



US00D614284S

(12) **United States Design Patent**  
**Mormino et al.**

(10) **Patent No.:** **US D614,284 S**  
(45) **Date of Patent:** **\*\* Apr. 20, 2010**

(54) **REDUCED-PRESSURE UNIT WITH A CANTILEVERED ARM**

(75) Inventors: **Richard Paul Mormino**, San Antonio, TX (US); **Christopher T. Niederkrom**, San Antonio, TX (US); **Benjamin A. Pratt**, Poole (GB); **Alexander G. Sammons**, San Antonio, TX (US); **Tyler H. Simmons**, San Antonio, TX (US)

(73) Assignee: **KCI Licensing, Inc.**, San Antonio, TX (US)

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

(21) Appl. No.: **29/326,091**

(22) Filed: **Oct. 10, 2008**

(51) **LOC (9) Cl.** ..... **24-01**

(52) **U.S. Cl.** ..... **D24/107**

(58) **Field of Classification Search** ..... D24/107, D24/108, 111, 186, 169, 121; 604/151-155, 604/131, 304, 289, 290, 73, 543

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

1,355,846	A	10/1920	Rannells
2,547,758	A	4/1951	Keeling
2,632,443	A	3/1953	Leshner
2,682,873	A	7/1954	Evans et al.
2,910,763	A	11/1959	Lauterbach
2,969,057	A	1/1961	Simmons
3,066,672	A	12/1962	Crosby, Jr. et al.
3,367,332	A	2/1968	Groves
3,520,300	A	7/1970	Flower, Jr.
3,568,675	A	3/1971	Harvey

(Continued)

**FOREIGN PATENT DOCUMENTS**

AU 550575 A1 8/1982

(Continued)

**OTHER PUBLICATIONS**

N.A. Bagautdinov, "Variant of External Vacuum Aspiration in the Treatment of Purulent Diseases of the Soft Tissues," *Current Problems in Modern Clinical Surgery: Interdepartmental Collection*, edited by V. Ye Volkov et al. (Chuvashia State University, Cheboksary, U.S.S.R. 1986);pp. 94-96 (copy and certified translation).

(Continued)

*Primary Examiner*—Lisa P Lichtenstein

(57) **CLAIM**

The ornamental design for a reduced-pressure unit with a cantilevered arm, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of a reduced-pressure unit with a cantilevered arm;

FIG. 2 is a front, elevational view of the reduced-pressure unit with a cantilevered arm;

FIG. 3 is a rear, elevational view of the reduced-pressure unit with a cantilevered arm;

FIG. 4 is a first end, elevational view of the reduced-pressure unit with a cantilevered arm;

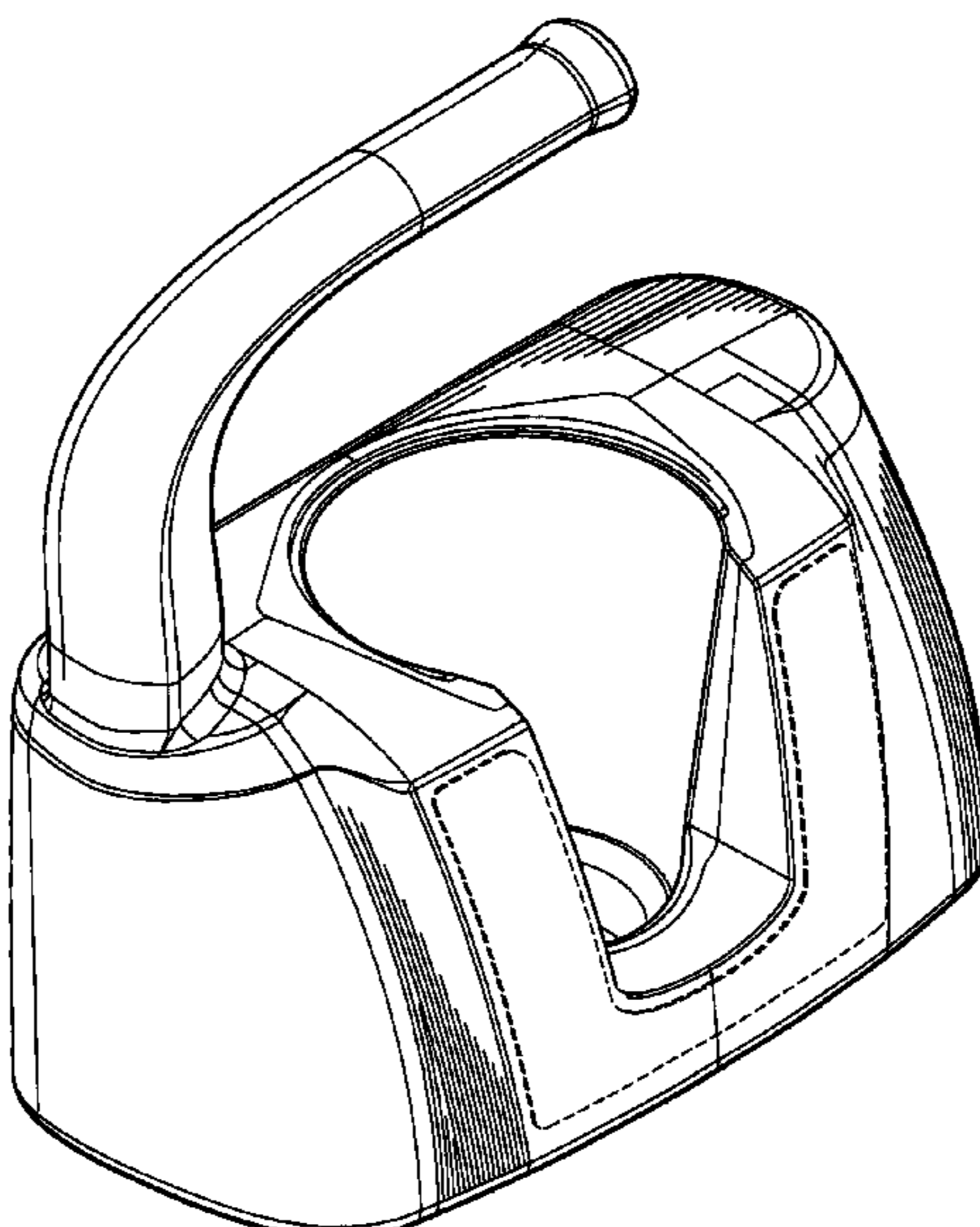
FIG. 5 is a second end, elevational view of the reduced-pressure unit with a cantilevered arm;

FIG. 6 is a top, plan view of a reduced-pressure unit with the cantilevered arm; and,

FIG. 7 is a bottom, plan view of a reduced-pressure unit with the cantilevered arm.

The broken lines illustrated in the drawings are for illustrative purposes only and form no part of the claimed design herein.

**1 Claim, 5 Drawing Sheets**



# US D614,284 S

## U.S. PATENT DOCUMENTS

3,648,692 A 3/1972 Wheeler  
 3,682,180 A 8/1972 McFarlane  
 3,826,254 A 7/1974 Mellor  
 4,080,970 A 3/1978 Miller  
 4,096,853 A 6/1978 Weigand  
 4,139,004 A 2/1979 Gonzalez, Jr.  
 4,165,748 A 8/1979 Johnson  
 4,184,510 A 1/1980 Murry et al.  
 4,233,969 A 11/1980 Lock et al.  
 4,245,630 A 1/1981 Lloyd et al.  
 4,256,109 A 3/1981 Nichols  
 4,261,363 A 4/1981 Russo  
 4,275,721 A 6/1981 Olson  
 4,284,079 A 8/1981 Adair  
 4,297,995 A 11/1981 Golub  
 4,333,468 A 6/1982 Geist  
 4,373,519 A 2/1983 Errede et al.  
 4,382,441 A 5/1983 Svedman  
 4,392,853 A 7/1983 Muto  
 4,392,858 A 7/1983 George et al.  
 4,419,097 A 12/1983 Rowland  
 4,465,485 A 8/1984 Kashmer et al.  
 4,475,909 A 10/1984 Eisenberg  
 4,480,638 A 11/1984 Schmid  
 4,525,166 A 6/1985 Leclerc  
 4,525,374 A 6/1985 Vaillancourt  
 4,540,412 A 9/1985 Van Overloop  
 4,543,100 A 9/1985 Brodsky  
 4,548,202 A 10/1985 Duncan  
 4,551,139 A 11/1985 Plaas et al.  
 4,569,348 A 2/1986 Hasslinger  
 4,605,399 A 8/1986 Weston et al.  
 4,608,041 A 8/1986 Nielsen  
 4,640,688 A 2/1987 Hauser  
 4,655,754 A 4/1987 Richmond et al.  
 4,664,662 A 5/1987 Webster  
 4,710,165 A 12/1987 McNeil et al.  
 4,733,659 A 3/1988 Edenbaum et al.  
 4,743,232 A 5/1988 Kruger  
 4,758,220 A 7/1988 Sundblom et al.  
 4,787,888 A 11/1988 Fox  
 4,826,494 A 5/1989 Richmond et al.  
 4,838,883 A 6/1989 Matsuura  
 4,840,187 A 6/1989 Brazier  
 4,863,449 A 9/1989 Therriault et al.  
 4,872,450 A 10/1989 Austad  
 4,878,901 A 11/1989 Sachse  
 4,897,081 A 1/1990 Poirier et al.  
 4,906,233 A 3/1990 Moriuchi et al.  
 4,906,240 A 3/1990 Reed et al.  
 4,919,654 A 4/1990 Kalt et al.  
 4,941,882 A 7/1990 Ward et al.  
 4,953,565 A 9/1990 Tachibana et al.  
 4,969,880 A 11/1990 Zamierowski  
 4,985,019 A 1/1991 Michelson  
 5,037,397 A 8/1991 Kalt et al.  
 5,086,170 A 2/1992 Luheshi et al.  
 5,092,858 A 3/1992 Benson et al.  
 5,100,396 A 3/1992 Zamierowski  
 5,134,994 A 8/1992 Say  
 5,149,331 A 9/1992 Ferdman et al.  
 5,167,613 A 12/1992 Karami et al.  
 5,176,663 A 1/1993 Svedman et al.  
 5,215,522 A 6/1993 Page et al.  
 5,232,453 A 8/1993 Plass et al.  
 5,261,893 A 11/1993 Zamierowski  
 5,278,100 A 1/1994 Doan et al.  
 5,279,550 A 1/1994 Habib et al.  
 5,298,015 A 3/1994 Komatsuzaki et al.  
 5,342,376 A 8/1994 Ruff  
 5,344,415 A 9/1994 DeBusk et al.

5,358,494 A 10/1994 Svedman  
 5,437,622 A 8/1995 Carion  
 5,437,651 A 8/1995 Todd et al.  
 5,527,293 A 6/1996 Zamierowski  
 5,549,584 A 8/1996 Gross  
 5,556,375 A 9/1996 Ewall  
 5,607,388 A 3/1997 Ewall  
 5,636,643 A 6/1997 Argenta et al.  
 5,645,081 A 7/1997 Argenta et al.  
 6,071,267 A 6/2000 Zamierowski  
 6,135,116 A 10/2000 Vogel et al.  
 6,241,747 B1 6/2001 Ruff  
 6,287,316 B1 9/2001 Agarwal et al.  
 6,345,623 B1 2/2002 Heaton et al.  
 6,488,643 B1 12/2002 Tumey et al.  
 6,493,568 B1 12/2002 Bell et al.  
 6,553,998 B2 4/2003 Heaton et al.  
 D485,360 S 1/2004 Faller et al.  
 6,814,079 B2 11/2004 Heaton et al.  
 D565,177 S \* 3/2008 Locke et al. .... D24/111  
 D575,792 S 8/2008 Benson  
 D577,031 S 9/2008 Park et al.  
 D590,934 S \* 4/2009 Randolph et al. .... D24/107  
 D594,114 S \* 6/2009 Locke et al. .... D24/111  
 2002/0077661 A1 6/2002 Saadat  
 2002/0115951 A1 8/2002 Norstrem et al.  
 2002/0120185 A1 8/2002 Johnson  
 2002/0143286 A1 10/2002 Tumey

## FOREIGN PATENT DOCUMENTS

AU 745271 4/1999  
 AU 755496 2/2002  
 CA 2005436 6/1990  
 DE 26 40 413 A1 3/1978  
 DE 43 06 478 A1 9/1994  
 DE 295 04 378 U1 10/1995  
 EP 0100148 A1 2/1984  
 EP 0117632 A2 9/1984  
 EP 0161865 A2 11/1985  
 EP 0358302 A2 3/1990  
 EP 1018967 B1 8/2004  
 GB 692578 6/1953  
 GB 2 195 255 A 4/1988  
 GB 2 197 789 A 6/1988  
 GB 2 220 357 A 1/1990  
 GB 2 235 877 A 3/1991  
 GB 2 333 965 A 8/1999  
 GB 2 329 127 B 8/2000  
 JP 4129536 4/1992  
 SG 71559 4/2002  
 WO WO 80/02182 10/1980  
 WO WO 87/04626 8/1987  
 WO WO 90/010424 9/1990  
 WO WO 93/009727 5/1993  
 WO WO 94/020041 9/1994  
 WO WO 96/05873 2/1996  
 WO WO 97/18007 5/1997  
 WO WO 99/13793 3/1999

## OTHER PUBLICATIONS

Louis C. Argenta, MD and Michael J. Morykwas, PhD; "Vacuum-Assisted Closure: A New Method for Wound Control and Treatment: Clinical Experience"; *Annals of Plastic Surgery*, vol. 38, No. 6, Jun. 1997; pp. 563-576.  
 Susan Mendez-Eastmen, RN; "When Wounds Won't Heal" *RN* Jan. 1998, vol. 61 (1); Medical Economics Company Inc., Montvale, NJ, USA; pp. 20-24.  
 James H. Blackburn, II, MD, et al; "Negative-Pressure Dressings as a Bolster for Skin Grafts"; *Annals of Plastic Surgery*, vol. 40, No. 5, May 1998, pp. 453-457.

- John Masters; "Reliable, Inexpensive and Simple Suction Dressings"; Letter to the Editor, *British Journal of Plastic Surgery*, 1998, vol. 51 (3), p. 267; Elsevier Science/The British Association of Plastic Surgeons, UK.
- S.E. Greer, et al "The Use of Subatmospheric Pressure Dressing Therapy to Close Lymphocutaneous Fistulas of the Groin" *British Journal of Plastic Surgery* (2000), 53, pp. 484-487.
- George V. Letsou, MD., et al; "Stimulation of Adenylate Cyclase Activity in Cultured Endothelial Cells Subjected to Cyclic Stretch"; *Journal of Cardiovascular Surgery*, 31, 1990, pp. 634-639.
- Orringer, Jay, et al; "Management of Wounds in Patients with Complex Enterocutaneous Fistulas"; *Surgery, Gynecology & Obstetrics*, Jul. 1987, vol. 165, pp. 79-80.
- International Search Report for PCT International Application PCT/GB95/01983; Nov. 23, 1995.
- PCT International Search Report for PCT International Application PCT/GB98/02713; Jan. 8, 1999.
- PCT Written Opinion; PCT International Application PCT/GB98/02713; Jun. 8, 1999.
- PCT International Examination and Search Report, PCT International Application PCT/GB96/02802; Jan. 15, 1998 & Apr. 29, 1997.
- PCT Written Opinion, PCT International Application PCT/GB96/02802; Sep. 3, 1997.
- Dattilo, Philip P., Jr., et al; "Medical Textiles: Application of an Absorbable Barbed Bi-directional Surgical Suture"; *Journal of Textile and Apparel, Technology and Management*, vol. 2, Issue 2, Spring 2002, pp. 1-5.
- Kostyuchenok, B.M., et al; "Vacuum Treatment in the Surgical Management of Purulent Wounds"; *Vestnik Khirurgi*, Sep. 1986, pp. 18-21 and 6 page English translation thereof.
- Davydov, Yu. A., et al; "Vacuum Therapy in the Treatment of Purulent Lactation Mastitis"; *Vestnik Khirurgi*, May 14, 1986, pp. 66-70, and 9 page English translation thereof.
- Yusupov, Yu. N., et al; "Active Wound Drainage"; *Vestnik Khirurgi*, vol. 138, Issue 4, 1987, and 7 page English translation thereof.
- Davydov, Yu. A., et al; "Bacteriological and Cytological Assessment of Vacuum Therapy for Purulent Wounds"; *Vestnik Khirurgi*, Oct 1988, pp. 48-52, and 8 page English translation thereof.
- Davydov, Yu. A., et al; "Concepts for the Clinical-Biological Management of the Wound Process in the Treatment of Purulent Wounds by Means of Vacuum Therapy"; *Vestnik Khirurgi*, Jul. 7, 1980, pp. 132-136, and 8 page English translation thereof.
- Chariker, Mark E., M.D., et al; "Effective Management of incisional and cutaneous fistulae with closed suction wound drainage"; *Contemporary Surgery*, vol. 34, Jun. 1989, pp. 59-63.
- Egnell Minor, Instruction Book, First Edition, 300 7502, Feb. 1975, pp. 24.
- Egnell Minor: Addition to the Users Manual Concerning Overflow Protection—Concerns all Egnell Pumps, Feb. 3, 1983, pp. 2.
- Svedman, P.: "Irrigation Treatment of Leg Ulcers", *The Lancet*, Sep. 3, 1983, pp. 532-534.
- Chinn, Steven D. et al.: "Closed Wound Suction Drainage", *The Journal of Foot Surgery*, vol. 24, No. 1, 1985, pp. 76-81.
- Arnljots, Björn et al.: "Irrigation Treatment in Split-Thickness Skin Grafting of Intractable Leg Ulcers", *Scand J. Plast Reconstr. Surg.*, No. 19, 1985, pp. 211-213.
- Svedman, P.: "A Dressing Allowing Continuous Treatment of a Biosurface", *IRCS Medical Science: Biomedical Technology, Clinical Medicine, Surgery and Transplantation*, vol. 7, 1979, p. 221.
- Svedman, P. et al.: "A Dressing System Providing Fluid Supply and Suction Drainage Used for Continuous or Intermittent Irrigation", *Annals of Plastic Surgery*, vol. 17, No. 2, Aug. 1986, pp. 125-133.
- K.F. Jeter, T.E. Tintle, and M. Chariker, *Managing Draining Wounds and Fistulae: "New and Established Methods," Chronic Wound Care*, edited by D. Krasner (Health Management Publications, Inc., King of Prussia, PA 1990), pp. 240-246.
- G. Živadinović, V. Dukić, Ž. Maksimović, D. Radak, and P. Peška, "Vacuum Therapy in the Treatment of Peripheral Blood Vessels," *Timok Medical Journal* 11 (1986), pp. 161-164 (copy and certified translation).
- F.E. Johnson, "An Improved Technique for Skin Graft Placement Using a Suction Drain," *Surgery, Gynecology, and Obstetrics* 159 (1984), pp. 584-585.
- A.A. Safronov, Dissertation Abstract, *Vacuum Therapy of Trophic Ulcers of the Lower Leg with Simultaneous Autoplasty of the Skin* (Central Scientific Research Institute of Traumatology and Orthopedics, Moscow, U.S.S.R. 1967) (copy and certified translation).
- M. Schein, R. Saadia, J.R. Jamieson, and G.A.G. Decker, "The 'Sandwich Technique' in the Management of the Open Abdomen," *British Journal of Surgery* 73 (1986), pp. 369-370.
- D.E. Tribble, An Improved Sump Drain-Irrigation Device of Simple Construction, *Archives of Surgery* 105 (1972) pp. 511-513.
- M.J. Morykwas, L.C. Argenta, E.I. Shelton-Brown, and W. McGuirt, "Vacuum-Assisted Closure: A New Method for Wound Control and Treatment: Animal Studies and Basic Foundation," *Annals of Plastic Surgery* 38 (1997), pp. 553-562 (Morykwas I).
- C.E. Tennants, "The Use of Hypermia in the Postoperative Treatment of Lesions of the Extremities and Thorax," *Journal of the American Medical Association* 64 (1915), pp. 1548-1549.
- Selections from W. Meyer and V. Schmieden, *Bier's Hyperemic Treatment in Surgery, Medicine, and the Specialties: A Manual of Its Practical Application*, (W.B. Saunders Co., Philadelphia, PA 1909), pp. 17-25, 44-64, 90-96, 167-170, and 210-211.
- KCI Licensing, Inc. Brochure: "The V.A.C. System: Proper Use for the Standard of Care," Rev. Dec. 2007 1-A-073, pp. 1-2.
- KCI Licensing, Inc. Brochure: "ActiV.A.C. Therapy System: Better by Design," Feb. 2008 Lit. #26-A-176, pp. 1-6.
- KCI Licensing, Inc. Brochure: "Info V.A.C. Therapy System: Better by Design," Dec. 2007 Lit. #29-A-178, pp. 1-6.
- KCI Licensing, Inc. Brochure: "An Advanced Therapy System for Wound Healing," Nov. 2005 Lit. #29-A-101, pp. 1-6.
- KCI Licensing, Inc. Brochure: "Dual Therapies. One Advanced Wound Healing System," Aug. 2006 Lit. #29-A-142, pp. 1-6.
- KCI Licensing, Inc. Brochure: "A Portable System for Advanced Wound Healing," Jul. 2007 Lit. #29-A-107, pp. 1-6.
- KCI Licensing, Inc. Brochure: "The Advanced Wound Healing You Trust. The Protection You Know. Introducing the V.A.C. GranuFoam Silver Dressing," Jun. 2006 Lit. #29-A-164, pp. 1-4.
- KCI Licensing, Inc. Brochure: "V.A.C. Therapy for Partial-Thickness Burns. An Advanced System for Burn Management," May 2004 Lit. #29-A-137, pp. 1-4.

\* cited by examiner

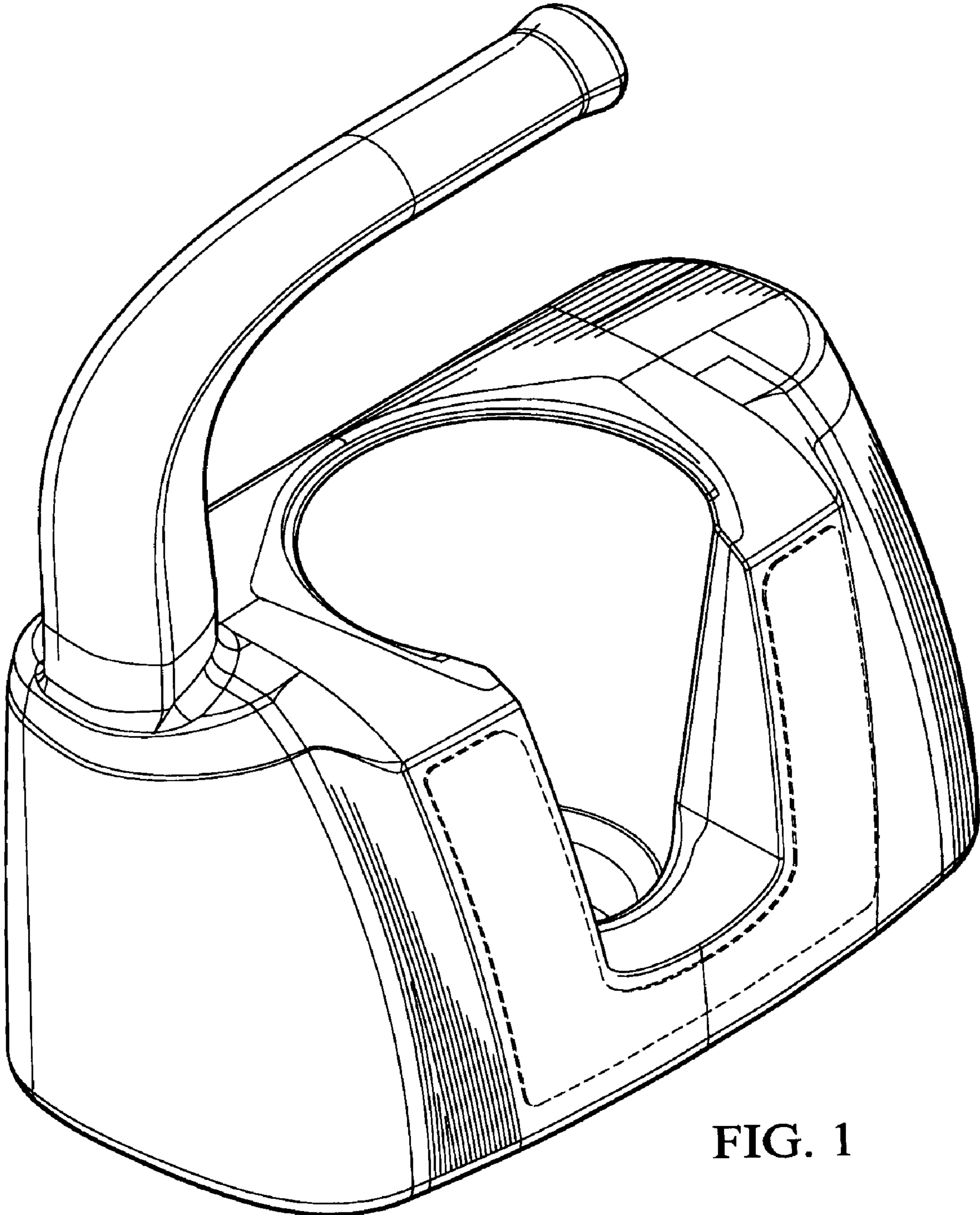


FIG. 1

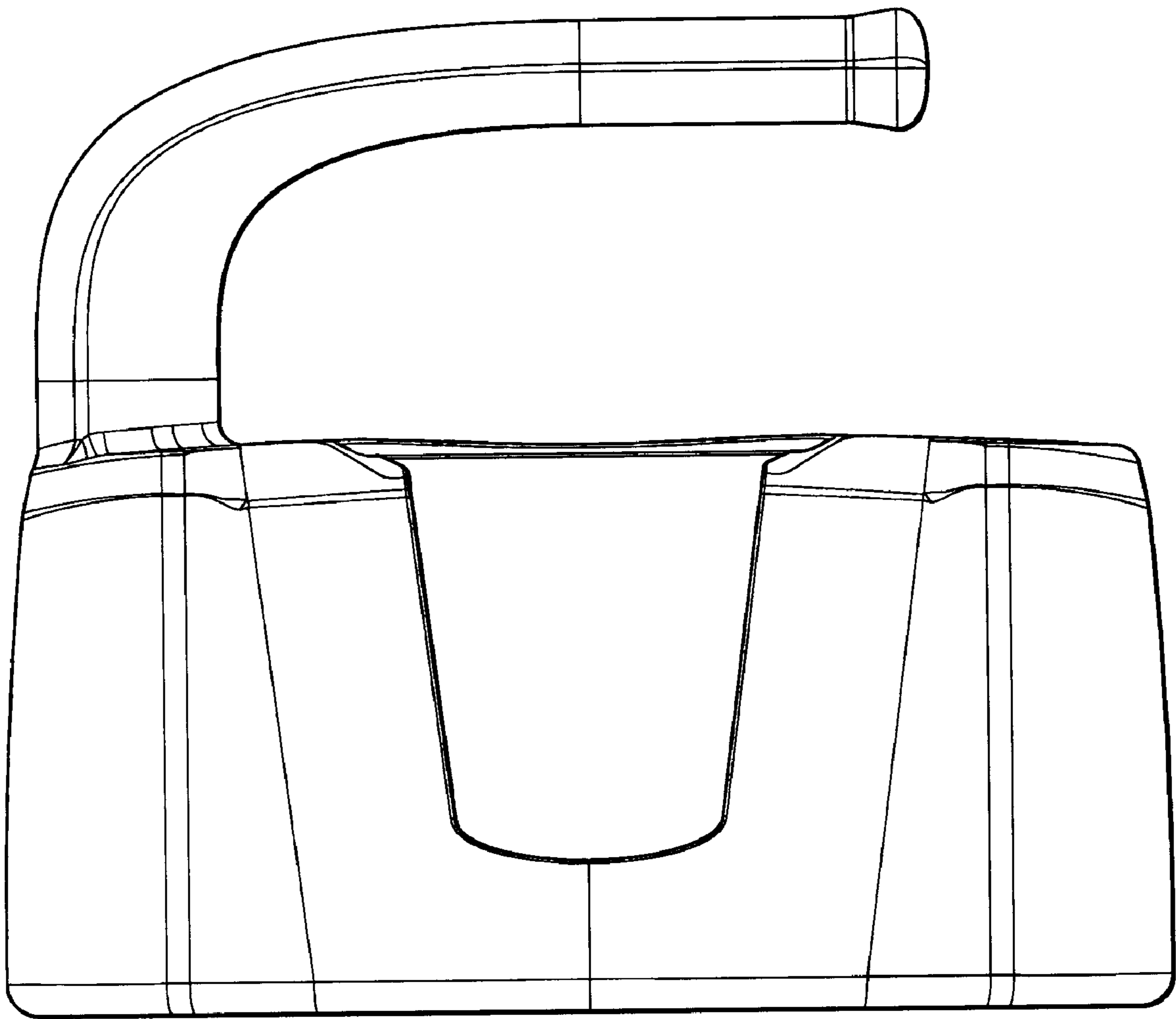


FIG. 2

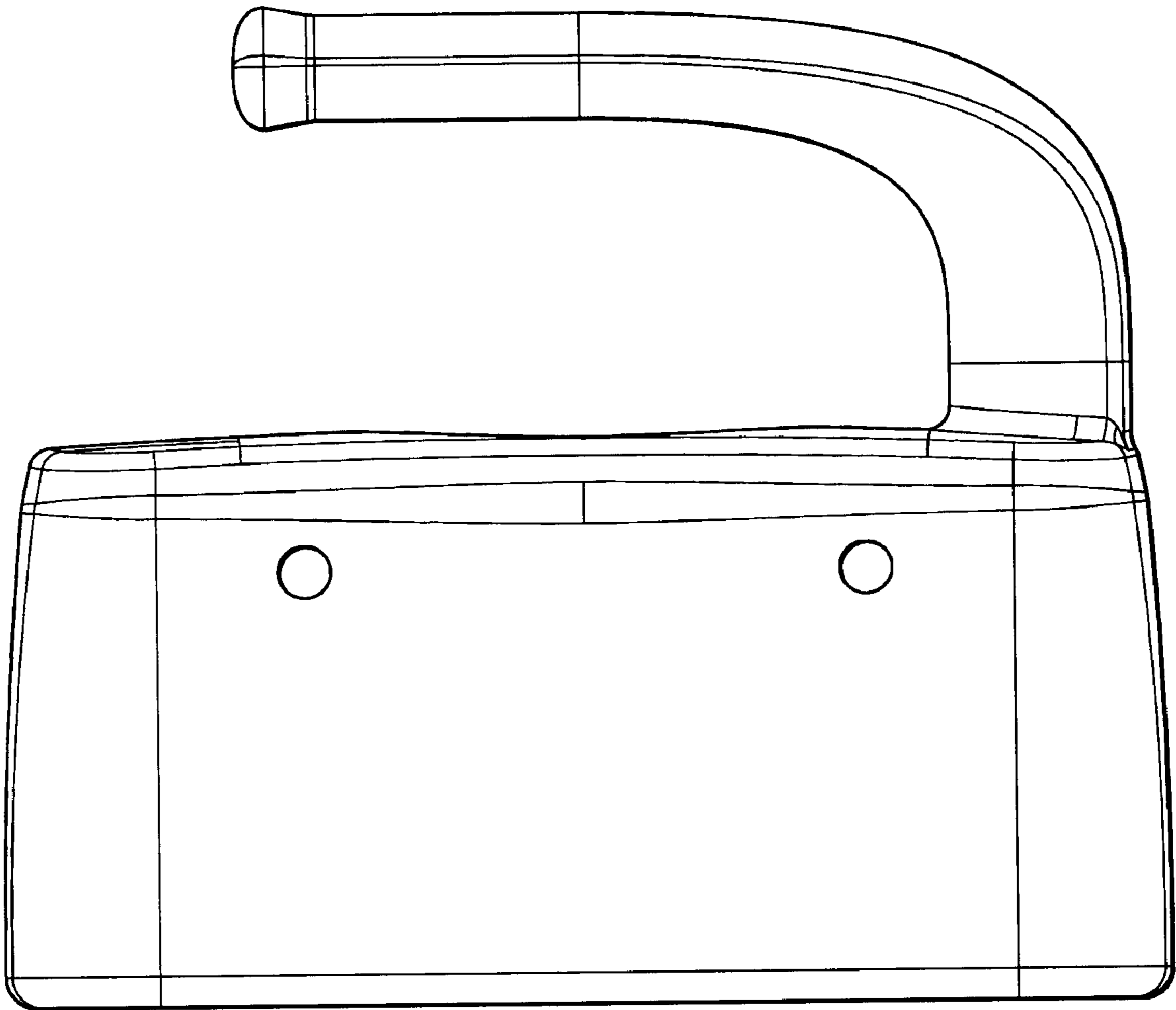


FIG. 3

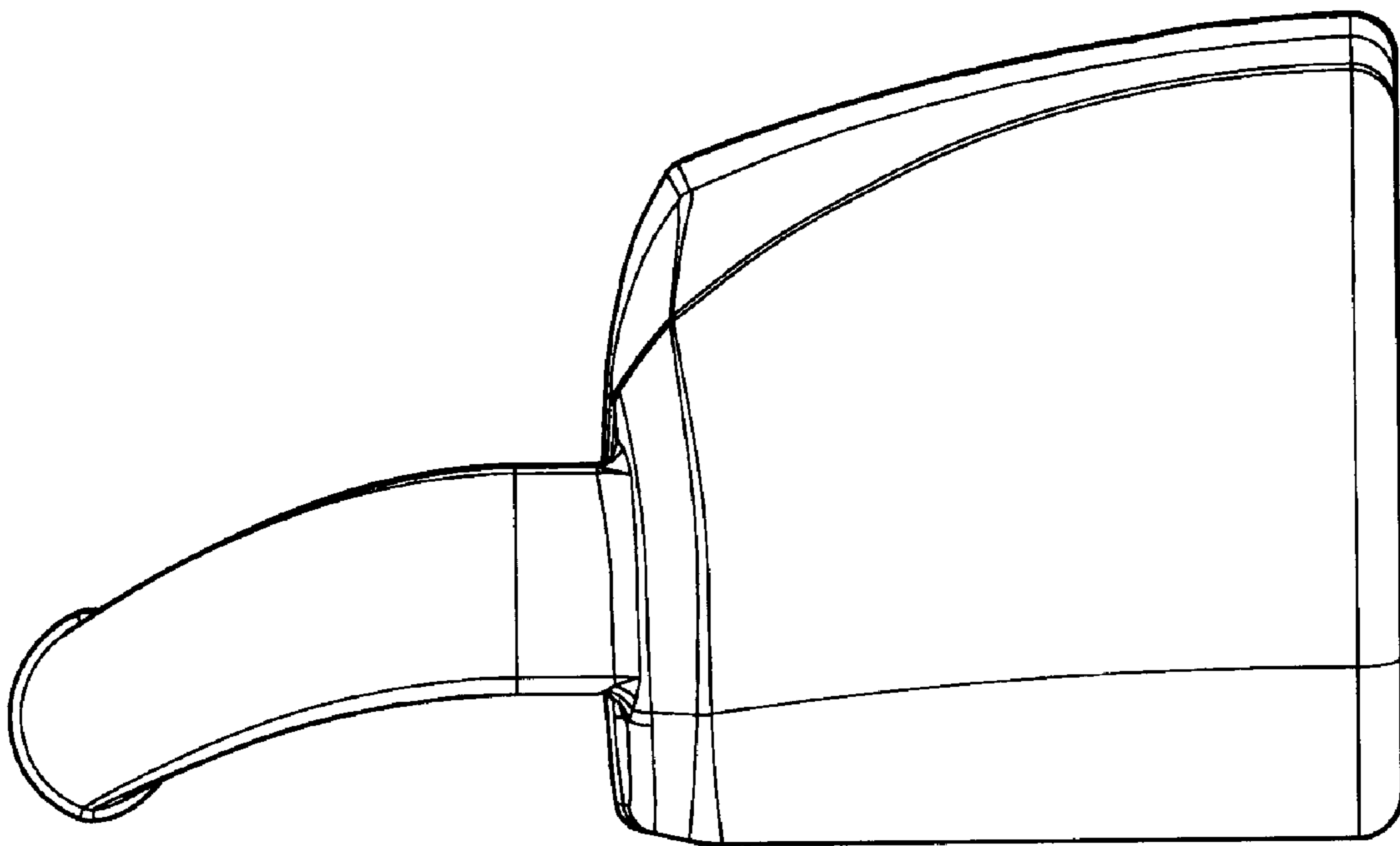


FIG. 5

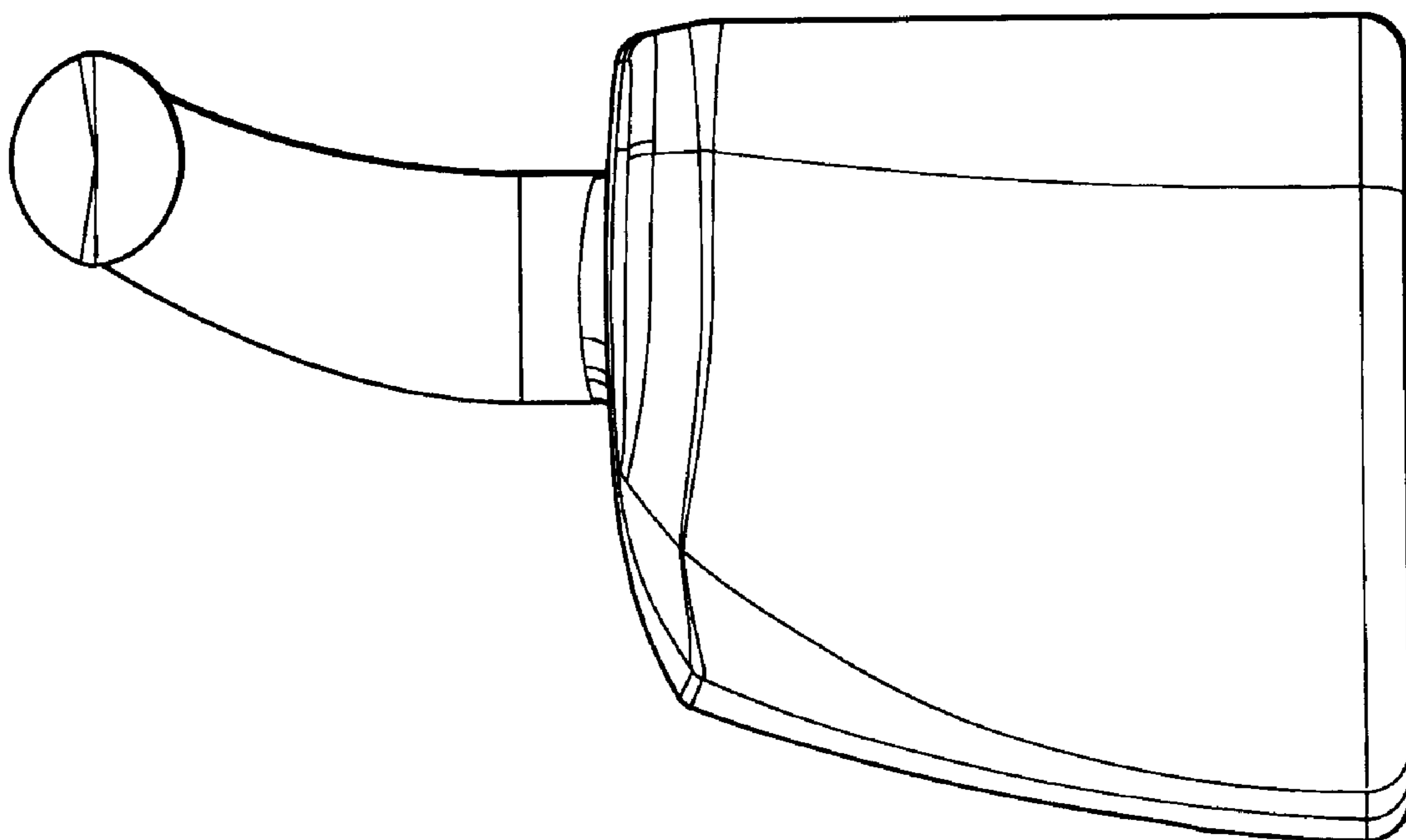


FIG. 4

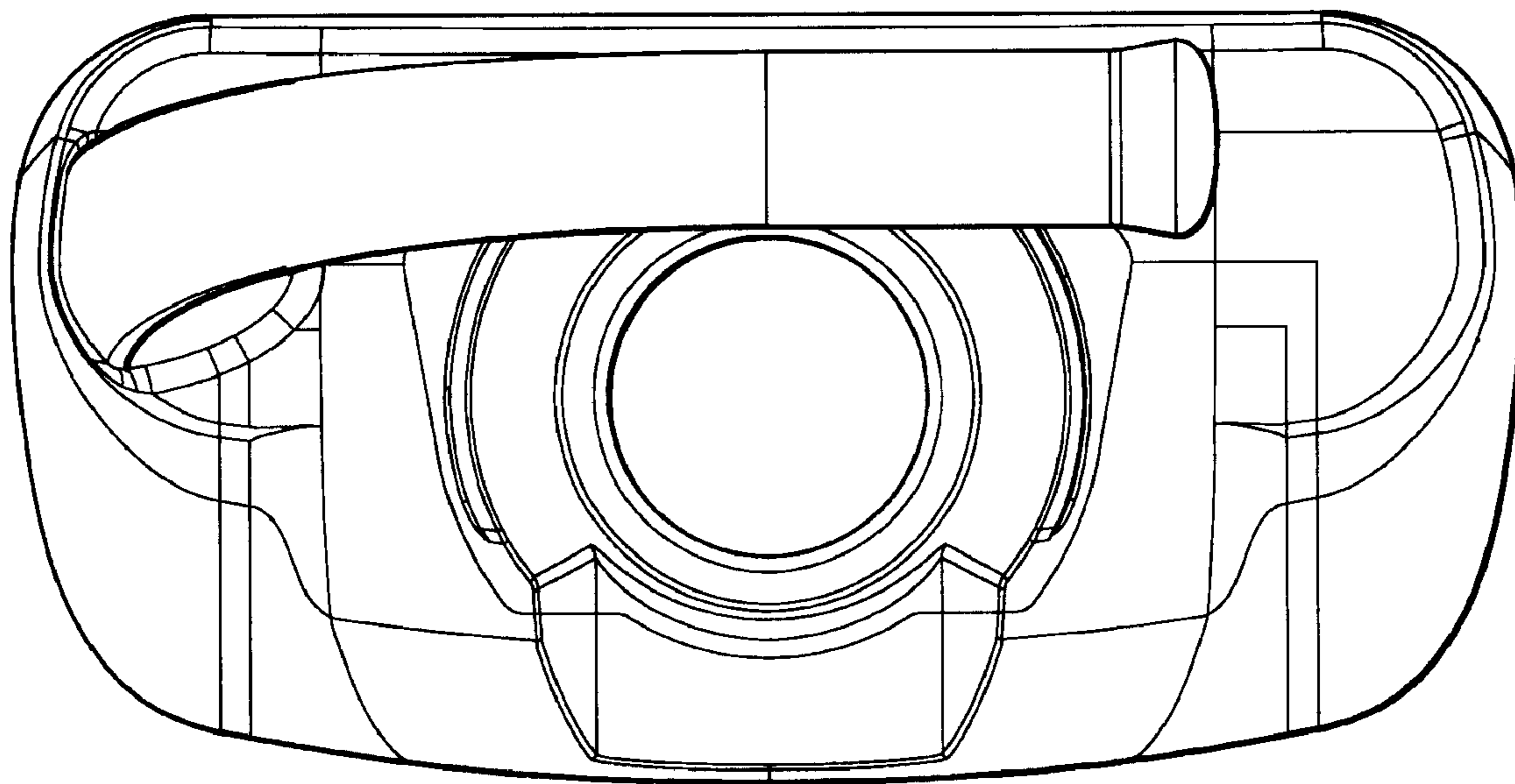


FIG. 6

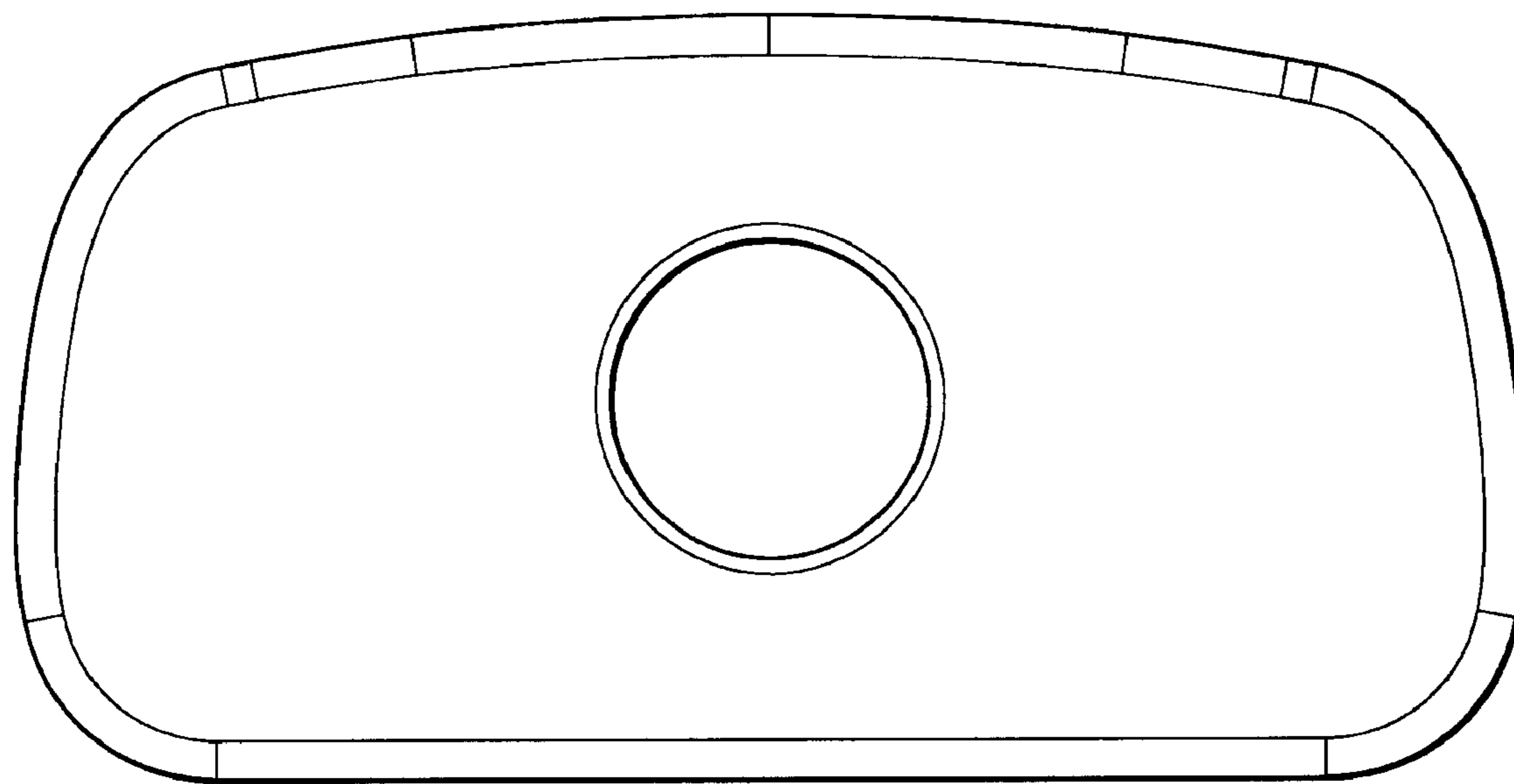


FIG. 7