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(54) **CONNECTOR FOR A BREATHING CIRCUIT**

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917,690, which is a division of application No.
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See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

132,604 A 10/1872 Smith et al.
327,877 A 10/1885 Hodges

(Continued)

FOREIGN PATENT DOCUMENTS

CN 2652420 Y 11/2004
CN 101365509 2/2009

(Continued)

OTHER PUBLICATIONS

Huapa Mini hose connector for CPAP hose CPAP accessories
Resmed air nasal masks, Amazon.com, first posted Oct. 9, 2018,
<https://amzn.to/3x62sdy>, 8 pp.

(Continued)

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(57) **CLAIM**

The ornamental design for a connector for a breathing
circuit, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a connector for a breathing
circuit.

FIG. 2 is another perspective view thereof.

FIG. 3 is a cross-sectional view thereof taken along line 3-3
of FIG. 5.

FIG. 4 is a left side view thereof.

FIG. 5 is a right side view thereof.

FIG. 6 is a front view thereof.

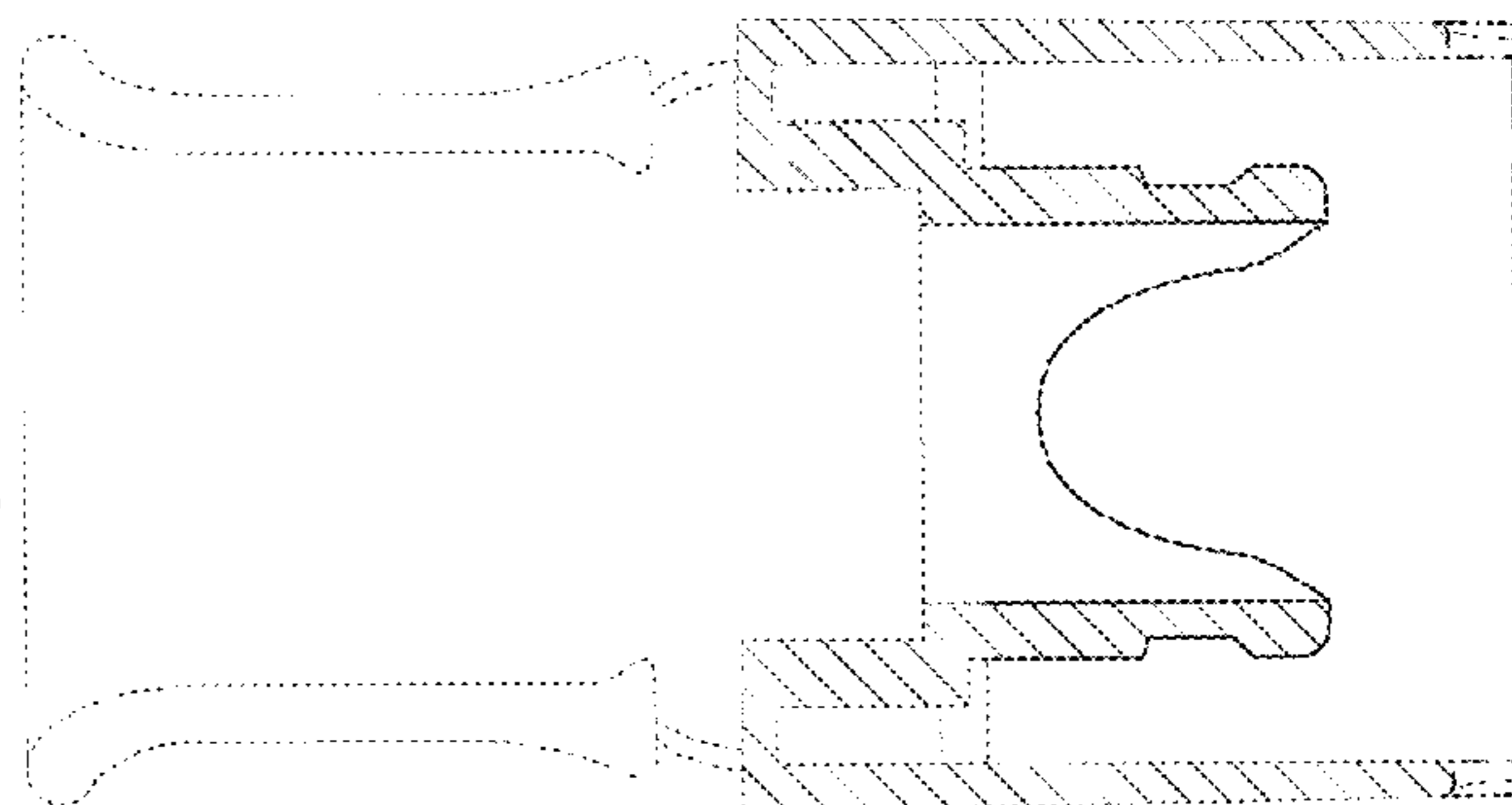
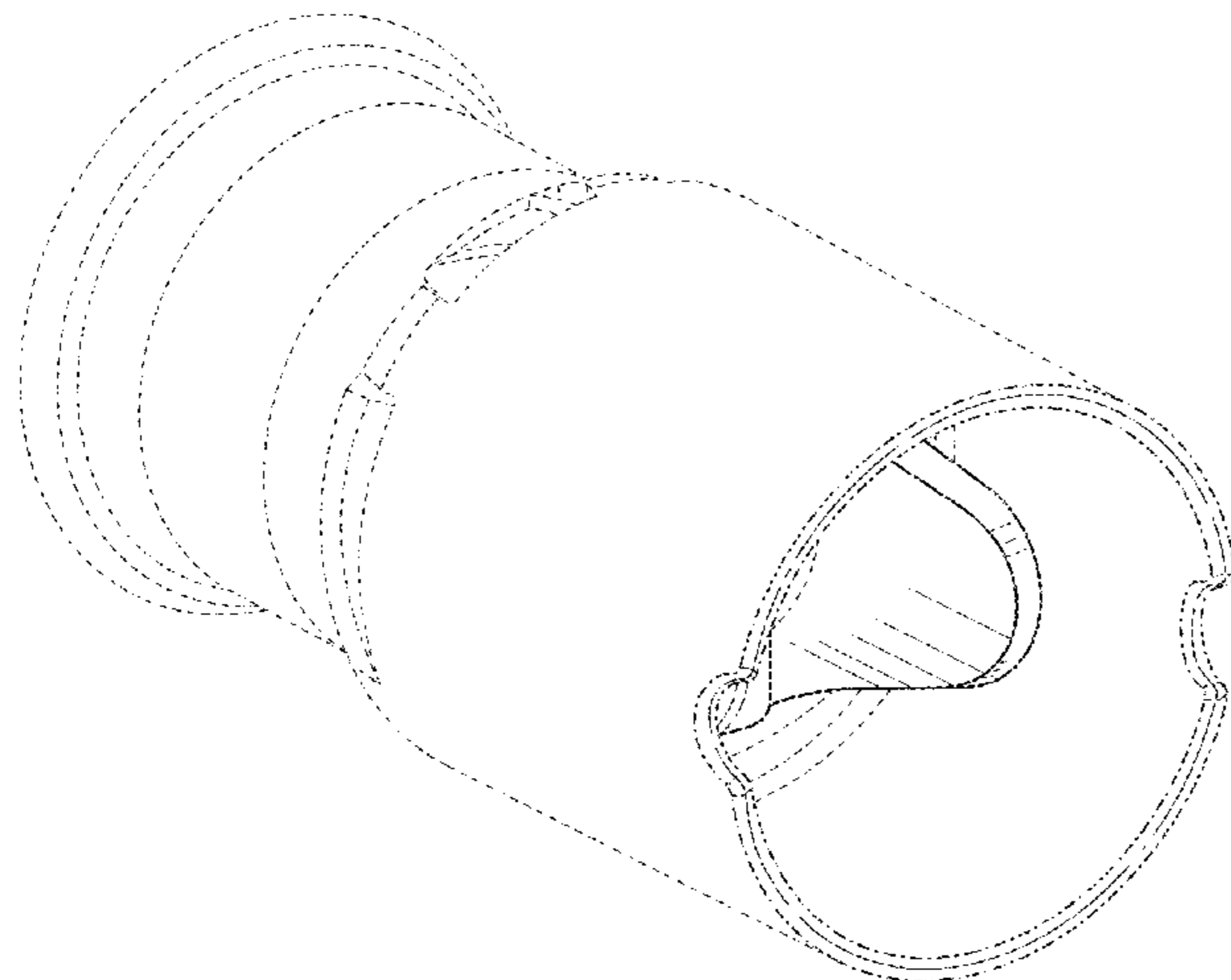
FIG. 7 is a top view thereof; and,

FIG. 8 is a bottom view thereof.

The dashed broken lines in the drawings illustrate portions
of the connector for a breathing circuit which form no part
of the claimed design.

The dash-dot broken lines in the drawings depict the bounds
of the claimed design and form no part thereof.

1 Claim, 6 Drawing Sheets



Related U.S. Application Data

857,880, which is a division of application No. 29/567,700, filed on Jun. 10, 2016, now Pat. No. Des. 809,656.

(56)

References Cited

U.S. PATENT DOCUMENTS

643,358 A	2/1900	Konold	6,439,234 B1	8/2002	Curti et al.
778,936 A	1/1905	Witmond	6,484,724 B1	11/2002	Sloan
1,080,674 A	12/1913	Berg	D466,607 S	12/2002	Cise
1,130,726 A	3/1915	Greve	D468,015 S	12/2002	Horppu
1,194,793 A	8/1916	Styers	D471,262 S	3/2003	Kozu
1,673,338 A	6/1928	Mitchell	D472,316 S	3/2003	Douglas et al.
1,880,098 A	9/1932	Mair	D472,630 S	4/2003	Douglas et al.
1,916,449 A	7/1933	Tompkins	6,561,549 B1	5/2003	Moris et al.
2,124,474 A	7/1938	Scholtes	D476,232 S	6/2003	Maus et al.
2,479,580 A	8/1949	Marco	6,581,974 B1	6/2003	Ragner et al.
2,727,759 A	12/1955	Elliott	6,803,496 B2	10/2004	Elder et al.
2,910,308 A	10/1959	Carr	6,893,055 B2	5/2005	Thomas et al.
3,287,031 A	11/1966	Simmons et al.	6,915,705 B1	7/2005	Truitt
3,323,774 A	6/1967	Wilson	6,932,390 B1	8/2005	Gretz
3,513,844 A	5/1970	Smith	6,953,354 B2	10/2005	Edirisuriya
3,601,361 A	8/1971	Hundhausen et al.	7,007,694 B2	3/2006	Aylsworth et al.
3,813,115 A	5/1974	French	D522,360 S	6/2006	Caserta
3,815,754 A	6/1974	Rosenberg	7,201,167 B2	4/2007	Fink et al.
4,036,616 A	7/1977	Byrns	D543,620 S	5/2007	Chu et al.
4,111,514 A	9/1978	Brishka et al.	D547,657 S	7/2007	Tacchella
4,128,407 A	12/1978	Chapel	D551,340 S	9/2007	Wood et al.
4,161,949 A	7/1979	Thanawalla	7,263,994 B2	9/2007	Gradon et al.
4,211,439 A	7/1980	Moldestad	7,267,121 B2	9/2007	Ivri
D267,199 S	12/1982	Koenig	D553,005 S	10/2007	Py
4,386,948 A	6/1983	Choksi et al.	7,290,541 B2	11/2007	Ivri et al.
4,443,028 A	4/1984	Hayes	D556,899 S	12/2007	Veliss et al.
4,446,869 A	5/1984	Knodle	D557,414 S	12/2007	Wentling
4,584,997 A	4/1986	Delong	7,306,121 B2	12/2007	Ophardt
4,589,684 A	5/1986	Nowacki et al.	7,311,752 B2	12/2007	Tepper
4,601,495 A	7/1986	Webb	D565,731 S	4/2008	Eisenkolb et al.
4,661,110 A	4/1987	Fortier et al.	D570,457 S	6/2008	Brown
4,676,241 A	6/1987	Webb et al.	7,406,966 B2	8/2008	Wondka
4,758,023 A	7/1988	Vermillion	7,458,615 B2	12/2008	White et al.
4,773,448 A	9/1988	Francis	D586,907 S	2/2009	Judson
D300,271 S	3/1989	Rudolph et al.	D586,911 S	2/2009	McAuley et al.
D300,272 S	3/1989	Rudolph et al.	7,484,769 B2	2/2009	Domash et al.
D302,040 S	7/1989	Lambert et al.	D600,343 S	9/2009	Degabriele et al.
4,936,841 A	6/1990	Aoki et al.	D606,494 S	12/2009	Holliday
5,005,571 A	4/1991	Dietz	D609,091 S	2/2010	Dubach
5,009,252 A	5/1991	Faughn	7,666,170 B2	2/2010	Guala
5,040,527 A	8/1991	Larson et al.	D612,481 S	3/2010	Reid et al.
5,064,226 A	11/1991	Klas	7,785,300 B2	8/2010	Ishii et al.
D328,033 S	7/1992	DiGuseppi	D627,059 S	11/2010	Wood et al.
5,158,569 A	10/1992	Strickland et al.	D630,732 S	1/2011	Lev et al.
5,169,180 A	12/1992	Villani et al.	D631,542 S	1/2011	DeGross
5,281,206 A	1/1994	Lopez	7,874,596 B2	1/2011	Kertesz et al.
5,335,656 A	8/1994	Bowe et al.	D637,713 S	5/2011	Nord et al.
D362,718 S	9/1995	Deily et al.	7,946,291 B2	5/2011	Fink et al.
D363,541 S	10/1995	Cottone, Sr. et al.	D645,547 S	9/2011	Lombardi et al.
5,456,676 A	10/1995	Nelson et al.	8,020,551 B2	9/2011	Virr et al.
5,529,284 A	6/1996	Berger et al.	8,092,409 B2	1/2012	Mros et al.
5,584,997 A	12/1996	Yagihashi et al.	D654,573 S	2/2012	Lombardi et al.
5,620,427 A	4/1997	Werschmidt et al.	D656,231 S	3/2012	Henry et al.
5,718,143 A	2/1998	Clowes	8,186,352 B2	5/2012	Gunaratnam et al.
5,725,258 A	3/1998	Kujawski	D661,785 S	6/2012	Johnson
5,725,511 A	3/1998	Urrutia	8,256,459 B2	9/2012	Tesluk et al.
5,735,271 A	4/1998	Lorenzen et al.	8,257,286 B2	9/2012	Meyer et al.
5,738,142 A	4/1998	Eike et al.	8,287,517 B2	10/2012	Hanlon et al.
5,741,084 A	4/1998	Del Rio et al.	8,317,203 B2	11/2012	Hermle et al.
D395,502 S	6/1998	Deily et al.	D672,037 S	12/2012	Miller
5,901,705 A	5/1999	Leagre	8,376,412 B2	2/2013	Johnson
D424,687 S	5/2000	Hoening	8,397,727 B2	3/2013	Ng et al.
D427,308 S	6/2000	Zinger	D682,415 S	5/2013	Mogensen et al.
6,099,519 A	8/2000	Olsen	8,439,039 B2	5/2013	Gunaratnam et al.
D431,634 S	10/2000	Mantz	D685,463 S	7/2013	Veliss et al.
D439,326 S	3/2001	Hecker et al.	8,485,193 B2	7/2013	Worley
D443,863 S	6/2001	Maccarone	8,534,278 B2	9/2013	Colman et al.
D449,107 S	10/2001	Madsen	D691,712 S	10/2013	Judson et al.
6,402,207 B1	6/2002	Segal et al.	D691,717 S	10/2013	McLean et al.
			D692,555 S	10/2013	Maksym et al.
			D695,890 S	12/2013	Bowden et al.
			D697,200 S	1/2014	Mahaffy
			D698,440 S	1/2014	Lombardi, III
			8,622,057 B2	1/2014	Ujhazy et al.
			D707,355 S	6/2014	Bow
			8,741,220 B2	6/2014	O'Donnell et al.
			D709,996 S	7/2014	Yu
			D710,695 S	8/2014	Pritikin
			8,814,849 B1	8/2014	Winsor

(56)

References Cited

U.S. PATENT DOCUMENTS					
8,870,238 B2	10/2014	Robert et al.	D852,356 S	6/2019	Steele et al.
D717,942 S	11/2014	Neff et al.	10,322,254 B2	6/2019	Fong et al.
8,960,727 B2	2/2015	Kendrick	D852,949 S	7/2019	Klenner et al.
D724,720 S	3/2015	O'Connor et al.	10,335,583 B2	7/2019	Gulliver et al.
8,967,144 B2	3/2015	Lurie	D855,794 S	8/2019	Gray
D726,287 S	4/2015	Steele	D856,510 S	8/2019	Scheirlinck
D727,492 S	4/2015	Scampoli	D857,880 S	8/2019	Lau et al.
9,010,330 B2	4/2015	Barlow et al.	D860,445 S	9/2019	Ho
D735,038 S	7/2015	Tamarindo	D861,162 S	9/2019	Gulliver et al.
D735,326 S	7/2015	Gulliver	D863,545 S	10/2019	Dantanarayana
D736,906 S	8/2015	Schultz	10,449,320 B2	10/2019	Miller
D736,914 S	8/2015	Schultz	D867,583 S	11/2019	Yang et al.
D737,963 S	9/2015	Srinivasan et al.	D867,586 S	11/2019	Kemps et al.
9,132,252 B2	9/2015	Barlow et al.	D867,587 S	11/2019	Holtz et al.
9,188,267 B2	11/2015	Fansler et al.	D870,878 S	12/2019	Wilson
D746,416 S	12/2015	Barlar	D875,242 S	2/2020	Gordon
D747,471 S	1/2016	Gulliver et al.	D876,617 S	2/2020	Scheirlinck et al.
D747,794 S	1/2016	Greenberg et al.	D878,546 S	3/2020	Formica et al.
D750,239 S	2/2016	Pappalardo	D878,549 S	3/2020	Wilson
9,259,535 B2	2/2016	Anderson et al.	D879,953 S	3/2020	Ljunglof et al.
D751,687 S	3/2016	Daly	D879,956 S	3/2020	Klenner et al.
9,385,257 B2	3/2016	Reuterholt et al.	10,576,233 B2	3/2020	Harwood
D757,259 S	5/2016	Duck	D880,686 S	4/2020	Stoks et al.
D757,933 S	5/2016	Lev	D887,577 S	6/2020	Shor et al.
D759,486 S	6/2016	Ingram	D893,024 S	7/2020	Whiteside
D764,049 S	8/2016	Cullen et al.	D893,016 S	8/2020	Wilson
9,440,040 B2	9/2016	Klasek et al.	D894,376 S	8/2020	Boyes
D768,285 S	10/2016	Reed	D895,103 S	9/2020	Dantanarayana
D771,247 S	11/2016	Shinohara et al.	D896,758 S	9/2020	Watkins
9,480,809 B2	11/2016	Guney et al.	D896,929 S	9/2020	Vranish
D777,317 S	1/2017	Soual et al.	10,786,663 B2	9/2020	Lauer
D777,324 S	1/2017	Nguyen	D899,590 S	10/2020	Gulliver et al.
D781,417 S	3/2017	Ingram	10,792,486 B2	10/2020	Nelson
D784,525 S	4/2017	Nguyen	D901,673 S	11/2020	Gordon
D785,161 S	4/2017	Dravitzki et al.	D903,121 S	11/2020	Chan
D785,789 S	5/2017	Turturro	10,835,733 B1	11/2020	Gulliver et al.
D787,053 S	5/2017	Huang et al.	D909,564 S	2/2021	Bogan
D787,054 S	5/2017	Rini et al.	D910,840 S	2/2021	Klenner et al.
D787,661 S	5/2017	Edwards et al.	D917,690 S	4/2021	Lau et al.
D790,054 S	6/2017	Prentice	D923,169 S	6/2021	McCool et al.
9,669,181 B2	6/2017	Miller et al.	D923,768 S	6/2021	Maeckelberghe et al.
9,675,774 B2	6/2017	Cipollone	D924,154 S	7/2021	Dykas et al.
D791,310 S	7/2017	Maurice	D924,377 S	7/2021	Kwak et al.
D791,938 S	7/2017	Becker	D925,734 S	7/2021	Park
D791,939 S	7/2017	Turturro et al.	D928,925 S	8/2021	Lei
D792,584 S	7/2017	Ingram et al.	D928,948 S	8/2021	Gulliver et al.
D794,184 S	8/2017	Smith et al.	D928,949 S	8/2021	Gulliver et al.
D794,781 S	8/2017	Gilbert et al.	D930,184 S	9/2021	Johnson
D800,895 S	10/2017	Prentice	D933,815 S	10/2021	Eves et al.
D804,023 S	11/2017	Huang et al.	D938,016 S	12/2021	Eves et al.
9,808,612 B2	11/2017	Gulliver et al.	D940,861 S	1/2022	Mosen et al.
D804,661 S	12/2017	Shoji et al.	11,224,728 B2	1/2022	Ignon
D805,629 S	12/2017	Fiorenza	D944,936 S	3/2022	Chaves et al.
D805,630 S	12/2017	Formica	D944,939 S	3/2022	Chaves
D807,995 S	1/2018	Maeckelberghe et al.	D948,027 S	4/2022	Babbage et al.
9,868,001 B2	1/2018	Walker et al.	D949,294 S	4/2022	Chandler
9,879,807 B2	1/2018	Brugger et al.	D949,295 S	4/2022	Chaves
D809,656 S	2/2018	Lau et al.	D958,968 S	7/2022	Hobbs
9,884,176 B2	2/2018	Fangrow	D970,721 S	11/2022	Ros Fabrega et al.
D816,216 S	4/2018	Gulliver et al.	11,504,099 B1 *	11/2022	Smith G01N 33/54366
D825,749 S	8/2018	Huang et al.	D973,887 S	12/2022	Rohde, II et al.
D827,125 S	8/2018	Nilsson	D974,551 S	1/2023	Mosen et al.
D827,126 S	8/2018	Nilsson et al.	D975,839 S	1/2023	Kuo
D832,431 S	10/2018	Turturro et al.	D977,087 S	1/2023	Siew
D834,533 S	11/2018	Maroney	D983,353 S	4/2023	Babbage et al.
D834,712 S	11/2018	Gulliver et al.	D984,639 S	4/2023	Fang
D835,260 S	12/2018	Lisberg	D988,500 S	6/2023	Ishikawa
D837,743 S	1/2019	Maroney	D995,758 S	8/2023	McDermott et al.
D841,147 S	2/2019	McCool et al.	D1,006,981 S	12/2023	Berney et al.
D841,148 S	2/2019	Stoks et al.	2001/0004970 A1	6/2001	Hollister
10,245,407 B2	4/2019	Osborne	2001/0029949 A1	10/2001	Blackhurst et al.
10,265,492 B2	4/2019	Amarasinghe et al.	2001/0031819 A1	10/2001	Iwata et al.
D847,752 S	5/2019	Barrefelt	2002/0017302 A1	2/2002	Fukunaga et al.
D849,242 S	5/2019	Wilson	2002/0112730 A1	8/2002	Dutkiewicz
D849,931 S	5/2019	Prentice	2002/0149200 A1	10/2002	Fumioka
			2002/0173748 A1	11/2002	McConnell
			2003/0116963 A1	6/2003	Teuscher et al.
			2003/0136932 A1	7/2003	Doyle
			2004/0090066 A1	5/2004	Hoffmann

(56)

References Cited

U.S. PATENT DOCUMENTS

2004/0103686	A1	6/2004	Fehr et al.
2004/0108218	A1	6/2004	Stubergh
2004/0156915	A1	8/2004	Harman et al.
2004/0261797	A1	12/2004	White et al.
2005/0011524	A1	1/2005	Thomlinson et al.
2005/0028822	A1	2/2005	Sleeper et al.
2005/0077726	A1	4/2005	White et al.
2005/0085794	A1	4/2005	Denoth et al.
2005/0283114	A1	12/2005	Bresina
2006/0107958	A1	5/2006	Sleeper
2006/0107960	A1	5/2006	Smart
2006/0113690	A1	6/2006	Huddart
2007/0043334	A1	2/2007	Guala
2007/0088327	A1	4/2007	Guala
2007/0163588	A1	7/2007	Hebrank et al.
2007/0169825	A1	7/2007	Packham et al.
2007/0175473	A1	8/2007	Lewis et al.
2007/0276356	A1	11/2007	Downing et al.
2008/0041391	A1	2/2008	Worley
2008/0093846	A1	4/2008	Sparks et al.
2008/0105257	A1	5/2008	Klasek
2008/0142019	A1	6/2008	Lewis et al.
2008/0183153	A1	7/2008	Enns
2008/0190436	A1	8/2008	Jaffe et al.
2008/0214990	A1	9/2008	Smutney et al.
2008/0264413	A1	10/2008	Doherty et al.
2008/0287920	A1	11/2008	Fangrow et al.
2009/0101147	A1	4/2009	Landis et al.
2009/0120434	A1	5/2009	Smith et al.
2009/0223523	A1	9/2009	Chang
2009/0223963	A1	9/2009	Bisio
2009/0240178	A1	9/2009	Hanlon et al.
2009/0266357	A1	10/2009	Varis et al.
2009/0299158	A1	12/2009	Boatner et al.
2010/0043789	A1	2/2010	Fine et al.
2010/0116272	A1	5/2010	Row et al.
2010/0148500	A1	6/2010	Uehara et al.
2010/0163051	A1	7/2010	Brewer et al.
2010/0168600	A1	7/2010	Adriance et al.
2010/0192957	A1	8/2010	Hobson et al.
2010/0206310	A1	8/2010	Matsubara et al.
2010/0242961	A1	9/2010	Mougel et al.
2011/0067704	A1	3/2011	Kooij et al.
2011/0071504	A1	3/2011	Saltell et al.
2011/0074148	A1	3/2011	Imai
2011/0120472	A1	5/2011	Lee et al.
2011/0139151	A1	6/2011	Burns
2011/0139826	A1	6/2011	Hair
2011/0162644	A1	7/2011	Ujhazy et al.
2011/0240031	A1	10/2011	Jaffre
2011/0253136	A1	10/2011	Sweeney et al.
2011/0265796	A1	11/2011	Amarasinghe et al.
2012/0157914	A1	6/2012	Stroup
2012/0247477	A1	10/2012	Stephenson et al.
2012/0305001	A1	12/2012	Tatkov
2013/0037030	A1	2/2013	Matula
2013/0104888	A1	5/2013	Landis et al.
2013/0133651	A1	5/2013	Barker et al.
2013/0167841	A1	7/2013	Sheffer et al.
2013/0245611	A1	9/2013	Bonnet et al.
2013/0255670	A1	10/2013	Ott et al.
2013/0264821	A1	10/2013	Duck
2013/0284167	A1	10/2013	Porteous et al.
2013/0292592	A1	11/2013	Py
2014/0000626	A1	1/2014	O'Connor et al.
2014/0014108	A1	1/2014	Dillard
2014/0053846	A1	2/2014	Wood
2014/0144438	A1	5/2014	Klasek
2014/0158127	A1	6/2014	Boucher et al.
2014/0191501	A1	7/2014	Brugger et al.
2014/0200475	A1	7/2014	Rubin
2014/0238401	A1	8/2014	Paschall
2014/0261416	A1	9/2014	Arcilla et al.
2014/0338669	A1	11/2014	Zhao et al.
2014/0373841	A1	12/2014	Nashed
2015/0021909	A1	1/2015	Gulliver et al.
2015/0059745	A1	3/2015	Barker et al.
2015/0083121	A1	3/2015	Fisher
2015/0128944	A1	5/2015	Buechi
2015/0167877	A1	6/2015	Kendrick
2015/0209568	A1	7/2015	Rosenquist
2015/0290416	A1	10/2015	Klasek
2015/0306332	A1	10/2015	Bafle et al.
2015/0320949	A1	11/2015	Jaffe
2015/0320962	A1	11/2015	Bafle et al.
2016/0001031	A1	1/2016	Laing et al.
2016/0038701	A1	2/2016	White et al.
2016/0082218	A1	3/2016	Lau
2016/0106913	A1	4/2016	Ng et al.
2016/0131292	A1	5/2016	Decker
2016/0193440	A1	7/2016	Sheffer et al.
2016/0199634	A1	7/2016	Gagliardoni et al.
2016/0228668	A1	8/2016	Martin
2016/0287824	A1	10/2016	Chang
2016/0305574	A1	10/2016	Burdge
2017/0036007	A1	2/2017	Hallissey et al.
2017/0065788	A1	3/2017	Chou
2017/0065789	A1	3/2017	Reed
2017/0197055	A1	7/2017	Moody
2017/0333662	A1	11/2017	Ovinsky et al.
2017/0361051	A1	12/2017	Eifler
2018/0064901	A1	3/2018	Colman
2018/0078728	A1	3/2018	Holyoake et al.
2018/0085544	A1	3/2018	Holyoake
2018/0117270	A1	5/2018	Bassin
2018/0140819	A1	5/2018	Yang
2018/0200148	A1	7/2018	Sanders
2019/0022344	A1	1/2019	Lau et al.
2019/0151842	A1	5/2019	Williams et al.
2019/0321617	A1	5/2019	Gulliver et al.
2019/0167935	A1	6/2019	Siew et al.
2019/0381268	A1	12/2019	Colman
2020/0129724	A1	4/2020	Nelson
2020/0345997	A1	11/2020	Gulliver et al.
2021/0205589	A1	7/2021	Dong
2021/0322706	A1	10/2021	Lau et al.
2021/0361924	A1	11/2021	Gulliver et al.
2021/0402126	A1	12/2021	Lau et al.
2021/0402127	A1	12/2021	Lau et al.
2023/0021629	A1	1/2023	Ranjitsingh
2023/0147017	A1	5/2023	Holyoake
2023/0381484	A1	11/2023	Gulliver et al.

FOREIGN PATENT DOCUMENTS

CN	101380497	A	3/2009
CN	201775849		3/2011
CN	102019014		4/2011
CN	103180650	A	6/2013
CN	103764213	A	4/2014
CN	103857432	A	6/2014
CN	104853796	A	8/2015
CN	104870042	A	8/2015
DE	37 09 122	A1	9/1988
DE	19615290		1/1998
DE	10 2007 063 556	A1	7/2009
EM	000254420-0014		11/2004
EM	008110019-0001		9/2020
EM	008110019-0002		9/2020
EP	1 068 889		1/2001
EP	1181945	A1	2/2002
EP	0809768	B1	7/2002
EP	1 314 446		8/2002
EP	1 277 488		1/2003
EP	1 403 838		3/2004
EP	1408313	A2	4/2004
EP	1520599	A1	10/2004
EP	1479405	A1	11/2004
EP	1 481 702		12/2004
EP	1 023 912	B1	11/2005
EP	1 449 502		12/2007
EP	1933074		6/2018
EP	3344319		7/2018
EP	2 906 287		6/2019

(56)

References Cited

FOREIGN PATENT DOCUMENTS

EP	2 877 224	9/2020
EP	2 925 396	9/2020
GB	1563359	3/1980
GB	2328260	2/1999
JP	09-028806	2/1997
JP	2002-126094	5/2002
JP	2007-236567	9/2007
JP	2010-527276	8/2010
JP	2014-516601	7/2014
JP	2014-521471	8/2014
JP	D1639030	8/2019
JP	D1723039	8/2022
JP	D1737290	2/2023
KR	1020040103139	12/2004
MY	13-1228-0303-0001	8/2014
TW	223055-0001	1/2023
WO	WO 90/014122	11/1990
WO	WO 94/004211	3/1994
WO	WO 97/015376	5/1997
WO	WO 97/48433	12/1997
WO	WO 99/012598	3/1999
WO	WO 03/090827	11/2002
WO	WO 2003/082406	10/2003
WO	WO 2004/108218	12/2004
WO	WO 05/018524	3/2005
WO	WO 2005/079670	9/2005
WO	WO 05/102431	11/2005
WO	WO 07/019625	2/2007
WO	WO 07/024812	3/2007
WO	WO 08/144298	11/2008
WO	WO 2008/144447 A2	11/2008
WO	WO 09/094532	7/2009
WO	WO 09/146484	12/2009
WO	WO 11/062510	5/2011
WO	WO 2011/079226 A1	6/2011
WO	WO 12/052903	4/2012
WO	WO 2013/022356	2/2013
WO	WO 13/088439	6/2013
WO	WO 13/127474	9/2013
WO	WO 14/015382	1/2014
WO	WO 14/077706	5/2014
WO	WO 2014/097145 A1	6/2014
WO	WO 2014/129912	8/2014
WO	WO 2014/205513	12/2014
WO	WO 15/038014	3/2015
WO	WO 2015/142192	9/2015
WO	WO 16/157101	10/2016
WO	WO 16/157105	10/2016

OTHER PUBLICATIONS

Pall Corporation, Jun. 10, 2019, Multiple-Patient-Use Anesthesia Circuits, product description, 5 pp.

International Search Report, PCT/IB2016/055258, dated Nov. 14, 2016, in 12 pages.

Fisher & Paykel Healthcare Limited, Junior Tube and Chamber Kit, 900PT531, 2012.

Photos of current commercial connector in 3 pages.

PCT Application No. PCT/NZ2012/000142 International Search Report and Written Opinion dated Jan. 22, 2013, in 14 pages.

PCT Application No. PCT/NZ2012/000142 International Preliminary Report on Patentability dated Feb. 14, 2014 in 6 pages.

Office Action in corresponding Japanese Patent Application No. 2014-524961, dated Nov. 8, 2017, in 2 pages.

Office Action in corresponding Taiwanese Patent Application No. 1061015308, dated Apr. 12, 2007, in 4 pages.

Search Report in corresponding Taiwanese Patent Application No. 1061015308, dated Apr. 12, 2007, in 1 page.

Combined Search and Examination Report in corresponding United Kingdom Patent Application No. GB 10800268.3, dated Jan. 25, 2018, in 6 pages.

Examination Report in corresponding United Kingdom Patent Application No. GB 10800268.3, dated Jun. 8, 2018, in 3 pages.

Extended Search Report in corresponding European Patent Application No. 17195173.4, dated May 22, 2018, in 13 pages.

Office Action in corresponding Canadian Patent Application No. 2844802, dated Jun. 6, 2018, in 4 pages.

Office Action in corresponding United Kingdom Patent Application No. 1807231.4, dated Jun. 19, 2018, in 9 pages.

Examination Report in corresponding United Kingdom Patent Application No. 1800268.3, dated Jul. 3, 2018, in 2 pages.

Examination Report in corresponding United Kingdom Patent Application No. 1807231.4, dated Aug. 31, 2018, in 2 pages.

Examination Report in corresponding Australian Patent Application No. 2017202180, dated Aug. 31, 2018, in 3 pages.

Examination Report in corresponding Taiwanese Patent Application No. 106105308, dated Aug. 10, 2018, in 6 pages.

Examination Report in corresponding United Kingdom Patent Application No. 1810896.9, dated Nov. 20, 2018, in 5 pages.

Supplementary European Search Report, European Patent Office, Application No. EP 16 84 0949, dated Jan. 17, 2019, in 3 pages.

Examination Report in corresponding Chinese Patent Application No. 201710181760.0, dated May 29, 2019, in 5 pages.

Examination Report in corresponding Chinese Patent Application No. 201710181804.X, dated May 29, 2019, in 8 pages.

Office Action in corresponding Canadian Patent Application No. 2,844,802, dated Jun. 12, 2019, in 4 pages.

Office Action in corresponding Japanese Patent Application No. 2018-041463, dated Jan. 31, 2019, in 2 pages.

Office Action in corresponding Australian Patent Application No. 2017202180, dated Jul. 19, 2019, in 3 pages.

Decision for Final Rejection in corresponding Japanese Patent Application No. 2018-041463, dated Aug. 1, 2019, in 2 pages.

The State Intellectual Property Office of People's Republic of China, First Office Action; Application No. 201680060677.1, dated Mar. 19, 2020; 26 pages.

Examination Report for Australian Patent Application 2016314616, dated Apr. 30, 2020; 4 pages.

Notification of First Office Action, CN Application No. 201680060677.1, dated Mar. 19, 2020, 7 pages.

Salter Labs, "Air-Q Intubating Laryngeal Airways (ILA) The everyday airway that's ready for the unexpected."; Dec. 2018; 8 pages.

Examination Report for GB1803152.6, dated May 26, 2020, 2 pages.

Examination Report for JP2018-512159, dated Aug. 20, 2020, 15 pages total with machine translation.

European Patent Office, Examination Report, Application No. 16840949.8, dated Feb. 16, 2021 in 4 pages.

Chinese Patent Office, Notification Letter of Review Opinion, Taiwan Design Application No. 109304590, dated Jan. 6, 2021 in 4 pages.

Japanese Patent Office, Notice of Reasons of Refusal, Official Action, Japanese Application No. 2019-2233563, dated Feb. 25, 2021, in 9 pages.

JML Medical, Adaptor One Way Valve 220Dx221D w/Oxygen Stem, Teleflex, [Post date unknown], downloaded May 19, 2022, <https://www.jmlmed.com/collections/respiratory-products/products/one-way-valve-by-teleflex>, 2 pp.

New Leaf Home Medical, Pressure Line Adaptor for Ventilation Accessories, Medline, [Post date Unknown], downloaded May 19, 2022 <https://newleafhomemedical.com/pressure-line-adaptor-for-ventilation-accessories/>, 1 p.

RC Medical Incorporated, Hudson Dual Spray MDI Adaptor, CS/50, [Post date: Post date unknown], downloaded, May 19, 2022, <https://www.rcmedical.com/viewProduct.cfm?productID=871>, 1 p.

AQR Safety Connection, Staubli, [Post date: Nov. 29, 2023], [Site seen Aug. 9, 2023], Seen at URL: <https://www.staubli.com/fr/en/fluid-connectors/products/quick-and-dry-disconnect-couplings/breathing-air.html> (Year: 2023).

Fisher & Paykel Icon ThermoSmart Heated CPAP Tubing, 6 Foot, Fisher & Paykel, [Post date unknown], [Site seen Mar. 23, 2023], Seen at URL: <https://helpmedicalsupplies.com/products/6-thermosmart-heated-hose-tubing-for-f-p-icon-cpap-machine?variant=9981444522099> (Year: 2023), 1 p.

(56)

References Cited

OTHER PUBLICATIONS

Prestan Rescue Mask Adapters 50 Pack, Prestan, heartsmart.com, [Post date: unknown], [Site seen Aug. 9, 2023], Seen at URL: <https://www.heartsmart.com/prestan-rescue-mask-adapters-p> (Year: 2023).

Replacement Non-Heated Hose Tubing for Fisher & Paykel SleepStyle Auto CPAP Machine, Fisher & Paykel, .cpapstoreusa.com, [Post Date: Jun. 26, 2022], [Site seen Mar. 23, 2023], Seen at URL: <https://www.cpapstoreusa.com/product/replacement-non-heated-hose-tubing-for-fisher-paykel-sleepstyle-auto-cpap-machine/> (Year: 2022), 1 p.

Replacement Tube Assembly for WIS_P, IBEET Short Tube Supplies— Quick Release & 360-Degree Rotatable, IBEET, Amazon.com, [Post date: Oct. 28, 2021], Seen at URL: <https://www.amazon.com/Replacement-Tube-Assembly-Short-Supplies/dp/B09GM12TMG> (Year: 2021), 4 pp.

* cited by examiner

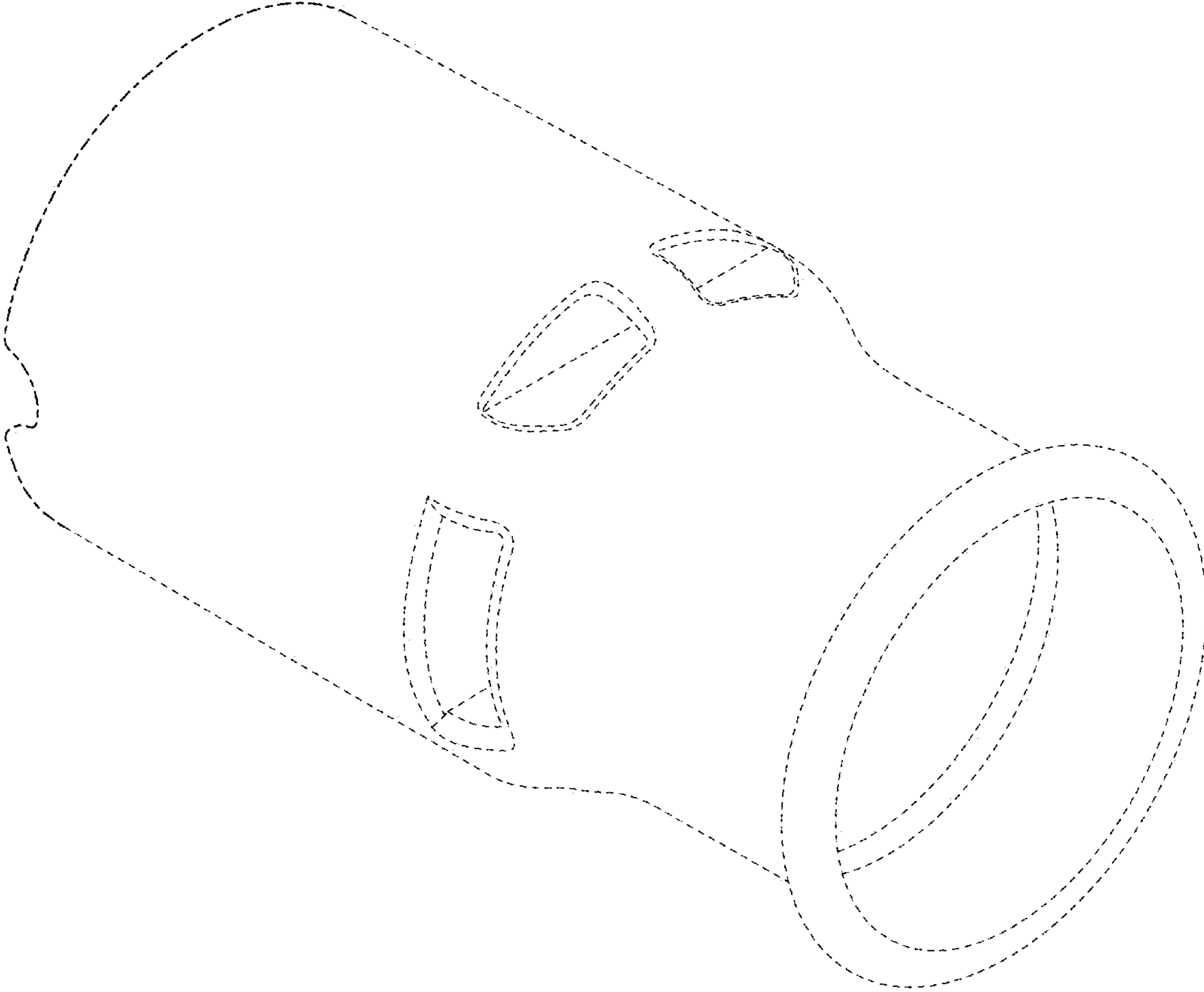


FIG. 1

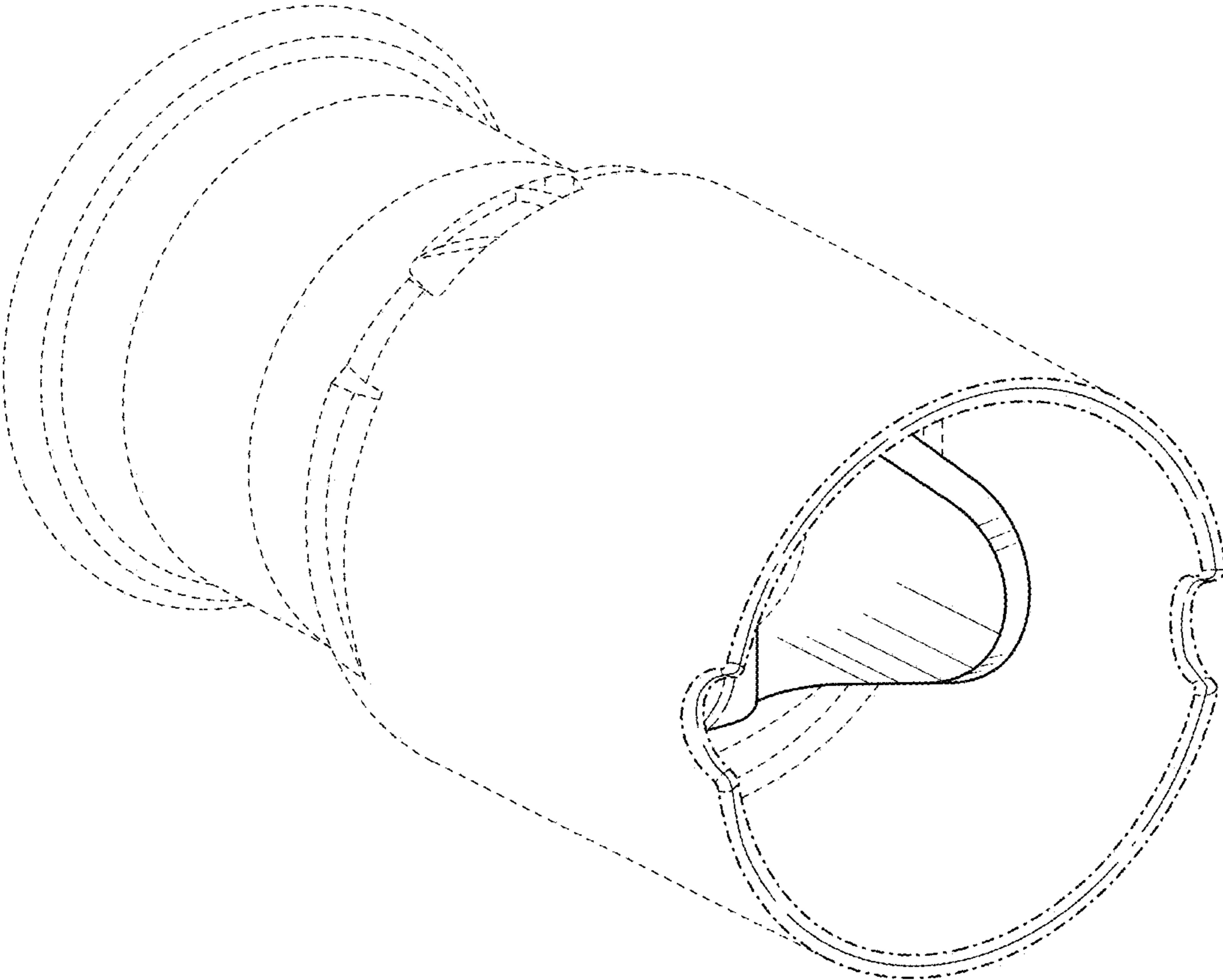


FIG. 2

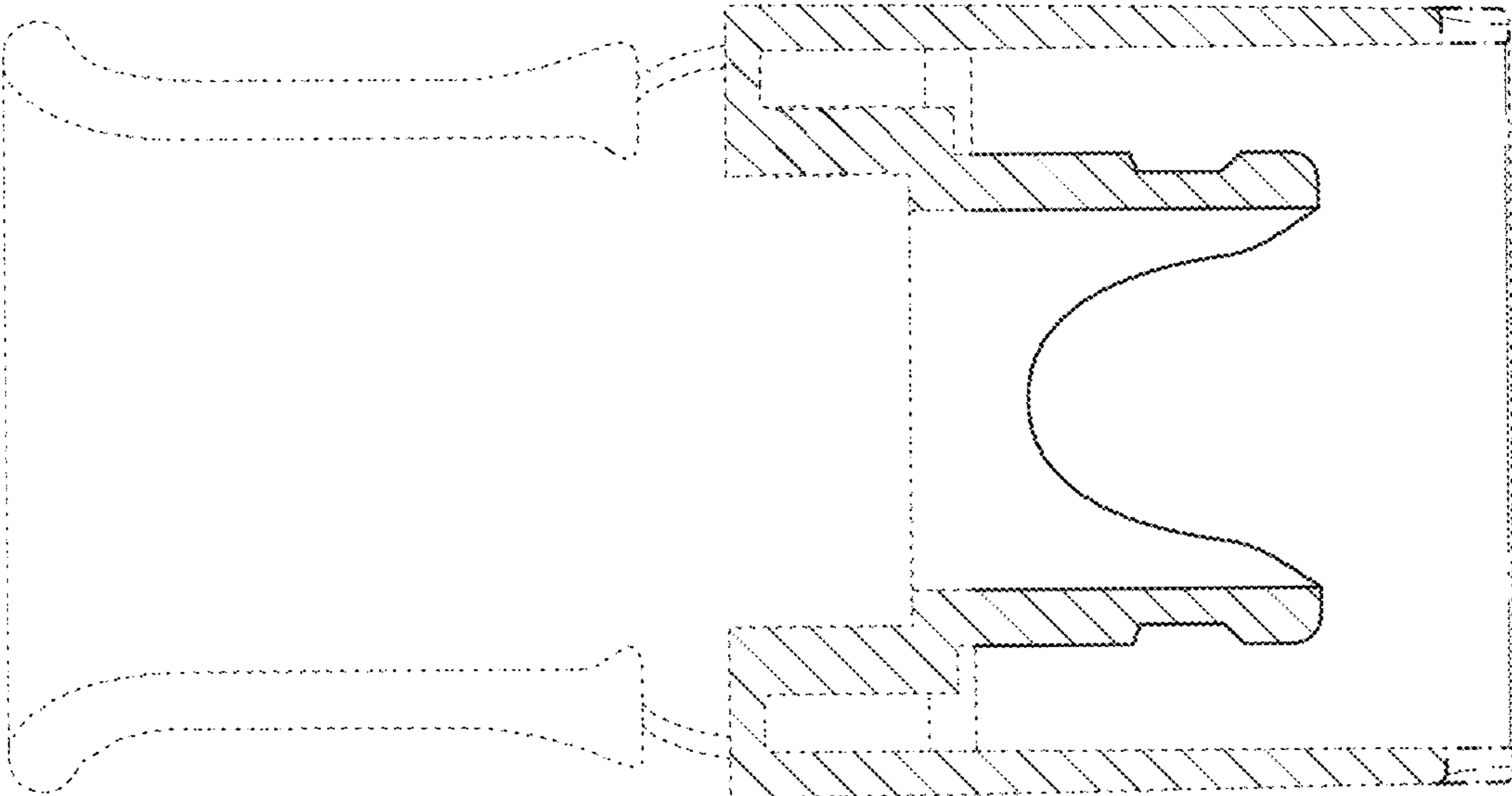


FIG. 3

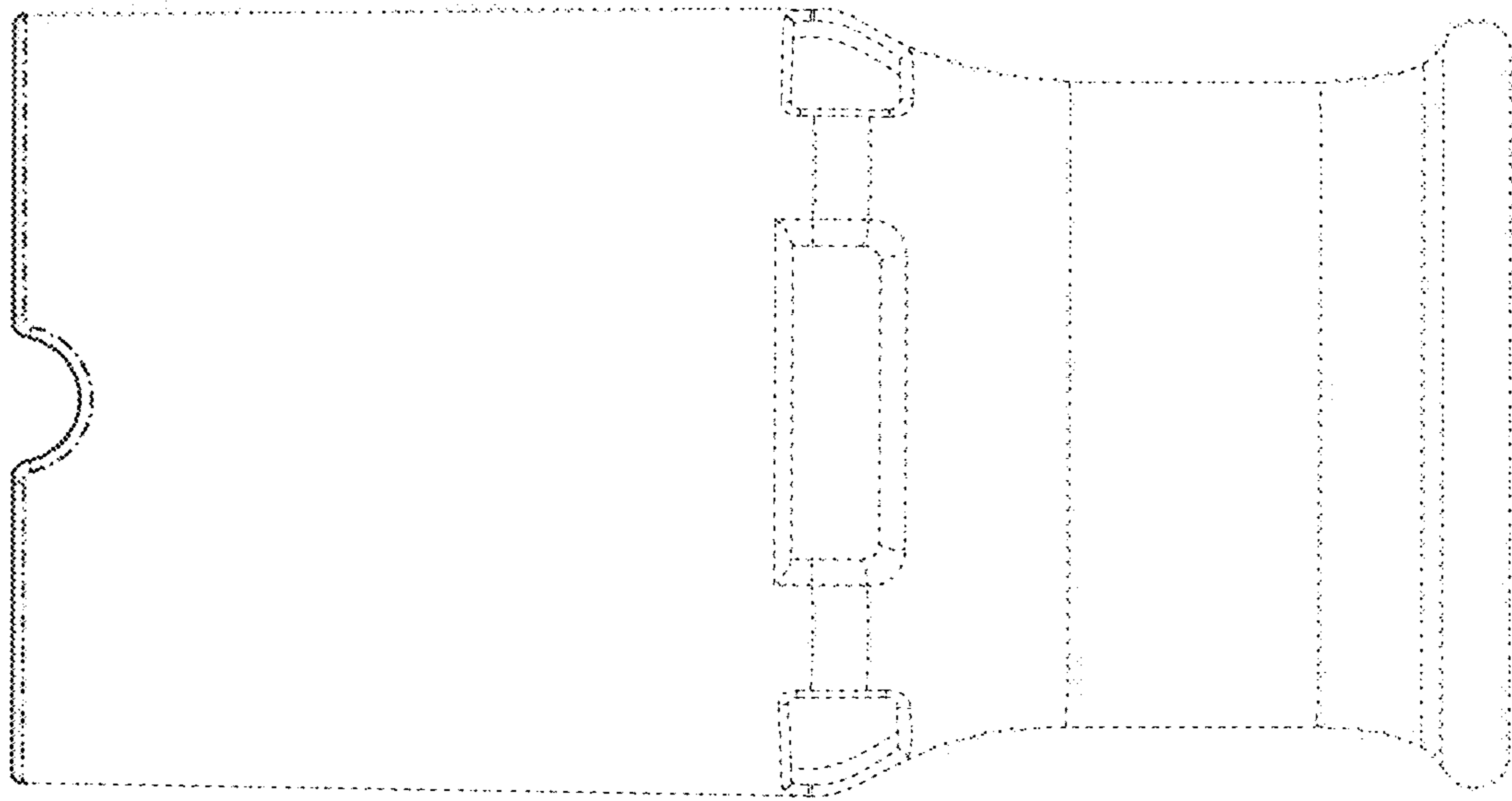


FIG. 4

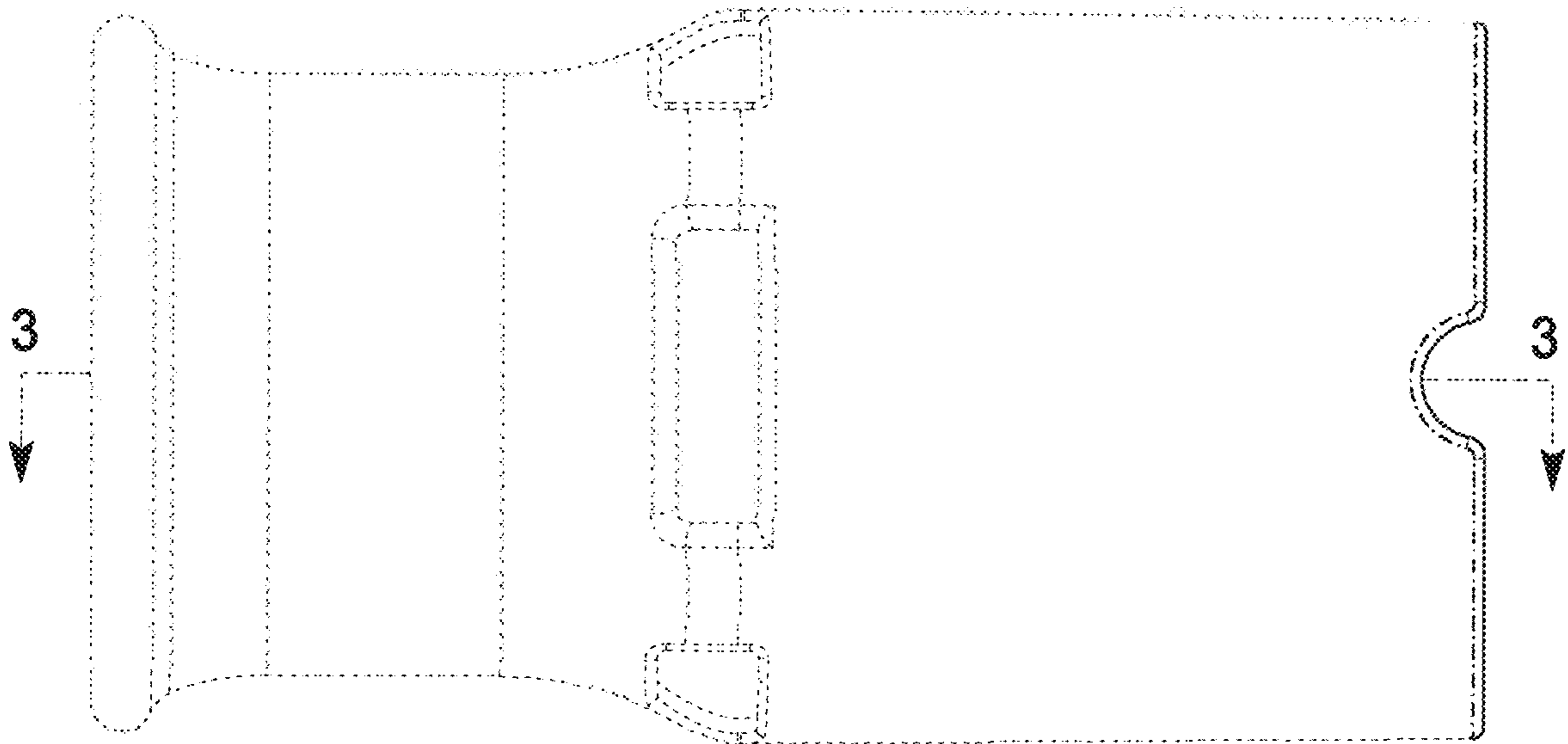


FIG. 5

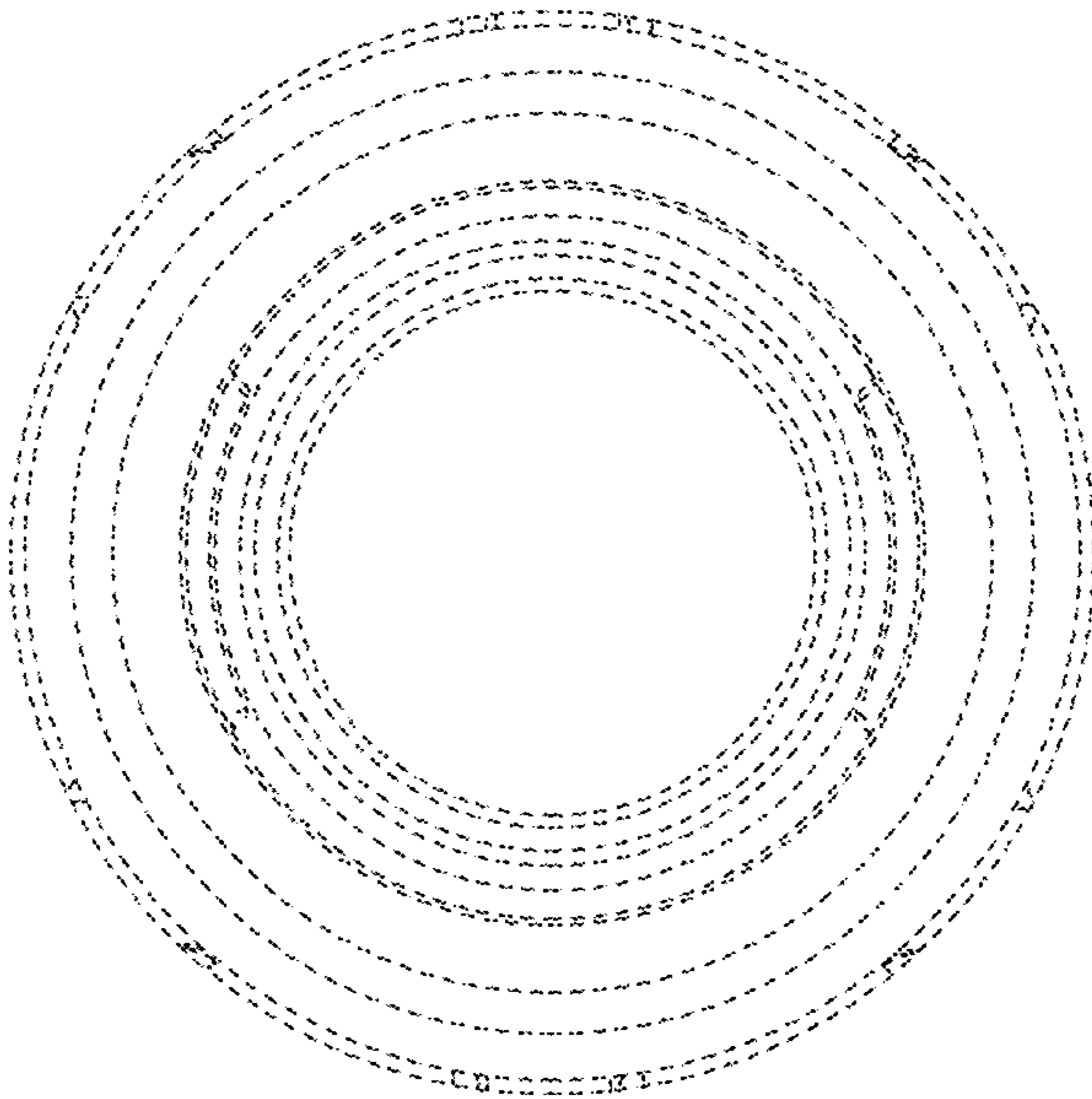


FIG. 6

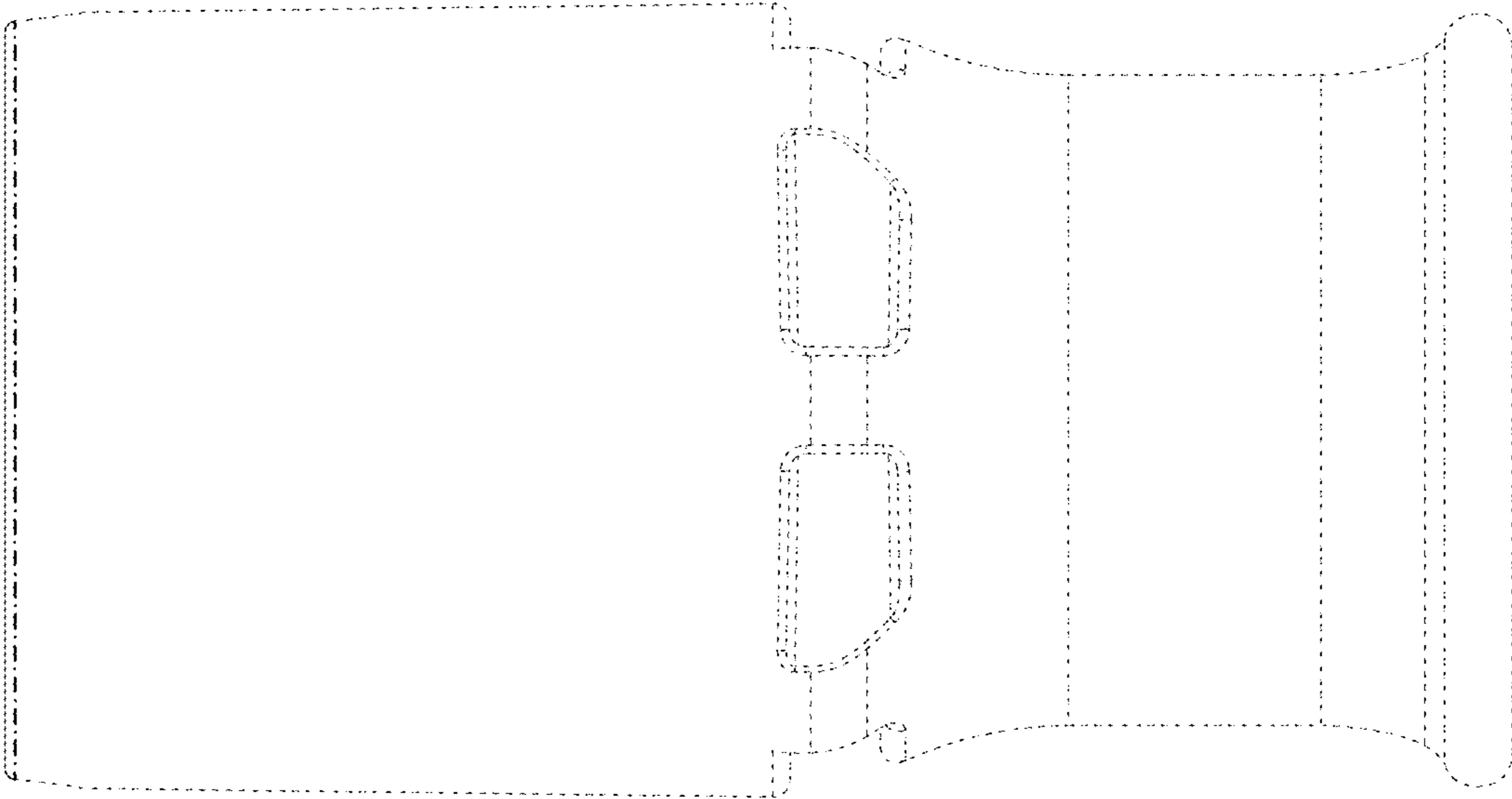


FIG. 7

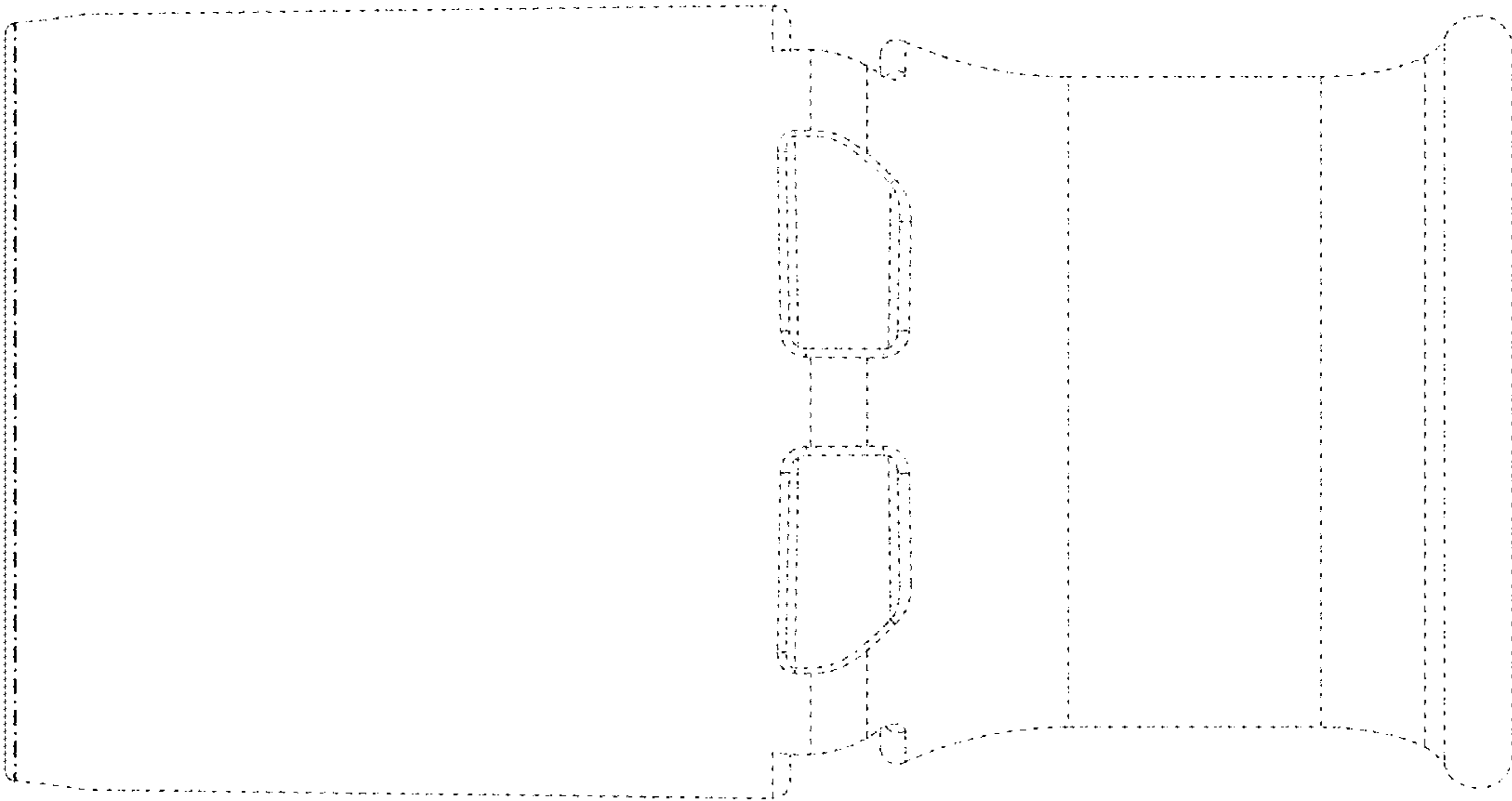


FIG. 8