



US00D819815S

(12) **United States Design Patent** (10) **Patent No.:** **US D819,815 S**
Goodman (45) **Date of Patent:** **** Jun. 5, 2018**

(54) **L-SHAPED BLADE TRIGGER FOR AN ELECTROSURGICAL INSTRUMENT**

(71) Applicant: **COVIDIEN LP**, Mansfield, MA (US)

(72) Inventor: **Kelley D. Goodman**, Erie, CO (US)

(73) Assignee: **COVIDIEN LP**, Mansfield, MA (US)

(**) Term: **15 Years**

(21) Appl. No.: **29/557,470**

(22) Filed: **Mar. 9, 2016**

(51) **LOC (11) Cl.** **24-02**

(52) **U.S. Cl.**
USPC **D24/144**

(58) **Field of Classification Search**

USPC D24/144, 146-147, 133, 127; D8/80
CPC A61B 17/29; A61B 17/320016; A61B
2017/2925; A61B 2018/00601; A61B
18/1442; A61B 18/1445; A61B
2018/1455; A61B 2018/146; A61B
2018/1452; A61B 17/285

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D249,549 S	9/1978	Pike	
D263,020 S	2/1982	Rau, III	
D295,893 S	5/1988	Sharkany et al.	
D295,894 S	5/1988	Sharkany et al.	
D298,353 S	11/1988	Manno	
D299,413 S	1/1989	DeCarolis	
4,994,065 A *	2/1991	Gibbs	A61B 17/8822 222/391
D343,453 S	1/1994	Noda	
5,304,190 A *	4/1994	Reckelhoff	A61B 17/32001 30/134

(Continued)

FOREIGN PATENT DOCUMENTS

CN 201299462 9/2009
DE 2415263 A1 10/1975

(Continued)

OTHER PUBLICATIONS

Michael Choti, "Abdominoperineal Resection with the LigaSure Vessel Sealing System and LigaSure Atlas 20 cm Open Instrument"; *Innovations That Work*, Jun. 2003. (4 pages).

(Continued)

Primary Examiner — Wan Laymon

(57) **CLAIM**

The ornamental design for an L-shaped blade trigger for an electrosurgical instrument, as shown and described.

DESCRIPTION

FIG. 1 is a front, perspective view of an L-shaped blade trigger for an electrosurgical instrument in accordance of the present design;

FIG. 2 is a front view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1;

FIG. 3 is a rear view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1;

FIG. 4 is a left side view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1;

FIG. 5 is a right side view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1;

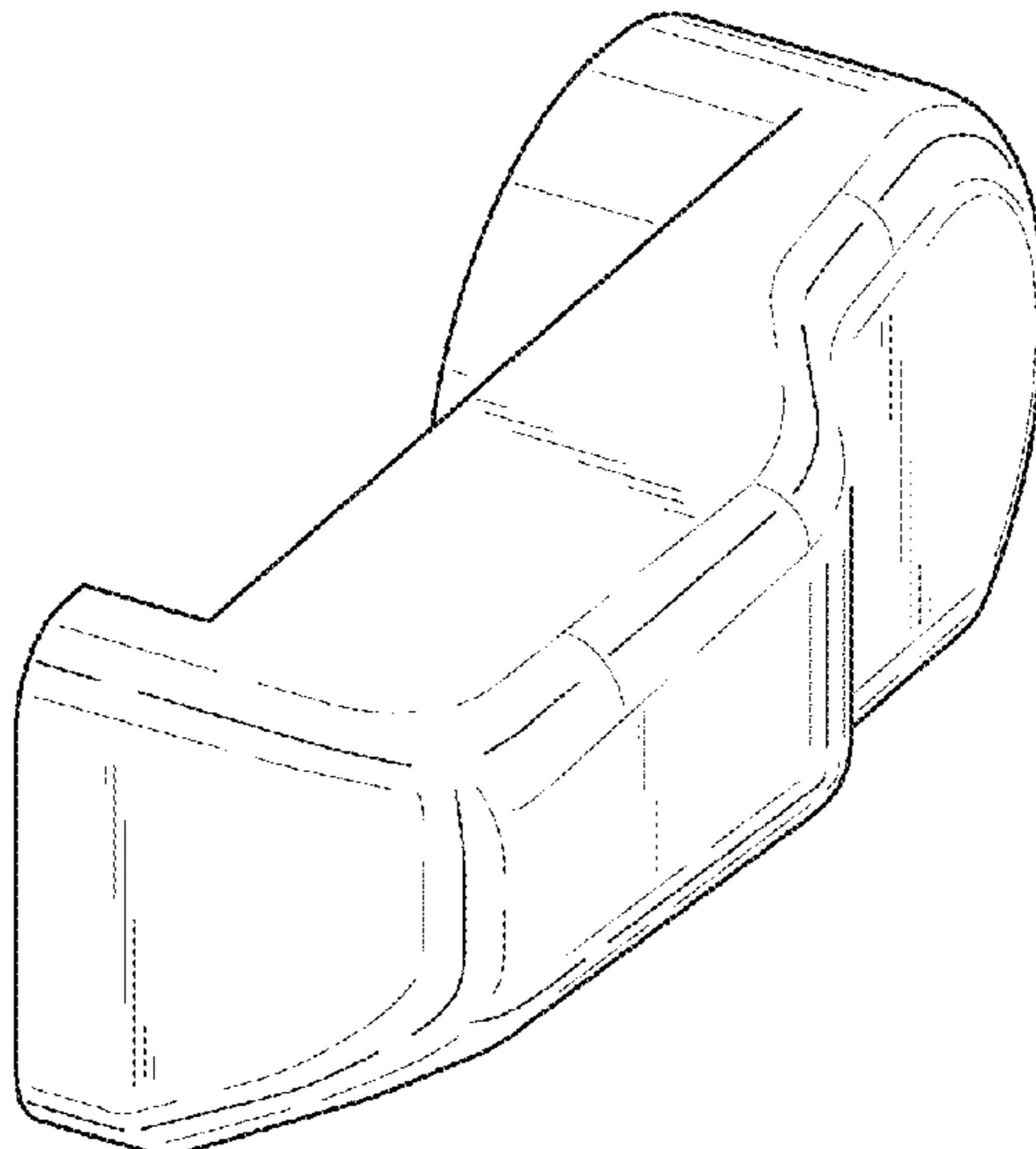
FIG. 6 is a top view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1;

FIG. 7 is a bottom view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1; and,

FIG. 8 is a rear, perspective view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1.

The broken lines shown in the above figures are included for the purpose of illustrating environmental structures and form no part of the claimed design.

1 Claim, 5 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

D348,930 S 7/1994 Olson
 D349,341 S 8/1994 Lichtman et al.
 D354,564 S 1/1995 Medema
 D358,887 S 5/1995 Feinberg
 D384,413 S 9/1997 Zlock et al.
 H1745 H 8/1998 Paraschac
 D402,028 S 12/1998 Grimm et al.
 D408,018 S 4/1999 McNaughton
 D416,089 S 11/1999 Barton et al.
 D424,694 S 5/2000 Tetzlaff et al.
 D425,201 S 5/2000 Tetzlaff et al.
 H1904 H 10/2000 Yates et al.
 D449,886 S 10/2001 Tetzlaff et al.
 D453,923 S 2/2002 Olson
 D454,951 S 3/2002 Bon
 D457,958 S 5/2002 Dycus et al.
 D457,959 S 5/2002 Tetzlaff et al.
 H2037 H 7/2002 Yates et al.
 D465,281 S 11/2002 Lang
 D466,209 S 11/2002 Bon
 D493,888 S 8/2004 Reschke
 D496,997 S 10/2004 Dycus et al.
 D499,181 S 11/2004 Dycus et al.
 6,817,508 B1 * 11/2004 Racenet A61B 17/072
 227/175.2
 D502,994 S 3/2005 Blake, III
 D509,297 S 9/2005 Wells
 D525,361 S 7/2006 Hushka
 D531,311 S 10/2006 Guerra et al.
 D533,274 S 12/2006 Visconti et al.
 D533,942 S 12/2006 Kerr et al.
 D535,027 S 1/2007 James et al.
 D538,932 S 3/2007 Malik
 D541,418 S 4/2007 Schechter et al.
 D541,611 S 5/2007 Aglassinger
 D541,938 S 5/2007 Kerr et al.
 D545,432 S 6/2007 Watanabe
 D547,154 S 7/2007 Lee
 D564,662 S 3/2008 Moses et al.
 D567,943 S 4/2008 Moses et al.
 D575,395 S 8/2008 Hushka
 D575,401 S 8/2008 Hixson et al.
 D582,038 S 12/2008 Swoyer et al.
 7,500,975 B2 * 3/2009 Cunningham A61B 18/1442
 606/50
 D594,983 S * 6/2009 Price D24/133
 D617,900 S 6/2010 Kingsley et al.
 D617,901 S 6/2010 Unger et al.
 D617,902 S 6/2010 Twomey et al.
 D617,903 S 6/2010 Unger et al.
 D618,798 S 6/2010 Olson et al.
 D621,503 S 8/2010 Otten et al.
 7,819,299 B2 * 10/2010 Shelton, IV A61B 17/07207
 227/175.1
 D627,462 S 11/2010 Kingsley
 D628,289 S 11/2010 Romero
 D628,290 S 11/2010 Romero
 D630,324 S 1/2011 Reschke
 D649,249 S 11/2011 Guerra
 D649,643 S 11/2011 Allen, IV et al.
 D661,394 S 6/2012 Romero et al.
 D661,801 S * 6/2012 Price A61B 17/32009
 D24/133
 D670,808 S 11/2012 Moua et al.
 D680,220 S 4/2013 Rachlin
 D687,549 S * 8/2013 Johnson D24/133
 8,663,251 B2 * 3/2014 Burkhart A61B 17/0469
 606/144
 8,834,466 B2 * 9/2014 Cummings A61B 18/1445
 606/51
 9,017,372 B2 * 4/2015 Artale A61B 17/285
 606/167
 9,084,608 B2 7/2015 Larson et al.
 9,211,657 B2 12/2015 Ackley et al.

9,226,767 B2 * 1/2016 Stulen A61B 17/320092
 9,655,672 B2 * 5/2017 Artale A61B 18/1442
 2012/0059409 A1 * 3/2012 Reschke A61B 18/1442
 606/208
 2014/0221994 A1 8/2014 Reschke
 2014/0221995 A1 8/2014 Guerra et al.
 2014/0221999 A1 8/2014 Cunningham et al.
 2014/0228842 A1 8/2014 Dycus et al.
 2014/0230243 A1 8/2014 Roy et al.
 2014/0236149 A1 8/2014 Kharin et al.
 2014/0243811 A1 8/2014 Reschke et al.
 2014/0243824 A1 8/2014 Gilbert
 2014/0249528 A1 9/2014 Hixson et al.
 2014/0250686 A1 9/2014 Hempstead et al.
 2014/0257274 A1 9/2014 McCullough, Jr. et al.
 2014/0257283 A1 9/2014 Johnson et al.
 2014/0257284 A1 9/2014 Artale
 2014/0257285 A1 9/2014 Moua
 2014/0276803 A1 9/2014 Hart
 2014/0284313 A1 9/2014 Allen, IV et al.
 2014/0288549 A1 9/2014 McKenna et al.
 2014/0288553 A1 9/2014 Johnson et al.
 2014/0330271 A1 * 11/2014 Dietz A61B 17/32
 606/45
 2014/0330308 A1 11/2014 Hart et al.
 2014/0336635 A1 11/2014 Hart et al.
 2014/0353188 A1 12/2014 Reschke et al.
 2015/0018816 A1 1/2015 Latimer
 2015/0025528 A1 1/2015 Arts
 2015/0032106 A1 1/2015 Rachlin
 2015/0051598 A1 2/2015 Orszulak et al.
 2015/0051640 A1 2/2015 Twomey et al.
 2015/0066026 A1 3/2015 Hart et al.
 2015/0080880 A1 3/2015 Sartor et al.
 2015/0080889 A1 3/2015 Cunningham et al.
 2015/0080891 A1 * 3/2015 Shelton, IV A61B 18/12
 606/48
 2015/0082928 A1 3/2015 Kappus et al.
 2015/0088122 A1 3/2015 Jensen
 2015/0088126 A1 3/2015 Duffin et al.
 2015/0088128 A1 3/2015 Couture
 2015/0094714 A1 4/2015 Lee et al.
 2015/0164580 A1 * 6/2015 Roy A61B 18/1442
 606/51
 2016/0038231 A1 * 2/2016 Van Tol A61B 18/1445
 606/48
 2016/0074108 A1 * 3/2016 Woodruff A61B 18/1445
 606/51
 2016/0175033 A1 * 6/2016 Le A61B 18/1442
 606/51
 2017/0119415 A1 * 5/2017 Brandt A61B 18/1442
 2017/0119456 A1 * 5/2017 Sartor A61B 18/1442
 2017/0196619 A1 * 7/2017 Hart A61B 18/1442

FOREIGN PATENT DOCUMENTS

DE 02514501 A1 10/1976
 DE 2627679 A1 1/1977
 DE 03423356 C2 6/1986
 DE 03612646 A1 4/1987
 DE 3627221 A1 2/1988
 DE 8712328 U1 2/1988
 DE 04303882 C2 2/1995
 DE 04403252 A1 8/1995
 DE 19515914 C1 7/1996
 DE 19506363 A1 8/1996
 DE 29616210 U1 11/1996
 DE 19608716 C1 4/1997
 DE 19751106 A1 5/1998
 DE 19751108 A1 5/1999
 DE 19946527 C1 7/2001
 DE 20121161 U1 4/2002
 DE 10045375 C2 10/2002
 DE 202007009165 U1 8/2007
 DE 202007009317 U1 8/2007
 DE 202007009318 U1 8/2007
 DE 10031773 B4 11/2007
 DE 202007016233 U1 1/2008

(56)

References Cited

FOREIGN PATENT DOCUMENTS

DE	19738457	B4	1/2009
DE	102004026179	B4	1/2009
DE	102008018406	B3	7/2009
EP	1281878	A1	2/2003
EP	1159926	A3	3/2003
JP	61-501068		9/1984
JP	10-24051	A	1/1989
JP	11-47150	A	6/1989
JP	6-502328		3/1992
JP	5-5106		1/1993
JP	05-40112		2/1993
JP	0006030945	A	2/1994
JP	6-121797	A	5/1994
JP	6-285078	A	10/1994
JP	6-511401		12/1994
JP	06343644	A	12/1994
JP	07265328	A	10/1995
JP	8-56955		5/1996
JP	08252263	A	10/1996
JP	8-289895	A	11/1996
JP	8-317934	A	12/1996
JP	8-317936	A	12/1996
JP	9-10223	C	1/1997
JP	09000538	A	1/1997
JP	9-122138	A	5/1997
JP	0010000195	A	1/1998
JP	10-155798	A	6/1998
JP	11-47149		2/1999
JP	11-070124	A	3/1999
JP	11-169381	A	6/1999
JP	11-192238	A	7/1999
JP	11244298	A	9/1999
JP	2000-102545	A	4/2000
JP	2000-135222	A	5/2000
JP	2000342599	A	12/2000
JP	2000350732	A	12/2000
JP	2001008944	A	1/2001
JP	2001-29355		2/2001
JP	2001029356	A	2/2001
JP	2001-03400		4/2001
JP	2001128990	A	5/2001
JP	2001-190564	A	7/2001
JP	2002-136525	A	5/2002
JP	2002-528166	A	9/2002
JP	2003-116871	A	4/2003
JP	2003-175052	A	6/2003
JP	2003245285	A	9/2003
JP	2004-517668	A	6/2004
JP	2004-528869	A	9/2004
JP	2005-152663	A	6/2005
JP	2005-253789	A	9/2005
JP	2005312807	A	11/2005
JP	2006-015078	A	1/2006
JP	2006-501939	A	1/2006
JP	2006-095316	A	4/2006
JP	2008-054926	A	3/2008
JP	2011125195	A	6/2011
SU	401367	A1	11/1974
WO	0036986	A1	6/2000
WO	0059392	A1	10/2000
WO	0115614	A1	3/2001
WO	0154604	A1	8/2001
WO	02/45589		6/2002
WO	06/021269	A1	3/2006
WO	05110264	A3	4/2006
WO	08/040483	A1	4/2008
WO	2011/018154	A1	2/2011

OTHER PUBLICATIONS

Chung et al., "Clinical Experience of Sutureless Closed Hemorrhoidectomy with LigaSure" *Diseases of the Colon & Rectum* vol. 46, No. 1 Jan. 2003, pp. 87-92.

Tinkler L.F., "Combined Diathermy and Suction Forceps", Feb. 6, 1967 (Feb. 6, 1965), *British Medical Journal* Feb. 6, 1976, vol. 1, No. 5431 p. 361, ISSN: 0007-1447.

Carbonell et al., "Comparison of the Gyros 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; Date: Aug. 2003. (1 page).

Peterson et al. "Comparison of Healing Process Following Ligation with Sutures and Bipolar Vessel Sealing" *Surgical Technology International* (2001). (8 pages).

"Electrosurgery: A Historical Overview" *Innovations in Electrosurgery*; Sales/Product Literature; Dec. 31, 2000. (6 pages).

Johnson et al. "Evaluation of a Bipolar Electrothermal Vessel Sealing Device in Hemorrhoidectomy" *Sales/Product Literature*; Jan. 2004. (1 page).

E. David Crawford "Evaluation of a New Vessel Sealing Device in Urologic Cancer Surgery" *Sales/Product Literature* 2000. (1 page).

Johnson et al. "Evaluation of the LigaSure Vessel Sealing System in Hemorrhoidectomy" *American College of Surgeons (ACS) Clinica Congress Poster* (2000). (1 page).

Muller et al., "Extended Left Hemicolectomy Using the LigaSure Vessel Sealing System" *Innovations That Work*, Sep. 1999. (4 pages).

Kennedy et al. "High-burst-strength, feedback-controlled bipolar vessel sealing" *Surgical Endoscopy* (1998) 12: 876-878.

Burdette et al. "In Vivo Probe Measurement Technique for Determining Dielectric Properties At VHF Through Microwave Frequencies", *IEEE Transactions on Microwave Theory and Techniques*, vol. MTT-28, No. 4, Apr. 1980 pp. 414-427.

Carus et al., "Initial Experience With the LigaSure Vessel Sealing System in Abdominal Surgery" *Innovations That Work*, Jun. 2002. (4 pages).

Heniford et al. "Initial Results with an Electrothermal Bipolar Vessel Sealer" *Surgical Endoscopy* (2000) 15:799-801. (4 pages).

Herman et al., "Laparoscopic Intestinal Resection With the LigaSure Vessel Sealing System: A Case Report"; *Innovations That Work*, Feb. 2002. (4 pages).

Coyle et al., "Laparoscopic Palomo Varicocele Ligation in Children and Adolescents" *Pediatric Endosurgery & Innovative Techniques*, vol. 6, No. 1, 2002, pp. 15-19.

W. Scott Helton, "LigaSure Vessel Sealing System: Revolutionary Hemostasis Product for General Surgery"; *Sales/Product Literature* 1999. (1 page).

LigaSure Vessel Sealing System, the Seal of Confidence in General, Gynecologic, Urologic, and Laparoscopic Surgery; *Sales/Product Literature*; Apr. 2002. (8 pages).

Joseph Ortenberg "LigaSure System Used in Laparoscopic 1st and 2nd Stage Orchiopexy" *Innovations That Work*, Nov. 2002. (4 pages).

Sigel et al. "The Mechanism of Blood Vessel Closure by High Frequency Electrocoagulation" *Surgery Gynecology & Obstetrics*, Oct. 1965 pp. 823-831.

Sampayan et al, "Multilayer Ultra-High Gradient Insulator Technology" *Discharges and Electrical Insulation in Vacuum*, 1998. Netherlands Aug. 17-21, 1998; vol. 2, pp. 740-743.

Paul G. Horgan, "A Novel Technique for Parenchymal Division During Hepatectomy" *The American Journal of Surgery*, vol. 181, No. 3, Apr. 2001 pp. 236-237.

Benaron et al., "Optical Time-Of-Flight and Absorbance Imaging of Biologic Media", *Science, American Association for the Advancement of Science*, Washington, DC, vol. 259, Mar. 5, 1993, pp. 1463-1466.

Olsson et al. "Radical Cystectomy in Females" *Current Surgical Techniques in Urology*, vol. 14, Issue 3, 2001. (8 pages).

Palazzo et al. "Randomized clinical trial of Ligasure versus open haemorrhoidectomy" *British Journal of Surgery* 2002, 89, 154-157.

Levy et al. "Randomized Trial of Suture Versus Electrothermal Bipolar Vessel Sealing in Vaginal hysterectomy" *Obstetrics & Gynecology*, vol. 102, No. 1, Jul. 2003, pp. 147-151.

"Reducing Needlestick Injuries in the Operating Room" *Sales/Product Literature* 2001. (1 page).

(56)

References Cited

OTHER PUBLICATIONS

Bergdahl et al. "Studies on Coagulation and the Development of an Automatic Computerized Bipolar Coagulator" *J. Neurosurg*, vol. 75, Jul. 1991, pp. 148-151.

Strasberg et al. "A Phase I Study of the LigaSure Vessel Sealing System in Hepatic Surgery" Section of HPB Surger, Washington University School of Medicine, St. Louis MO, Presented at AHPBA, Feb. 2001. (1 page).

Seyfan et al. "Sutureless Closed Hemorrhoidectomy: A New Technique" *Annals of Surgery* vol. 234 No. 1, Jul. 2001 pp. 21-24.

Levy et al., "Update on Hysterectomy—New Technologies and Techniques" *OBG Management*, Feb. 2003. (15 pages).

Dulemba et al. "Use of a Bipolar Electrothermal Vessel Sealer in Laparoscopically Assisted Vaginal Hysterectomy" *Sales/Product Literature*; Jan. 2004. (1 page).

Strasberg et al., "Use of a Bipolar Vessel-Sealing Device for Parenchymal Transection During Liver Surgery" *Journal of Gastrointestinal Surgery*, vol. 6, No. 4, Jul./Aug. 2002 pp. 569-574.

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.

Rothenberg et al. "Use of the LigaSure Vessel Sealing System in Minimally Invasive Surgery in Children" *Int'l Pediatric Endosurgery Group (IPEG)* 2000. (1 page).

Crawford et al. "Use of the LigaSure Vessel Sealing System in Urologic Cancer Surgery" *Grand Rounds in Urology* 1999 vol. 1 Issue 4 pp. 10-17.

Craig Johnson, "Use of the LigaSure Vessel Sealing System in Bloodless Hemorrhoidectomy" *Innovations That Work*, Mar. 2000. (4 pages).

Levy et al. "Use of a New Energy-based Vessel Ligation Device During Vaginal Hysterectomy" *Int'l Federation of Gynecology and Obstetrics (FIGO) World Congress 1999*. (1 page).

Barbara Levy, "Use of a New Vessel Ligation Device During Vaginal Hysterectomy" *FIGO 2000*, Washington, D.C. (1 page).

E. David Crawford "Use of a Novel Vessel Sealing Technology in Management of the Dorsal Venous Complex" *Sales/Product Literature 2000*. (1 page).

Jarrett et al., "Use of the LigaSure Vessel Sealing System for Peri-Hilar Vessels in Laparoscopic Nephrectomy" *Sales/Product Literature 2000*. (1 page).

Crouch et al. "A Velocity-Dependent Model for Needle Insertion in Soft Tissue" *MICCAI 2005; LNCS 3750* pp. 624-632, Dated: 2005.

McLellan et al. "Vessel Sealing for Hemostasis During Pelvic Surgery" *Int'l Federation of Gynecology and Obstetrics FIGO World Congress 2000*, Washington, D.C. (1 page).

McLellan et al. "Vessel Sealing for Hemostasis During Gynecologic Surgery" *Sales/Product Literature 1999*. (1 page).

U.S. Appl. No. 08/926,869, filed Sep. 10, 1997; inventor: James G. Chandler, Abandoned.

U.S. Appl. No. 09/177,950, filed Oct. 23, 1998; inventor: Randel A. Frazier, abandoned.

U.S. Appl. No. 09/387,883, filed Sep. 1, 1999; inventor: Dale F. Schmaltz, abandoned.

U.S. Appl. No. 09/591,328, filed Jun. 9, 2000; inventor: Thomas P. Ryan, abandoned.

U.S. Appl. No. 12/336,970, filed Dec. 17, 2008; inventor: Paul R. Sremeich, abandoned.

Heniford et al. "Initial Research and Clinical Results with an Electrothermal Bipolar Vessel Sealer" Oct. 1999. (1 page).

* cited by examiner

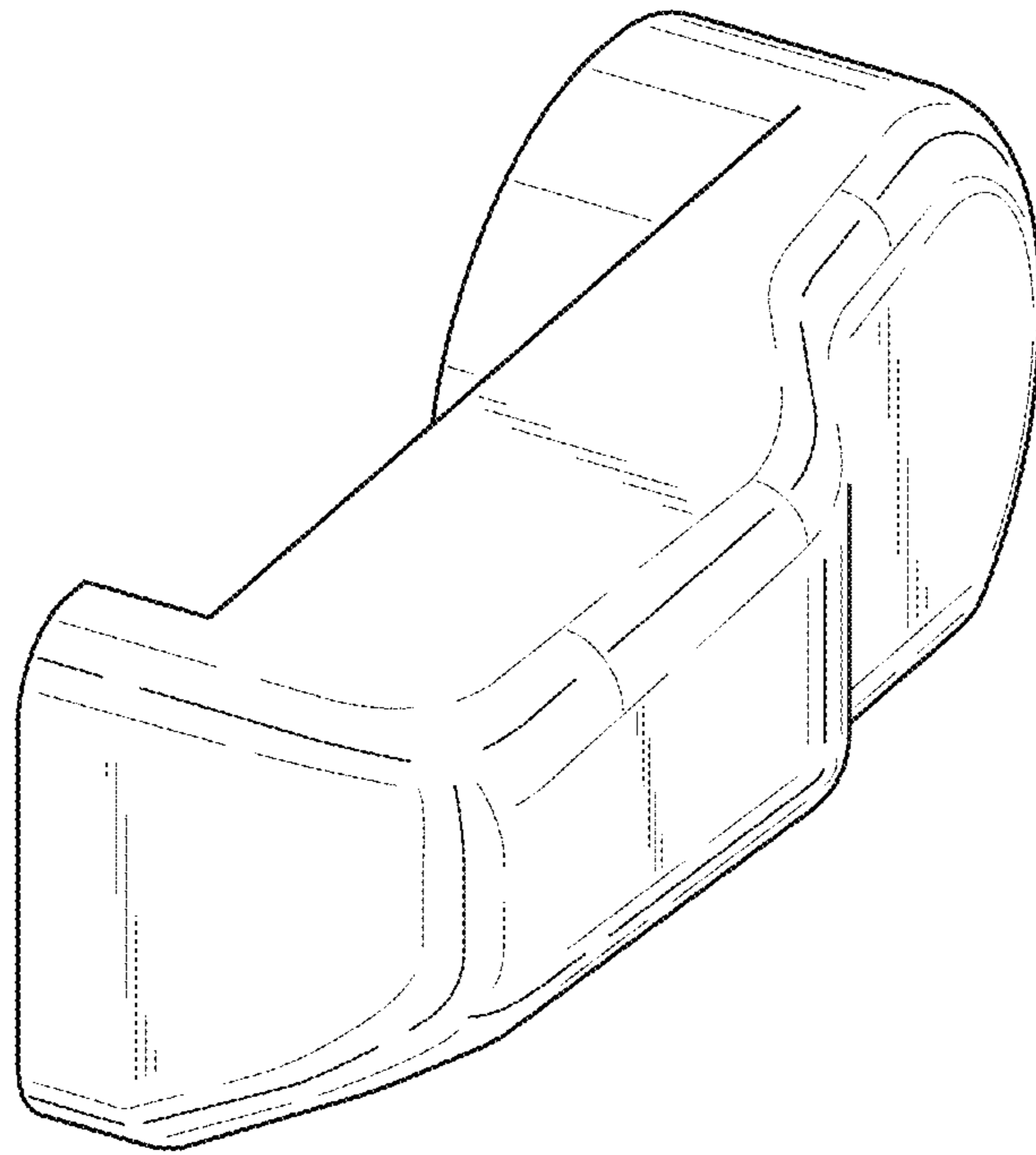


Fig. 1

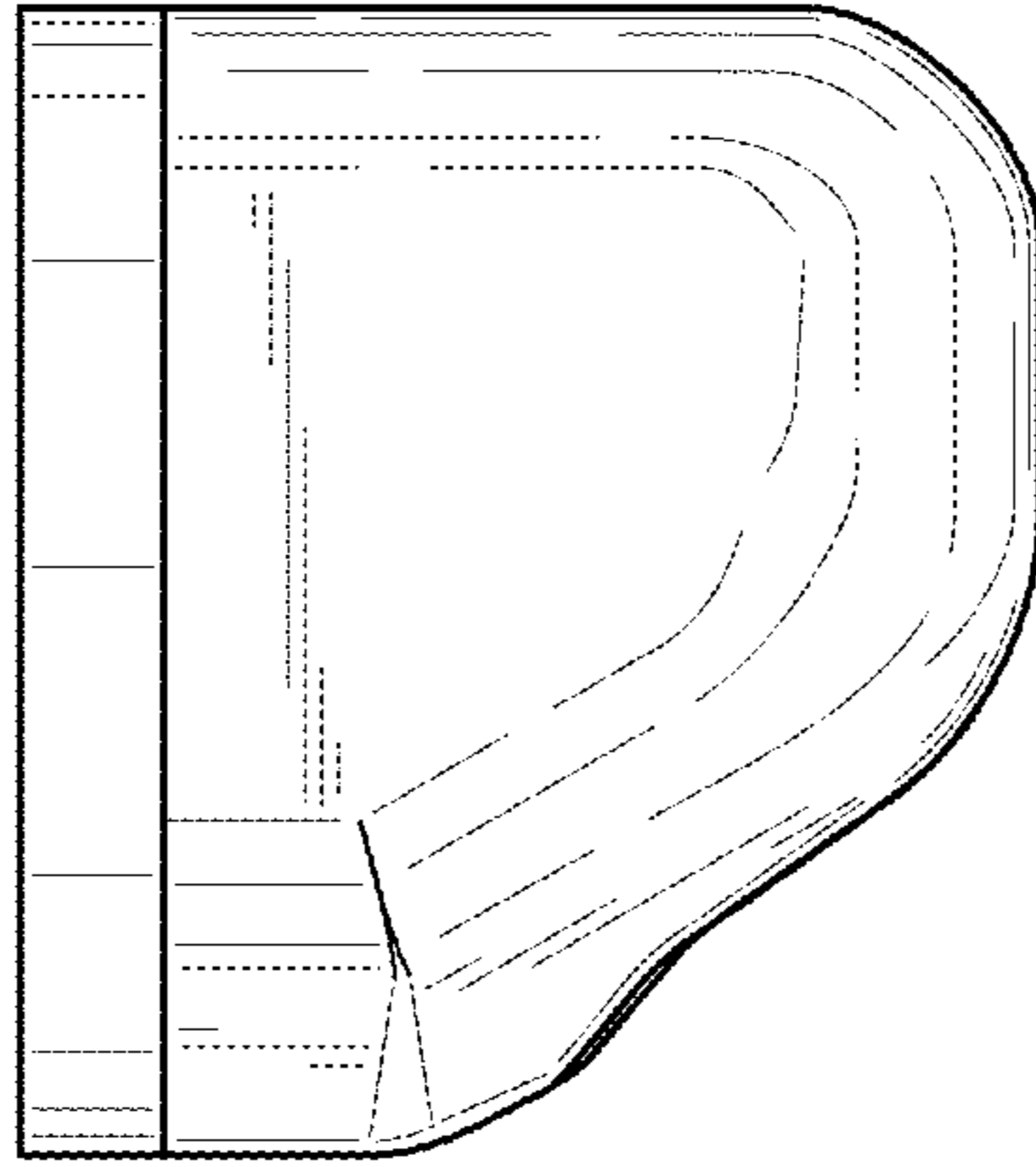


Fig. 2

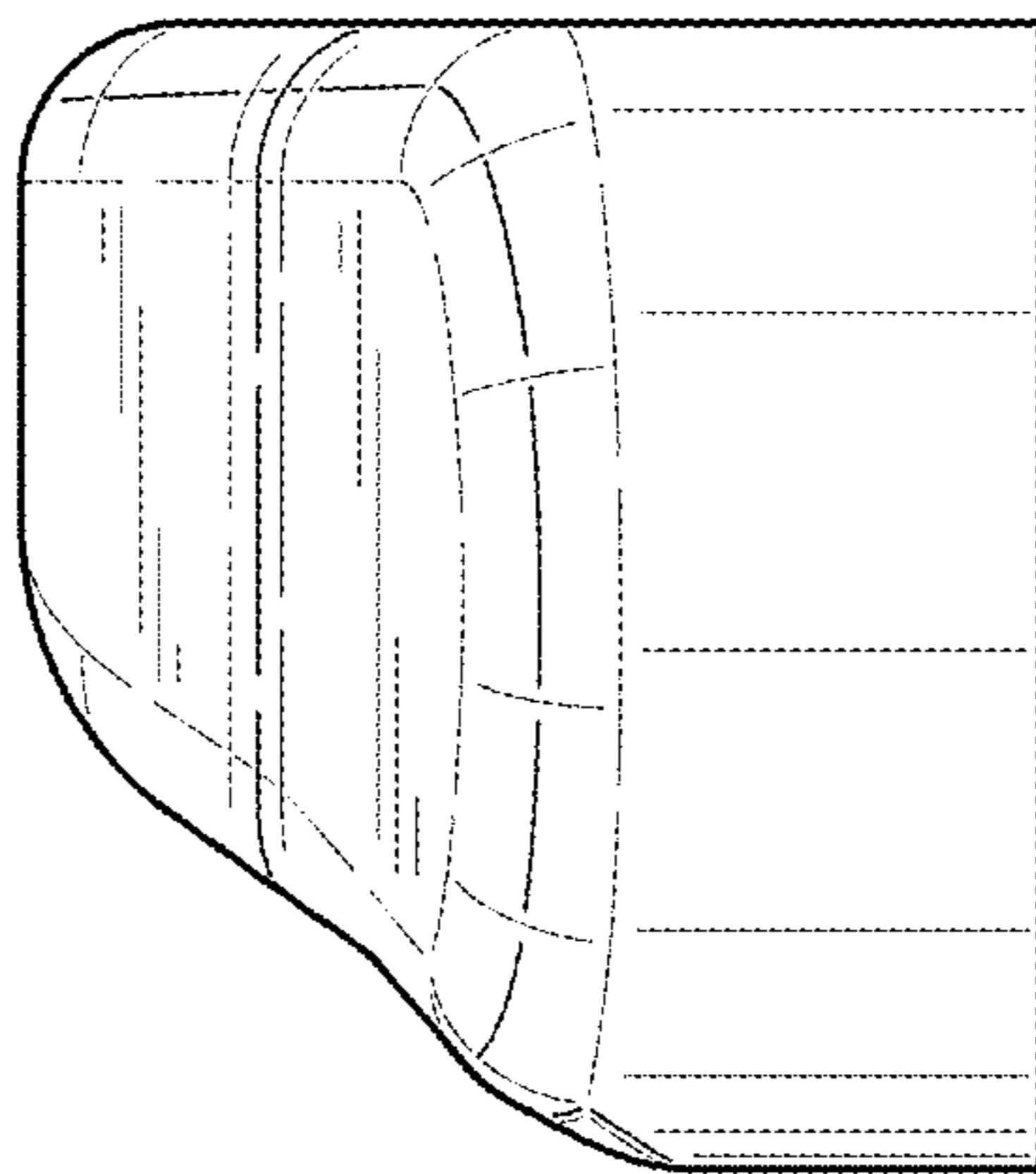


Fig. 3

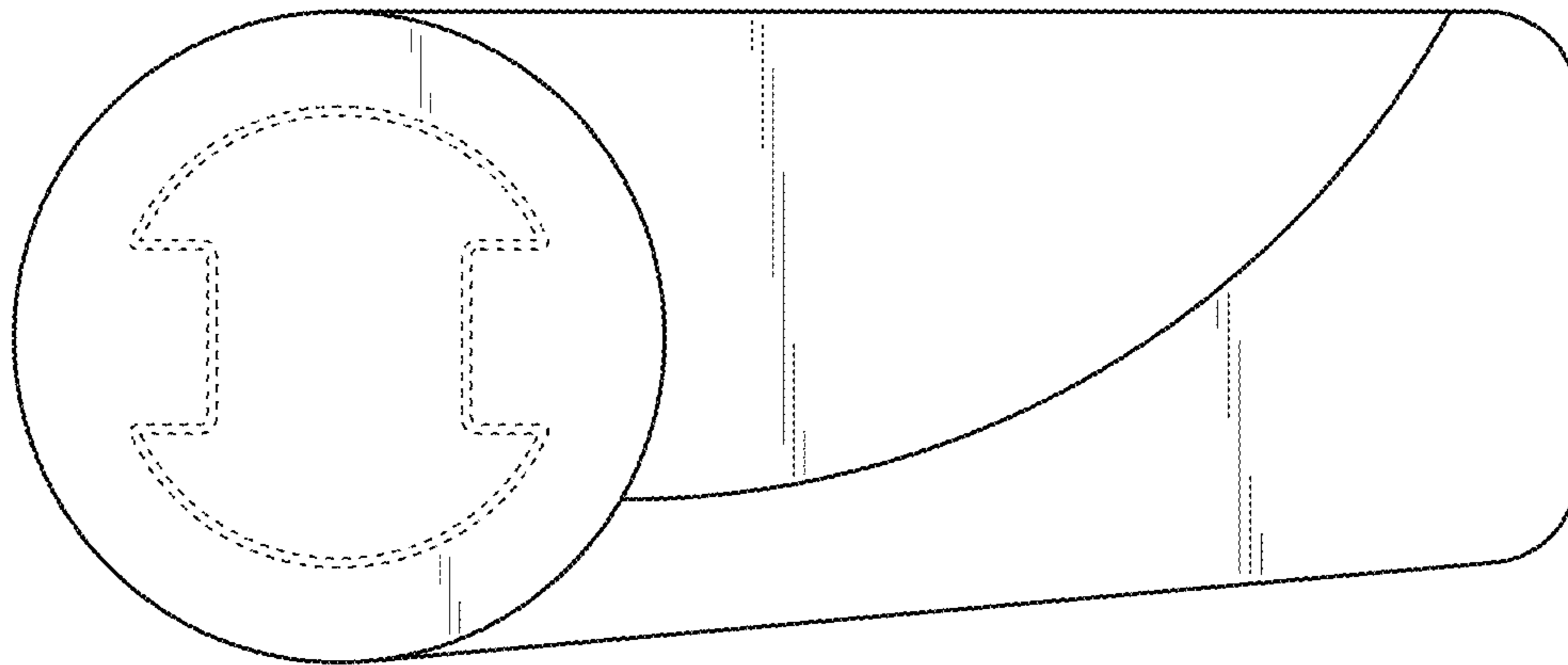


Fig. 4

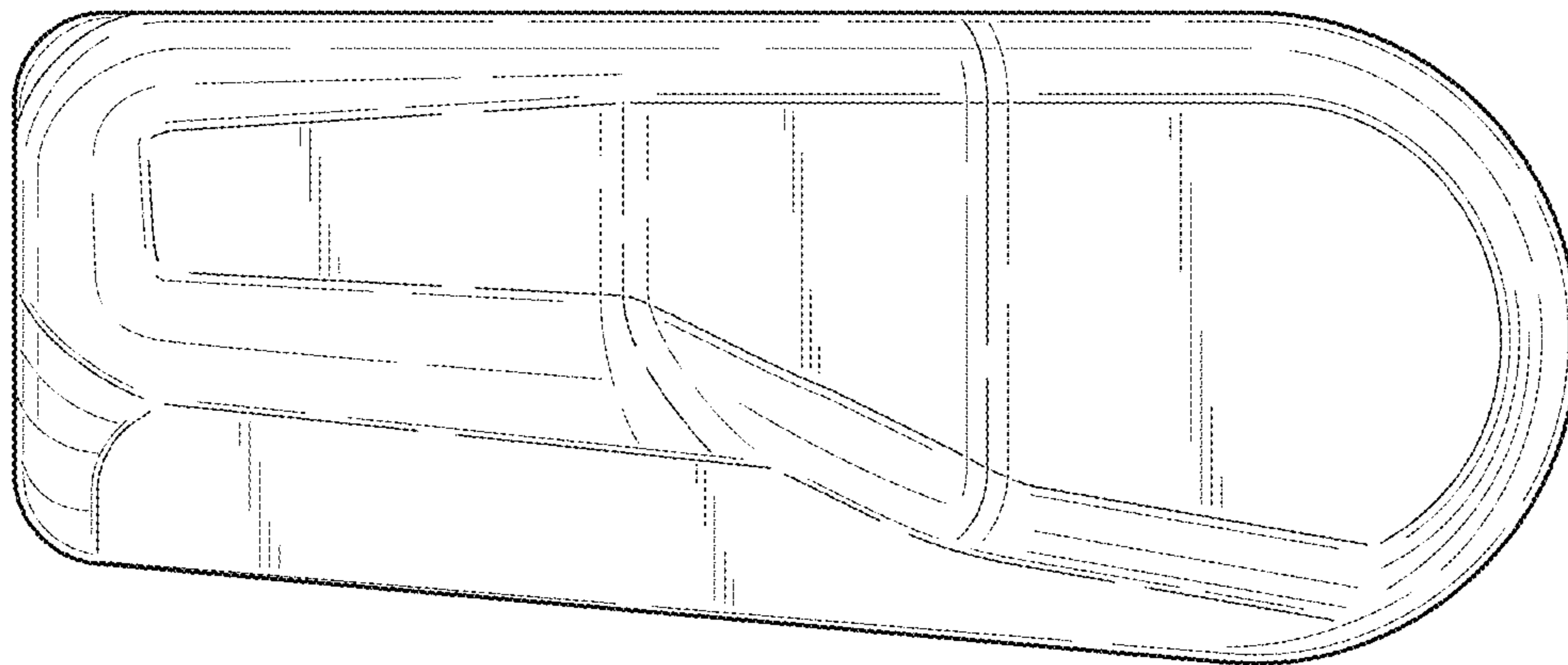


Fig. 5

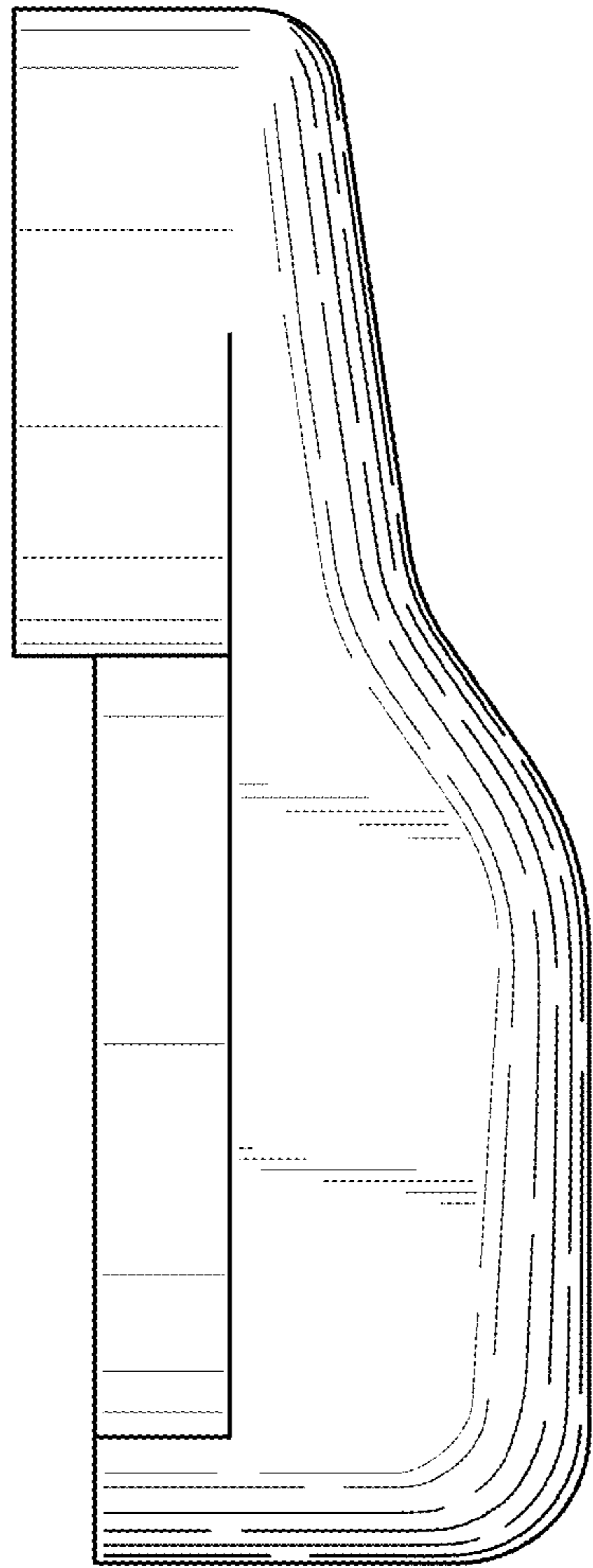


Fig. 6

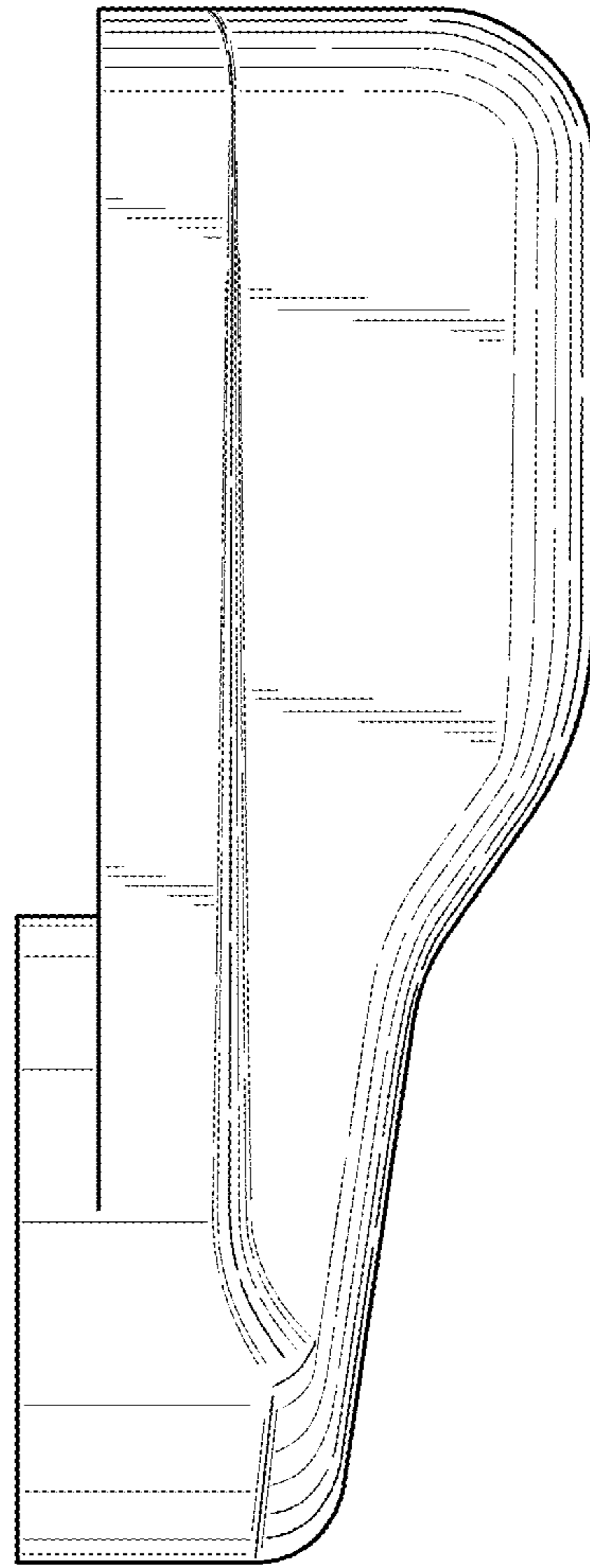


Fig. 7

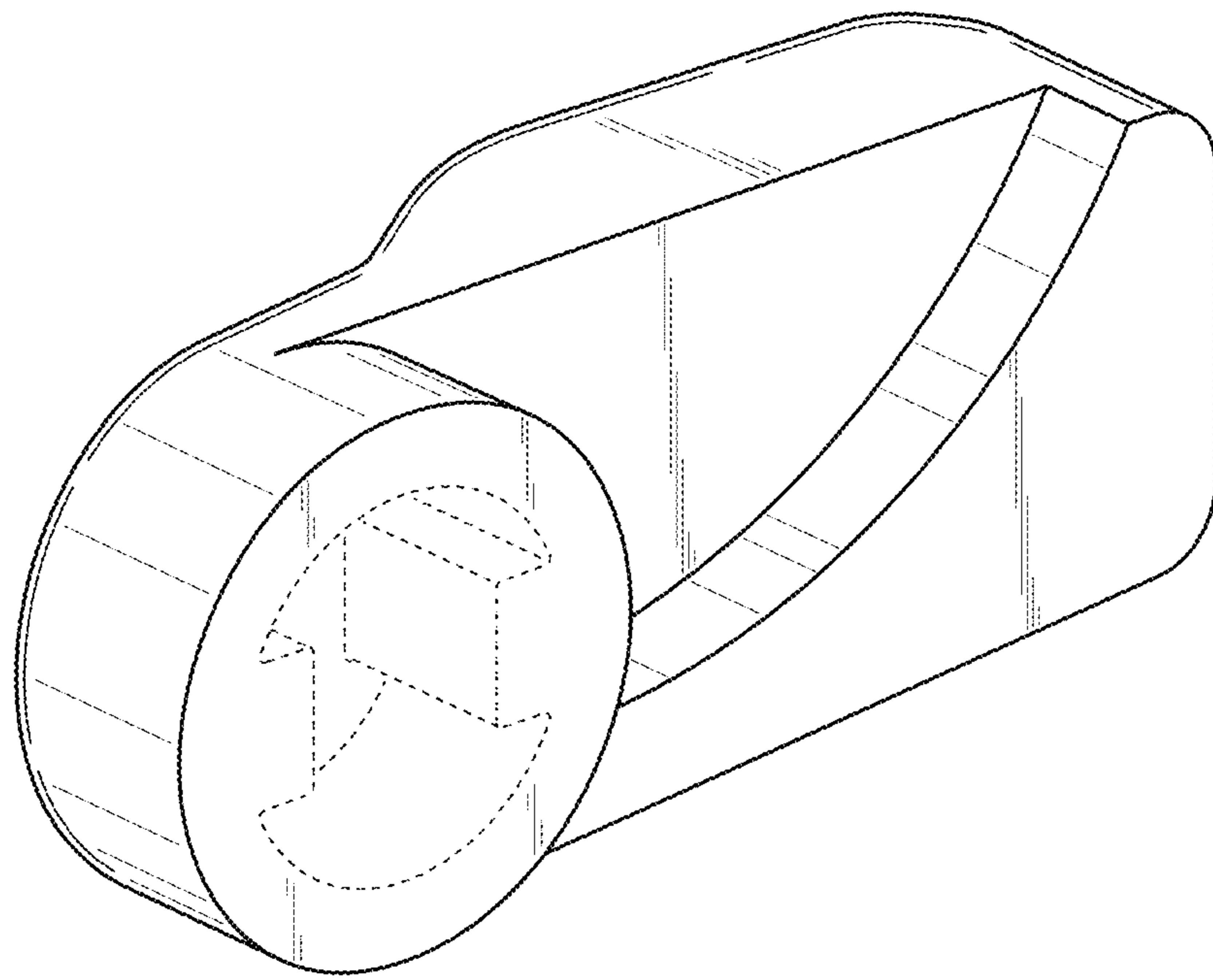


Fig. 8