



(12) **United States Design Patent**
DeCarlo

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(54) **MEDICAL DEVICE INDICATOR GUIDE**

(75) Inventor: **Arnold V. DeCarlo**, Frederick, CO (US)

(73) Assignee: **Vivant Medical, Inc.**, Boulder, CO (US)

(**) Term: **14 Years**

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(52) **U.S. Cl.** **D24/140; D24/133; D24/147**

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D24/133, 144, 186, 158, 147, 107; 378/162-165;
33/562-563, 566; 600/114, 208, 233, 235,
600/300, 306; 604/112, 118, 115-116, 174;
606/1, 102

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 3,542,022 A * 11/1970 Bartnik 604/116
- 3,631,363 A 12/1971 Miller
- 4,397,313 A 8/1983 Vaguine
- 4,462,412 A 7/1984 Turner
- 4,572,190 A 2/1986 Azam et al.
- 4,672,980 A 6/1987 Turner
- 4,798,215 A 1/1989 Turner
- 4,860,331 A * 8/1989 Williams et al. 378/163
- 5,097,844 A 3/1992 Turner
- 5,147,307 A 9/1992 Gluck
- 5,232,452 A * 8/1993 Russell et al. 378/163
- 5,306,271 A * 4/1994 Zinreich et al. 606/1
- 5,417,210 A 5/1995 Funda et al.
- 5,540,648 A * 7/1996 Yoon 600/114
- 5,941,890 A * 8/1999 Voegele et al. 606/151
- RE36,461 E * 12/1999 Russell et al. 378/163
- 6,031,375 A 2/2000 Atalar et al.
- 6,146,378 A 11/2000 Mikus et al.
- 6,228,055 B1 * 5/2001 Foerster et al. 604/116
- 6,375,606 B1 4/2002 Garibaldi et al.

- 6,451,015 B1 9/2002 Rittman, III et al.
- 6,592,571 B1 * 7/2003 Verbeek et al. 604/890.1
- 6,603,994 B2 8/2003 Wallace et al.

(Continued)

FOREIGN PATENT DOCUMENTS

DE 390937 3/1924

(Continued)

OTHER PUBLICATIONS

Alexander et al., "Magnetic Resonance Image-Directed Stereotactic Neurosurgery: Use of Image Fusion with Computerized Tomography to Enhance Spatial Accuracy" *Journal Neurosurgery*, 83 (1995), pp. 271-276.

(Continued)

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(57) **CLAIM**

The ornamental design for a medical device indicator guide, as shown and described.

DESCRIPTION

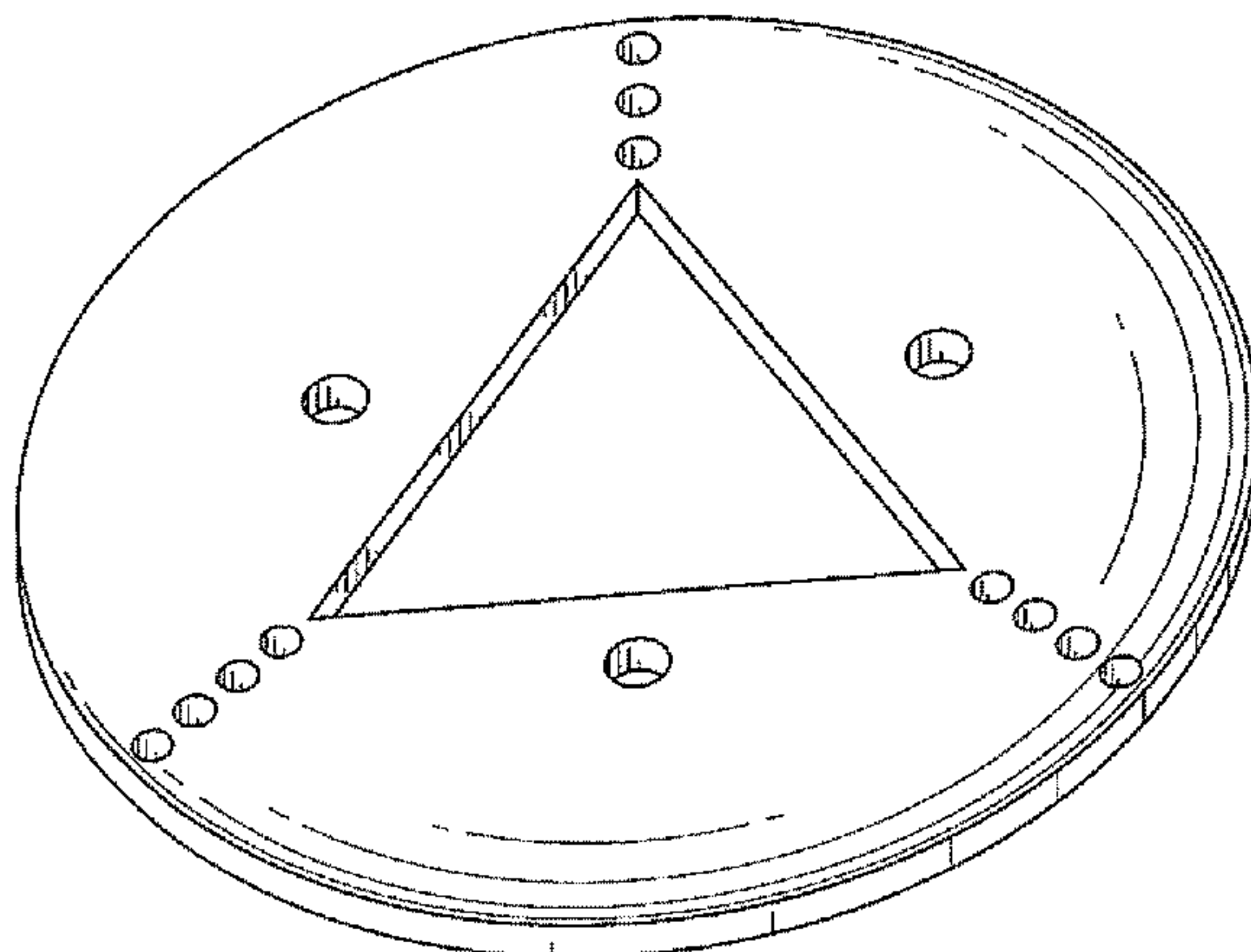
FIG. 1 is a top, perspective view of a medical device indicator guide in accordance with the present design;

FIG. 2 is a top plan view of the medical device indicator guide of FIG. 1;

FIG. 3 is a side view of the medical device indicator guide of FIG. 1; and,

FIG. 4 is a bottom plan view of the medical device indicator guide of FIG. 2, rotated 180°.

1 Claim, 3 Drawing Sheets



US D634,010 S

U.S. PATENT DOCUMENTS			DE		
			DE	2823291	11/1979
			DE	2946728	5/1981
6,656,192	B2	12/2003	DE	3143421	5/1982
6,714,628	B2 *	3/2004	DE	3045996	7/1982
6,725,080	B2	4/2004	DE	3120102	12/1982
6,993,375	B2	1/2006	DE	3510586	10/1986
7,229,417	B2	6/2007	DE	3604823	8/1987
7,244,252	B2 *	7/2007	DE	8712328	3/1988
D552,735	S *	10/2007	DE	3711511	6/1988
7,439,736	B2	10/2008	DE	3904558	8/1990
7,467,015	B2	12/2008	DE	3942998	7/1991
7,561,916	B2 *	7/2009	DE	4238263	5/1993
7,565,207	B2	7/2009	DE	4303882	8/1994
D606,203	S *	12/2009	DE	4339049	5/1995
7,669,338	B2 *	3/2010	DE	29616210	1/1997
2002/0022836	A1	2/2002	DE	19608716	4/1997
2003/0032951	A1	2/2003	DE	19751106	5/1998
2004/0097805	A1	5/2004	DE	19717411	11/1998
2004/0242992	A1	12/2004	DE	19751108	5/1999
2005/0149010	A1	7/2005	DE	19801173	7/1999
2008/0183165	A1	7/2008	DE	19848540	5/2000
2009/0138005	A1	5/2009	DE	10224154	12/2003
2009/0183895	A1	7/2009	DE	10328514	3/2005
2009/0187180	A1	7/2009	DE	102004022206	12/2005
2009/0192510	A1	7/2009	DE	202005015147	3/2006
2009/0198226	A1	8/2009	EP	0 246 350	11/1987
2009/0198227	A1	8/2009	EP	0 481 685	4/1992
2009/0222002	A1	9/2009	EP	0 521 264	1/1993
2009/0240273	A1 *	9/2009	EP	0 541 930	5/1993
2009/0248005	A1	10/2009	EP	0 556 705	8/1993
2009/0248006	A1	10/2009	EP	0 558 429	9/1993
2009/0264877	A1	10/2009	EP	0 572 131	12/1993
2009/0295674	A1	12/2009	EP	0 836 868	4/1998
2009/0306652	A1	12/2009	EP	1 159 926	5/2001
2009/0306659	A1	12/2009	EP	1 278 007	1/2003
2009/0326620	A1	12/2009	EP	1 810 627	7/2007
2010/0030206	A1	2/2010	FR	179607	11/1906
2010/0030208	A1	2/2010	FR	1 275 415	9/1960
2010/0030210	A1	2/2010	FR	1 347 865	11/1963
2010/0036379	A1	2/2010	FR	2 276 027	6/1974
2010/0045558	A1	2/2010	FR	2 235 669	1/1975
2010/0045559	A1	2/2010	FR	2 313 708	12/1976
2010/0049185	A1	2/2010	FR	2 502 935	10/1982
2010/0049193	A1	2/2010	FR	2 517 953	6/1983
2010/0053015	A1	3/2010	FR	2 573 301	11/1984
2010/0057070	A1	3/2010	FR	2 862 813	5/2005
2010/0076422	A1	3/2010	FR	2 864 439	7/2005
2010/0082082	A1	4/2010	JP	5-5106	1/1993
2010/0087808	A1	4/2010	JP	05-40112	2/1993
2010/0094272	A1	4/2010	JP	06343644	12/1994
2010/0094273	A1	4/2010	JP	07265328	10/1995
2010/0097284	A1	4/2010	JP	08056955	3/1996
2010/0217251	A1	8/2010	JP	08252263	10/1996
2010/0217252	A1	8/2010	JP	09010223	1/1997
			JP	11244298	9/1999
			JP	2000342599	12/2000
			JP	2000350732	12/2000
			JP	2001008944	1/2001
			JP	2001029356	2/2001
			JP	2001128990	5/2001
			SU	166452	11/1964
			SU	401367	11/1974
			SU	727201	4/1980
			WO	WO97/41924	11/1997
			WO	WO97/43971	11/1997
			WO	WO00/48672	8/2000
			WO	00/56239	9/2000
			WO	WO00/51513	9/2000
			WO	WO01/01847	1/2001
			WO	WO01/74252	10/2001
			WO	WO02/45790	6/2002
			WO	WO02/061880	8/2002
			WO	WO2004/112628	12/2004
FOREIGN PATENT DOCUMENTS					
DE	1099658	2/1961			
DE	1139927	11/1962			
DE	1149832	6/1963			
DE	1439302	1/1969			
DE	2439587	2/1975			
DE	2455174	5/1975			
DE	2407559	8/1975			
DE	2415263	10/1975			
DE	2429021	1/1976			
DE	2460481	6/1976			
DE	2602517	7/1976			
DE	2504280	8/1976			
DE	2627679	1/1977			
DE	2540968	3/1977			
DE	2820908	11/1978			
DE	2803275	8/1979			

WO WO2005/016119 2/2005

OTHER PUBLICATIONS

- Anderson et al., "A Numerical Study of Rapid Heating for High Temperature Radio Frequency Hyperthermia" *International Journal of Bio-Medical Computing*, 35 (1994), pp. 297-307.
- Anonymous. (1999) Auto Suture MIBB Site Marker: Single Use Clip Applier, United States Surgical (Product instructions), 2 pages.
- Anonymous. (2001) Disposable Chiba Biopsy Needles and Trays, Biopsy and Special Purpose Needles Cook Diagnostic and Interventional Products Catalog (products list), 4 pages.
- Anonymous. (1987) Homer Mammalok™ Breast Lesion Needle/Wire Localizer, Namic® Angiographic Systems Division, Glens Falls, New York, (Hospital products price list), 4 pages.
- Anonymous. (1999) MIBB Site Marker, United States Surgical (Sales brochure), 4 pages.
- Anonymous. Blunt Tubes with Finished Ends. Pointed Cannula, Popper & Sons Biomedical Instrument Division, (Products Price List), one page, Jul. 19, 2000.
- Anonymous. Ground Cannulae, ISPG, New Milford, CT, (Advertisement) one page, Jul. 19, 2000.
- B. Levy M.D. et al., "Update on Hysterectomy New Technologies and Techniques" *OBG Management*, Feb. 2003.
- B. Levy M.D., "Use of a New Vessel Ligation Device During Vaginal Hysterectomy" FIGO 2000, Washington, D.C.
- B. Levy M.D. et al., "Randomized Trial of Suture Versus Electrosurgical Bipolar Vessel Sealing in Vaginal Hysterectomy" *Obstetrics & Gynecology*, vol. 102, No. 1, Jul. 2003.
- B. F. Mullan et al., (May 1999) "Lung Nodules: Improved Wire for CT-Guided Localization," *Radiology* 211:561-565.
- B. T. Heniford M.D. et al., "Initial Research and Clinical Results with an Electrothermal Bipolar Vessel Sealer" Oct. 1999.
- Bergdahl et al., "Studies on Coagulation and the Development of an Automatic Computerized Bipolar Coagulator" *Journal of Neurosurgery* 75:1 (Jul. 1991), pp. 148-151.
- Bulletin of the American Physical Society, vol. 47, No. 5, Aug. 2002, p. 41.
- C. F. Gottlieb et al., "Interstitial Microwave Hyperthermia Applicators having Submillimetre Diameters", *Int. J. Hyperthermia*, vol. 6, No. 3, pp. 707-714, 1990.
- C. H. Durney et al., "Antennas for Medical Applications", *Antenna Handbook: Theory Application and Design*, p. 24-40, Van Nostrand Reinhold, 1988 New York, V.T. Lo, S.W. Lee.
- Carbonell et al., "Comparison of the Gyrus PlasmaKinetic Sealer and the Valleylab LigaSure™ Device in the Hemostasis of Small, Medium, and Large-Sized Arteries" *Carolinas Laparoscopic and Advanced Surgery Program*, Carolinas Medical Center, Charlotte, NC 2003.
- Carus et al., "Initial Experience With The LigaSure™ Vessel Sealing System in Abdominal Surgery" *Innovations That Work*, Jun. 2002.
- Chicharo et al., "A Sliding Goertzel Algorithm" Aug. 1996 DOS pp. 283-297 *Signal Processing*, Elsevier Science Publishers B.V. Amsterdam, NL, vol. 52, No. 3.
- Chou, C.K., (1995) "Radiofrequency Hyperthermia in Cancer Therapy," Chapter 94 in *Biologic Effects of Nonionizing Electromagnetic Fields*, CRC Press, Inc., pp. 1424-1428.
- Chung et al., "Clinical Experience of Sutureless Closed Hemorrhoidectomy with LigaSure™" *Diseases of the Colon & Rectum*, vol. 46, No. 1, Jan. 2003.
- Cosman et al., "Radiofrequency Lesion Generation and its Effect on Tissue Impedance", *Applied Neurophysiology*, 51:230-242, 1988.
- Cosman et al., "Theoretical Aspects of Radiofrequency Lesions in the Dorsal Root Entry Zone" *Neurosurgery* 15:(1984), pp. 945-950.
- Cosman et al., "Methods of Making Nervous System Lesions" In William RH, Rengachary SS (eds): *Neurosurgery*, New York: McGraw-Hill, vol. 111, (1984), pp. 2490-2499.
- Crawford et al., "Use of the LigaSure™ Vessel Sealing System in Urologic Cancer Surger" *Grand Rounds In Urology* 1999, vol. 1, Issue 4, pp. 10-17.
- Dulemba et al., "Use of a Bipolar Electrothermal Vessel Sealer in Laparoscopically Assisted Vaginal Hysterectomy" *Sales/Product Literature*; Jan. 2004.
- E. David Crawford, "Evaluation of a New Vessel Sealing Device in Urologic Cancer Surgery" *Sales/Product Literature* 2000.
- E. David Crawford, "Use of a Novel Vessel Sealing Technology in Management of the Dorsal Venous Complex" *Sales/Product Literature* 2000.
- Esterline Product Literature, "Light Key: Visualize a Virtual Keyboard. One With No Moving Parts", 4 pages.
- Esterline, "Light Key Projection Keyboard" 2004 Advanced Input Systems, located at: <<http://www.advanced-input.com/lightkey>> last visited on Feb. 10, 2005.
- Geddes et al., "The Measurement of Physiologic Events by Electrical Impedance" *Am. J. MI*, Jan. Mar. 1964, pp. 16-27.
- Goldberg et al., "Image-guided Radiofrequency Tumor Ablation: Challenges and Opportunities—Part I", (2001) *JVasc. Interv. Radiol*, vol. 12, pp. 1021-1032.
- Goldberg et al., "Tissue Ablation with Radiofrequency: Effect of Probe Size, Gauge, Duration, and Temperature on Lesion Volume" *Acad Radio* (1995) vol. 2, No. 5, pp. 399-404.
- Heniford et al., "Initial Results with an Electrothermal Bipolar Vessel Sealer" *Surgical Endoscopy* (2001) 15:799-801.
- Herman et al., "Laparoscopic Intestinal Resection With the LigaSure™ Vessel Sealing System: A Case Report" *Innovations That Work*, Feb. 2002.
- Ian D. McRury et al., "The Effect of Ablation Sequence and Duration on Lesion Shape Using Rapidly Pulsed Radiofrequency Energy Through Electrodes", Feb. 2000, *Springer Netherlands*, vol. 4; No. 1, pp. 307-320.
- Johnson et al., "Evaluation of a Bipolar Electrothermal Vessel Sealing Device in Hemorrhoidectomy" *Sales/Product Literature*, Jan. 2004.
- Jarrett et al., "Use of the LigaSure™ Vessel Sealing System for Peri-Hilar Vessels in Laparoscopic Nephrectomy" *Sales/Product Literature* 2000.
- Johnson, "Evaluation of the LigaSure™ Vessel Sealing System in Hemorrhoidectomy" *American College of Surgeons (ACS) Clinic La Congress Poster* (2000).
- Johnson, "Use of the LigaSure™ Vessel Sealing System in Bloodless Hemorrhoidectomy" *Innovations That Work*, Mar. 2000.
- Joseph G. Andriole M.D. et al., "Biopsy Needle Characteristics Assessed in the Laboratory", *Radiology* 148: 659-662, Sep. 1983.
- Joseph Ortenberg, "LigaSure™ System Used in Laparoscopic 1st and 2nd Stage Orchiopexy" *Innovations That Work*, Nov. 2002.
- K. Ogata, *Modern Control Engineering*, Prentice-Hall, Englewood Cliffs, N.J., 1970.
- Kennedy et al., "High-burst-strength, feedback-controlled bipolar vessel sealing" *Surgical Endoscopy* (1998) 12: 876-878.
- Kopans, D.B. et al., (Nov. 1985) "Spring Hookwire Breast Lesion Localizer: Use with Rigid-Compression. Mammographic Systems," *Radiology* 157(2):537-538.
- Koyle et al., "Laparoscopic Palomo Varicocele Ligation in Children and Adolescents" *Pediatric Endosurgery & Innovative Techniques*, vol. 6, No. 1, 2002.
- LigaSure™ Vessel Sealing System, the Seal of Confidence in General, Gynecologic, Urologic, and Laparoscopic Surgery, *Sales/Product Literature*, Jan. 2004.
- Livraghi et al., (1995) "Saline-enhanced RF Tissue Ablation in the Treatment of Liver Metastases", *Radiology*, pp. 205-210.
- Lyndon B. Johnson Space Center, Houston, Texas, "Compact Directional Microwave Antenna for Localized Heating," *NASA Tech Briefs*, Mar. 2008.
- M. A. Astrahan, "A Localized Current Field Hyperthermia System for Use with 192-Iridium Interstitial Implants" *Medical Physics*. 9(3), May/June. 1982.
- Magdy F. Iskander et al., "Design Optimization of Interstitial Antennas", *IEEE Transactions on Biomedical Engineering*, vol. 36, No. 2, Feb. 1989, pp. 238-246.
- McGahan et al., (1995) "Percutaneous Ultrasound-guided Radiofrequency Electrocautery Ablation of Prostate Tissue in Dogs", *Acad Radiol*, vol. 2, No. 1: pp. 61-65.
- McLellan et al., "Vessel Sealing for Hemostasis During Pelvic Surgery" *Int'l Federation of Gynecology and Obstetrics Figo World Congress* 2000, Washington, DC.

- MDTECH product literature (Mar. 2000) I'D Wire: product description, 1 page.
- MDTECH product literature (Dec. 1999) "FlexStrand": product description, 1 page.
- Medtrex Brochure "The O.R. Pro 300" 1 page, Sep. 1998.
- Michael Choti, "Abdominoperineal Resection with the LigaSure™ Vessel Sealing System and LigaSure™ Atlas 20 cm Open Instrument" *Innovations That Work*, Jun. 2003.
- Muller et al., "Extended Left Hemicolectomy Using the LigaSure™ Vessel Sealing System" *Innovations That Work*. LJ, Sep. 1999.
- Murakami, R. et al., (1995). "Treatment of Hepatocellular Carcinoma: Value of Percutaneous Microwave Coagulation," *American Journal of Radiology (AJR)* 164:1159-1164.
- Ni Wei et al., "A Signal Processing Method for the Coriolis Mass Flowmeter Based on a Normalized . . ." *Journal of Applied Sciences*. Yingyong Kexue Xuebao, Shangha CN, vol. 23, No. 2:(2005-03); pp. 160-184.
- Ogden, "Goertzel Alternative to the Fourier Transform" Jun. 1993 pp. 485-487 *Electronics World*; Reed Business Publishing, Sutton, Surrey, BG, vol. 99, No. 9, 1687.
- Olsson M.D. et al., "Radical Cystectomy in Females" *Current Surgical Techniques in Urology*, vol. 14, Issue 3, 2001.
- Organ, L W., "Electrophysiologic Principles of Radiofrequency Lesion Making" *Appl. Neurophysiol*, vol. 39: pp. 69-76 (1976/77).
- P.R. Stauffer et al., "Interstitial Heating Technologies", *Thermoradiotherapy and Thermochemotherapy (1995)* vol. I, Biology, Physiology, Physics, pp. 279-320.
- Palazzo et al., "Randomized clinical trial of LigaSure™ versus open haemorrhoidectomy" *British Journal of Surgery* 2002,89,154-157 "Innovations in Electrosurgery" Sales/Product Literature; Dec. 31, 2000.
- Paul G. Horgan, "A Novel Technique for Parenchymal Division During Hepatectomy" *The American Journal of Surgery*, vol. 181, No. 3, Oapril 2001, pp. 236-237.
- Peterson et al., "Comparison of Healing Process Following Ligation with Sutures and Bipolar Vessel Sealing" *Surgical Technology International* (2001).
- R. Gennari et al., (Jun. 2000) "Use of Technetium-99m-Labeled Colloid Albumin for Preoperative and Intraoperative Localization of Non palpable Breast Lesions," *American College of Surgeons*. 190(6):692-699.
- Valleylab Brochure, "Reducing Needlestick Injuries in the Operating Room" 1 page, Mar. 2001.
- Reidenbach, (1995) "First Experimental Results with Special Applicators for High-Frequency Interstitial Thermotherapy", *Society Minimally Invasive Therapy*, 4(Suppl 1):40 (Abstr).
- Richard Wolf Medical Instruments Corp. Brochure, "Kleppinger Bipolar Forceps & Bipolar Generator" 3 pages, Jan. 1989.
- Rothenberg et al., "Use of the LigaSure™ Vessel Sealing System in Minimally Invasive Surgery in Children" *Int'l Pediatric Endosurgery Group (I Peg)* 2000.
- Sayfan et al., "Sutureless Closed Hemorrhoidectomy: A New Technique" *Annals of Surgery*, vol. 234, No. 1, Jul. 2001, pp. 21-24.
- Sengupta et al., "Use of a Computer-Controlled Bipolar Diathermy System in Radical Prostatectomies and Other Open Urological Surgery" *ANZ Journal of Surgery* (2001) 71.9 pp. 538-540.
- Sigel et al., "The Mechanism of Blood Vessel Closure by High Frequency Electrocoagulation" *Surgery Gynecology & Obstetrics*, Oct. 1965 pp. 823-831.
- Solbiati et al., (2001) "Percutaneous Radio-frequency Ablation of Hepatic Metastases from Colorectal Cancer: Long-term Results in 117 Patients", *Radiology*, vol. 221, pp. 159-166.
- Strasberg et al., "Use of a Bipolar Vassel-Sealing Device for Parenchymal Transection During Liver Surgery" *Journal of Gastrointestinal Surgery*, vol. 6, No. 4, Jul./Aug. 2002 pp. 569-574.
- Stuart W. Young, *Nuclear Magnetic Resonance Imaging—Basic Principles*, Raven Press, New York, 1984.
- Sugita et al., "Bipolar Coagulator with Automatic Thermocontrol" *J. Neurosurg.*, vol. 41, Dec. 1944, pp. 777-779.
- Sylvain Labonte et al., "Monopole Antennas for Microwave Catheter Ablation", *IEEE Trans. on Microwave Theory and Techniques*, vol. 44, No. 10, pp. 1832-1840, Oct. 1995.
- T. Matsukawa et al., "Percutaneous Microwave Coagulation Therapy in Liver Tumors", *Acta Radiologica*, vol. 38, pp. 410-415, 1997.
- T. Seki et al., (1994) "Ultrasonically Guided Percutaneous Microwave Coagulation Therapy for Small Hepatocellular Carcinoma," *Cancer* 74(3):817-825.
- S. Humphries Jr. et al., "Finite-Element Codes To Model Electrical Heating And Non-Linear Thermal Transport in Biological Media", *Proc. ASME HTD-355*, 131 (1997).
- Urologix, Inc.-Medical Professionals: Targis™ Technology (Date Unknown). "Overcoming the Challenge" located at: <<http://www.urologix.com/medicaUtechnology.html>> last visited on Apr. 27, 2001, 3 pages.
- Urrutia et al., (1988). "Retractable-Barb Needle for Breast Lesion Localization: Use in 60 Cases," *Radiology* 169(3):845-847.
- Valleylab Brochure, "Valleylab Electrosield Monitoring System" 2 pages, Nov. 1995.
- ValleyLab Brochure, "Electosurgery: A Historical Overview", *Innovations in Electrosurgery*, 1999.
- Vallfors et al., "Automatically Controlled Bipolar Electrocoagulation—'COA-COMP'" *Neurosurgical Review* 7:2-3 (1984) pp. 187-190.
- W. Scott Helton, "LigaSure™ Vessel Sealing System: Revolutionary Hemostasis Product for General Surgery" *Sales/Product Literature* 1999.
- Wald et al., "Accidental Burns", *JAMA*, Aug. 16, 1971, vol. 217, No. 7, pp. 916-921.
- Walt Boyles, "Instrumentation Reference Book", 2002, Butterworth-Heinemann, pp. 262-264.
- European Search Report EP 03721482 dated Feb. 6, 2006.
- European Search Report EP 04009964 dated Jul. 28, 2004.
- European Search Report EP 04013772 dated Apr. 11, 2005.
- European Search Report EP 04015980 dated Nov. 3, 2004.
- European Search Report EP 04015981.6 dated Oct. 25, 2004.
- European Search Report EP 04027314 dated Mar. 31, 2005.
- European Search Report EP 04027479 dated Mar. 17, 2005.
- European Search Report EP 04027705 dated Feb. 10, 2005.
- European Search Report EP 04710258 dated Oct. 15, 2004.
- European Search Report EP 04752343.6 dated Jul. 31, 2007.
- European Search Report EP 05002027.0 dated May 12, 2005.
- European Search Report EP 05002769.7 dated Jun. 19, 2006.
- European Search Report EP 05013463.4 dated Oct. 7, 2005.
- European Search Report EP 05013895 dated Oct. 21, 2005.
- European Search Report EP 05014156.3 dated Jan. 4, 2006.
- European Search Report EP 05016399 dated Jan. 13, 2006.
- European Search Report EP 05017281 dated Nov. 24, 2005.
- European Search Report EP 05019130.3 dated Oct. 27, 2005.
- European Search Report EP 05019882 dated Feb. 16, 2006.
- European Search Report EP 05020665.5 dated Feb. 27, 2006.
- European Search Report EP 05020666.3 dated Feb. 27, 2006.
- European Search Report EP 05021025.1 dated Mar. 13, 2006.
- European Search Report EP 05021197.8 dated Feb. 20, 2006.
- European Search Report EP 05021777 dated Feb. 23, 2006.
- European Search Report EP 05021779.3 dated Feb. 2, 2006.
- European Search Report EP 05021780.1 dated Feb. 23, 2006.
- European Search Report EP 05021935 dated Jan. 27, 2006.
- European Search Report EP 05021936.9 dated Feb. 6, 2006.
- European Search Report EP 05021937.7 dated Jan. 23, 2006.
- European Search Report EP 05021939 dated Jan. 27, 2006.
- European Search Report EP 05021944.3 dated Jan. 25, 2006.
- European Search Report EP 05022350.2 dated Jan. 30, 2006.
- European Search Report EP 05023017.6 dated Feb. 24, 2006.
- European Search Report EP 05025423.4 dated Jan. 19, 2007.
- European Search Report EP 05025424 dated Jan. 30, 2007.
- European Search Report EP 06000708.5 dated May 15, 2006.
- European Search Report EP 06002279.5 dated Mar. 30, 2006.
- European Search Report EP 06005185.1 dated May 10, 2006.
- European Search Report EP 06005540 dated Sep. 24, 2007.
- European Search Report EP 06006717.0 dated Aug. 11, 2006.
- European Search Report EP 06006961 dated Oct. 22, 2007.
- European Search Report EP 06006963 dated Jul. 25, 2006.
- European Search Report EP 06008779.8 dated Jul. 13, 2006.
- European Search Report EP 06009435 dated Jul. 13, 2006.
- European Search Report EP 06010499.9 dated Jan. 29, 2008.

- European Search Report EP 06014461.5 dated Oct. 31, 2006.
European Search Report EP 06018206.0 dated Oct. 20, 2006.
European Search Report EP 06019768 dated Jan. 17, 2007.
European Search Report EP 06020574.7 dated Oct. 2, 2007.
European Search Report EP 06020583.8 dated Feb. 7, 2007.
European Search Report EP 06020584.6 dated Feb. 1, 2007.
European Search Report EP 06020756.0 dated Feb. 16, 2007.
European Search Report EP 06022028.2 dated Feb. 13, 2007.
European Search Report EP 06023756.7 dated Feb. 21, 2008.
European Search Report EP 06024122.1 dated Apr. 16, 2007.
European Search Report EP 06024123.9 dated Mar. 6, 2007.
European Search Report EP 06025700.3 dated Apr. 12, 2007.
European Search Report EP 07000885.9 dated May 15, 2007.
European Search Report EP 07001480.8 dated Apr. 19, 2007.
European Search Report EP 07001481.6 dated May 2, 2007.
European Search Report EP 07001485.7 dated May 23, 2007.
European Search Report EP 07001488.1 dated Jun. 5, 2007.
European Search Report EP 07001489.9 dated Dec. 20, 2007.
European Search Report EP 07001491 dated Jun. 6, 2007 •.
European Search Report EP 07001527.6 dated May 18, 2007.
European Search Report EP 07007783.9 dated Aug. 14, 2007.
European Search Report EP 07008207.8 dated Sep. 13, 2007.
European Search Report EP 07009026.1 dated Oct. 8, 2007.
European Search Report EP 07009028 dated Jul. 16, 2007.
European Search Report EP 07009029.5 dated Jul. 20, 2007.
European Search Report EP 07009321.6 dated Aug. 28, 2007.
European Search Report EP 07009322.4 dated Jan. 14, 2008.
European Search Report EP 07010672.9 dated Oct. 16, 2007.
European Search Report EP 07010673.7 dated Oct. 5, 2007.
European Search Report EP 07013779.9 dated Oct. 26, 2007.
European Search Report EP 07015191.5 dated Jan. 23, 2007.
European Search Report EP 07015601.3 dated Jan. 4, 2007.
European Search Report EP 07015602.1 dated Dec. 20, 2007.
European Search Report EP 07018375.1 dated Jan. 8, 2008.
European Search Report EP 07018821 dated Jan. 14, 2008.
European Search Report EP 07019173.9 dated Feb. 12, 2008.
European Search Report EP 07019174.7 dated Jan. 29, 2008.
European Search Report EP 07019178.8 dated Feb. 12, 2008.
European Search Report EP 07020283.3 dated Feb. 5, 2008.
European Search Report EP 07253835.8 dated Dec. 20, 2007.
European Search Report EP 08001019 dated Sep. 23, 2008.
European Search Report EP 08004975 dated Jul. 24, 2008.
European Search Report EP 08006731.7 dated Jul. 29, 2008.
European Search Report EP 08006733 dated Jul. 7, 2008.
European Search Report EP 08006734.1 dated Aug. 18, 2008.
European Search Report EP 08006735.8 dated Jan. 8, 2009.
European Search Report EP 08015842 dated Dec. 5, 2008.
European Search Report EP 98300964.8 dated Dec. 13, 2000.
European Search Report EP 98944778 dated Nov. 7, 2000.
- European Search Report EP 98958575.7 dated Oct. 29, 2002.
International Search Report PCT/US01/11218 dated Aug. 14, 2001.
International Search Report PCT/US01/11224 dated Nov. 13, 2001.
International Search Report PCT/US01/11340 dated Aug. 16, 2001.
International Search Report PCT/US01/11420 dated Oct. 16, 2001.
International Search Report PCT/US02/01890 dated Jul. 25, 2002.
International Search Report PCT/US02/11100 dated Jul. 16, 2002.
International Search Report PCT/US03/09483 dated Aug. 13, 2003.
International Search Report PCT/US03/22900 dated Dec. 2, 2003.
International Search Report PCT/US03/37110 dated Jul. 25, 2005.
International Search Report PCT/US03/37111 dated Jul. 28, 2004.
International Search Report PCT/US03/37310 dated Aug. 13, 2004.
International Search Report PCT/US04/04685 dated Aug. 27, 2004.
International Search Report PCT/US04/13273 dated Dec. 15, 2004.
International Search Report PCT/US04/15311 dated Jan. 12, 2004.
International Search Report PCT/US98/18640 dated Jan. 29, 1998.
International Search Report PCT/US98/23950 dated Jan. 14, 1998.
International Search Report PCT/US99/24869 dated Feb. 11, 2000.
Esterline Product Literature, "Light Key: Visualize a Virtual Keyboard. One With No Moving Parts", Nov. 1, 2003; 4 pages.
H. Schwarzmaier et al., "Magnetic Resonance Imaging of Microwave Induced Tissue Heating" Dept. of Laser Medicine & Dept. of Diagnostic Radiology; Heinrich-Heine-University, Duesseldorf, Germany; Dec. 8, 1994; pp. 729-731.
European Search Report EP 08011282 dated Aug. 14, 2009.
European Search Report EP 04778192.7 dated Jul. 1, 2009.
European Search Report EP 05810523 dated Jan. 29, 2009.
European Search Report EP 08011705 dated Aug. 20, 2009.
European Search Report EP 08012829.1 dated Oct. 29, 2008.
European Search Report EP 08019920.1 dated Mar. 27, 2009.
European Search Report EP 08169973.8 dated Apr. 6, 2009.
European Search Report EP 09156861.8 dated Aug. 4, 2009.
European Search Report EP 09161502.1 dated Sep. 2, 2009.
European Search Report EP 09166708 dated Oct. 15, 2009.
International Search Report PCT/US05/36168 dated Aug. 28, 2006.
International Search Report PCT/US08/052460 dated Apr. 24, 2008.
International Search Report PCT/US09/31658 dated Mar. 11, 2009.
U.S. Appl. No. 12/401,268, filed Mar. 10, 2009.
U.S. Appl. No. 12/416,583, filed Apr. 1, 2009.
U.S. Appl. No. 12/423,609, filed Apr. 14, 2009.
U.S. Appl. No. 12/436,231, filed May 6, 2009.
U.S. Appl. No. 12/436,237, filed May 6, 2009.
U.S. Appl. No. 12/436,239, filed May 6, 2009.
U.S. Appl. No. 12/472,831, filed May 27, 2009.
U.S. Appl. No. 12/475,082, filed May 29, 2009.
U.S. Appl. No. 12/476,960, filed Jun. 2, 2009.
U.S. Appl. No. 08/483,742, filed Jun. 7, 1995.
U.S. Appl. No. 08/136,098, filed Oct. 14, 1993.

* cited by examiner

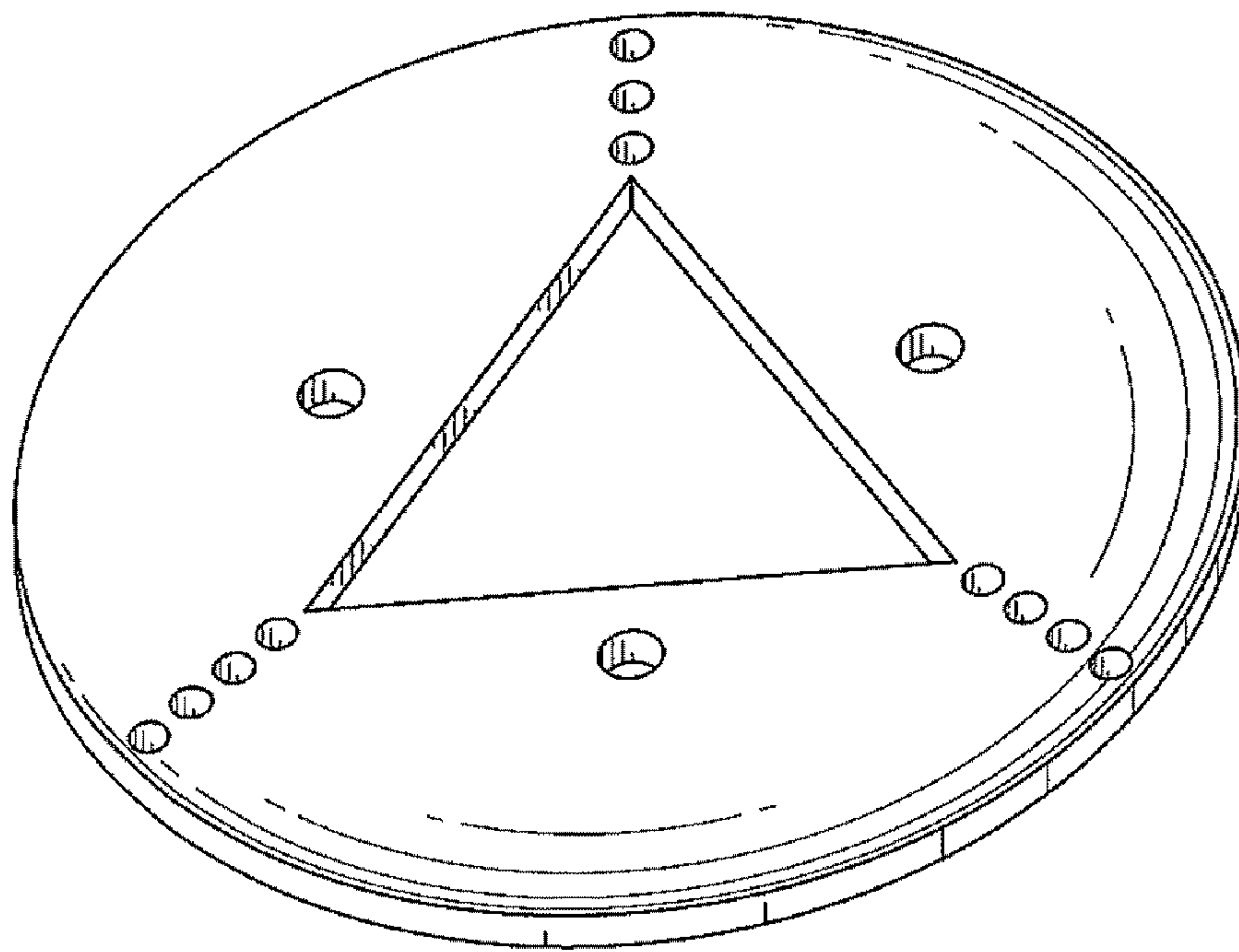


FIG. 1

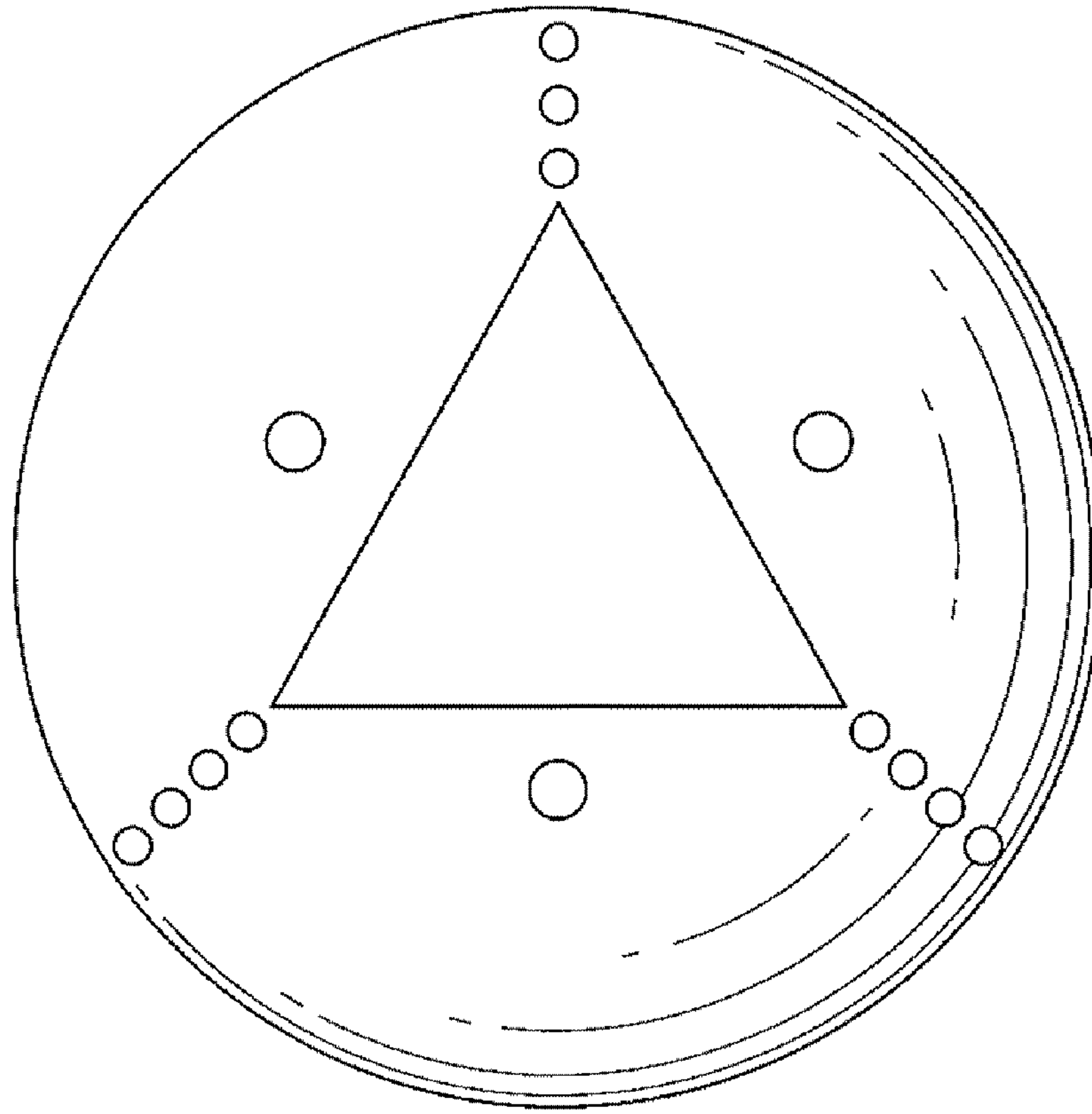


FIG. 2



FIG. 3

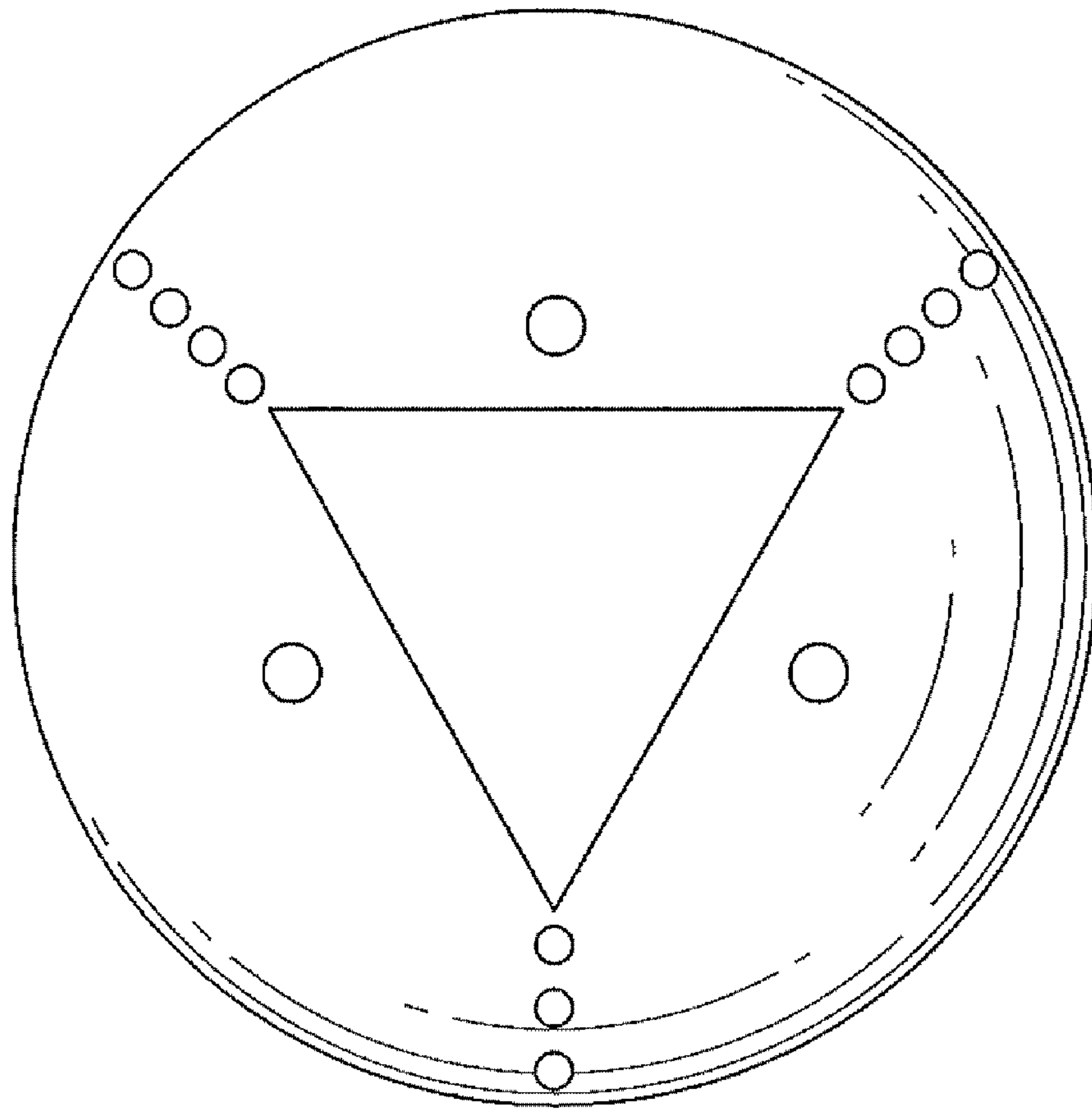


FIG. 4