



US00D876625S

(12) **United States Design Patent** (10) **Patent No.:** **US D876,625 S**
Vasan (45) **Date of Patent:** **** Feb. 25, 2020**

- (54) **LARYNGOSCOPE**
- (71) Applicant: **Adroit Surgical, LLC**, Oklahoma City, OK (US)
- (72) Inventor: **Nilesh R. Vasan**, Oklahoma City, OK (US)
- (73) Assignee: **Adroit Surgical, LLC**, Oklahoma City, OK (US)

3,592,199 A 7/1971 Ostensen et al.
 3,595,222 A 7/1971 Vellacott et al.
 3,598,113 A 8/1971 Moore et al.
 (Continued)

FOREIGN PATENT DOCUMENTS

EP 3 129 094 2/2017
 WO WO 2015/013384 1/2015
 (Continued)

OTHER PUBLICATIONS

Gaither, Joshua B., Prevalence of Difficult Airway Predators in Cases of Failed Prehospital Endotracheal Intubation, *The Journal of Emergency Medicine*, vol. 47, No. 3, pp. 294-300, 2014.
 (Continued)

Primary Examiner — Wan Laymon
Assistant Examiner — Mark Booker
 (74) *Attorney, Agent, or Firm* — Dunlap Coddling, P.C.

- (**) Term: **15 Years**
- (21) Appl. No.: **29/659,242**
- (22) Filed: **Aug. 7, 2018**
- (51) **LOC (12) Cl.** **24-02**
- (52) **U.S. Cl.**
USPC **D24/137**
- (58) **Field of Classification Search**
USPC D24/137, 111, 135, 138, 136, 139, 141, D24/160; 600/185-199
CPC A61B 1/267; A61B 1/00052; A61B 1/06; A61B 1/04; A61B 1/2676; B29L 2031/753
See application file for complete search history.

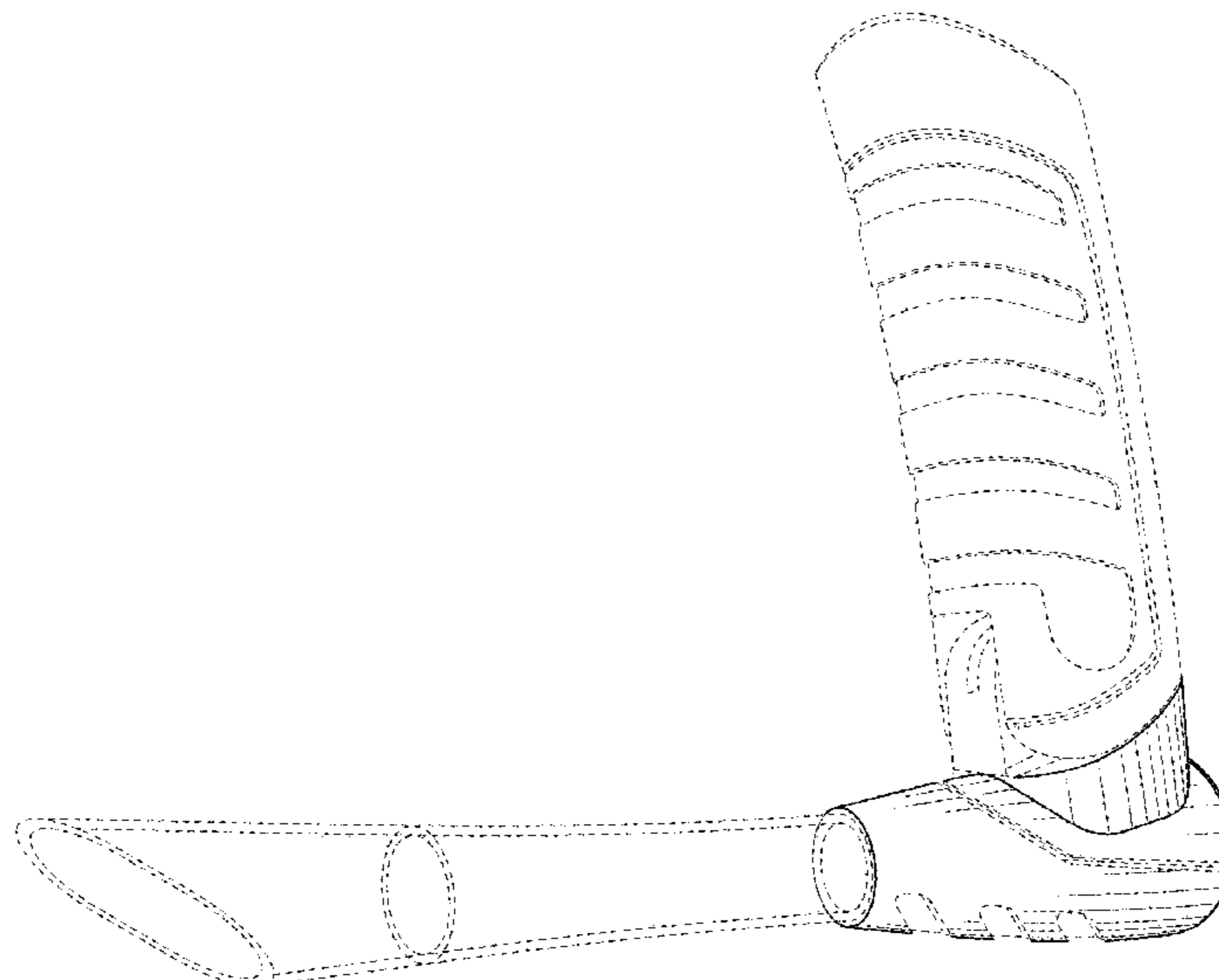
(57) **CLAIM**
 The ornamental design for a laryngoscope, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a laryngoscope showing my new design.
 FIG. 2 is a bottom plan view thereof.
 FIG. 3 is a top plan view thereof.
 FIG. 4 is a front elevational view thereof.
 FIG. 5 is a rear elevational view thereof.
 FIG. 6 is a right elevational view thereof.
 FIG. 7 is a left elevational view thereof.
 FIG. 8 is a front elevational view of the laryngoscope of FIG. 1 shown in a closed position; and,
 FIG. 9 is a right elevational view of the laryngoscope of FIG. 1 shown in a closed position.
 The broken lines illustrate portions of the laryngoscope and form no part of the claimed design.

- (56) **References Cited**
U.S. PATENT DOCUMENTS
 583,830 A 6/1897 Wiley
 1,292,326 A 1/1919 Jacobson
 2,182,390 A 1/1937 Reardon
 2,070,820 A 2/1937 Allyn
 2,289,226 A 3/1941 Von Foregger
 2,637,317 A 4/1951 Hayes
 2,648,329 A 10/1951 Trier
 2,820,026 A 6/1953 Passino et al.
 2,756,742 A 8/1953 Barton
 3,261,350 A 7/1966 Wallace
 3,459,178 A 8/1969 Fleming
 3,507,272 A 4/1970 Laerdal
 3,556,086 A 1/1971 Gordon

1 Claim, 6 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

3,616,792 A	11/1971	Pleet	6,115,523 A	9/2000	Choi et al.
3,638,644 A	2/1972	Reick	6,123,666 A	9/2000	Wrenn et al.
3,716,047 A	2/1973	Moore et al.	6,126,594 A	10/2000	Bayer
3,848,587 A	11/1974	McDonald	6,146,402 A	11/2000	Munoz
4,126,127 A	11/1978	May	6,152,873 A	11/2000	Rogers
4,166,467 A	9/1979	Abramson	6,174,281 B1	1/2001	Abramowitz
4,273,112 A	6/1981	Heine et al.	6,176,824 B1	1/2001	Davis
4,294,235 A	10/1981	Storz	6,217,514 B1	4/2001	Gruen et al.
4,306,547 A	12/1981	Lowell	6,322,499 B1	11/2001	Evans et al.
4,320,745 A	3/1982	Bhitiyakul et al.	6,354,993 B1	3/2002	Kaplan et al.
4,337,761 A	7/1982	Upsher	6,425,859 B1	7/2002	Foley et al.
4,360,008 A	11/1982	Corazzelli, Jr.	6,428,473 B1	8/2002	Leonard et al.
4,425,909 A	1/1984	Rieser	6,432,043 B2	8/2002	Nakaichi et al.
4,437,458 A	3/1984	Upsher	6,471,643 B1	10/2002	Henderson
4,502,482 A	3/1985	DeLuccia et al.	6,494,828 B1	12/2002	Berall
4,527,553 A	7/1985	Upsher	6,497,654 B1	12/2002	Leonard et al.
4,550,717 A	11/1985	Berger	6,569,089 B1	5/2003	Covington et al.
4,556,052 A	12/1985	Muller	6,655,377 B2	12/2003	Pacey
4,557,256 A	12/1985	Bauman	6,666,819 B2	12/2003	Heine et al.
4,567,882 A	2/1986	Heller	6,764,443 B1	7/2004	Watson
4,583,527 A	4/1986	Musicant et al.	6,843,769 B1	1/2005	Gandarias
4,592,343 A	6/1986	Upsher	6,890,298 B2	5/2005	Berci et al.
4,793,327 A	12/1988	Frankel	6,916,287 B2	7/2005	Dematteis et al.
4,799,485 A	1/1989	Furey et al.	6,955,645 B1	10/2005	Zeitels
D304,494 S	11/1989	Rosenwald et al.	7,044,909 B2	5/2006	Berci et al.
4,884,558 A	12/1989	Gorski et al.	7,052,456 B2	5/2006	Simon
4,905,669 A	3/1990	Bullard et al.	7,128,710 B1	10/2006	Cranton et al.
4,947,896 A	8/1990	Bartlett	7,153,260 B1	12/2006	Girgis
5,038,766 A	8/1991	Parker	7,174,889 B2	2/2007	Boedeker et al.
5,060,633 A	10/1991	Gibson	7,182,728 B2	2/2007	Cubb et al.
5,084,022 A	1/1992	Claude	D541,937 S *	5/2007	Yee D24/136
5,237,985 A	8/1993	Hodgson et al.	7,306,559 B2	12/2007	Williams
5,261,392 A	11/1993	Wu	7,338,440 B1	3/2008	Smith
5,263,472 A	11/1993	Ough	7,452,329 B2	11/2008	Bastia et al.
5,277,173 A	1/1994	Cantele	7,556,601 B2	7/2009	Branch et al.
5,311,863 A	5/1994	Toppes et al.	7,650,886 B1	1/2010	Keller et al.
5,329,938 A	7/1994	Lonky	D631,158 S *	1/2011	Doerges D24/137
5,363,838 A	11/1994	George	7,874,982 B2	1/2011	Selover et al.
5,394,865 A	3/1995	Salerno	7,901,353 B2	3/2011	Vayser et al.
5,402,771 A	4/1995	Pilling	7,909,758 B2	3/2011	Shapiro
5,443,058 A	8/1995	Ough	D637,717 S *	5/2011	Clarke D24/137
5,498,231 A	3/1996	Franicevic	7,951,077 B2	5/2011	Sayeg et al.
5,536,245 A	7/1996	Dahlbeck	8,012,087 B2	9/2011	Tenger et al.
5,551,946 A	9/1996	Bullard	8,012,089 B2	9/2011	Bayat
5,571,071 A	11/1996	Shapiro	8,083,672 B2	12/2011	Minson
5,575,758 A	11/1996	Easterbrook, III	8,096,300 B2	1/2012	Russo
5,584,796 A	12/1996	Cohen	8,152,719 B2	4/2012	Tenger et al.
5,603,688 A	2/1997	Upsher	D664,653 S *	7/2012	Doerges D24/137
5,643,174 A	7/1997	Yamamoto et al.	8,388,523 B2	3/2013	Vivenzio et al.
5,651,760 A	7/1997	Upsher	8,414,481 B2	4/2013	Hakanen et al.
5,651,761 A	7/1997	Upsher	8,416,291 B2	4/2013	Carrey et al.
5,665,052 A	9/1997	Bullard	8,663,099 B2	3/2014	Tydlaska et al.
5,688,224 A	11/1997	Forkey et al.	D752,213 S	3/2016	Paul et al.
5,716,329 A	2/1998	Dieter	9,289,114 B2	3/2016	Vasan
5,722,936 A	3/1998	Trulio	9,386,915 B2	7/2016	Vasan
5,733,241 A	3/1998	King	D816,837 S *	5/2018	Fuhr D24/137
5,743,848 A	4/1998	Koeda et al.	D820,982 S *	6/2018	Miller D24/137
5,776,052 A	7/1998	Callahan	2002/0066450 A1	6/2002	Bonutti
5,776,053 A	7/1998	Dragisic et al.	2002/0068854 A1	6/2002	Heine et al.
5,785,648 A	7/1998	Min	2002/0082478 A1	6/2002	McGrath
5,817,127 A	10/1998	Borodulin et al.	2002/0087050 A1	7/2002	Rudischhauser et al.
5,827,178 A	10/1998	Berall	2002/0153008 A1	10/2002	Schwartz et al.
5,873,818 A	2/1999	Rothfels	2002/0156350 A1	10/2002	Nieto
5,891,018 A	4/1999	Wells	2003/0092967 A1	5/2003	Fourie et al.
5,893,830 A	4/1999	Zeitels	2003/0095781 A1	5/2003	Williams
5,897,489 A	4/1999	Urbanowicz et al.	2003/0167065 A1	9/2003	Kumar
5,906,576 A	5/1999	Upsher	2003/0168059 A1	9/2003	Pacey
5,984,863 A	11/1999	Ansari	2004/0019256 A1	1/2004	Cubb et al.
5,993,383 A	11/1999	Haase	2004/0079364 A1	4/2004	Christopher
6,004,264 A	12/1999	Sano et al.	2004/0127770 A1	7/2004	McGrath
6,010,520 A	1/2000	Pattison	2004/0133073 A1	7/2004	Berci et al.
6,080,105 A	6/2000	Spears	2004/0210114 A1	10/2004	Simon
6,083,151 A	7/2000	Renner et al.	2004/0210115 A1	10/2004	Ma et al.
6,095,972 A	8/2000	Sakamoto	2004/0215062 A1	10/2004	Dalle et al.
6,106,458 A	8/2000	Ha	2005/0059863 A1	3/2005	Zilch
			2005/0065543 A1	3/2005	Kahle et al.
			2005/0137527 A1	6/2005	Kunin
			2005/0148821 A1	7/2005	Berci et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

2005/0159649 A1* 7/2005 Patel A61B 1/00103
600/194

2005/0192481 A1 9/2005 Berci et al.
2005/0240081 A1 10/2005 Eliachar
2005/0251119 A1 11/2005 Eaton et al.
2005/0279354 A1 12/2005 Deutsch et al.
2006/0004260 A1 1/2006 Boedeker et al.
2006/0074276 A1 4/2006 Cantrell
2006/0180155 A1 8/2006 Glassenberg et al.
2006/0183978 A1 8/2006 Howard
2006/0217596 A1 9/2006 Williams
2006/0224045 A1 10/2006 Whipple
2006/0276693 A1 12/2006 Pacey
2006/0276694 A1 12/2006 Acha Gandarias
2007/0043264 A1 2/2007 Gillis et al.
2007/0100210 A1 5/2007 Selover et al.
2007/0100211 A1 5/2007 Selover et al.
2007/0129751 A1 6/2007 Muni et al.
2007/0167686 A1 7/2007 McGrath
2007/0173697 A1 7/2007 Dutcher et al.
2007/0175482 A1 8/2007 Kimmel et al.
2007/0185384 A1 8/2007 Bayer et al.
2007/0208226 A1 9/2007 Grey et al.
2007/0213594 A1 9/2007 Nguyen
2007/0225571 A1 9/2007 Branch et al.
2007/0276191 A1 11/2007 Selover et al.
2007/0299313 A1 12/2007 McGrath
2008/0051628 A1 2/2008 Pecherer et al.
2008/0103364 A1 5/2008 Shapiro
2008/0108877 A1 5/2008 Bayat
2008/0114303 A1 5/2008 Tremaglio
2008/0146879 A1 6/2008 Pacey
2008/0188717 A1 8/2008 Chen et al.
2008/0200766 A1 8/2008 Ayoun et al.
2008/0234549 A1 9/2008 Geist et al.
2008/0294010 A1 11/2008 Cooper
2008/0300464 A1 12/2008 Dhingra et al.
2009/0032016 A1 2/2009 Law et al.
2009/0036744 A1 2/2009 Vayser
2009/0065000 A1 3/2009 Chen
2009/0099421 A1 4/2009 Shalman et al.
2009/0182364 A1 7/2009 Mettler, Jr.
2009/0209816 A1 8/2009 Gunther Nielsen et al.
2009/0318767 A1 12/2009 Tenger et al.
2009/0318768 A1 12/2009 Tenger et al.
2009/0318769 A1 12/2009 Tenger et al.
2010/0022843 A1 1/2010 Pecherer et al.
2010/0041953 A1 2/2010 Pecherer et al.
2010/0049003 A1 2/2010 Levy
2010/0069722 A1 3/2010 Shalman et al.
2010/0114110 A1 5/2010 Taft et al.
2010/0121152 A1 5/2010 Boedeker
2010/0152541 A1 6/2010 Tenger et al.
2010/0191054 A1 7/2010 Supiez
2010/0191061 A1 7/2010 Simons
2010/0191062 A1 7/2010 Kieffer
2010/0198017 A1 8/2010 Raspallo
2010/0224187 A1 9/2010 Dalton
2010/0249513 A1 9/2010 Tydlaska
2010/0261967 A1 10/2010 Pacety et al.
2010/0305406 A1 10/2010 Braun et al.
2010/0298644 A1 11/2010 Kleene
2011/0021882 A1 1/2011 Selover et al.
2011/0060190 A1 3/2011 Pecherer
2011/0077466 A1 3/2011 Rosenthal
2011/0092774 A1 4/2011 Herman
2011/0105848 A1 5/2011 Sadovsky et al.
2011/0130627 A1 6/2011 McGrail et al.
2011/0152620 A1 6/2011 Dhonneur
2011/0201890 A1 8/2011 Rosenthal
2012/0029292 A1 2/2012 Kao et al.
2012/0029293 A1 2/2012 Vasan
2012/0041268 A1 2/2012 Grey et al.
2012/0078056 A1 3/2012 Tenger et al.
2012/0095295 A1 4/2012 McGrath et al.

2012/0178997 A1 7/2012 Tydlaska et al.
2012/0245413 A1 9/2012 Vayser et al.
2012/0259176 A1 10/2012 Grey et al.
2012/0330104 A1 12/2012 Tenger et al.
2013/0006057 A1 1/2013 Pastrong
2013/0006061 A1 1/2013 Alexander et al.
2013/0053647 A1 2/2013 McChesney
2013/0066151 A1 3/2013 Chen
2013/0066152 A1 3/2013 Chen
2013/0109923 A1 5/2013 Trakas
2013/0158356 A1 6/2013 Yilmaz
2013/0190558 A1 7/2013 Alexander et al.
2013/0190568 A1 7/2013 Hakanen et al.
2013/0197313 A1 8/2013 Wan
2013/0217971 A1 8/2013 Boedeker
2013/0267786 A1 10/2013 Vayser et al.
2013/0281981 A1 10/2013 Shamir Lebovitz
2013/0296653 A1 11/2013 Brown et al.
2013/0317300 A1 11/2013 Berci et al.
2013/0319406 A1 12/2013 Borrye
2013/0324798 A1 12/2013 Molnar et al.
2013/0338443 A1 12/2013 Wu
2013/0345518 A1 12/2013 Law et al.
2014/0018629 A1 1/2014 Acha Gandarias
2014/0100428 A1 4/2014 Vasan
2015/0034078 A1 2/2015 Sovndal
2015/0290414 A1 10/2015 Vasan
2016/0198937 A1 7/2016 Vasan

FOREIGN PATENT DOCUMENTS

WO WO 2015/157657 10/2015
WO WO 2016/066982 5/2016

OTHER PUBLICATIONS

Mhyre, Jill M., The Unanticipated Difficult Intubation in Obstetrics, Society for Obstetric Anesthesia and Perinatology, vol. 112, No. 3, Mar. 2011.
Quinn, A.C., Failed Tracheal Intubation in Obstetric Anesthesia; 2 yr national case—control study in the UK, British Journal of Anesthesia 100 (1): 74-80 (2013) Advance Access publication Sep. 17, 2012.
Vasdev, Gurinder M., Management of the Difficult and Failed Airway in Obstetric Anesthesia, Journal of Anesthesia 22:38-48, 2008.
Office Action Summary for U.S. Appl. No. 13/740,164 dated Sep. 2, 2015.
Allison, Michael, An Update on Airway Management in Emergency Medicine AAEM/RSA News, Resident Journal Review, CommonSense, p. 30-34 Nov./Dec. 2012.
Katz, Steven, Misplaced Endotracheal Tubes by Paramedics in an Urban Emergency Medical Services System, EMS/Original Contribution, Annals of Emergency Medicine, p. 32-37, Jan. 2001.
Jones, James H., Emergency Physician-Verified Out-of-hospital Intubation: Miss Rates by Paramedics, Acad Emerg Med, p. 707-709, vol. 11, No. 6, Jun. 2004.
Saving Lives on the Battlefield; A Joint Trauma System Review of Pre-Hospital Trauma Care in Combined Joint Operating Area—Afghanistan (CJOA-A) Executive Summary, TCCC Updates, p. 77-85, Journal of Special Operations Medicine, vol. 13, Edition 1/Spring 2013.
Mabry, Robert, An Analysis of Battlefield Cricothyrotomy in Iraq and Afghanistan, p. 17-23, Journal of Special Operations Medicine vol. 12, Edition 1/Spring 2012.
Deakin, CD., Prehospital Management of the Traumatized Airway, European Journal of Emergency Medicine, Dec. 1996, vol. 3 Issue 4, pp. 233-243.
Cobas, MA, Prehospital Intubations and Mortality: A Level 1 Trauma Center Perspective, Anesthesia-Analgesia, Aug. 2009, vol. 109, No. 2, pp. 489-493.
Office Action Summary for U.S. Appl. No. 12/847,915 dated Aug. 11, 2015.

(56)

References Cited

OTHER PUBLICATIONS

Extended European Search Report regarding EP Application No. 15776583.5, dated Dec. 19, 2017.

PCT International Search Report and Written Opinion of the International Searching Authority regarding PCT Application No. PCT/US2015/025345, dated Jul. 27, 2015.

First Examination Report regarding New Zealand Application No. 718731, dated Jun. 10, 2016.

Bohicchio, GV., Is Field Intubation Useful?, Current Opinion in Critical Care, Dec. 2003; vol. 9 Issue 6, pp. 524-529.

Wang, HE, How Many Attempts are Required to Accomplish Out-of-Hospital Endotracheal Intubation?, Academic Emergency Medicine, Apr. 2006, vol. 13 Issue 4, pp. 372-377.

* cited by examiner

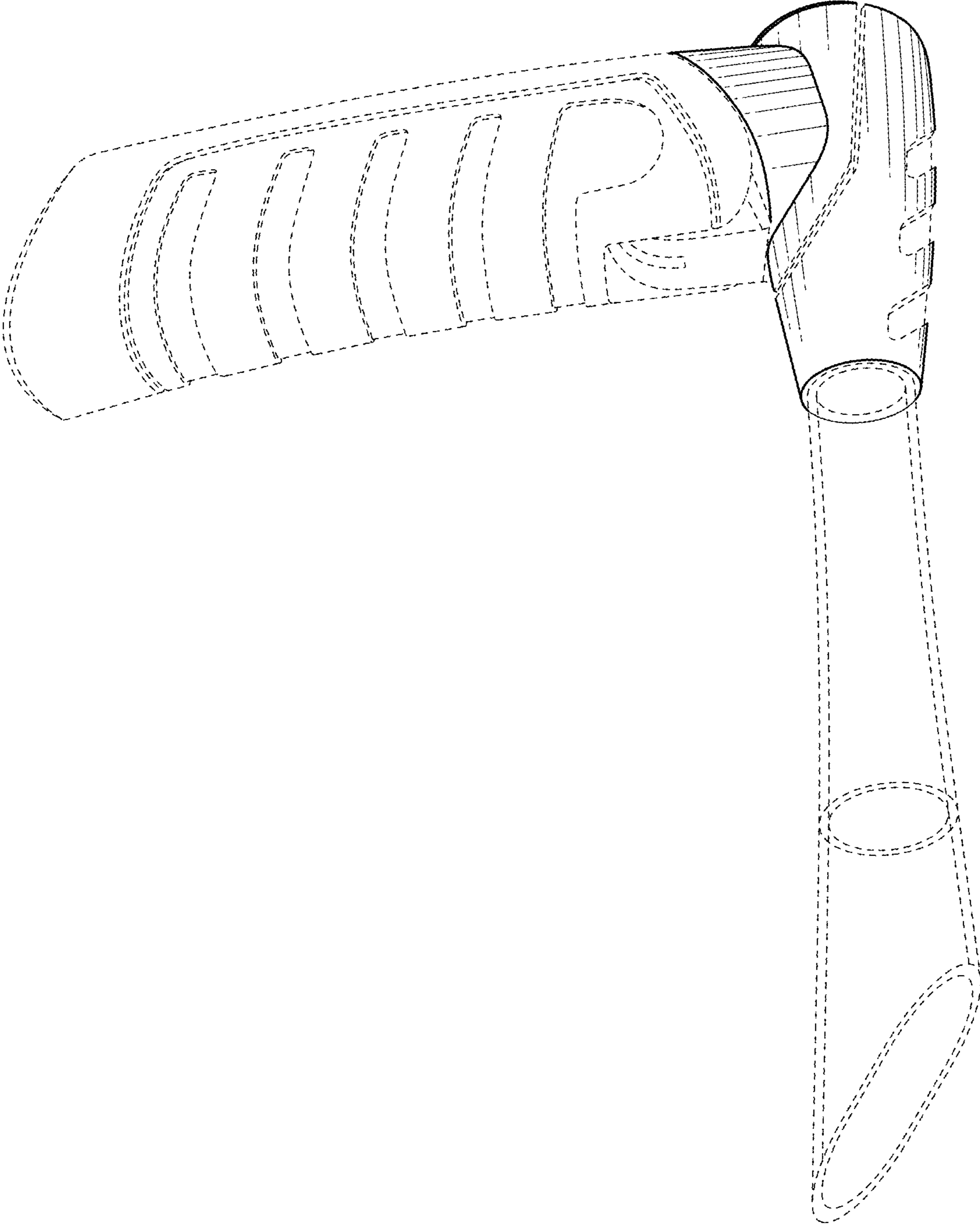


FIG. 1

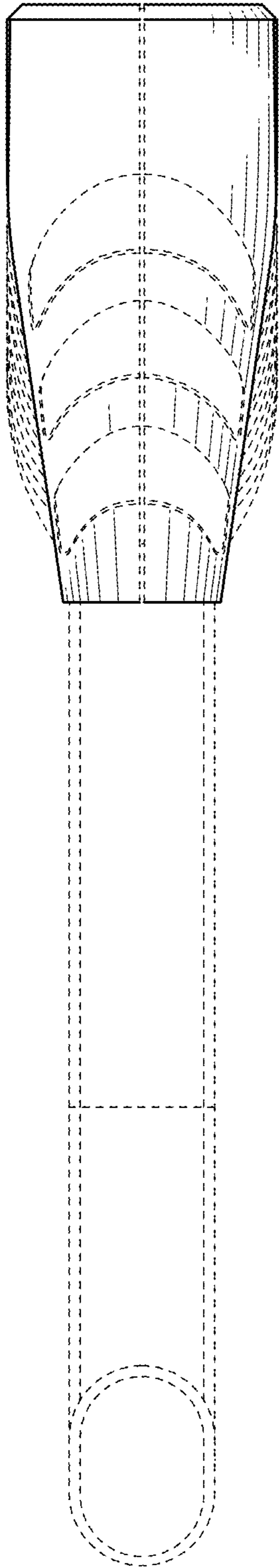


FIG. 2

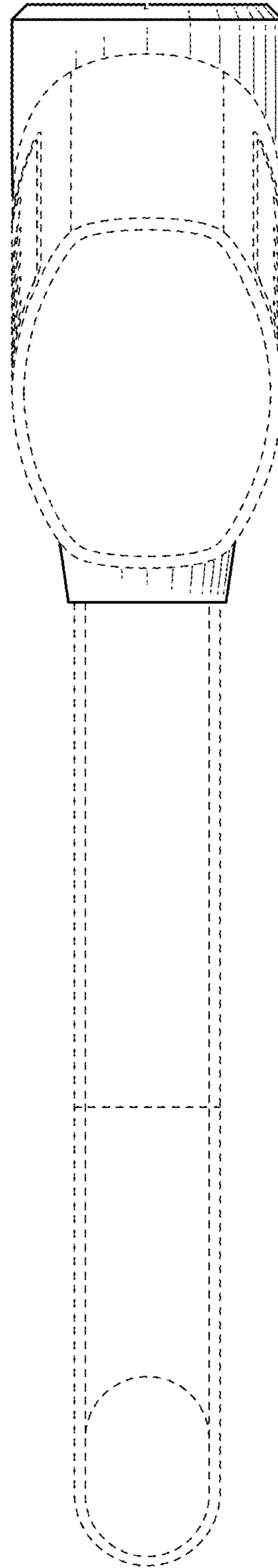


FIG. 3

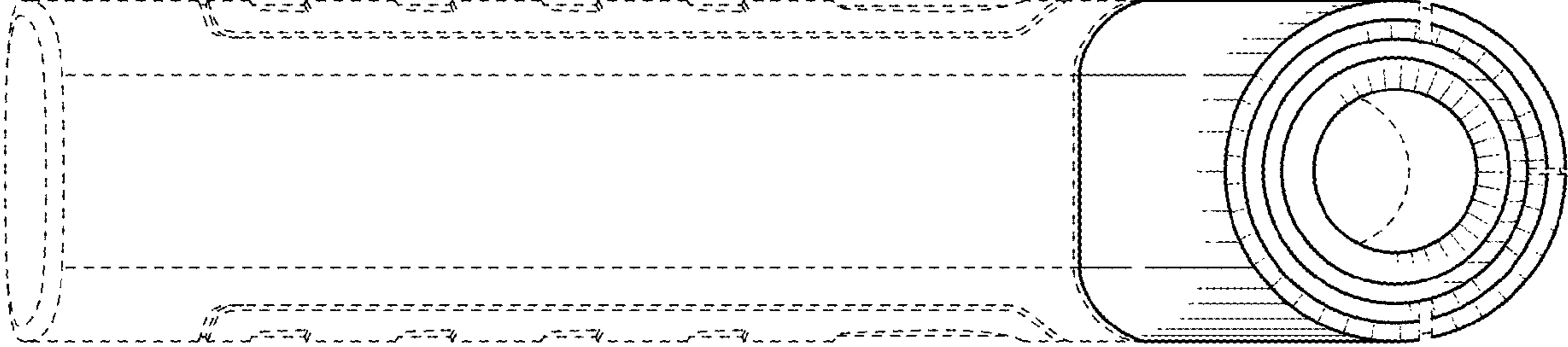


FIG. 5

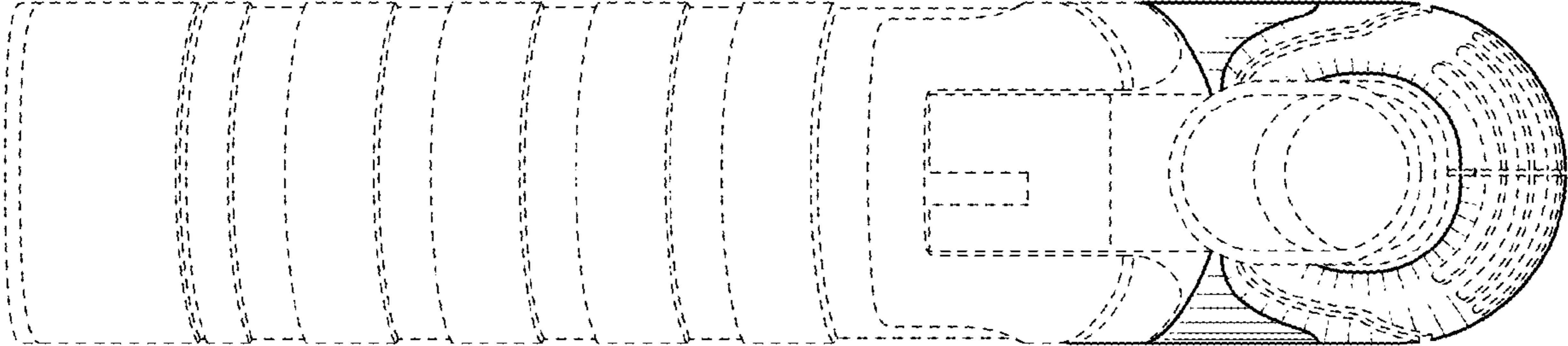


FIG. 4

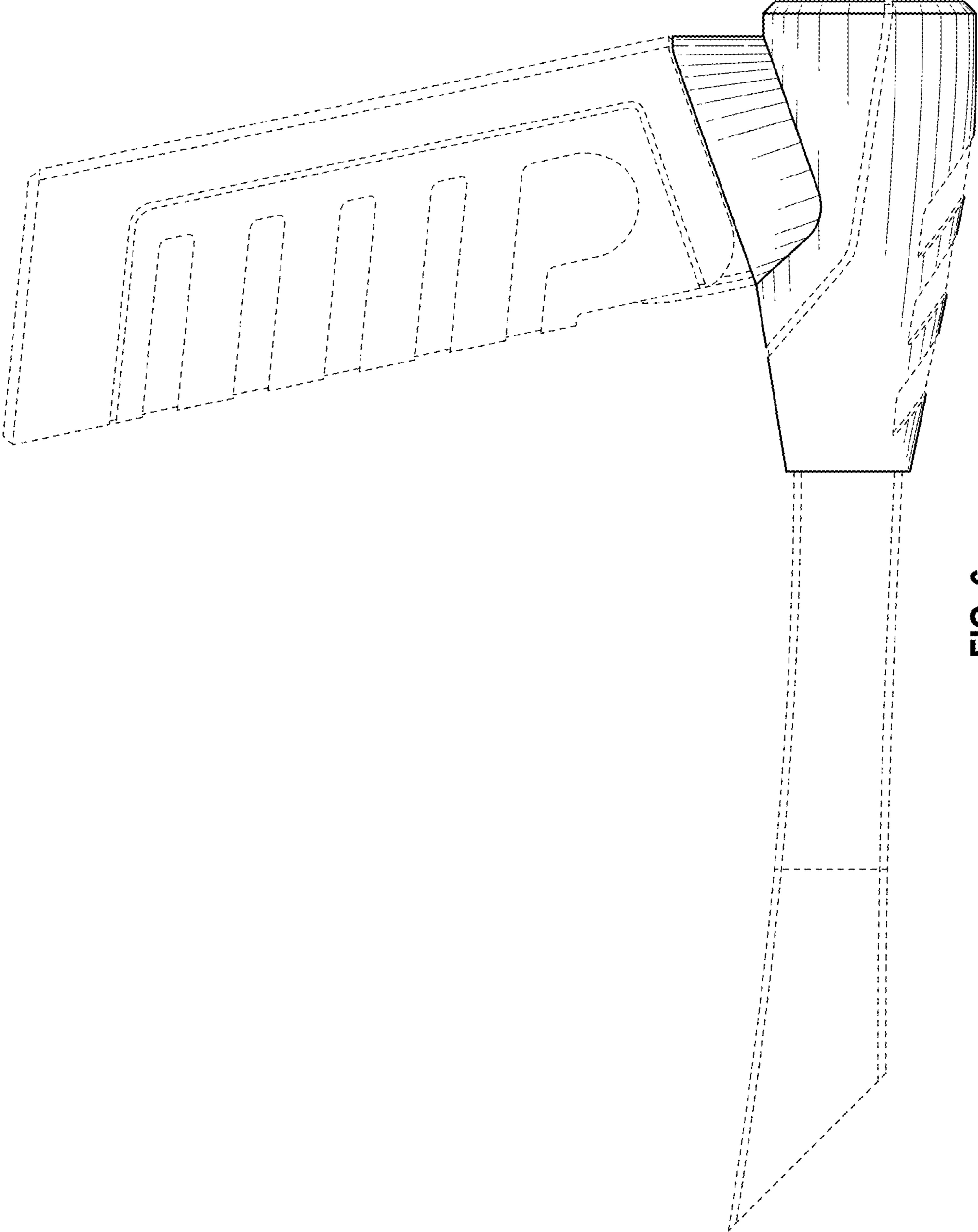


FIG. 6

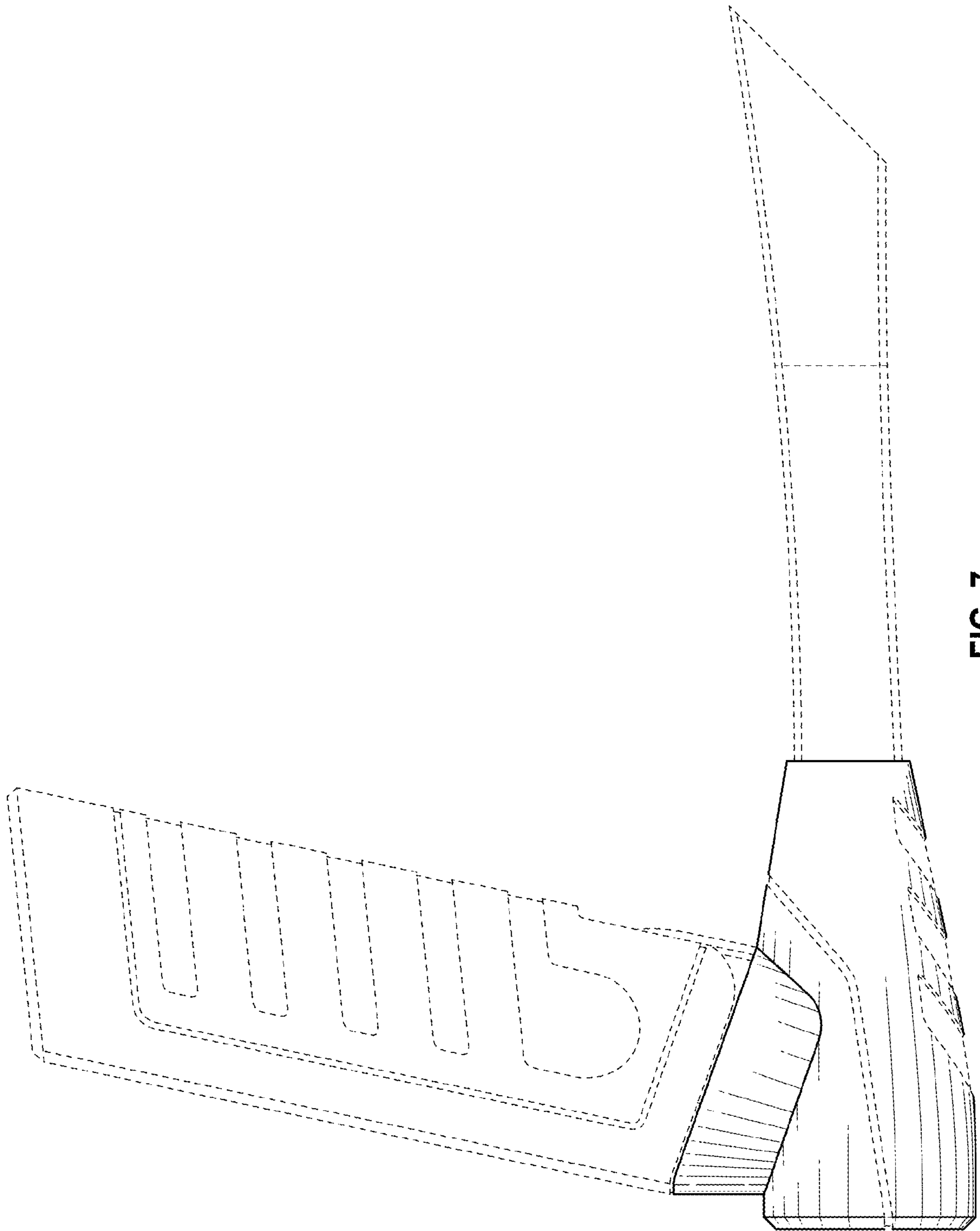


FIG. 7

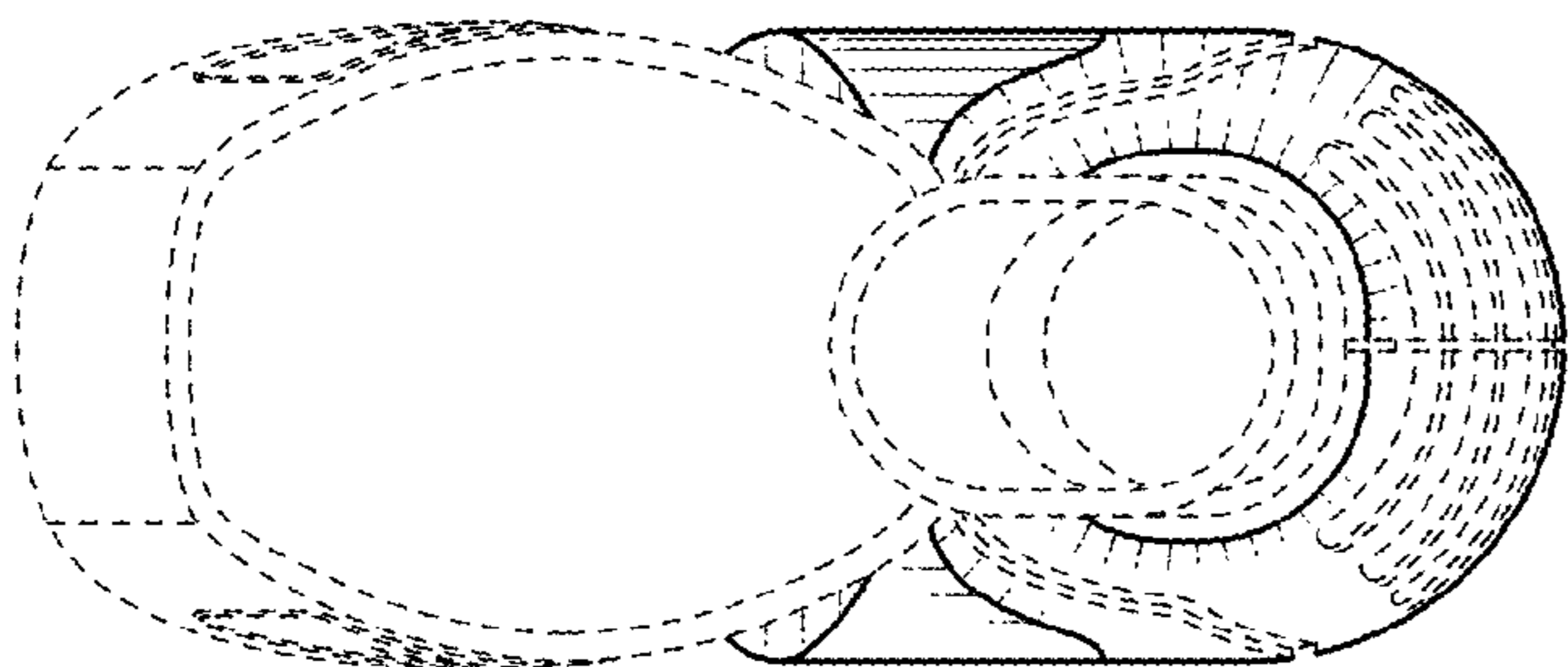


FIG. 8

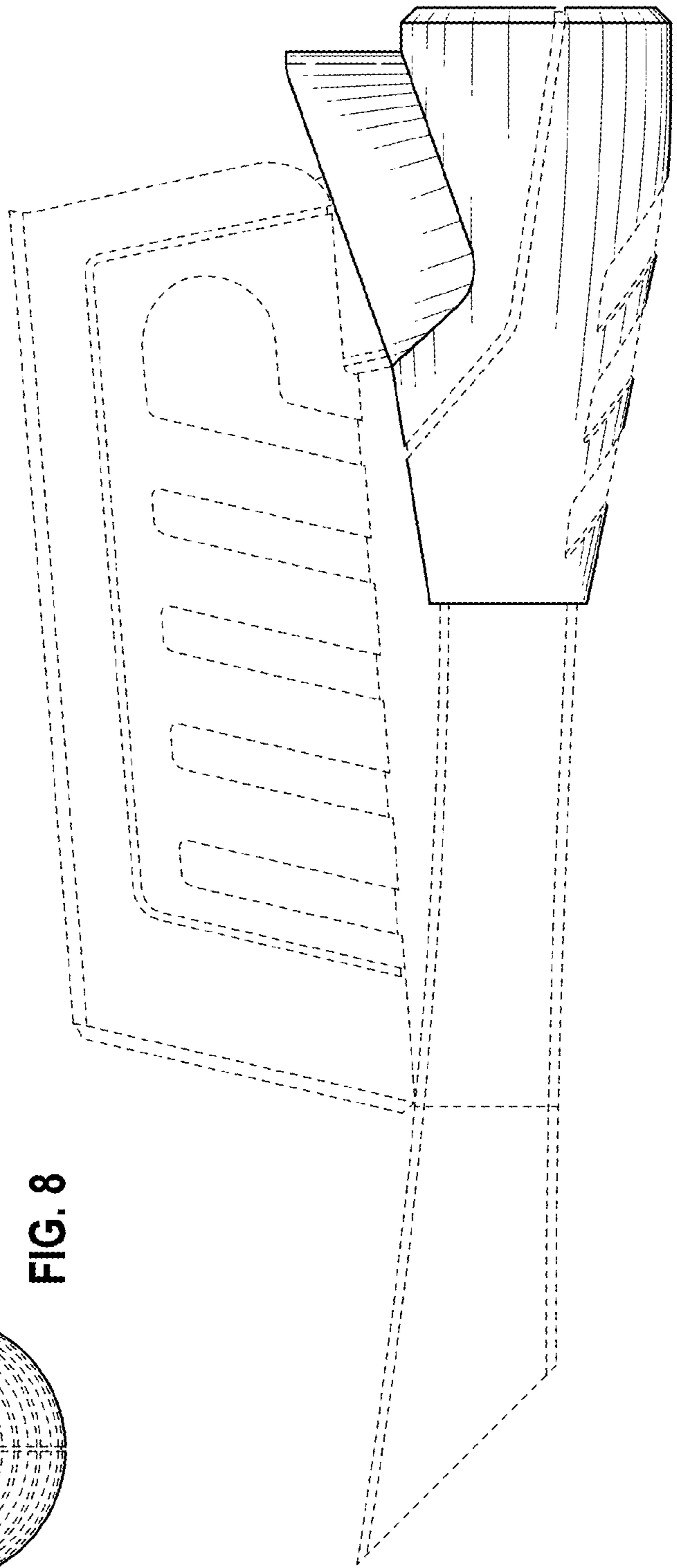


FIG. 9