



(51) International Patent Classification:

A61B 17/326 (2006.01) A61M 31/00 (2006.01)
A61H 19/00 (2006.01)

(21) International Application Number:

PCT/IL2010/000568

(22) International Filing Date:

15 July 2010 (15.07.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

| | | |
|------------|--------------------------------|----|
| 61/225,947 | 16 July 2009 (16.07.2009) | US |
| 61/244,157 | 21 September 2009 (21.09.2009) | US |
| 61/300,525 | 2 February 2010 (02.02.2010) | US |
| 61/348,129 | 25 May 2010 (25.05.2010) | US |

(71) Applicant (for all designated States except US): **CIRC MEDTECH LTD.**; Horizon Chambers, Road Town, Tortola, 4622 (VG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FUERST, Oren** [IL/IL]; 5/8 Zeelon Street, 47234 Ramat Hasharon (IL). **KILEMNICK, Ido** [IL/IL]; 35 Nordeo Street, 46585 Herzelia (IL). **SHOHAT, Shaul** [IL/IL]; 69 Hagivah Street, 73134 Kfar Haoranim (IL).

(74) Agent: **KORAKH, Eliav**; Borochoy Korakh & Co., 15th Floor, Atidim Tower, Kiryat Atidim, 61580 Tel Aviv (IL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: CIRCUMCISION DEVICE AND METHOD FOR MASS CIRCUMCISION

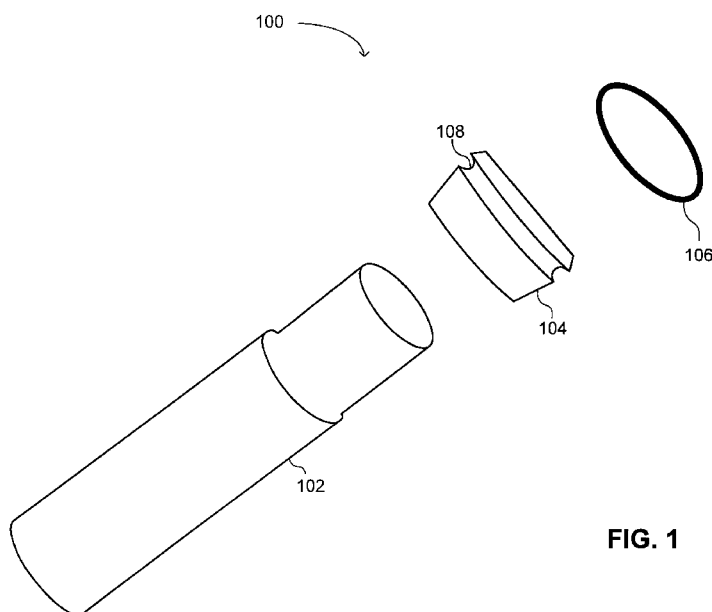


FIG. 1

(57) Abstract: System (100, 150, 200) for effecting ischemic necrosis in a foreskin of a penis, including a rigid ring (104, 158, 204), at least one elastic ring (106, 158, 206, 282, 284) and at least one circumferential groove (108), the rigid ring including an inner surface, the inner surface including an inner diameter, and an outer surface, the outer surface including an outer diameter, the elastic ring being configured to substantially fit around a surface of the rigid ring, the circumferential groove being located on a surface of at least one of the rigid ring and the elastic ring, wherein the inner diameter of the rigid ring is at least slightly larger than a diameter of a shaft of the penis, wherein a diameter of the elastic ring in a relaxed state is at least substantially equal to the diameter of the shaft of the penis, wherein the rigid ring is placed around a first surface of the foreskin, wherein the elastic ring is placed around a second surface of the foreskin, the foreskin being placed within the circumferential groove, the rigid ring and the elastic ring thereby compressing the foreskin in the circumferential groove with a compression force, and wherein the compression force is sufficient to effect ischemic necrosis in the foreskin.



-
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))* (88) **Date of publication of the international search report:**
31 March 2011

INTERNATIONAL SEARCH REPORT

International application No

PCT/IL2010/000568

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61B17/326 A61H19/00 A61M31/00
ADD.

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)

A61B A61H A61M

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|---------------------------|
| X | CN 2 256 299 Y (WANG WENBO [CN]) 18 June 1997 (1997-06-18) | 1-4,7, 11,19, 22-26 |
| Y | the whole document | 5,8,13, 15 |
| Y | ----- US 5 860 988 A (RAWLINGS LAWRENCE CHURCHILL [VI]) 19 January 1999 (1999-01-19) | 5,8 |
| A | column 3, line 58 - column 4, line 40; figures | 1 |
| Y | ----- US 6 039 750 A (KUBALAK THOMAS P [US] ET AL) 21 March 2000 (2000-03-21) | 13,15 |
| A | column 5, line 1 - line 19; figure 2 ----- -/-- | 1,21 |



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 document but 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

24 January 2011

Date of mailing of the international search report

11/02/2011

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Nistor, Loredana

INTERNATIONAL SEARCH REPORT

International application No

PCT/IL2010/000568

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|---|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | US 5 269 788 A (NELSON III JAMES H [US]) 14 December 1993 (1993-12-14) column 2, line 15 - column 3, line 8 column 4, line 55 - column 6, line 52; figures 1-9 ----- | 1-4,6,7, 19,22 |
| X | US 2 561 176 A (BUCKINGHAM CHARLES T) 17 July 1951 (1951-07-17) the whole document ----- | 1-4,7, 10,22 |
| X | WO 2005/039424 A1 (SHANG JIANZHONG [CN]) 6 May 2005 (2005-05-06) * abstract; figures ----- | 1-4,7, 11,14 |
| A | JP 52 156298 U (-) 28 November 1977 (1977-11-28) the whole document ----- | 1,9 |
| A | US 3 802 439 A (BAUMGARTEN C) 9 April 1974 (1974-04-09) column 3, line 25 - line 34 ----- | 22-26 |
| X | CN 2 403 373 Y (LIANG PEIPING [CN]) 1 November 2000 (2000-11-01) * abstract ----- | 1,21, 26-29 |
| X | US 2 544 037 A (MOSELEY MORTIMER H) 6 March 1951 (1951-03-06) column 2, line 13 - line 50; figures ----- | 1,21 |
| X | US 2 294 852 A (SMITH EDWIN M) 1 September 1942 (1942-09-01) ----- | 1,21 |
| A | page 1, right-hand column, line 4 - page 2, left-hand column, line 41; figures ----- | 26 |
| X | CN 2 031 271 U (HONG JINGFAN [CN]) 25 January 1989 (1989-01-25) ----- | 1,21 |
| A | the whole document ----- | 26 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IL2010/000568

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|----------------------------|---------------------|
| CN 2256299 | Y | 18-06-1997 | NONE | |
| US 5860988 | A | 19-01-1999 | NONE | |
| US 6039750 | A | 21-03-2000 | NONE | |
| US 5269788 | A | 14-12-1993 | NONE | |
| US 2561176 | A | 17-07-1951 | NONE | |
| WO 2005039424 | A1 | 06-05-2005 | AU 2003277468 A1 | 11-05-2005 |
| JP 52156298 | U | 28-11-1977 | NONE | |
| US 3802439 | A | 09-04-1974 | NONE | |
| CN 2403373 | Y | 01-11-2000 | NONE | |
| US 2544037 | A | 06-03-1951 | NONE | |
| US 2294852 | A | 01-09-1942 | NONE | |
| CN 2031271 | U | 25-01-1989 | NONE | |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IL2010/000568

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 41-53, 64, 65
because they relate to subject matter not required to be searched by this Authority, namely:
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
1-15, 19, 21-29
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-15, 19, 22-25

System for effecting ischemic necrosis in a foreskin of a penis, comprising a rigid (or semi-rigid) ring, at least one elastic ring, said at least one elastic ring being configured to substantially fit around a surface of said rigid ring and at least one circumferential groove, said at least one circumferential groove being located on a surface of at least one of said rigid ring and said at least one elastic ring.

2. claims: 1, 18

System for effecting ischemic necrosis comprising a rigid ring, an elastic ring, a circumferential groove in one of the rigid or elastic rings and a protective element for reducing friction between a glans and a garment.

3. claims: 1, 20

System for effecting ischemic necrosis comprising a rigid ring, an elastic ring, a circumferential groove in one of the rigid or elastic rings and an introducer for placing the rigid ring around first surface.

4. claims: 21, 26-29

Holding system for deploying an elastic ring around a rigid ring, said holding system being hollow and comprising at least three flanges, each one of said at least three flanges substantially located around a circumference of said holding system, wherein said holding system has a first convex polygonal shape; and wherein said elastic ring is stretched around said at least three flanges, thereby forming a second polygon shape.

5. claim: 30

System for removing foreskin tissue comprising a closed loop suture string, said closed loop suture string comprising a roughened section located along a portion of said closed loop suture string wherein a diameter of said closed loop suture string being at least slightly larger than an outer diameter of a rigid ring on which foreskin is compressed.

6. claims: 31-36

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

System for removing foreskin tissue being compressed between at least one inner ring and at least one outer ring, the system for removing foreskin tissue comprising at least two elements, each one of said at least two elements comprising an inner surface and an outer surface, a connector, coupled with said at least two elements, for coupling said at least two elements; and at least one cutter, said at least one cutter being coupled with said inner surface of at least one of said at least two elements, wherein said connector is configured to position said at least two elements around said at least one inner ring and said foreskin tissue.

7. claims: 1, 16, 17, 37-40, 54

System (and method) for tracking a circumcision device, said circumcision device comprising at least two elements, the system for tracking comprising a respective unique identification for each one of said at least two elements, each said respective unique identification being coupled with a respective one of said at least two elements, an identification entry device and a processor, coupled with said identification entry device.

8. claims: 55-63

A system effecting a full degeneration of a skin tissue, comprising a first, generally cylindrical, hollow element, having a minimal inner diameter sized to fit around a human penis in an erected state and having a minimal outer diameter small enough to allow folding of a human penis foreskin thereon, a second, preformed elastic element sized to fit on an outside of said cylinder in an expanded condition, wherein said preformed elastic element is sized and shaped and has an elastic coefficient suitable to apply a pressure of between 0.5 and 20 atmospheres, to tissue positioned between said elastic element and said first hollow element whereby said pressure enables a painless ischemic necrosis until a full degeneration of said tissue.
