



US0D1013871S

(12) **United States Design Patent** (10) **Patent No.:** **US D1,013,871 S**
Goodman (45) **Date of Patent:** **** *Feb. 6, 2024**

(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)

(*) Notice: This patent is subject to a terminal disclaimer.

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

(21) Appl. No.: **29/771,274**

(22) Filed: **Feb. 22, 2021**

Related U.S. Application Data

(62) Division of application No. 29/649,229, filed on May 29, 2018, now Pat. No. Des. 911,523, which is a
(Continued)

(51) **LOC (14) Cl.** **24-02**

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

(58) **Field of Classification Search**

USPC D24/144, 146–147; D8/80
CPC A61B 17/29; A61B 17/320016; A61B 2017/2925; A61B 2018/00601; A61B 2018/1455; A61B 2018/146; A61B
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

D249,549 S 9/1978 Pike
D263,020 S 2/1982 Rau, III
(Continued)

FOREIGN PATENT DOCUMENTS

CN 201299462 Y 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.

(Continued)

Primary Examiner — Wan Laymon

(74) *Attorney, Agent, or Firm* — Carter, DeLuca & Farrell LLP

(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 with 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 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;

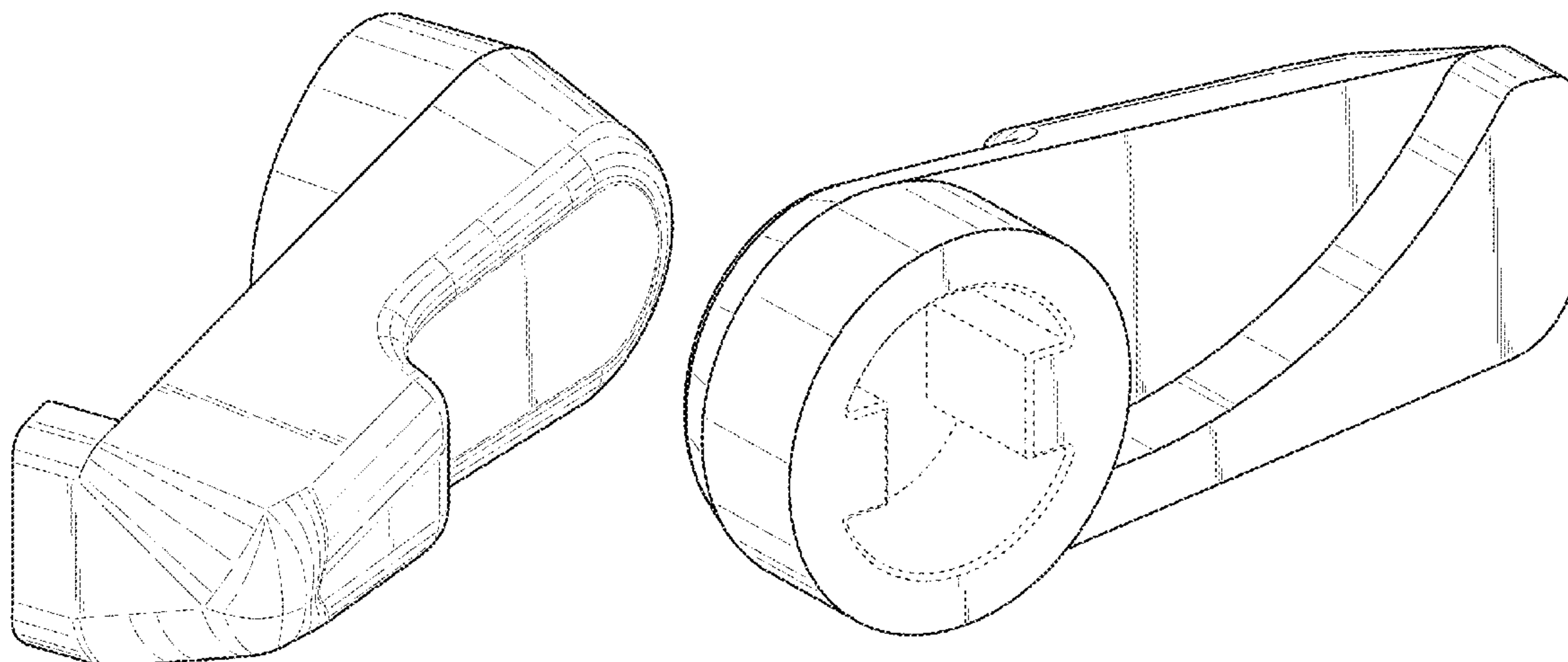
FIG. 6 is a top view of the L-shaped blade trigger for an electrosurgical instrument of FIG. 1;

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

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

The broken lines in the drawings depict portions of the L-shaped blade trigger for an electrosurgical instrument and form no part of the claimed design.

1 Claim, 5 Drawing Sheets



Related U.S. Application Data

division of application No. 29/557,470, filed on Mar. 9, 2016, now Pat. No. Des. 819,815.

(58) **Field of Classification Search**

CPC 2018/1452; A61B 18/1442; A61B 17/285;
A61B 18/1445

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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 DeCarolus
4,994,065 A 2/1991 Gibbs
D343,453 S 1/1994 Noda
5,304,190 A 4/1994 Reckelhoff et al.
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 et al.
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 et al.
D594,983 S 6/2009 Price et al.
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 et al.
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
D670,808 S 11/2012 Moua et al.
D680,220 S 4/2013 Rachlin
D687,549 S 8/2013 Johnson
8,663,251 B2 3/2014 Burkhart
8,834,466 B2 9/2014 Cummings
9,017,372 B2 4/2015 Artale et al.
9,084,608 B2 7/2015 Larson et al.
D736,920 S * 8/2015 Lee D24/144
9,211,657 B2 12/2015 Ackley et al.
9,226,767 B2 1/2016 Stulen
D774,190 S * 12/2016 Lee D24/133
9,655,672 B2 5/2017 Artale et al.
D818,584 S 5/2018 Lee
9,962,221 B2 5/2018 Lee et al.
D819,815 S 6/2018 Goodman
D828,554 S 9/2018 Goodman
D854,684 S 7/2019 Sims
D911,523 S 2/2021 Goodman
11,154,348 B2 * 10/2021 Heiliger A61B 18/1445
11,628,008 B2 * 4/2023 Rich A61B 18/1442
606/41
2012/0059409 A1 3/2012 Reschke et al.
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
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
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 et al.
2016/0038231 A1 2/2016 Van Tol
2016/0074108 A1 3/2016 Woodruff
2016/0157922 A1 * 6/2016 Lee A61B 18/1442
606/51
2016/0175033 A1 6/2016 Le
2017/0119415 A1 5/2017 Brandt
2017/0119456 A1 5/2017 Sartor
2017/0196619 A1 7/2017 Hart
2018/0333198 A1 11/2018 Anglese
2020/0008860 A1 1/2020 Sims
2020/0375654 A1 * 12/2020 Bob A61B 18/1442
2021/0307807 A1 * 10/2021 Krastins A61B 18/1442
2023/0076952 A1 * 3/2023 Mandula A61B 18/1445

FOREIGN PATENT DOCUMENTS

DE 02514501 A1 10/1976
DE 2627679 A1 1/1977
DE 03423356 C2 6/1986

(56)

References Cited

FOREIGN PATENT DOCUMENTS

DE	03612646	A1	4/1987
DE	3627221	A1	2/1988
DE	8712328.2		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	19738457	A1	3/1999
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
DE	102004026179	B4	1/2009
DE	102008018406	B3	7/2009
EP	1281878	A1	2/2003
EP	1159926	A2	3/2003
JP	61501068	A	5/1986
JP	1024051	A	1/1989
JP	1147150	A	6/1989
JP	55106		1/1993
JP	0540112		2/1993
JP	0006030945		2/1994
JP	6121797	A	5/1994
JP	6285078	A	10/1994
JP	6343644		12/1994
JP	6511401		12/1994
JP	07265328		10/1995
JP	8056955		3/1996
JP	08252263	A	10/1996
JP	8289895	A	11/1996
JP	8317934	A	12/1996
JP	8317936	A	12/1996
JP	910223	A	1/1997
JP	09000538	A	1/1997
JP	9122138	A	5/1997
JP	0010000195	A	1/1998
JP	10155798	A	6/1998
JP	1147149		2/1999
JP	11070124	A	3/1999
JP	11169381	A	6/1999
JP	11192238	A	7/1999
JP	11244298		9/1999
JP	2000102545	A	4/2000
JP	2000135222	A	5/2000
JP	2000342599	A	12/2000
JP	2000350732	A	12/2000
JP	2001008944	A	1/2001
JP	2001029355		2/2001
JP	2001029356	A	2/2001
JP	2001128990	A	5/2001
JP	2001190564	A	7/2001
JP	2001003400		11/2001
JP	2002136525	A	5/2002
JP	2002528166	A	9/2002
JP	2003116871	A	4/2003
JP	2003175052	A	6/2003
JP	2003245285	A	9/2003
JP	2004517668	A	6/2004
JP	2004528869	A	9/2004
JP	2005152663	A	6/2005
JP	2005253789	A	9/2005
JP	2005312807	A	11/2005
JP	2006015078	A	1/2006
JP	2006501939	A	1/2006
JP	2006095316	A	4/2006
JP	2008054926	A	3/2008
JP	2011125195	A	6/2011

JP	6502328	B2	4/2019
SU	401367	A1	10/1973
WO	0036986	A1	6/2000
WO	0059392	A1	10/2000
WO	0115614	A1	3/2001
WO	0154604	A1	8/2001
WO	0245589	A2	6/2002
WO	2006021269	A1	3/2006
WO	2005110264	A2	4/2006
WO	2008040483	A1	4/2008
WO	2011018154	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.

Tinkler L.F., "Combined Diathermy and Suction Forceps", Feb. 6, 1967 (Feb. 6, 1967), British Medical Journal Feb. 6, 1976, vol. 1, nr. 5431 p. 361, ISSN: 0007-1447.

Carbonell et al., "Comparison of theGyrus PlasmaKinetic Sealer and the Valleylab LigaSure Device in the Hemostasis of Small, Medium, and Large-Sized Arteries" Carolinas Laparoscopic and Advanced Surgery Program, Carolinas MedicalCenter, Charlotte,NC; Date: Aug. 2003.

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

"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.

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

Muller et al. "Extended Left Hemicolectomy Using the LigaSure Vessel Sealing System" Innovations That Work; Sep. 1999.

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.

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.

Koyle et al., "Laparoscopic Palomo Varicocele Ligation in Children and Adolescents" Pediatric Endosurgery & Innovative Techniques, vol. 6, No. 1, 2002.

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

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

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

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.

(56)

References Cited

OTHER PUBLICATIONS

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.

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 Electrosurgical Bipolar Vessel Sealing in Vaginal Hysterectomy" Obstetrics & Gynecology, vol. 102, No. 1, Jul. 2003.

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

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.

Sayfan 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.

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.

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.

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.

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.

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

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, DC.

McLellan et al. "Vessel Sealing for Hemostasis During Gynecologic Surgery" Sales/Product Literature 1999.

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

* cited by examiner

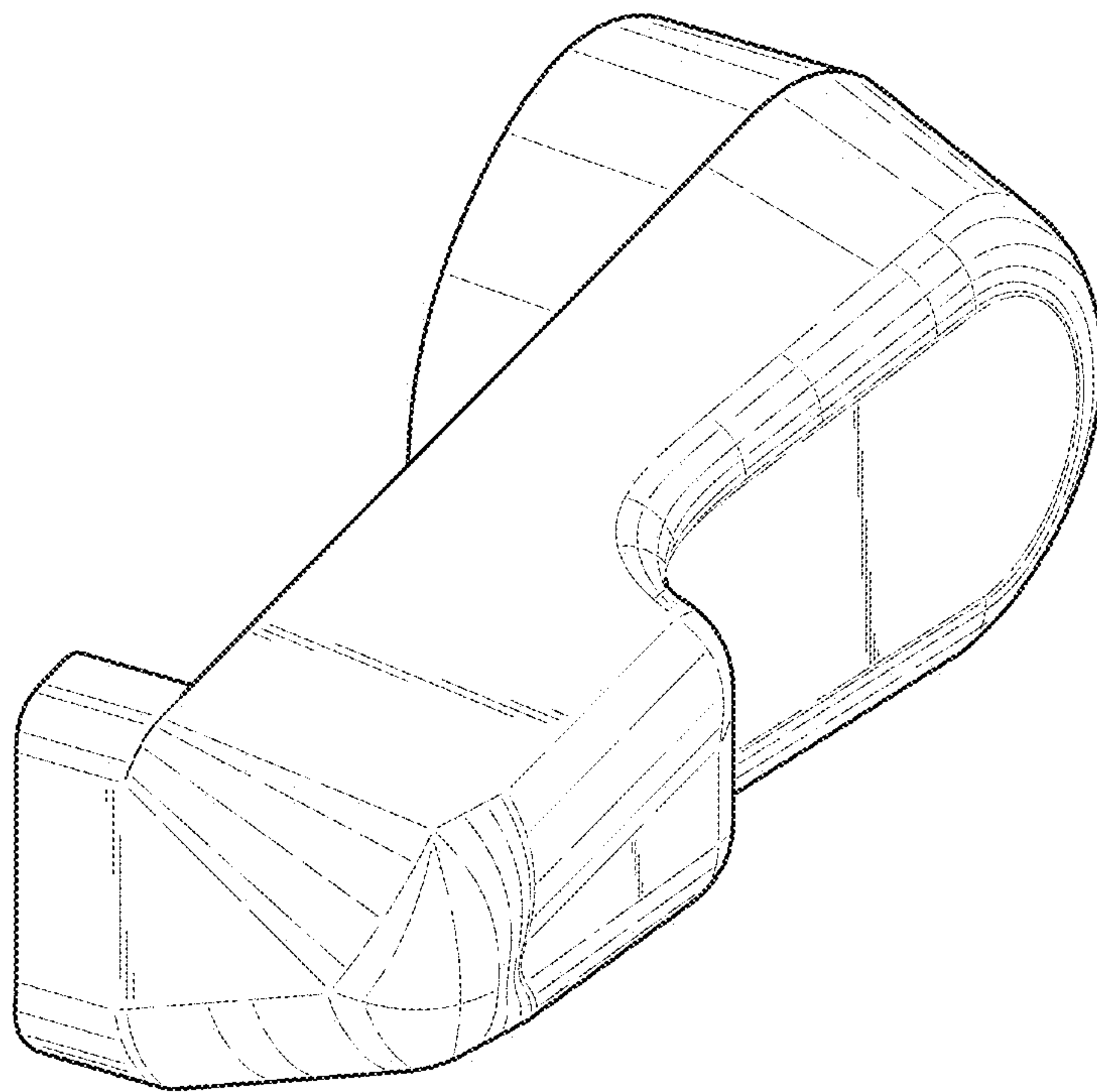


Fig. 1

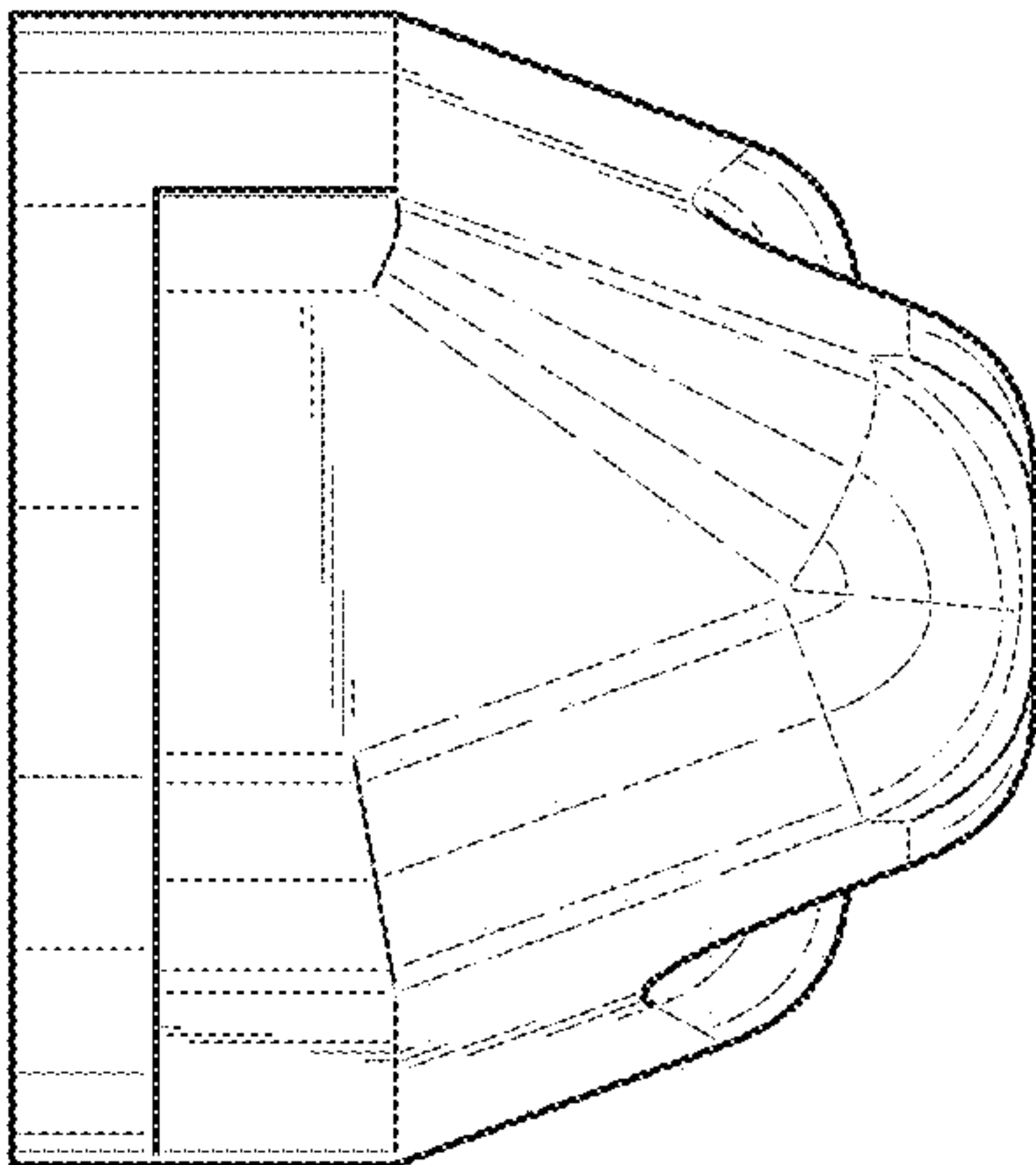


Fig. 2

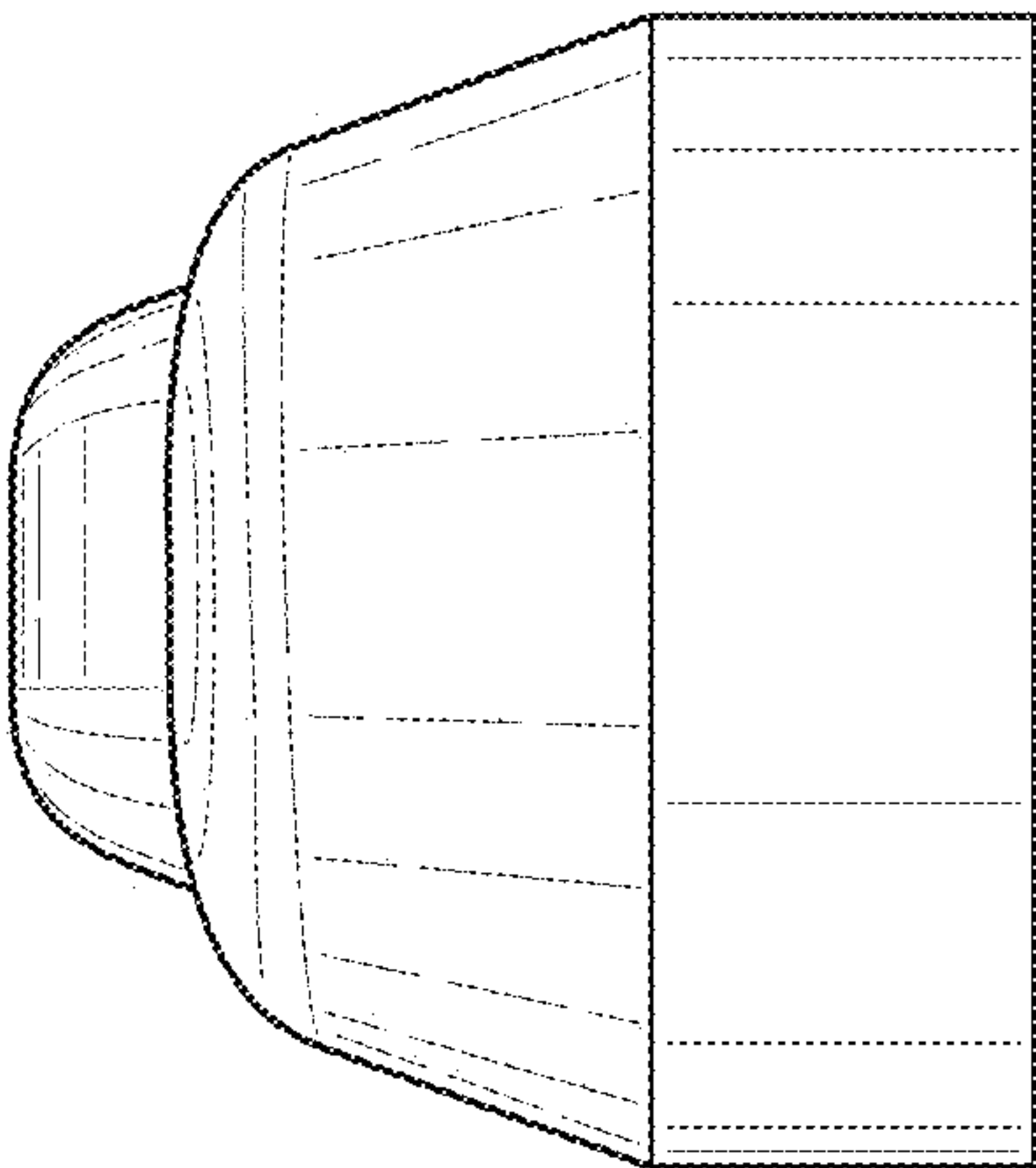


Fig. 3

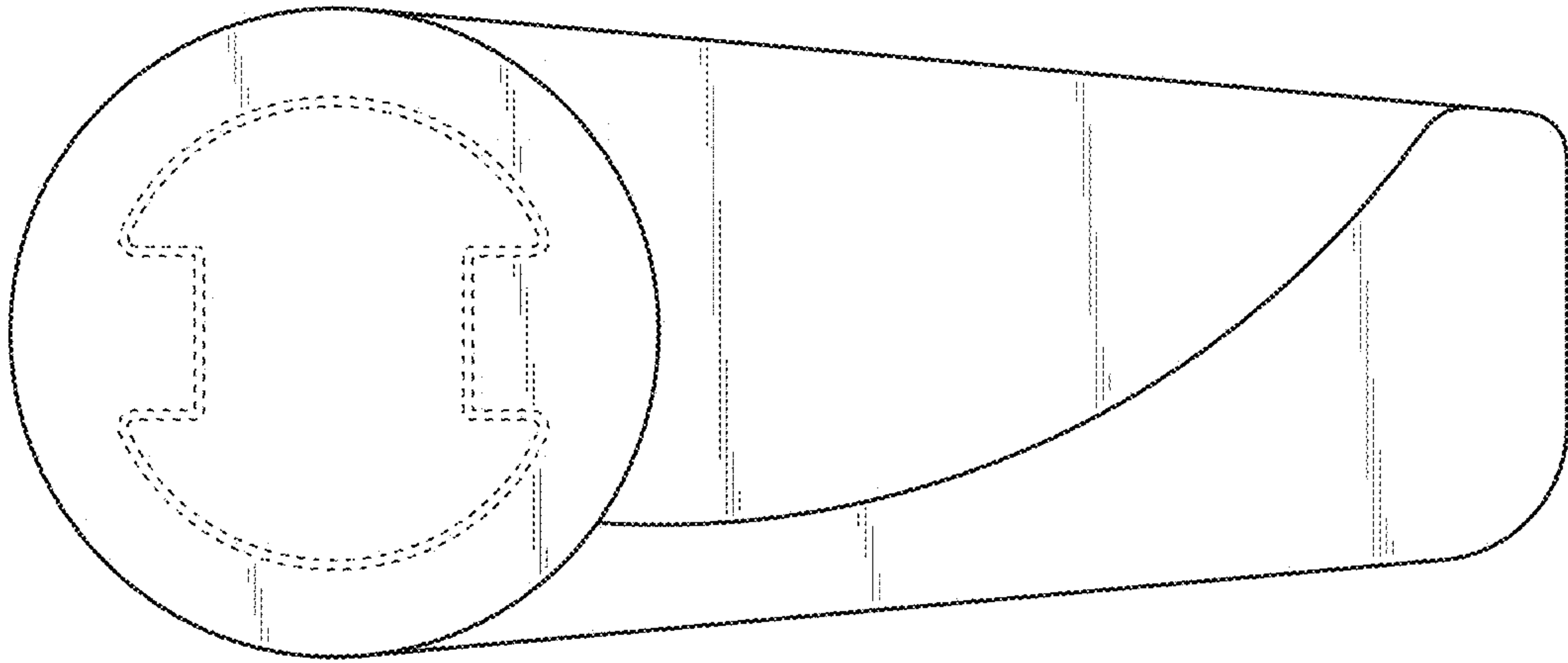


Fig. 4

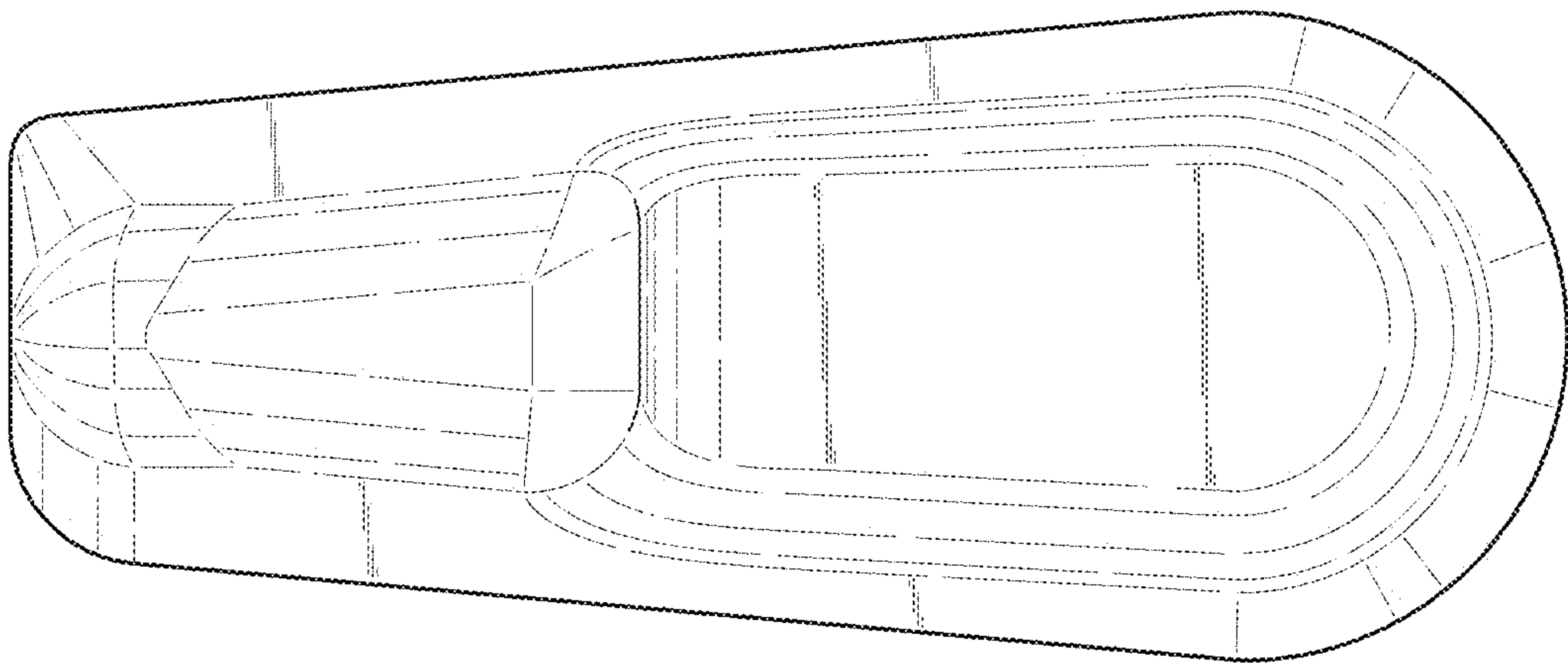


Fig. 5

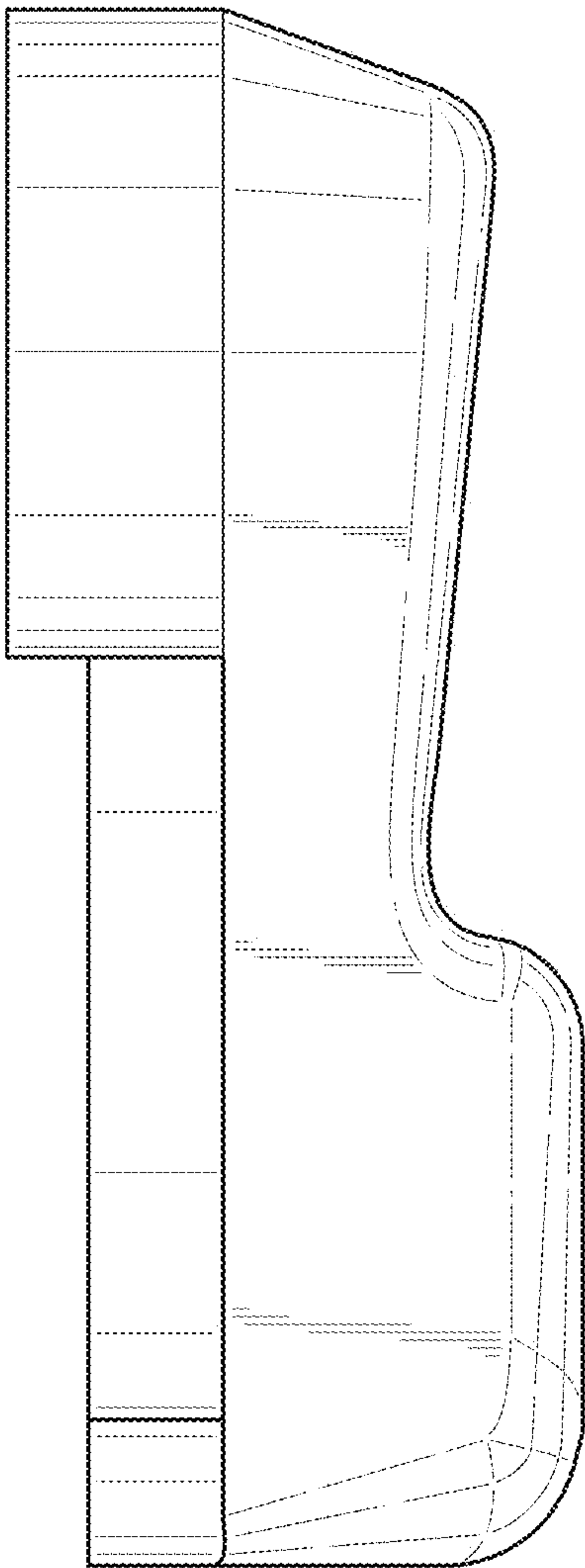


Fig. 6

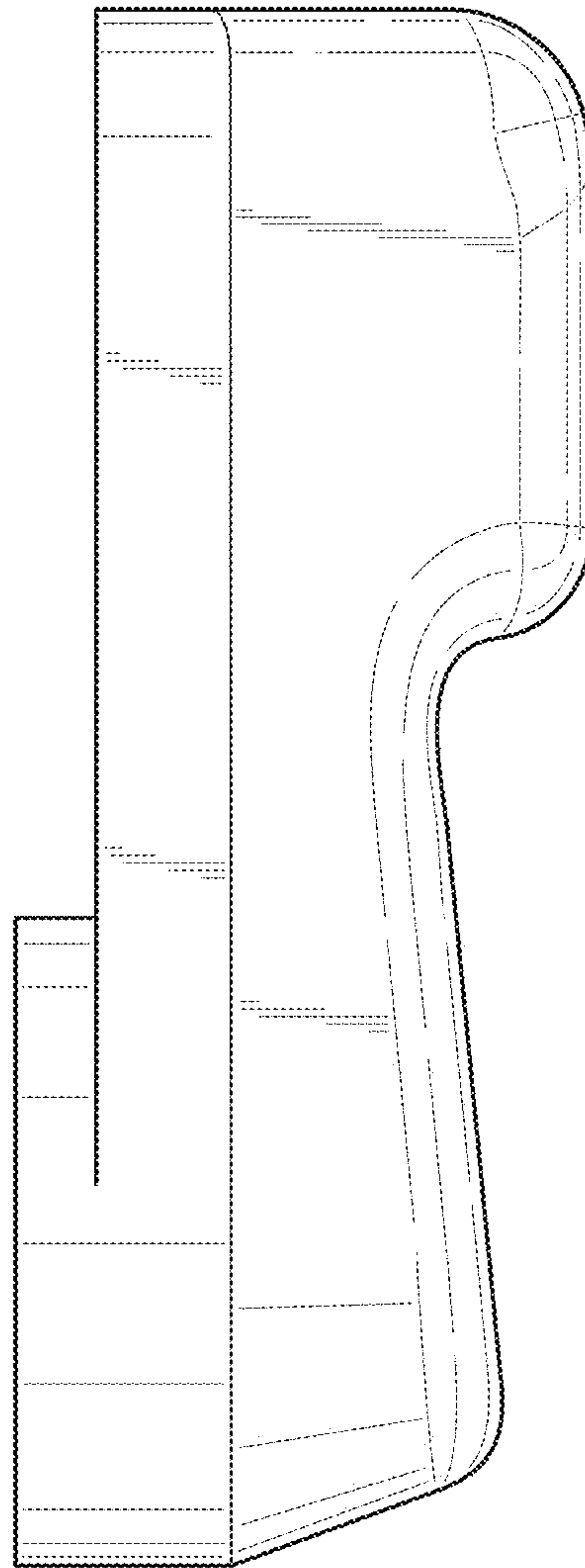


Fig. 7

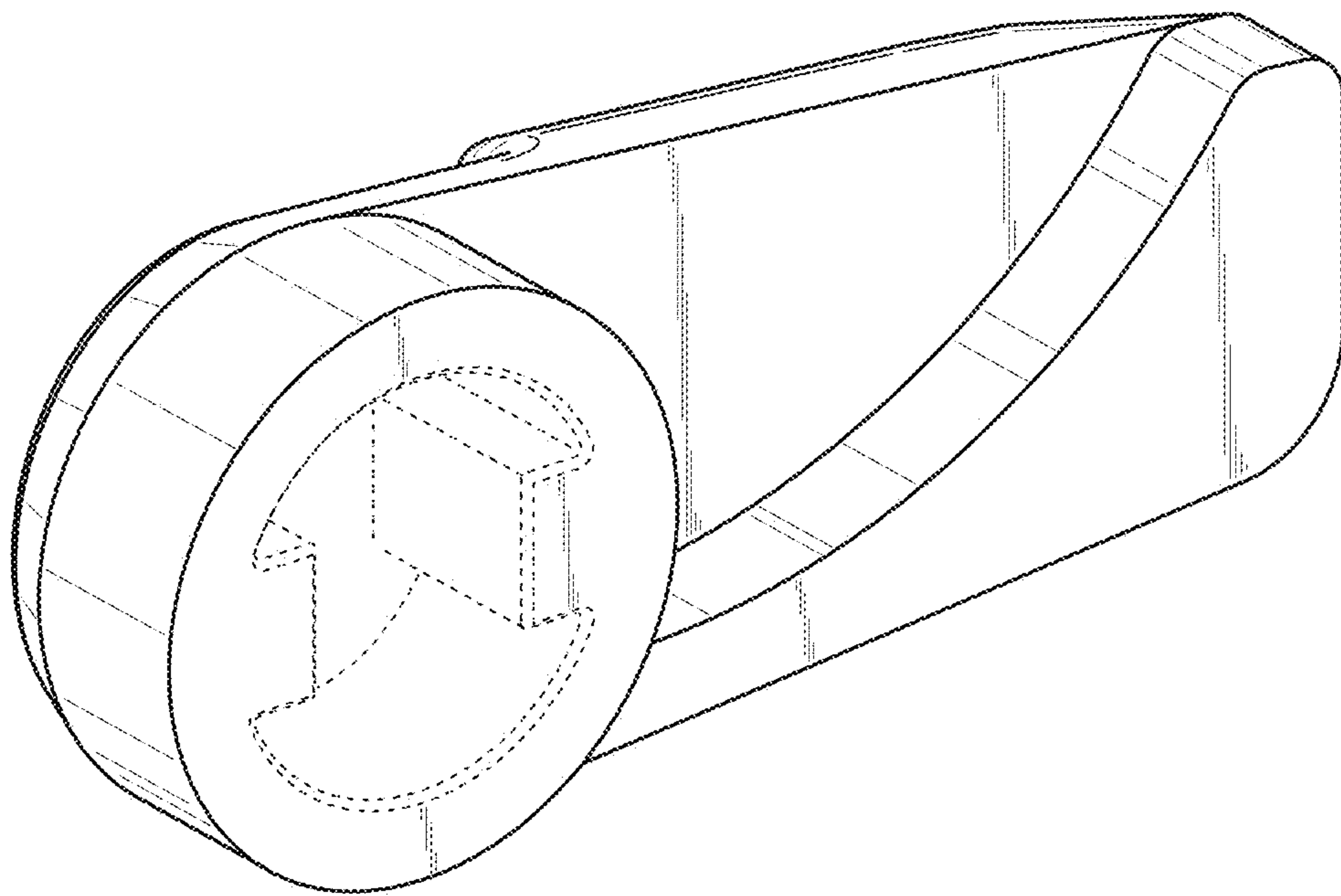


Fig. 8