 and 37-43 of '485 which recognize corrugations of a flared finger grip provide enhanced gripping ability, i.e. the same general conditions, as well as the distance or spacing thereof being a result effective parameter. Therefore, since the general conditions are disclosed by '485, it is not inventive to discover the optimum or workable ranges by routine experimentation.

Claims 1-31 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

RESUMEN

Se proporciona un ensamblaje del aplicador de tampón que tiene un barril con una hendidura dactilar mejorada. La hendidura dactilar mejorada tiene una o más porciones y/o una o más estructuras de tipo costilla o de tipo anillo. Como resultado de estas características, el ensamble del tampón provee un usuario con un mejor control, el cual resulta en una colocación adecuada del vendaje y en consecuencia comodidad para el usuario.

DISPOSITIVO DE INSERCIÓN DE TAMPÓN PARA MEJOR CONTROL Y LA

COLOCACIÓN DEL VENDAJE

ANTECEDENTES DE LA INVENCION

1. Campo de la invención

[0001] La presente divulgación se refiere generalmente a un ensamblaje de un aplicador de tampón. Más particularmente, la presente divulgación se refiere a un ensamblaje de un aplicador de tampón mejorado que mejora el control del usuario del aplicador de tampón y la colocación del vendaje en el cuerpo.

2. Descripción del arte relacionado.

[0002] Un ensamblaje de aplicador de tampón es usado para inyectar un material absorbente o higiénico, conocido como vendaje de tampón, dentro de una cavidad vaginal. Los ensambles comerciales de un aplicador de tampón, tienen típicamente un barril y un émbolo usado para expeler un vendaje ubicado en el barril.

[0003] El uso de dichos ensambles requiere que el usuario sujete el barril y lo guíe suavemente dentro de la cavidad vaginal. Esto es

particularmente importante ya que una porción de todo el ensamble esta fuera de vista del usuario durante la inserción. Como consecuencia, un ensamble que es difícil de sujetar y/o controlar puede impedir la entrega propia y confortable del vendaje.

[0004] Otro problema asociado con un ensamble que es difícil de sujetar y/o controlar es que el usuario a menudo aplica excesiva fuerza de agarre sobre el barril para compensar la falta de agarre. Esta fuerza excesiva puede deformar y dañar parcialmente el barril y/o embolo, en consecuencia distorsionando el ensamble y obstruyendo el paso normal del vendaje allí mismo. Como resultado, el usuario puede ser requerido para aplicar una cantidad significativa de exceso de fuerza para expulsar el vendaje del ensamble, lo cual puede resultar en incomodidad para el usuario.

[0005] De esta manera, hay una necesidad para proveer ensambles de aplicador de tampón mejorados, los cuales mejoraran la colocación cómoda del vendaje al usuario.

RESUMEN DE LA INVENCION

[0006] La presente divulgación provee un ensamble de aplicador de tampón fácil de usar, el cual es fácil de sujetar y controlar durante la inserción y

remoción del ensamble del aplicador, así como también durante la expulsión del vendaje.

[0007] La presente divulgación también provee dicho ensamble del aplicador de tampón teniendo una hendidura dactilar mejorada.

[0008] La presente divulgación adicionalmente provee dicho ensamble del aplicador de tampón en el cual la hendidura dactilar mejorada incluye una o mas porciones acampanadas.

[0009] La presente divulgación provee aun más dicho ensamble del aplicador de tampón en el cual la hendidura dactilar mejorada incluye una o mas estructuras de agarre en forma de costilla.

[00010] La presente divulgación adicionalmente provee también dicho ensamble del aplicador de tampón en el cual la o las estructuras de agarre en forma de costilla son anillos, anillos ondulados, o combinaciones de estos.

[00011] La presente divulgación también provee dicho ensamble del aplicador de tampón en el cual la hendidura dactilar mejorada incluye una o mas porciones acampanadas y una o mas estructuras de agarre en forma de costilla.

[00012] Estas y otras ventajas y beneficios de la presente divulgación se proveen por un ensamble de aplicador de tampón que tiene un barril con una hendidura dactilar mejorada. La hendidura dactilar mejorada tiene una o más porciones acampanadas y/o una o mas estructuras de agarre en forma de costilla o en forma de anillo. Como un resultado de estas características, el ensamble del tampón provee al usuario con un mejor control, el cual resulta en una colocación correcta del vendaje y de esta manera cómodo para el usuario.

[00013] Lo descrito anteriormente y otras ventajas y características de la presente invención serán apreciadas y comprendidas por aquellos conocidos en el arte de la siguiente descripción e ilustraciones detalladas.

BREVE DESCRIPCION DE LAS ILUSTRACIONES

[00014] La Figura 1 es una vista lateral de un aplicador de tampón que tiene una hendidura dactilar acampanada de acuerdo con la presente divulgación;

[00015] La Figura 2 es una vista explosionada de la hendidura dactilar acampanada de la presente divulgación ilustrada en la Figura 1;

[00016] La Figura 3 es una vista lateral de un aplicador de tampón que tiene una hendidura dactilar acampanada y varios anillos de agarre de acuerdo con la presente divulgación;

[00017] La Figura 4 es una vista lateral de una aplicador de tampón que tiene una sección de hendidura dactilar con varias estructuras de agarre en forma de anillos ondulados de acuerdo con la presente divulgación;

[00018] La Figura 5 es una vista explosionada de la sección de hendidura dactilar con varias estructuras de agarre en forma de anillos ondulados ilustrados en la Figura 4;

[00019] La Figura 6 ilustra dos estructuras de agarre en forma de anillo ondulado orientadas "en fase" de acuerdo con la presente divulgación;

[00020] La Figura 7 ilustra dos estructuras de agarre en forma de anillo ondulado orientadas "fuera de fase" de acuerdo con la presente divulgación;

[00021] La Figura 8 es una vista lateral cortada del aplicador de tampón de la Figura 4;

[00022] La Figura 8a es una vista explosionada de una estructura de agarre en forma de anillo ondulado en el Área C de la Figura 8;

[00023] La Figura 8b es una vista explosionada de una estructura de agarre en forma de anillo ondulado en el Área D de la figura 8;

[00024] La Figura 9 es una vista explosionada lateral de un aplicador de tampón que tiene varias estructuras de agarre en forma de anillo ondulado y además vistas de nuevas características de las estructuras de agarre en forma de anillo ondulado de acuerdo con la presente divulgación;

[00025] La Figura 10 es una representación gráfica de la curvatura de la hendidura dactilar acampanada para cinco aplicadores de tampón Ultra de acuerdo con la presente divulgación; y

[00026] La Figura 11 es una representación gráfica de la curvatura de la hendidura dactilar acampanada para cinco aplicadores de tampón Regulares de acuerdo con la presente divulgación.

DESCRIPCIÓN DETALLADA DE LA INVENCION

[00027] La presente divulgación provee un ensamble del aplicador de tampón que tiene un barril con una hendidura dactilar mejorada. La hendidura dactilar mejorada tiene una o más porciones acampanadas y/o una o más estructuras de agarre en forma de costilla o en forma de anillo. Como resultado

de estas características, el ensamble del tampón provee un usuario con mejor control, el cual resulta en una colocación correcta del vendaje y por lo tanto una comodidad para el usuario.

[00028] En referencia a la Figura 1, un aplicador de tampón con una hendidura dactilar mejorada de acuerdo con la presente divulgación, es representada generalmente por un numero de referencia 10. El aplicador 10 incluye un barril 12 y una émbolo 14. El barril 12 incluye una boquilla de inserción 16 y una sección de hendidura dactilar 18. La sección de hendidura dactilar 18 incluye la mejora de una porción acampanada 20.

[00029] Se ha encontrado inesperadamente a través de pruebas al consumidor que la sección de hendidura dactilar 18 con una porción acampanada 20 que tiene un ángulo y/o declive de acampanado óptimo provee un agarre mejorado, el cual resulta en un mejor control de inserción y colocación del vendaje del tampón.

[00030] En referencia a la Figura 2, una vista explosionada del área A en la Figura 1 es dada, la cual detalla la sección de hendidura dactilar mejorada 18 con la porción acampanada 20. La porción acampanada 20 tiene un ángulo de acampanado 22, el cual es formado en una intersección 25 de la superficie de la hendidura dactilar 27 y la superficie de acampanado 29. La superficie de la hendidura dactilar 27 es una superficie radial virtualmente uniforme medida

desde la línea central X del barril 12. La superficie de acampanado 29 tiene un radio uniforme alargándose, otra vez medido desde la línea central X del barril 12, así resultando en un acampanado. El ángulo de acampanado 20, como se muestra en la Figura 2, es medido desde las superficies externas de la superficie 27 hasta la superficie de acampanado 29.

[00031] Además del ángulo de acampanado 22, se ha encontrado inesperadamente que cuando la porción acampanada 20 tiene una curva y/o declive óptimo 24, se provee un agarre mejor. La curva optima 24 de la porción acampanada 20 puede ser determinada midiendo el cambio del incremento de la altura H de la porción acampanada 20 en puntos predeterminados sobre una longitud predeterminada L de la porción acampanada. La altura H esta a lo largo del radio, mientras la longitud L es paralela a la línea central X.

[00032] En una configuración de acuerdo con la presente divulgación, se ha encontrado que la mejora en el agarre resulta de un ángulo de acampanado 22 entre aproximadamente 139° y aproximadamente 156° y una curva óptima 24 representada por el rango de la ecuación $y = 16.127x^3 - 1.5061x^2 + 0.0568x - 0.0001$ a la ecuación $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, donde y es el incremento de la altura H de la curva a una distancia x a lo largo de la longitud L de la curva.

[00033] En otra configuración de acuerdo con la presente divulgación, se ha encontrado que el ángulo de acampanado 22 de aproximadamente 145° y una curva óptima 24 representada por la ecuación $y = 11.27x^3 - 1.0172x^2 + 0.024x + 0.0002$, provee un agarre mejorado.

[00034] En otra configuración de acuerdo con la presente divulgación, se ha encontrado que un ángulo de acampanado 22 entre aproximadamente 130° y aproximadamente 147° y una curva óptima 24 representada por el rango de la ecuación $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ a la ecuación $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$, provee un agarre mejorado.

[00035] En una nueva configuración de acuerdo con la presente divulgación, se ha encontrado que un ángulo de acampanado 22 de aproximadamente 140° y una curva óptima representada por la ecuación $y = 1.7529x^3 + 0.7442x^2 - 0.0194x + 0.0006$, provee un agarre mejorado.

[00036] El aplicador del tampón 10 con hendidura dactilar mejorada 20 que tiene cualquiera de los ángulos de acampanado 22 y curvas óptimas 24 descritas anteriormente, se ha encontrado que inesperadamente provee una guía mejorada, comodidad y colocación de un vendaje de tampón en la bóveda vaginal sobre aquellos aplicadores de tampón que no tienen la mejoras y novedades de acuerdo con la presente divulgación.

[00037] En referencia a la Figura 3, otro aplicador de tampón con una hendidura dactilar mejorada de acuerdo con la presente divulgación es representado en general por el numero de referencia 30. El aplicador 30 es similar al aplicador 10 en la Figura 1 y además incluye una sección de hendidura dactilar 32 que tiene una o mas estructuras de agarre 34 y opcionalmente una porción acampanada 36. La porción acampanada 36 puede tener las mismas curvas óptimas de las porciones acampanadas 20 dichas anteriormente.

[00038] Se ha encontrado de forma inesperada a través de pruebas al consumidor que la sección de hendidura dactilar 32 tiene una o mas estructuras de agarre 34 que provee agarre mejorado, el cual resulta en un control de inserción mejorado.

[00039] La o las estructuras de agarre 34 pueden ser presentadas en cualquier número. En una configuración de acuerdo con la presente divulgación, la o las estructuras de agarre 34 son presentados en un numero o una cantidad entre aproximadamente dos (2) a aproximadamente seis (6). En otra configuración, la sección de hendidura dactilar 32 tiene cinco (5) estructuras de agarre 34. En otra configuración, la sección de hendidura dactilar 32 tiene tres (3) estructuras de agarre 34.

[00040] Se ha determinado de forma inesperada a través de extensa investigación que cuando tres (3) estructuras de agarre son usadas sobre la sección de hendidura dactilar 32, deben ser espaciadas aproximadamente de 0.175 pulgadas a aproximadamente 0.225 pulgadas para el mejoramiento óptimo del agarre. En las configuraciones donde tres (3) estructuras de agarre son usadas, se ha encontrado inesperadamente que cada estructura de agarre tiene un espacio óptimo de aproximadamente 0.2 pulgadas.

[00041] Se ha encontrado de forma inesperada que cuando cinco (5) estructuras de agarre son usadas sobre la sección de hendidura dactilar 32, deben ser espaciadas aproximadamente de 0.075 pulgadas a aproximadamente 0.125 pulgadas para un mejoramiento óptimo del agarre. En las configuraciones donde cinco (5) estructuras de agarre son usadas, se ha encontrado de forma inesperada que cada estructura de agarre tiene un espacio óptimo de aproximadamente 0.1 pulgadas.

[00042] La o las estructuras de agarre 34 pueden ser formadas en cualquier diseño o configuración. Las configuraciones adecuadas incluyen, pero no está limitada a esto, anillo, anillo ondulado, anillos discontinuados, costillas, o cualquier combinación de estos. El acampanado es definido como una propagación gradual hacia fuera. Las secciones de hendidura dactilar 18 y 32 de las Figuras 1 y 3, respectivamente, son definidas desde el plano a lo largo del borde 4 al extremo libre del barril 6.

[00043] En referencia a la Figura 4, en una configuración de la presente divulgación el aplicador de tampón 40 tiene una sección de hendidura dactilar 42 con una o mas estructuras de agarre en forma de anillo ondulado 44. Un aspecto nuevo de uno o más anillos ondulados 44 es que cada anillo tiene una configuración de oscilación, similar a una onda de seno o coseno. Como resultado, un agarre multi-direccional es formado. En referencia a la Figura 5, la cual es una vista explosionada del área B en la Figura 4, sobre cada anillo ondulado 44, hay una primera sección de agarre 46 que provee un usuario con agarre en la dirección de inserción, una segunda porción de agarre 47 que provee un usuario con agarre en ambas direcciones, dirección de inserción y dirección de remoción, y una tercera porción de agarre 48 que provee un usuario con agarre en la dirección de remoción.

[00044] Para obtener las características de agarre mejoradas que se desean de la presente divulgación, la o las estructuras de agarre en forma de anillo ondulado 44 deben tener una amplitud entre aproximadamente 0.01 pulgadas a aproximadamente 0.04 pulgadas. La amplitud es definida como M en la Figura 6, y es el punto máximo de 44 medido hasta 50. En una configuración de la presente divulgación, la o las estructuras de agarre en forma de anillo ondulado 44 tienen una amplitud de aproximadamente 0.025 pulgadas. La o las estructuras de agarre en forma de anillo ondulado 44 deben tener una longitud de onda entre aproximadamente 0.1 pulgadas a

aproximadamente 0.4 pulgadas. La longitud de onda es mostrada como entre W a V sobre 50. En una configuración de la presente divulgación, la o las estructuras de agarre en forma de anillo ondulado 44 tienen una longitud de onda de aproximadamente 0.25 pulgadas.

[00045] En referencia a la Figura 6, la o las estructuras de agarre en forma de anillo ondulado 44 pueden ser orientadas "en fase" con respecto a la línea central 50, así proporcionando una configuración simétrica. En referencia a la Figura 7, la o las estructuras de agarre en forma de anillo ondulado 44 pueden ser orientadas "fuera de fase" con respecto a la línea central 50. Mientras las estructuras de agarre son mostradas en una orientación particular en la Figura 7, debe entenderse que pueden ser organizadas en cualquier configuración adecuada "fuera de fase".

[00046] En referencia a la Figura 8, una vista de corte del aplicador de tampón de la Figura 4 a través de la línea AA es representada en general por el número de referencia 60. El aplicador 60 tiene una porción de hendidura dactilar 62 que incluye una o más estructuras de agarre en forma ondulada 64. En referencia a la figura 8a, una vista explosionada de una de las estructuras de agarre onduladas 64 en el área C de la figura 8 es ilustrada. La estructura de agarre ondulada 64 tiene una cola de agarre 66, la cual provee agarre en la dirección de remoción. En referencia a la figura 8b, una vista explosionada de una de las estructuras de agarre onduladas 64 en el área D de la Figura 8 es

ilustrada. La estructura de garre ondulada 64 tiene una cola de agarre 68, la cual provee agarre en la dirección de inserción.

[00047] En otra configuración de la presente divulgación, se ha encontrado de forma única que una o mas de las estructuras de agarre onduladas poseen distintas características de agarre como resultado de el proceso de moldeo. Se ha encontrado que una porción de la cola de la estructura de agarre es formada en forma única durante el proceso moldeo cuando la parte es extraída del molde. Durante la extracción, el molde empuja la suave estructura de agarre creando la cola de la presente divulgación. Estas características de agarre distintivas proveen un mejoramiento adicional, una habilidad de agarre multi-direccional al aplicador de tampón.

[00048] En referencia a la figura 9, el aplicador de tampón 70 se muestra teniendo una sección de hendidura dactilar 72 con una o mas estructuras de agarre onduladas 74. Cada estructura de agarre ondulada 74 esta oscilando en una manera similar a las ondas seno o coseno. A lo largo de cada estructura de agarre 74, el agarre alterna la dirección de agarre, como se ilustra en las vistas explosionadas.

[00049] En el caso del aplicador de tampón 70, en la parte inferior 76 de la estructura de agarre ondulada 74, la estructura de agarre ondular tiene una cola 78 que es curvada hacia el extremo removible del aplicador. Esto una

habilidad de agarre mejorada durante la inserción del aplicador de tampón dentro de la cavidad vaginal. En el medio 80 de la estructura de agarre ondulada 74, la estructura de a garre ondulada tiene una cola mas arriba 82 cuando empieza a oscilar. Esta cola que esta mas arriba 78 puede proveer de manera ventajosa una habilidad de agarre en ambas direcciones, la dirección de inserción y la dirección de remoción. En la parte superior 84 de la estructura de agarre ondulada 74, la estructura de agarre ondular tiene una cola 86 que es curvada hacia el extremo de inserción y del aplicador 70. Esto provee una habilidad de agarre mejorada durante la remoción del aplicador de tampón desde la vagina.

EJEMPLOS

[00050] Los aplicadores de tampón del tipo Ultra tienen una hendidura dactilar acampanada de acuerdo con la presente divulgación con un diámetro de acampanado objetivo donde se formo. La porción de acampanado fue medida, donde y es el incremento de la altura H del acampanado a una distancia x a lo largo de la longitud del acampanado. Las medidas están establecidas a continuación en la Tabla 1

[00051] Tabla 1. Medidas de la hendidura dactilar acampanada – Tampón Ultra

	Diámetro de Acampanado Objetivo (pulgadas)
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Distancia (eje x)	0,525	0,535	0,55	0,565	0,575
	Eje Y				
0,000	0,0000	0,0000	0,0000	0,0000	0,0000
0,025	0,0007	0,0007	0,0000	0,0012	0,0009
0,050	0,0010	0,0011	0,0004	0,0019	0,0015
0,075	0,0010	0,0011	0,0010	0,0037	0,0031
0,100	0,0029	0,0030	0,0035	0,0069	0,0063
0,125	0,0067	0,0069	0,0085	0,0144	0,0147
0,150	0,0143	0,0132	0,0187	0,0283	0,0293
0,175	0,0262	0,0237	0,0354	0,0482	0,0517
0,190					0,0663
0,193				0,0630	
0,200	0,0410	0,0374	0,0537		
0,207	0,0440				
0,211		0,0430			
Angulo de acampanado	156°	149°	145°	141°	139°

[00052] En referencia a la Figura 10, las medidas anteriores fueron graficadas en una grafica, la cual detalla la curvatura del acampanado de cada aplicador de tampón. Adicionalmente, la Figura 10 indica la ecuación correspondiente que representa cada acampanado.

[00053] Los aplicadores de tampón del tipo Regular tienen una hendidura dactilar acampanada de acuerdo con la presente invención con una diámetro de acampanado objetivo donde se forma. La porción acampanada fue medida, donde y es el incremento de la altura H del acampanado a una distancia x a lo largo de la longitud del acampanado.

Las medidas están establecidas a continuación en la Tabla 2.

	Diámetro de Acampanado Objetivo (pulgadas)				
Distancia	0.450	0.460	0.475	0.490	0.500
(eje x)	Eje Y				
0,000	0,0000	0,0000	0,0000	0,0000	0,0000
0,025	0.0008	0.0031	0.0010	0.0005	0.0014
0,050	0.0013	0.0026	0.0026	0.0014	0.0033
0,075	0.0026	0.0044	0.0046	0.0022	0.0060
0,100	0.0060	0.0080	0.0086	0.0046	0.0106
0,125	0.0102	0.0129	0.0101	0.0100	0.0180
0,150	0.0160	0.0197	0.0208	0.0165	0.0259
0,175	0.0237	0.0284	0.0298	0.0252	0.0354
0.200	0.0341	0.0396	0.0412	0.0370	0.0473
0.225	0.0463	0.0525	0.0549	0.0511	0.0614
0.250	0.0631	0.0689	0.0688	0.0760	0.0869
0.000	0.0000	0.0000	0.0000	0.0000	0.0000

0.025	0.0008	0.0031	0.0010	0.0005	0.0014
Angulo de acampanado	147°	145°	140°	135°	130°

[0055] En referencia a la Figura 11, las medidas anteriores fueron graficadas sobre una grafica, la cual detalla ala curvatura del acampanado de dicho aplicador de tampón. Adicionalmente, la Figura 11 indica la ecuación correspondiente que representa a cada acampanado.

[0056] En una configuración de la presente divulgación, un aplicador de tampón (Aplicador 1) tiene una hendidura dactilar acampanada con una ángulo de acampanado entre aproximadamente 139° y aproximadamente 156° y una curva opcional representada por el rango de la ecuación $y = 16.127x^3 - 1.5061x^2 + 0.0568x - 0.0001$ a la ecuación $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$ fue formada. El aplicador de tampón también tiene cinco estructuras de agarre onduladas, como aquellas en la Figura 9, espaciadas una de otra aproximadamente de 0.075 pulgadas a aproximadamente 0.125 pulgadas.

[0057] En otra configuración de acuerdo con la presente divulgación, un aplicador de tampón (Aplicador 2) que tiene una hendidura dactilar acampanada con un ángulo de acampanado entre aproximadamente 130° y aproximadamente 147° y una curva opcional representada por el rango de la

ecuación $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ a la ecuación $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$ fue formada. Este aplicador de tampón también tiene tres estructuras de agarre en forma de anillo, como aquellas en la Figura 3, espaciadas una de otra aproximadamente de 0.175 pulgadas a aproximadamente 0.225 pulgadas.

[0058] Un estudio ciego (n=31) fue hecho comparando aplicadores de tampón de acuerdo con la presente divulgación (Aplicador 1 y Aplicador 2) con aplicadores de tampón disponibles comercialmente. Los tampones probados son listados a continuación en la Tabla 3 con su correspondiente calificación en una escala de 1 a 8, donde 1 es el mas preferido y 8 es el menos preferido.

[0059] Tabla 3. Studio del Aplicador.

<u>Producto Probado</u>	<u>Calificación Promedio</u>
Aplicador 1	2.29
Aplicador 2	2.61
Playtex Gentle Glide™	3.68
Tampax™	5.55
Private Label (Dittie)	5.84
Private Label (Walgreen PVL)	5.94
Kotex Security	7.58

[0060] Como es evidente en la información, los aplicadores de tampón de acuerdo con la presente divulgación fueron evidentemente preferidos sobre los productos comerciales probados. Esto no es una sorpresa ya que las propiedades mejoradas impartidas a un aplicador de tampón formado de acuerdo con la presente divulgación resulta en un aplicador que tiene un agarre mejorado durante su uso, el cual en mejor control y apropiada colocación del vendaje en bóveda vaginal.

REIVINDICACIONES

LO QUE SE REIVINDICA ES:

1. Una hendidura dactilar del aplicador de tampón que comprende una o mas porciones acampanadas que tienen un ángulo de acampanado entre aproximadamente 139° y aproximadamente 156° y una curva representada por un rango de la ecuación $y = 16.127x^3 - 1.5061x^2 + 0.0568x - 0.0001$ a la ecuación $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, donde y es el incremento en una altura de dicha curva a una distancia a lo largo de la longitud de dicha curva.
2. La hendidura dactilar del aplicador de tampón de la reivindicación 1, donde dicho ángulo de acampanado es aproximadamente 145°.
3. La hendidura dactilar del aplicador de tampón de la reivindicación 1, donde dicha curva es representada por la ecuación $y = 11.27x^3 - 1.0172x^2 + 0.024x + 0.0002$.
4. La hendidura dactilar del aplicador de tampón de la reivindicación 1, comprendiendo luego una o mas estructuras de agarre.

5. La hendidura dactilar del aplicador de tampón de la reivindicación 4, donde dicha o dichas estructuras de agarre tienen una configuración seleccionada del grupo que consiste de anillo, anillo ondulado, anillo discontinuado, costilla, y cualquier combinación de estos.

6. La hendidura dactilar del aplicador de tampón de la reivindicación 4, donde dicha o dichas estructuras de agarre son presentadas en un número entre aproximadamente 2 a aproximadamente 6.

7. Una hendidura dactilar del aplicador de tampón que comprende una o mas porciones acampanadas que tienen un ángulo acampanado entre aproximadamente 130° y aproximadamente 147° y una curva representada por un rango de la ecuación $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ a la ecuación $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$, donde y es un incremento en una altura de dicha curva a una distancia a lo largo de la longitud de dicha curva.

8. La hendidura dactilar del aplicador de tampón de la reivindicación 7, donde dicho ángulo acampanado es aproximadamente 140° .

9. La hendidura dactilar del aplicador de tampón de la reivindicación 7, donde dicha curva es representada por una ecuación $y = 1.7529x^3 + 0.7442x^2 - 0.0194x + 0.0006$.

10. La hendidura dactilar del aplicador de tampón de la reivindicación 7, comprendiendo luego una o mas estructuras de agarre.

11. La hendidura dactilar del aplicador de tampón de la reivindicación 10, donde dicha o dichas estructuras de agarre tienen una configuración seleccionada del grupo que consiste de anillo, anillo ondulado, anillo discontinuado, costilla, y cualquier combinación entre estos.

12. La hendidura dactilar del aplicador de tampón de la reivindicación 10, donde dicha o dichas estructuras de agarre son presentadas en un número entre aproximadamente 2 y aproximadamente 6.

13. Un aplicador del tampón que comprende una sección de hendidura dactilar que tiene tres estructuras de agarre, donde cada una de las tres estructuras de agarre es espaciada entre aproximadamente 0.175 pulgadas a aproximadamente 0.225 pulgadas.

14. El aplicador de tampón de la reivindicación 13, donde cada una de las tres estructuras de agarre esta espaciada en aproximadamente 0.2 pulgadas.

15. El aplicador de tampón de la reivindicación 13, donde cada una de las tres estructuras de agarre tiene una configuración seleccionada del grupo que

consiste de anillo, anillo ondulado, anillo discontinuado, costilla, y cualquier combinación entre estos.

16. Un aplicador de tampón que comprende una sección de hendidura dactilar que tiene cinco estructuras de agarre, donde cada una de las cinco estructuras esta espaciada entra aproximadamente 0.075 pulgadas a aproximadamente 0.125 pulgadas.

17. El aplicador de tampón de la reivindicación 16, donde cada una de las cinco estructuras de agarre esta espaciada en aproximadamente 0.1 pulgadas.

18. El aplicador de tampón de la reivindicación 16, donde cada una de las cinco estructuras de agarre tiene una configuración seleccionada del grupo que consiste de anillo, anillo ondulado, anillo discontinuado, costilla, y cualquier combinación entre estos.

19. Un aplicador de tampón que comprende una sección de hendidura dactilar que tiene una o mas estructuras de agarre en forma de anillo ondular con una configuración oscilante.

20. El aplicador de tampón de la reivindicación 19, donde dicha o dichas estructuras de agarre en forma de anillo ondular comprenden:

una primera porción de agarre que provee agarre en una dirección de inserción;

una segunda porción de agarre que provee agarre en ambas direcciones, la dirección de inserción y la dirección de remoción; y

una tercera porción de agarre que provee agarre en una dirección de remoción.

21. El aplicador de tampón de la reivindicación 19, donde dicha o dichas estructuras de agarre en forma de anillo ondulado tienen una amplitud entre aproximadamente 0.01 pulgadas y aproximadamente 0.04 pulgadas.

22. El aplicador de tampón de la reivindicación 19, donde dicha o dichas estructuras de agarre en forma de anillo ondulado tienen una amplitud de aproximadamente 0.025 pulgadas.

23. El aplicador de tampón de la reivindicación 19, donde dicha o dichas estructuras de agarre en forma de anillo ondulado tienen una longitud de onda entre aproximadamente 0.1 pulgadas y aproximadamente 0.4 pulgadas.

24. El aplicador de tampón de la reivindicación 19, donde dicha o dichas estructuras de agarre en forma de anillo ondulado tienen una longitud de onda de aproximadamente 0.25 pulgadas.

25. El aplicador de tampón de la reivindicación 19, donde dicha o dichas estructuras de agarre ondular son orientadas en fase, fuera de fase; o cualquier combinación de estas.

26. El aplicador de tampón de la reivindicación 20, donde la primera porción de agarre comprende una primera cola de agarre que provee agarre en una dirección de inserción.

27. El aplicador de tampón de la reivindicación 26, donde dicha primera cola de agarre es curvada hacia un extremo de remoción del aplicador de tampón.

28. El aplicador de tampón de la reivindicación 20, donde la tercera porción de agarre comprende una segunda cola de agarre que provee agarre en una dirección de remoción.

29. El aplicador de tampón de la reivindicación 28, donde dicha segunda cola de agarre es curvada hacia un extremo de inserción del aplicador de tampón.

30. Un aplicador de tampón que tiene una hendidura dactilar acampanada con un ángulo de acampanado entre aproximadamente 139° y aproximadamente 156° y una curva representada por un rango de la ecuación $y = 16.127x^3 - 1.5061x^2 + 0.0568x - 0.0001$ a la ecuación $y = 6.9136x^3 -$

$0.5598x^2 + 0.0168x + 0.0003$ donde y es un incremento en una altura de dicha curva a una distancia a lo largo de la longitud de dicha curva, y donde dicha hendidura dactilar acampanada comprende cinco estructuras de agarre espaciadas una de otra aproximadamente 0.075 a aproximadamente 0.125 pulgadas.

31. Un aplicador de tampón que tiene una hendidura dactilar acampanada con un ángulo de acampanado entre aproximadamente 130° y aproximadamente 147° y una curva representada por un rango de la ecuación $y = 4.8311x^3 - 0.1841x^2 + 0.086x - 0.0006$ a la ecuación $y = 3.3937x^3 + 0.0994x^2 + 0.014x + 0.00004$ donde y es un incremento en una altura de dicha curva a una distancia a lo largo de la longitud de dicha curva, y donde dicha hendidura dactilar comprende tres estructuras de agarre en forma de anillo espaciadas una de otra de aproximadamente 0.175 pulgadas a aproximadamente 0.225 pulgadas.

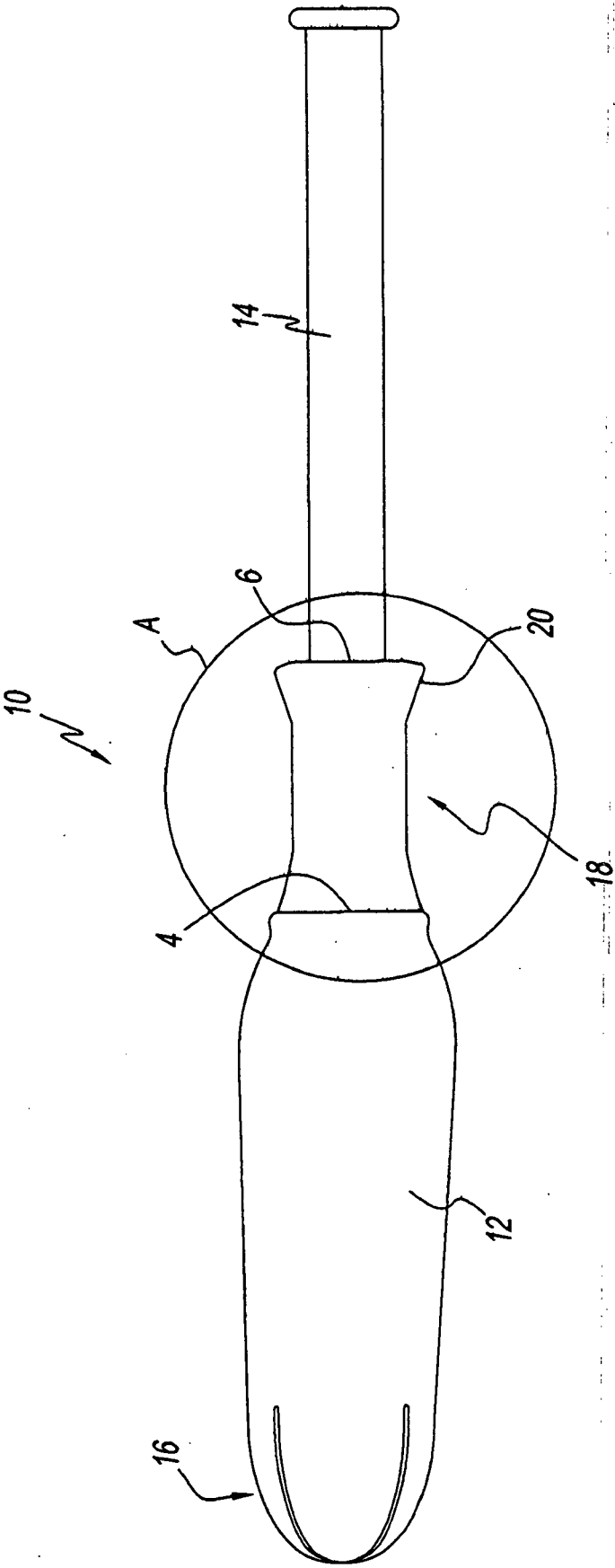


Fig. 1

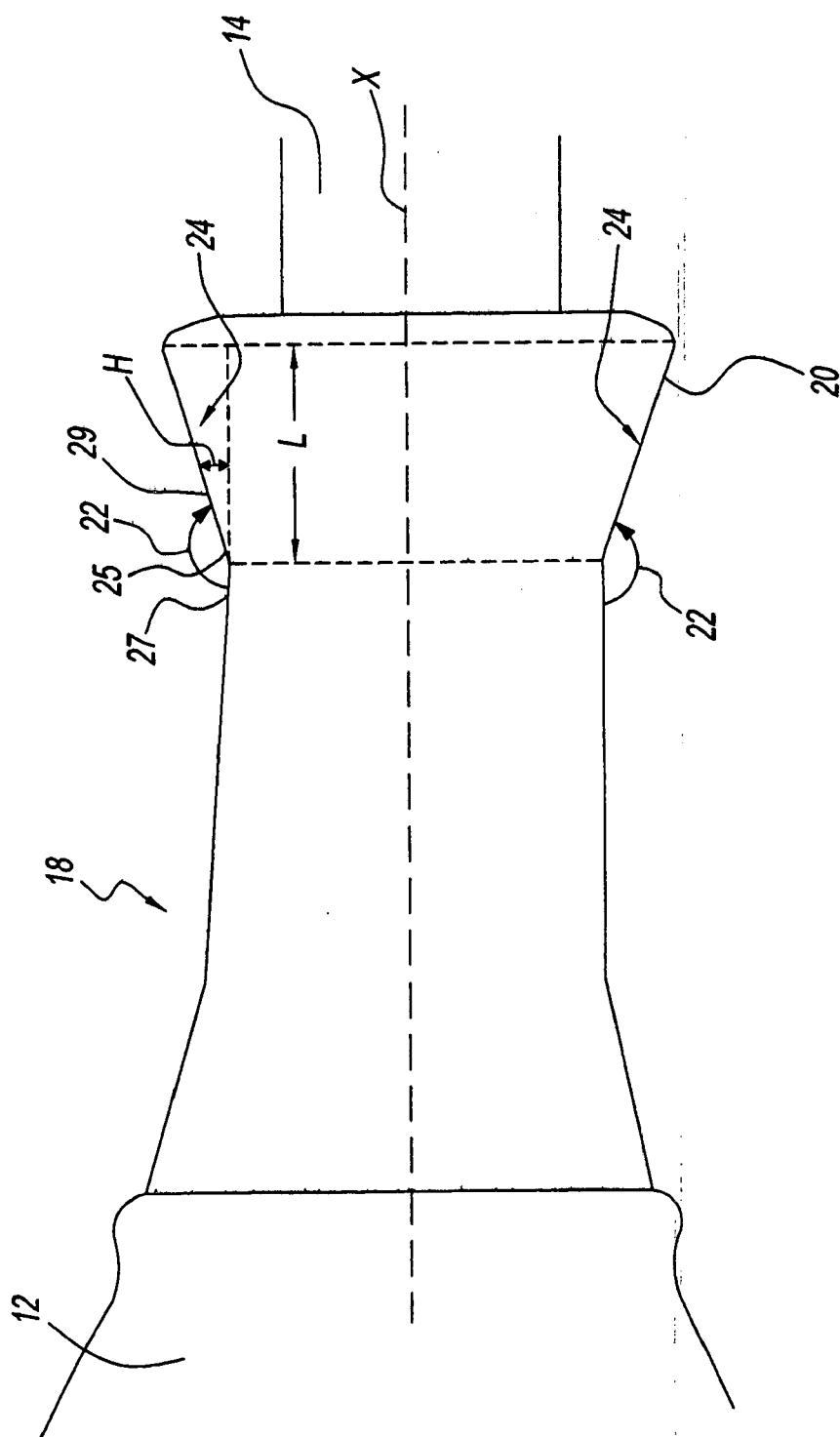


Fig. 2

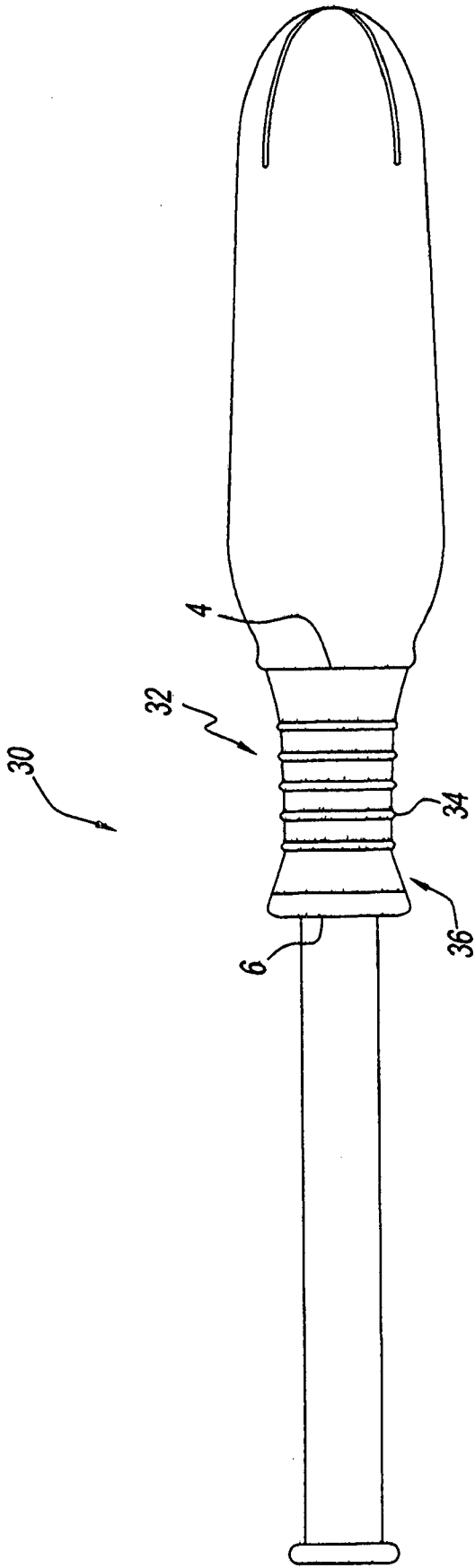


Fig. 3

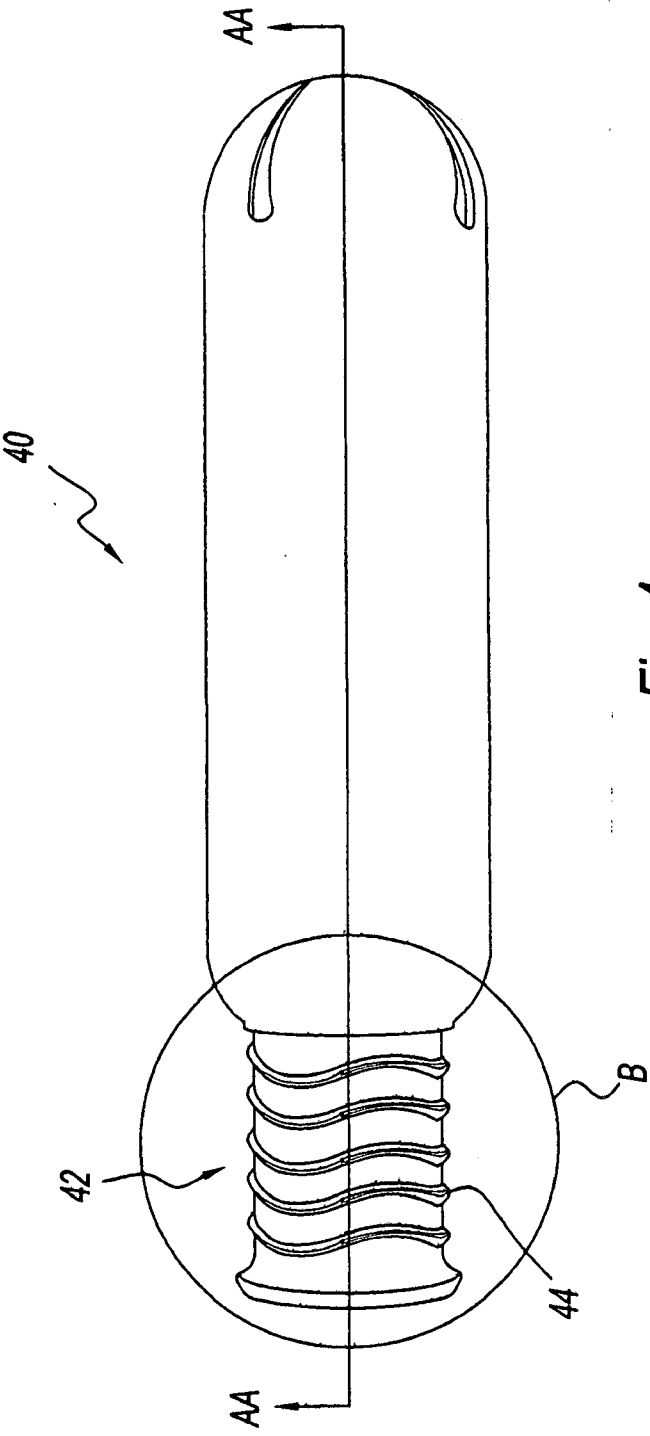


Fig. 4

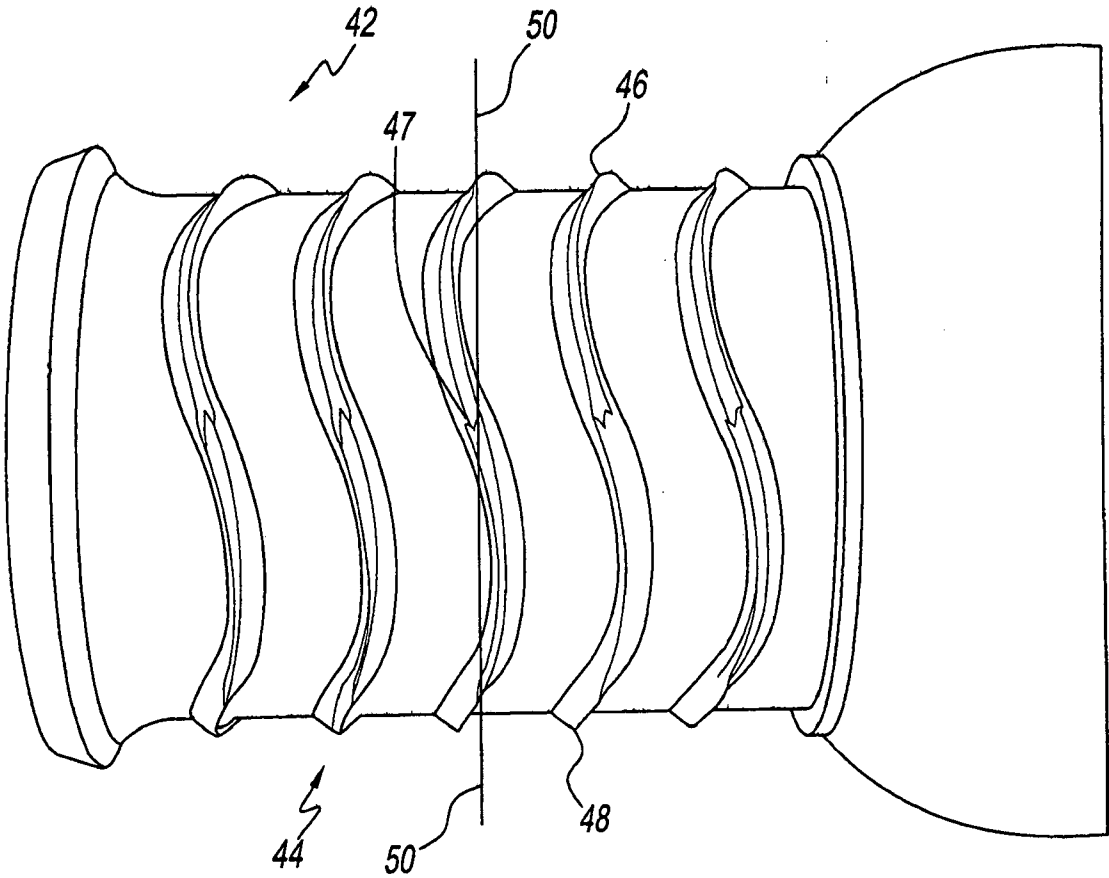


Fig. 5

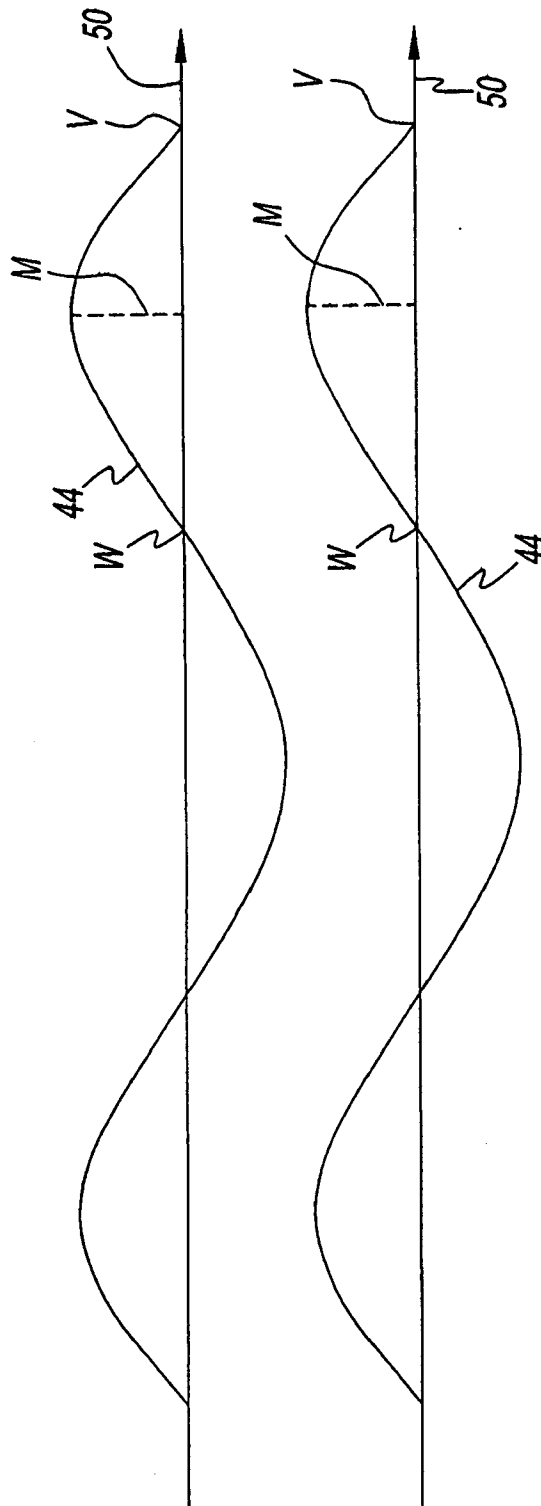


Fig. 6

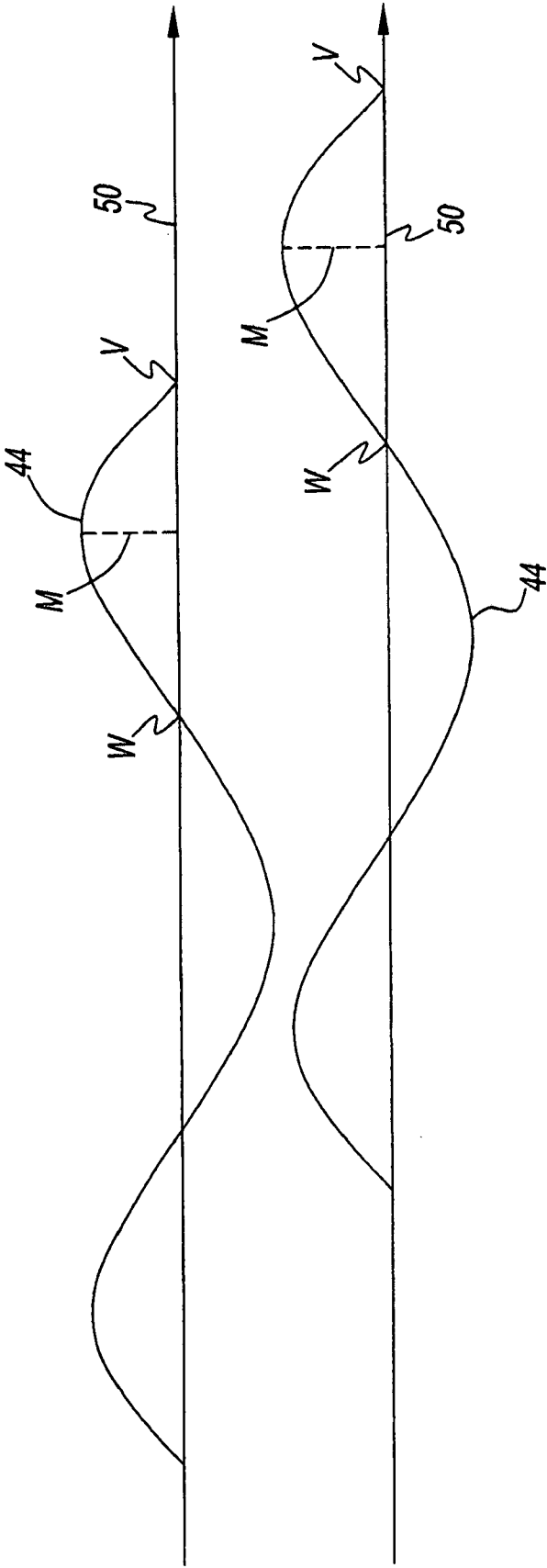


Fig. 7

60

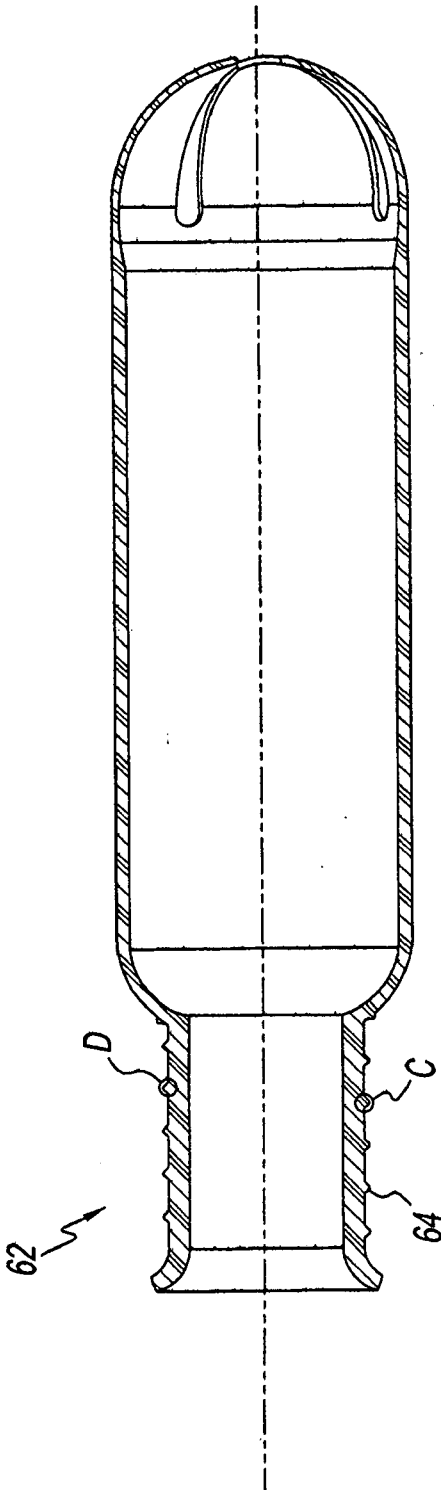


Fig. 8

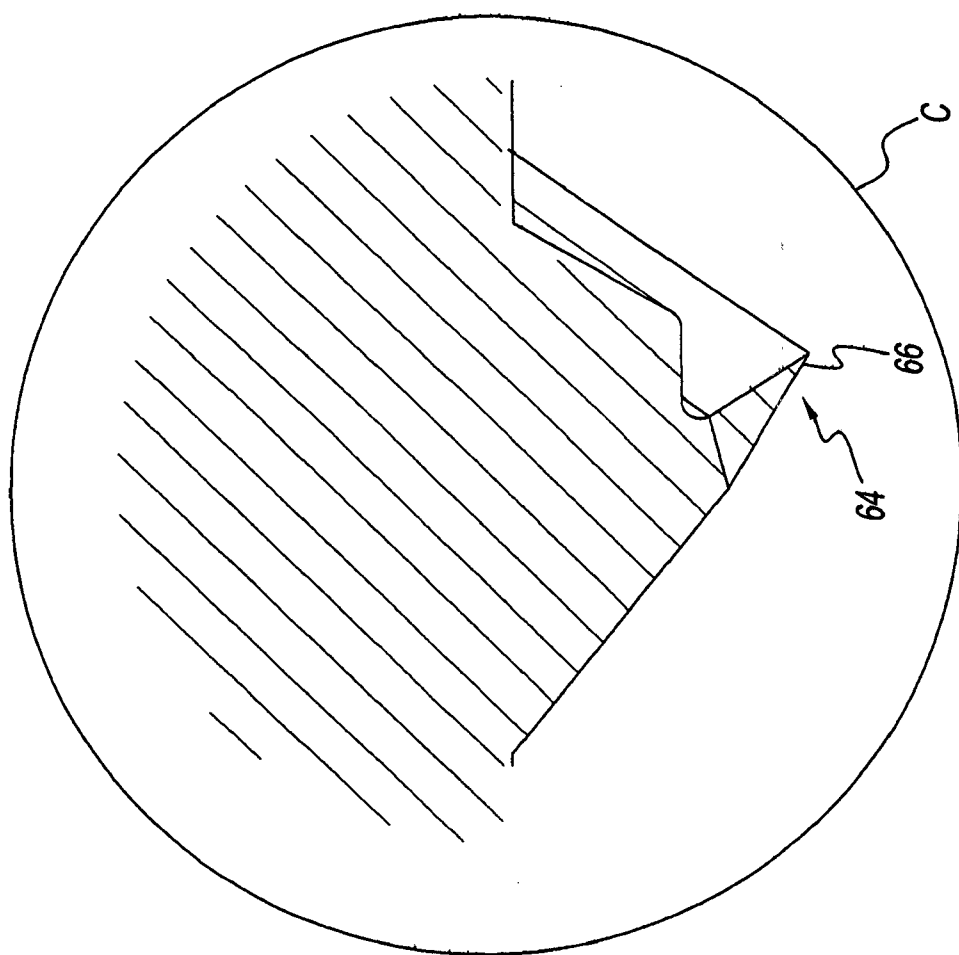


Fig. 8a

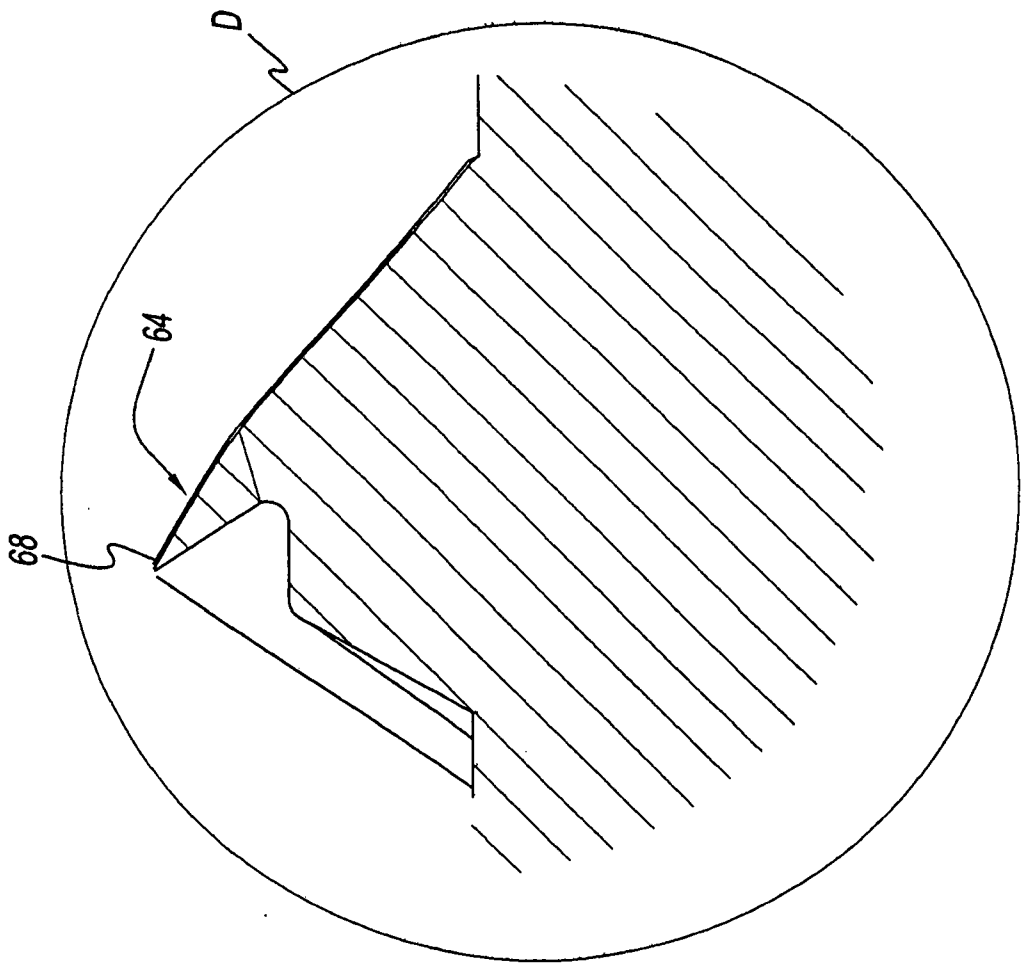


Fig. 8b

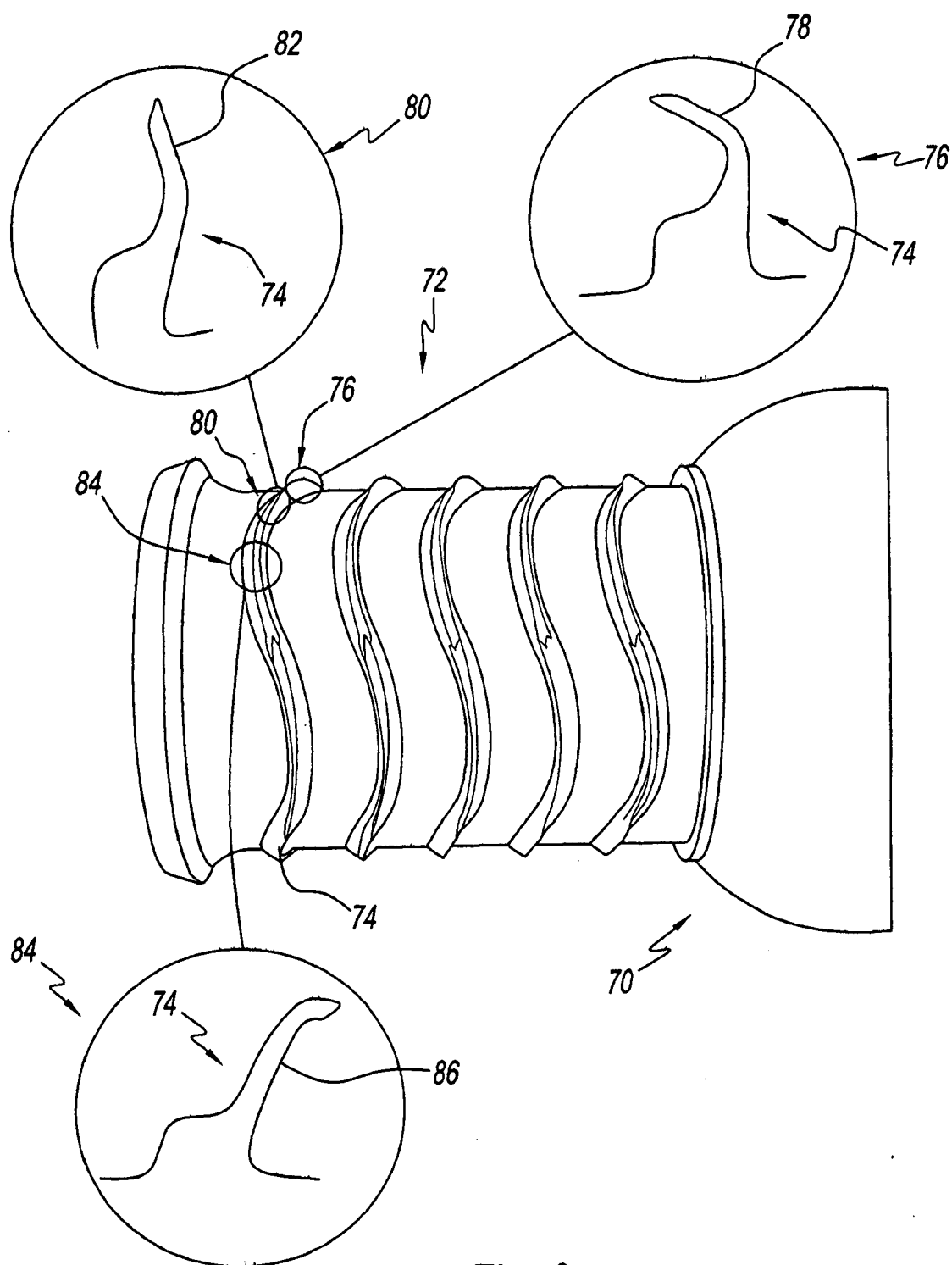


Fig. 9

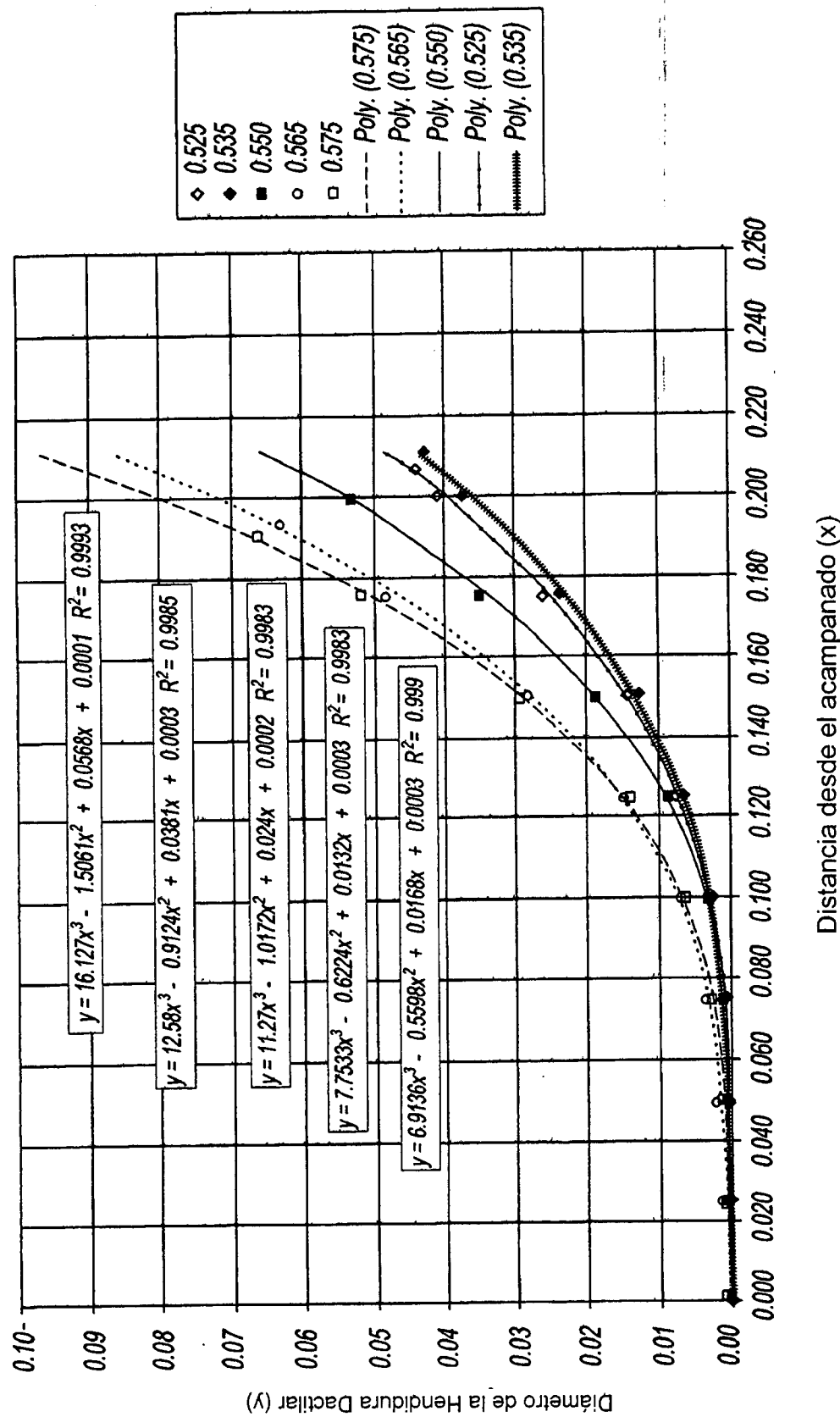


Fig. 10

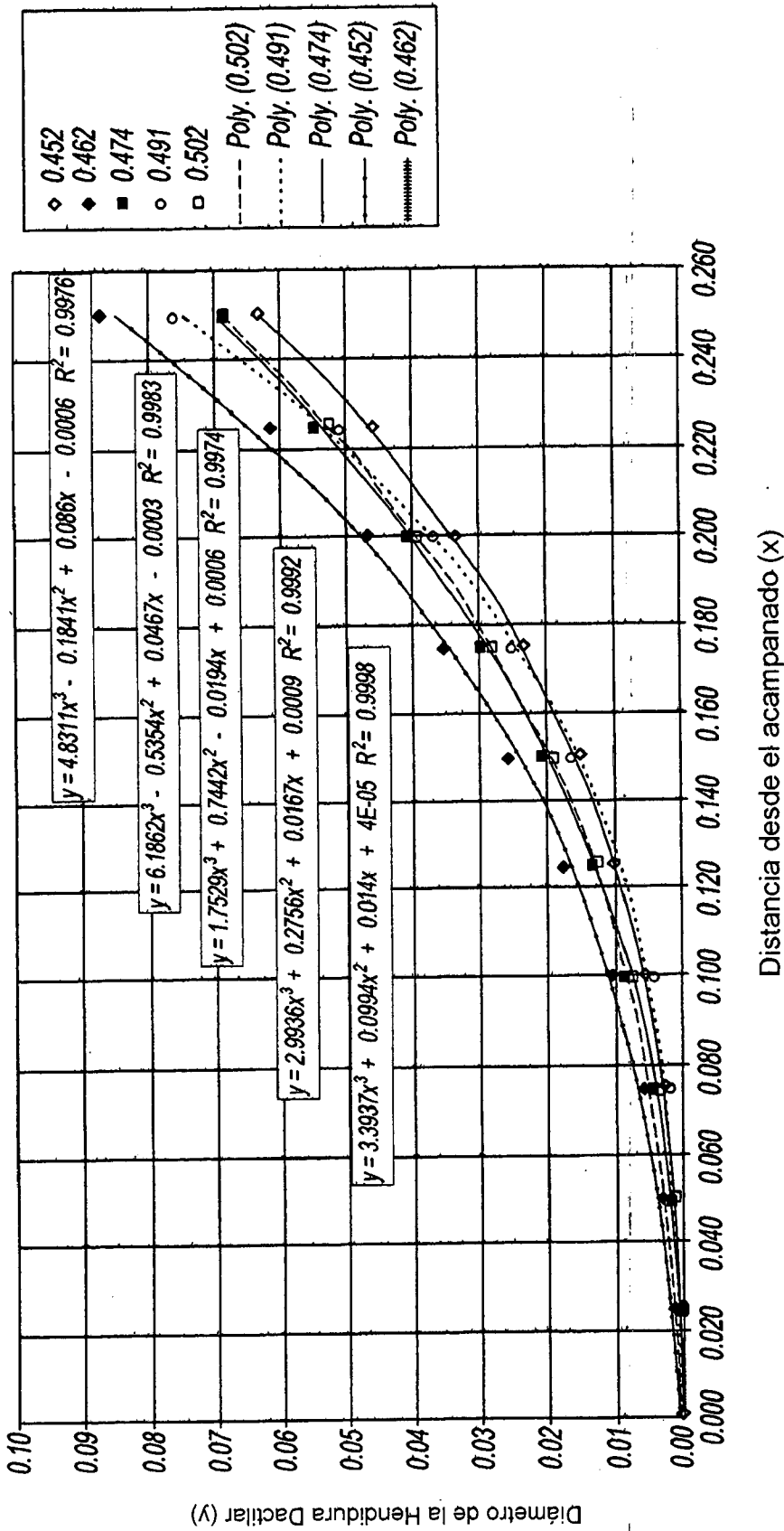


Fig. 11

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/17390

A. CLASSIFICATION OF SUBJECT MATTER IPC: A61F 13/20(2006.01) USPC: 604/11. According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 604/11-18 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST: search terms:applicator, grip, angle, ring, degrees, tampon, flar\$, D24/\$, finger, finger-grip		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,437,628 A (FOX et al) 01 August 1995 (01.08.1995), see Figures, title and paragraph bridging cols. 6-7.	13-18
X	US 6,511,452 A (REJAI et al) 28 January 2003 (23.01.2003), see Figures, title and col. 3, line 22-col. 5, line 5.	19-29
Y	US 2003/0236485 A1 (FEDYK et al) 25 December 2003 (25.12.2003), See Figures and paragraphs 5 and 36-43.	1-12 and 30-31
☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.		
* Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search 19 May 2008 (19.05.2008)		Date of mailing of the international search report 04 JUN 2008
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Marin M. Reichle Telephone No. (571)272-3700

Form PCT/ISA/210 (second sheet) (April 2007)

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
CHARLES N.J. RUGGIERO
OHLANDT, GREELEY, RUGGIERO
& PERLE, L.L.P.
ONE LANDMARK SQUARE, 10TH FLOOR
STAMFORD, CT 06901-2682

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 460.2475WOU	Date of mailing (day/month/year) 04 JUN 2008
International application No. PCT/US07/17390	International filing date (day/month/year) 03 August 2007 (03.08.2007)
Applicant PLATEX PRODUCTS INC.	

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70.

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

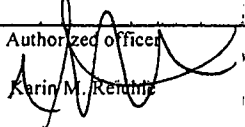
Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within 19 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/ US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer  Karin M. Reith Telephone No. (571) 272-3700
--	--

Form PCT/ISA/220 (January 2004)

(See notes on accompanying sheet)

RECEIVED

JUN 06 2008

OHLANDT, GREELEY,
RUGGIERO & PERLE, LLP

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 460.2475WOU	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US07/17390	International filing date (day/month/year) 03 August 2007 (03.08.2007)	(Earliest) Priority Date (day/month/year) 04 August 2006 (04.08.2006)
Applicant PLATEX PRODUCTS INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

☐

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the Report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒

the international application in the language in which it was filed.

☐

a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 Rule 43.6 *bis(a)*

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

☐

the text is approved as submitted by the applicant.

☒

the text has been established by this Authority to read as follows:

TANPON APPLICATOR FINGERGRIP

5. With regard to the **abstract**,

☐

the text is approved as submitted by the applicant.

☒

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3

☐

as suggested by the applicant.

☐

as selected by this Authority, because the applicant failed to suggest a figure.

☒

as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US07/17390

Box IV TEXT OF THE ABSTRACT (Continuation of Item 5 of the first sheet)

NEW ABSTRACT

A tampon applicator assembly (10) having a barrel (12) with a fingergrasp (18). The fingergrasp (18) has one or more flared portions (20) and/or one or more rib-like or ring-like gripping structures (34). As a result of these features, the tampon assembly provides a user with increased control, which results in proper tampon placement and thus comfort to the user.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/17390

A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61F 13/20(2006.01)

USPC: 604/11

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 604/11-18

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST: search terms: applicator, grip, angle, ring, degrees, tampon, flar\$, D24/\$, finger, finger-grip

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,437,628 A (FOX et al) 01 August 1995 (01.08.1995), see Figures, title and paragraph bridging cols. 6-7.	13-18
X	US 6,511,452 A (REJAI et al) 28 January 2003 (23.01.2003), see Figures, title and col. 3, line 22-col. 5, line 5.	19-29
Y	US 2003/0236485 A1 (FEDYK et al) 25 December 2003 (25.12.2003), See Figures and paragraphs 5 and 36-43.	1-12 and 30-31

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

19 May 2008 (19.05.2008)

Date of mailing of the international search report

04 JUN 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Karin M. Reichle

Telephone No. (571)272-3700

INTERNATIONAL COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
CHARLES N.J. RUGGIERO
OHLANDT, GREELEY, RUGGIERO
& PERLE, L.L.P.
ONE LANDMARK SQUARE, 10TH FLOOR
STAMFORD, CT 06901-2682

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

04 JUN 2008

Applicant's or agent's file reference

460.2475WOU

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US07/17390

International filing date (day/month/year)

03 August 2007 (03.08.2007)

Priority date (day/month/year)

04 August 2006 (04.08.2006)

International Patent Classification (IPC) or both national classification and IPC

IPC: A61F 13/20(2006.01)

USPC: 604/11

Applicant

PLATEX PRODUCTS INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Date of completion of this opinion

30 May 2008 (30.05.2008)

Authorized officer

Karin M. Reichle

Telephone No. (571)272-3700

Form PCT/ISA/237 (cover sheet) (April 2007)

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JUN 06 2008

OHLANDT, GREELEY
RUGGIERO & PERLE, LLP

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US07/17390

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

☒ the international application in the language in which it was filed

☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the rectification of an obvious mistake authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ on paper

☐ in electronic form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in electronic form.

☐ furnished subsequently to this Authority for the purposes of search.

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US07/17390

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

I. Statement

Novelty (N)	Claims <u>1-12 and 30-31</u>	YES
	Claims <u>13-29</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-31</u>	NO
Industrial applicability (IA)	Claims <u>1-31</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Please See Continuation Sheet

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US07/17390

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The drawings are objected to under PCT Rule 66.2(a)(iii) as containing the following defect(s) in the form or content thereof: Figures 2, 5 and 8 and the description thereof on page 4-5 are not commensurate, e.g. is Figure 2 in the Area A of Figure 1?

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: The description of the Figures on pages 4-5 and the Figures are not commensurate, see discussion supra. On page 7, line 4, "20" should be -22-. On line 2 of paragraph 37, "disclosureis" should be --disclosure is--. The Summary of the Invention section, i.e. a description of the claimed invention, and the invention of the claims is not commensurate.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US07/17390

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

V. 2. Citations and Explanations:

Claims 13-18 lack novelty under PCT Article 33(2) as being anticipated by FOX et al '628.

Claim 13: See Figures 1-2 and 8, the title and the paragraph bridging cols. 6-7 and note that the claim language "about" allows some leeway from the dimensions it modifies and does not require only 3 rings, i.e. '628 teaches a tampon applicator 10 comprising a finger grip section 20 having three gripping structures 68 with each of the structures being spaced apart between "about" 0.175 inches to "about" 0.225 inches, i.e. "about" 4.45 mm-5.7 mm, see last line of col. 6.

Claim 14: The structures are spaced apart "about" 0.2 inches, i.e. "about" 5.08 mm, see the discussion of claim 13.

Claim 15: The gripping structures have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combination thereof, i.e. a closed ring.

Claims 16-18: See the discussion of claims 13-15 and the number of structures 68 in Figures 1-2.

Claims 19-29 lack novelty under PCT Article 33(2) as being anticipated by REJAI et al '452.

Claim 19: See Figures and, title, and col. 3, line 22-col. 5, line 5, i.e. '452 teaches tampon applicator 10 comprising a finger grip section 20 having one or more ring gripping structures, see, e.g., col. 3, lines 36-43 and note the claims do not require such ring to be either continuous or discontinuous, i.e. could be either, with an oscillating/wavy configuration, see Figures.

Claim 20: The gripping structures comprise a first gripping portion that provides gripping in an insertion direction and a third gripping portion that provides gripping in a removal direction, see e.g. col. 3, lines 43-52 and a second gripping portion that provides gripping in both an insertion direction and a removal direction, i.e. the portions of the discontinuous ring straddling the cols. of structures or first and third portions.

Claims 21-22: The structures have an amplitude between "about" 0.01 inches to "about" 0.04 inches, more specifically, "about" 0.025 inches, see, e.g., col. 2, lines 48-52 and discussion of terminology "about" supra.

Claims 23-24: The structures have a wavelength between "about" 0.1 inches to "about" 0.4 inches, more specifically, "about" 0.25 inches, see, e.g., col. 2, lines 45-48, col. 4, lines 28-30, the Figures and discussion of terminology "about" supra, e.g. the wavelength is "about" twice the lance width, i.e. "about" 0.02 inches to "about" 0.07 inches.

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In case the space in any of the preceding boxes is not sufficient.

Claim 25: The gripping structures are orientated in phase, out of phase; or any combination thereof, e.g. in phase, see Figures.

Claims 26 and 28: The first gripping portion comprises a first gripping tail that provides gripping in an insertion direction and the third gripping portion comprises a second gripping tail that provides gripping in a removal direction, see discussion of claim 20 supra and col. 4, lines 6-15.

Claims 27 and 29: The first gripping tail is curved towards a removal end of the tampon applicator and the second gripping tail is curved towards an insertion end of the tampon applicator, see Figures.

Claims 1-12 lack an inventive step under PCT Article 33(3) as being obvious over FEDYK et al '485.

Claim 1: See Figures, esp. 1 and 5 and paragraph 36 and discussion of the terminology "about" supra, i.e. '485 teaches a tampon applicator finger grip 17 comprising one or more flared portions 20, 21 having a flare angle between about 139° and about 156°. The claim also requires the portions have a curve represented by an equation range, i.e. $y = 16.127x^3 - 1.5061x^2 + 0.0568x + 0.0001$ to $y = 6.9136x^3 - 0.5598x^2 + 0.0168x + 0.0003$, where y is an incremental increase in a height of the curve at a distance along a length of the curve. Paragraph 31 of the instant description discloses that such curve, i.e. the slope, of the flared portion provides enhanced gripping ability. However not only does '485 teach the same angle but see also paragraphs 5 and 43 of '485 which recognize such flared finger grip, i.e. a finger grip with a slope/angle/curve, i.e. the same general conditions, provides enhanced gripping ability, i.e. is a result effective parameter. Therefore, since, at the very least, the general conditions are disclosed by '485, it is not inventive to discover the optimum or workable ranges, i.e. the curve range, by routine experimentation.

Claims 2-3: See discussion of claim 1.

Claims 4-6: The tampon applicator finger grip further comprises one or more gripping structures, more specifically, between "about" 2 to "about" 6, see Figures and, e.g. paragraphs 38 and 41, have a configuration selected from the group consisting of ring, wavy ring, discontinuous ring, rib, and any combinations thereof, e.g. ribs.

Claims 7-12: See discussion of claims 1-6 which discussion/rationale also applies to these claims.

Claims 30-31 lack an inventive step under PCT Article 33(3) as being obvious over FEDYK et al '485.

Claims 30-31: See discussion of claims 1-12 supra and corrugations 23 which include a least 5 corrugations, i.e. wavy gripping structures, or three corrugations in a ring, i.e. three ring gripping structures. These claims further require that such structures be spaced a specific distance from each other. Paragraphs 40 and 41 of the instant description discloses that such spacing provides enhanced gripping ability. See also paragraphs 5 and 37-43 of '485 which recognize corrugations of a flared finger grip provide enhanced gripping ability, i.e. the same general conditions, as well as the distance or spacing thereof being a result effective parameter. Therefore, since the general conditions are disclosed by '485, it is not inventive to discover the optimum or workable ranges by routine experimentation.

Claims 1-31 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 09-012639-00000-0000

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**REQUISITOS MINIMOS PARA ADMISION A TRAMITE
PCT**

PATENTE DE INVENCION



MODELO DE UTILIDAD []

- ◆ Indicación de que se solicita la concesión de una patente []
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud []
- ◆ Descripción de la invención []
- ◆ Dibujos de ser estos pertinentes []
- ◆ Comprobante de pago de las tasas establecidas []

COMPLETA []

INCOMPLETA []

DISEÑO INDUSTRIAL []

- ◆ Indicación de que se solicita el registro de Diseño Industrial []
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud []
- ◆ Representación gráfica y fotográfica del Diseño Industrial o muestra del material que incorpora el diseño []
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ESQUEMA DE TRAZADO []

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Sando Rodriguez
Firma Responsable

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