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(54) **COUPLING MEMBER**  
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D2/978, 853, 609, 999; D11/215;  
D24/190  
CPC ..... F16G 11/03; F16G 11/101; F16G 11/00;  
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See application file for complete search history.

1,390,991 A 9/1921 Fotchuk  
1,393,188 A 10/1921 Whiteman  
1,469,661 A 2/1922 Migita  
1,412,486 A 4/1922 Paine  
1,416,203 A 5/1922 Hobson  
(Continued)

**FOREIGN PATENT DOCUMENTS**

CA 2112789 8/1994  
CA 2114387 8/1994  
(Continued)

**OTHER PUBLICATIONS**

U.S. Appl. No. 09/956,601, filed Sep. 18, 2001, Hammerslag.  
(Continued)

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(57) **CLAIM**

The ornamental design for a coupling member, as shown and described.

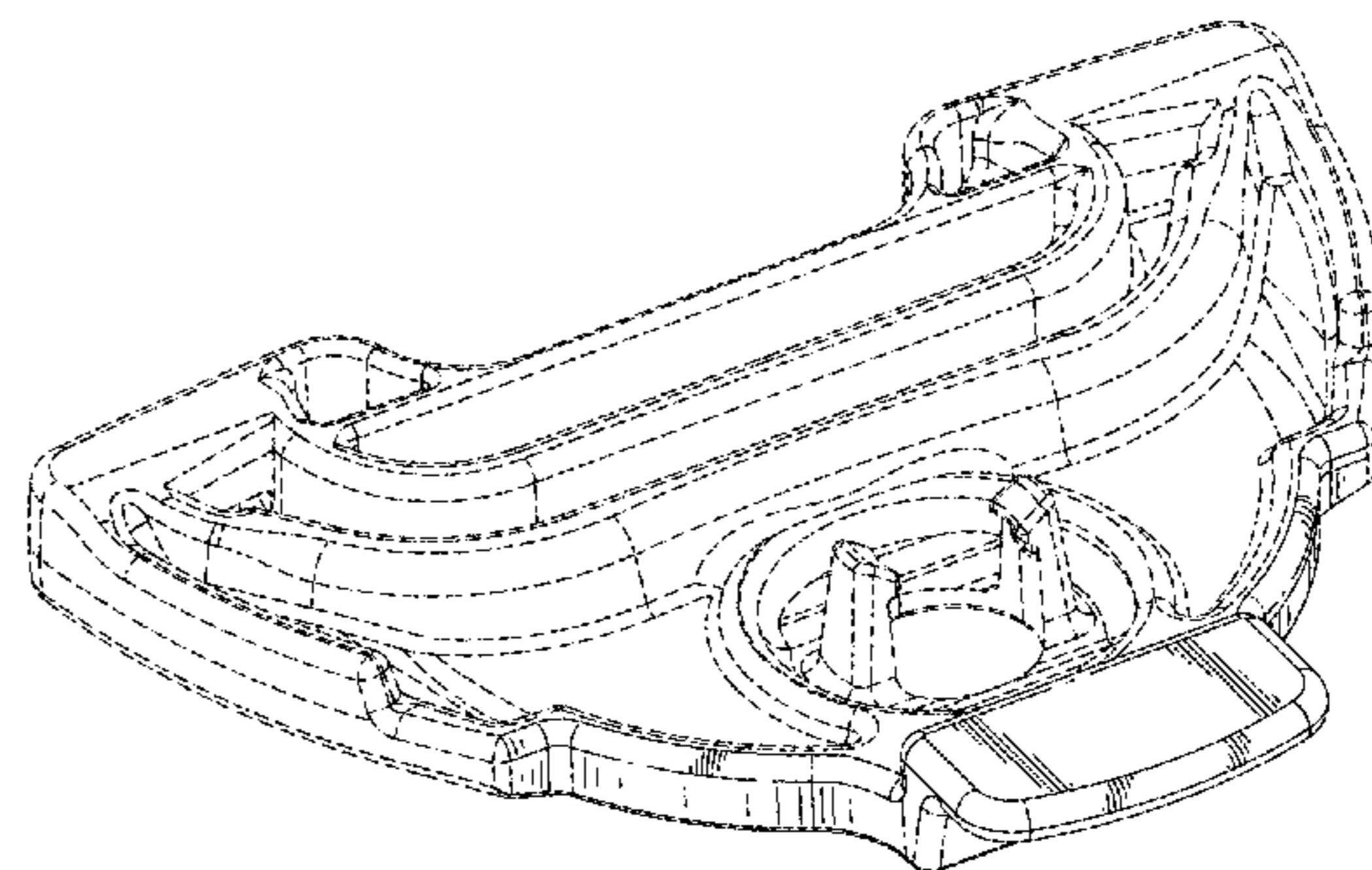
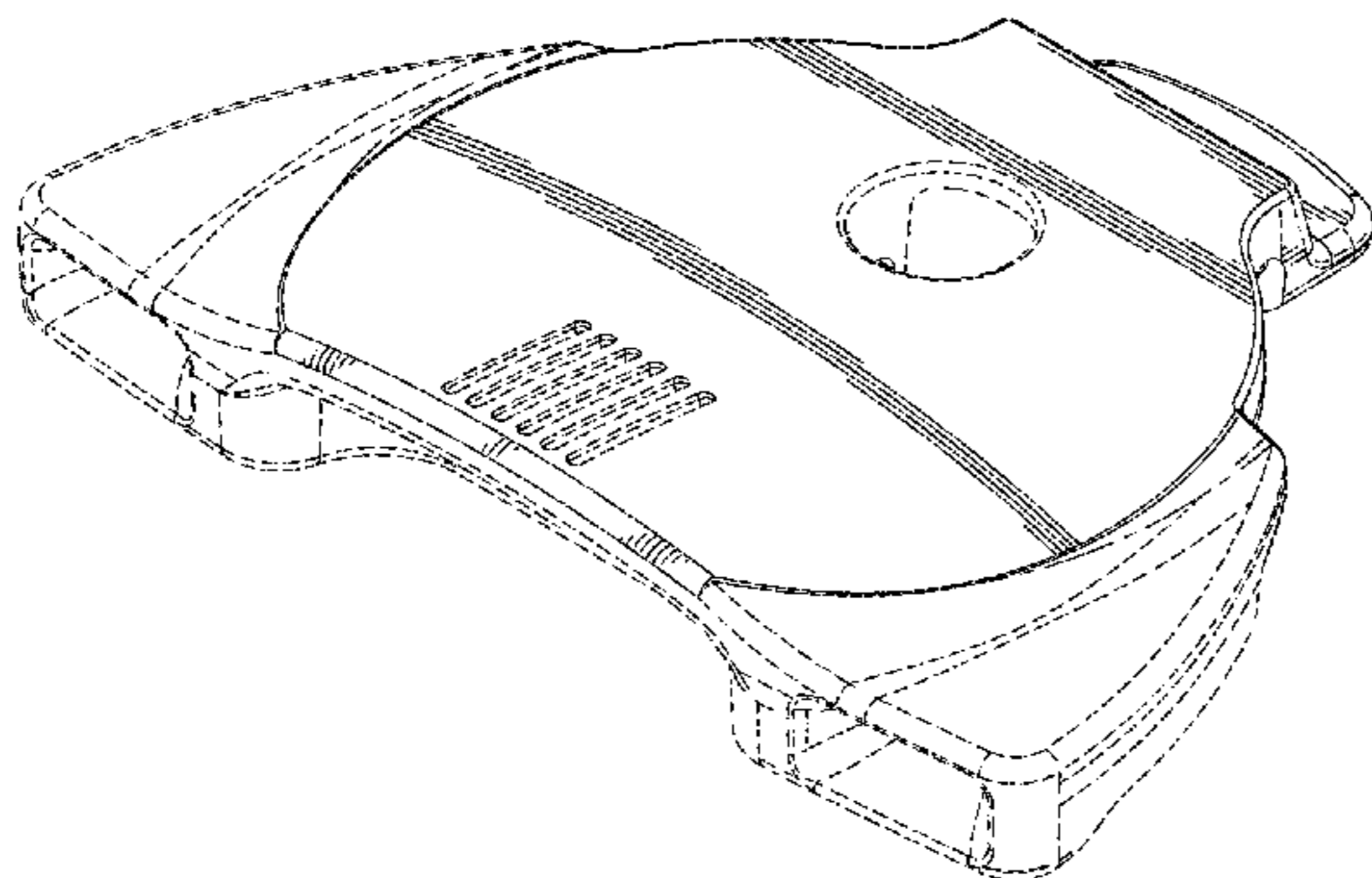
**DESCRIPTION**

FIG. 1 is a perspective view of the coupling member;  
FIG. 2 is a bottom perspective view of FIG. 1;  
FIG. 3 is a top plan view of FIG. 1;  
FIG. 4 is a bottom plan view of FIG. 1;  
FIG. 5 is a back view of FIG. 1;  
FIG. 6 is a front view of FIG. 1;  
FIG. 7 is a left side view of FIG. 1; and,  
FIG. 8 is a right side view of FIG. 1.  
The broken lines in the drawings illustrate portions of the coupling member and form no part of the claimed design.

**1 Claim, 6 Drawing Sheets**

(56) **References Cited**  
U.S. PATENT DOCUMENTS

59,332 A 10/1866 White et al.  
80,834 A 8/1868 Prussia  
117,530 A 8/1871 Foote  
228,946 A 6/1880 Schulz  
230,759 A 8/1880 Drummond  
379,113 A 3/1888 Hibberd  
746,563 A 12/1903 McMahon  
819,993 A 5/1906 Haws et al.  
908,704 A 1/1909 Sprinkle  
1,060,422 A 4/1913 Bowdish  
1,062,511 A 5/1913 Short  
1,083,775 A 1/1914 Thomas  
1,090,438 A 3/1914 Worth et al.  
1,170,472 A 2/1916 Barber  
1,288,859 A 12/1918 Feller et al.



(56)

References Cited

U.S. PATENT DOCUMENTS

1,429,657 A	9/1922	Trawinski	4,719,709 A	1/1988	Vaccari
1,481,903 A	4/1923	Hart	4,719,710 A	1/1988	Pozzobon
1,466,673 A	9/1923	Solomon et al.	4,722,477 A	2/1988	Floyd
1,530,713 A	2/1924	Clark	4,741,115 A	5/1988	Pozzobon
1,502,919 A	7/1924	Seib	4,748,726 A	6/1988	Schoch
1,862,047 A	6/1932	Boulet et al.	4,760,653 A	8/1988	Baggio
1,995,243 A	6/1934	Clarke	4,780,969 A	11/1988	White, Jr.
2,088,851 A	8/1937	Gantenbein	4,787,124 A	11/1988	Pozzobon et al.
2,109,751 A	3/1938	Matthias et al.	4,790,081 A	12/1988	Benoit et al.
2,124,310 A	9/1938	Murr, Jr.	4,796,829 A	1/1989	Pozzobon et al.
2,316,102 A	4/1943	Preston	4,799,297 A	1/1989	Baggio et al.
2,539,026 A	1/1951	Mangold	4,802,291 A	2/1989	Sartor
2,611,940 A	9/1952	Cairns	4,811,503 A	3/1989	Iwama
2,673,381 A	3/1954	Dueker	4,826,098 A	5/1989	Pozzobon et al.
2,907,086 A	10/1959	Ord	4,841,649 A	6/1989	Baggio et al.
2,991,523 A	7/1961	Del Conte	4,856,207 A	8/1989	Datson
3,028,602 A	4/1962	Miller	4,862,878 A	9/1989	Davison
3,035,319 A	5/1962	Wolff	4,870,723 A	10/1989	Pozzobon et al.
D193,807 S *	10/1962	Alfred ..... D8/396	4,870,761 A	10/1989	Tracy
3,106,003 A	10/1963	Herdman	4,870,761 A	10/1989	Tracy
3,112,545 A	12/1963	Williams	4,884,760 A	12/1989	Baggio et al.
3,122,810 A	3/1964	Lawrence et al.	4,901,938 A	2/1990	Cantley et al.
3,163,900 A	1/1965	Martin	4,924,605 A	5/1990	Spademan
D200,394 S	2/1965	Hakim	D308,282 S	6/1990	Bergman et al.
3,169,325 A	2/1965	Fesl	4,937,953 A	7/1990	Walkhoff
3,193,950 A	7/1965	Liou	4,961,544 A	10/1990	Biodia
3,197,155 A	7/1965	Chow	4,979,953 A	12/1990	Spence
3,221,384 A	12/1965	Aufenacker	4,989,805 A	2/1991	Burke
3,276,090 A	10/1966	Nigon	5,001,817 A	3/1991	De Bortoli et al.
D206,146 S	11/1966	Hendershot	5,016,327 A	5/1991	Klausner
3,345,707 A	10/1967	Rita	5,042,177 A	8/1991	Schoch
D210,649 S	4/1968	Getgay	5,062,225 A	11/1991	Gorza
3,401,437 A	9/1968	Christophersen	5,065,480 A	11/1991	DeBortoli
3,430,303 A	3/1969	Perrin et al.	5,065,481 A	11/1991	Walkhoff
3,491,465 A	1/1970	Martin	5,108,216 A	4/1992	Geyer et al.
3,545,106 A	12/1970	Martin	5,117,567 A	6/1992	Berger
3,618,232 A	11/1971	Shnuriwsky	5,152,038 A	10/1992	Schoch
3,668,791 A	6/1972	Salzman et al.	5,157,813 A	10/1992	Carroll
3,678,539 A	7/1972	Graup	5,158,428 A	10/1992	Gessner et al.
3,703,775 A	11/1972	Gatti	5,177,882 A	1/1993	Berger
3,729,779 A	5/1973	Porth	5,181,331 A	1/1993	Berger
3,738,027 A	6/1973	Schoch	5,184,378 A	2/1993	Batra
3,793,749 A	2/1974	Gertsch et al.	D333,552 S	3/1993	Berger et al.
3,808,644 A	5/1974	Schoch	5,205,055 A	4/1993	Harrell
3,934,346 A	1/1976	Sasaki et al.	5,233,767 A	8/1993	Kramer
3,975,838 A	8/1976	Martin	5,249,377 A	10/1993	Walkhoff
4,084,267 A	4/1978	Zadina	5,259,094 A	11/1993	Zepeda
4,130,949 A	12/1978	Seidel	5,315,741 A	5/1994	Debberke
4,142,307 A	3/1979	Martin	5,319,868 A	6/1994	Hallenbeck
4,227,322 A	10/1980	Annovi	5,319,869 A	6/1994	McDonald
4,261,081 A	4/1981	Lott	5,325,613 A	7/1994	Sussmann
4,267,622 A	5/1981	Burnett-Johnston	5,327,662 A	7/1994	Hallenbeck
4,408,403 A	10/1983	Martin	5,335,401 A	8/1994	Hanson
4,417,703 A	11/1983	Weinhold	5,341,583 A	8/1994	Hallenbeck
4,433,456 A	2/1984	Baggio	5,345,697 A	9/1994	Quellais
4,463,761 A	8/1984	Pols et al.	5,355,596 A	10/1994	Sussmann
4,480,395 A	11/1984	Schoch	5,357,654 A	10/1994	Hsing-Chi
4,507,878 A	4/1985	Semouha	5,371,957 A	12/1994	Gaudio
4,516,576 A	5/1985	Kirchner	5,381,609 A	1/1995	Hieblinger
4,551,932 A	11/1985	Schoch	5,392,535 A	2/1995	Van Noy et al.
4,555,830 A	12/1985	Petrini et al.	D357,576 S	4/1995	Steinweis
4,574,500 A	3/1986	Aldinio et al.	5,425,161 A	6/1995	Schoch
4,616,432 A	10/1986	Bunch et al.	5,425,185 A	6/1995	Gansler
4,616,524 A	10/1986	Biodia	5,430,960 A	7/1995	Richardson
4,619,057 A	10/1986	Sartor et al.	5,433,648 A	7/1995	Frydman
4,620,378 A	11/1986	Sartor	5,454,140 A *	10/1995	Murai ..... F16G 11/10 24/115 H
4,631,839 A	12/1986	Bonetti et al.	5,463,822 A	11/1995	Miller
4,631,840 A	12/1986	Gamm	5,477,593 A *	12/1995	Leick ..... A43C 7/00 24/136 A
4,633,599 A	1/1987	Morell et al.	D367,755 S	3/1996	Jones
4,644,938 A	2/1987	Yates et al.	D367,954 S	3/1996	Dion
4,654,985 A	4/1987	Chalmers	5,502,902 A	4/1996	Sussmann
4,660,300 A	4/1987	Morell et al.	5,511,325 A	4/1996	Hieblinger
4,660,302 A	4/1987	Arieh et al.	5,526,585 A	6/1996	Brown et al.
4,680,878 A	7/1987	Pozzobon et al.	5,535,531 A	7/1996	Karabed et al.
4,719,670 A	1/1988	Kurt	5,537,763 A	7/1996	Donnadieu et al.
			5,557,864 A	9/1996	Marks
			5,566,474 A	10/1996	Leick et al.
			D375,831 S	11/1996	Perry

(56)

References Cited

U.S. PATENT DOCUMENTS

5,596,820 A	1/1997	Edauw et al.	6,757,991 B2	7/2004	Sussmann
5,599,000 A	2/1997	Bennett	6,775,928 B2	8/2004	Grande et al.
5,599,288 A	2/1997	Shirley et al.	6,792,702 B2	9/2004	Borsoi et al.
5,600,874 A	2/1997	Jungkind	D497,183 S *	10/2004	Chiu ..... D19/65
5,606,778 A	3/1997	Jungkind	6,802,439 B2	10/2004	Azam et al.
5,607,448 A	3/1997	Stahl et al.	6,823,610 B1	11/2004	Ashley
D379,113 S	5/1997	McDonald et al.	6,871,812 B1	3/2005	Chang
D379,626 S *	6/1997	Mak ..... D14/168	6,877,256 B2	4/2005	Martin et al.
5,638,588 A	6/1997	Jungkind	6,899,720 B1	5/2005	McMillan
5,640,785 A	6/1997	Egelja	6,922,917 B2	8/2005	Kerns et al.
5,647,104 A	7/1997	James	6,938,913 B2	9/2005	Elkington
5,651,198 A	7/1997	Sussmann	6,945,543 B2	9/2005	De Bertoli et al.
5,669,116 A	9/1997	Jungkind	D510,183 S	10/2005	Tresser
5,692,319 A	12/1997	Parker et al.	6,976,972 B2	12/2005	Bradshaw
5,718,021 A	2/1998	Tatum	6,993,859 B2	2/2006	Martin et al.
5,718,065 A	2/1998	Locker	D521,226 S	5/2006	Douglas et al.
5,720,084 A	2/1998	Chen	7,073,279 B2	7/2006	Min
5,732,483 A	3/1998	Cagliari	7,076,843 B2	7/2006	Sakabayashi
5,732,648 A	3/1998	Aragon	7,082,701 B2	8/2006	Dalgaard et al.
5,736,696 A	4/1998	Del Rosso	7,096,559 B2	8/2006	Johnson et al.
5,737,854 A	4/1998	Sussmann	7,134,224 B2	11/2006	Elkington et al.
5,755,044 A	5/1998	Veylupek	7,266,911 B2	9/2007	Holzer et al.
5,756,298 A	5/1998	Burczak	7,281,341 B2	10/2007	Reagan et al.
5,761,777 A	6/1998	Leick	7,293,373 B2	11/2007	Reagan et al.
5,772,146 A	6/1998	Kawamoto et al.	7,331,126 B2	2/2008	Johnson
5,784,809 A	7/1998	McDonald	7,343,701 B2	3/2008	Pare et al.
5,791,068 A	8/1998	Bernier et al.	7,360,282 B2 *	4/2008	Borsoi ..... F16G 11/10 24/136 R
5,819,378 A	10/1998	Doyle	7,367,522 B2	5/2008	Chen
5,833,640 A	11/1998	Vazquez, Jr. et al.	7,386,947 B2	6/2008	Martin et al.
5,839,210 A	11/1998	Bernier et al.	7,392,602 B2	7/2008	Reagan et al.
5,845,371 A	12/1998	Chen	7,401,423 B2	7/2008	Reagan et al.
5,909,946 A	6/1999	Okajima	D587,105 S *	2/2009	Chang ..... D8/383
D413,197 S	8/1999	Faye	7,490,458 B2	2/2009	Ford
5,934,599 A	8/1999	Hammerslag	7,568,298 B2	8/2009	Kerns
5,937,542 A	8/1999	Bourdeau	7,582,102 B2	9/2009	Heinz et al.
5,956,823 A	9/1999	Borel	7,584,528 B2	9/2009	Hu
5,971,946 A	10/1999	Quinn et al.	7,591,050 B2	9/2009	Hammerslag
6,015,110 A	1/2000	Lai	7,597,675 B2	10/2009	Ingimundarson et al.
6,038,791 A	3/2000	Cornelius	7,600,660 B2	10/2009	Kasper et al.
6,052,921 A	4/2000	Oreck	7,617,573 B2	11/2009	Chen
6,070,886 A	6/2000	Cornelius et al.	7,624,517 B2	12/2009	Smith
6,070,887 A	6/2000	Cornelius et al.	7,648,404 B1	1/2010	Martin
6,083,857 A	7/2000	Bottger	7,650,705 B2	1/2010	Donnadieu et al.
6,088,936 A	7/2000	Bahl	7,694,354 B2	4/2010	Philpott et al.
6,102,412 A	8/2000	Staffaroni	7,752,774 B2	7/2010	Ussher
D430,724 S	9/2000	Matis et al.	7,757,412 B2	7/2010	Farys
6,119,318 A	9/2000	Maurer	7,774,956 B2	8/2010	Dua et al.
6,119,372 A	9/2000	Okajima	D626,322 S	11/2010	Servettaz
6,128,835 A	10/2000	Ritter et al.	7,841,106 B2	11/2010	Farys
6,128,836 A	10/2000	Barret	7,871,334 B2	1/2011	Young et al.
6,148,489 A	11/2000	Dickie et al.	7,877,845 B2	2/2011	Signori
D438,452 S *	3/2001	Tsai ..... D8/390	D633,375 S *	3/2011	Jablonka ..... D8/382
6,202,953 B1	3/2001	Hammerslag	7,900,378 B1	3/2011	Busse
6,219,891 B1	4/2001	Maurer et al.	7,908,769 B2	3/2011	Pellegrini
6,240,657 B1	6/2001	Weber et al.	7,947,061 B1	5/2011	Reis
6,256,798 B1	7/2001	Egolf et al.	7,950,112 B2	5/2011	Hammerslag et al.
6,267,390 B1	7/2001	Maravetz et al.	7,954,204 B2	6/2011	Hammerslag et al.
6,286,233 B1	9/2001	Gaither	7,963,049 B2	6/2011	Messmer
6,289,558 B1	9/2001	Hammerslag	7,992,261 B2	8/2011	Hammerslag et al.
6,311,633 B1	11/2001	Keire	D646,790 S	10/2011	Castillo et al.
D456,130 S	4/2002	Towns	8,056,150 B2	11/2011	Stokes et al.
6,370,743 B2	4/2002	Choe	8,074,379 B2	12/2011	Robinson, Jr. et al.
6,401,364 B1	6/2002	Burt	8,091,182 B2	1/2012	Hammerslag et al.
6,416,074 B1	7/2002	Maravetz et al.	8,109,015 B2	2/2012	Signori
6,467,195 B2	10/2002	Pierre et al.	D663,850 S	7/2012	Joseph
6,477,793 B1	11/2002	Pruitt et al.	D663,851 S	7/2012	Joseph
6,502,286 B1	1/2003	Dubberke	8,215,033 B2	7/2012	Carboy et al.
6,543,159 B1	4/2003	Carpenter et al.	8,231,074 B2	7/2012	Hu et al.
6,568,103 B2	5/2003	Durocher	D665,088 S	8/2012	Joseph
D477,364 S *	7/2003	Tsai ..... D19/65	8,235,321 B2	8/2012	Chen
6,606,804 B2	8/2003	Kaneko et al.	8,245,371 B2	8/2012	Chen
6,694,643 B1	2/2004	Hsu	8,257,293 B2	9/2012	Ingimundarson et al.
6,708,376 B1	3/2004	Landry	8,266,827 B2	9/2012	Dojan et al.
6,711,787 B2	3/2004	Jungkind et al.	8,277,401 B2	10/2012	Hammerslag et al.
6,735,829 B2	5/2004	Hsu	8,302,329 B2	11/2012	Hurd et al.
			8,303,527 B2	11/2012	Joseph
			8,308,098 B2	11/2012	Chen

(56)

References Cited

U.S. PATENT DOCUMENTS

8,321,999 B2 *	12/2012	Boden .....	F16G 11/04 24/136 R	2009/0090029 A1	4/2009	Kishino	
D673,443 S *	1/2013	Elrod .....	D8/356	2009/0172928 A1	7/2009	Messmer et al.	
8,353,087 B2	1/2013	Chen		2009/0184189 A1	7/2009	Soderberg et al.	
8,353,088 B2	1/2013	Ha		2009/0272007 A1	11/2009	Beers et al.	
D677,045 S	3/2013	Voskuil		2009/0277043 A1	11/2009	Graser et al.	
D679,019 S	3/2013	Siddle et al.		2010/0064547 A1	3/2010	Kaplan	
D679,175 S *	4/2013	Moreau .....	D11/87	2010/0101061 A1	4/2010	Ha	
8,434,200 B2	5/2013	Chen		2010/0139057 A1	6/2010	Soderberg et al.	
8,490,299 B2	7/2013	Dua et al.		2010/0154254 A1	6/2010	Fletcher	
8,516,662 B2	8/2013	Goodman et al.		2010/0175163 A1	7/2010	Litke	
D691,027 S *	10/2013	Rainer .....	D8/356	2010/0251524 A1	10/2010	Chen	
8,578,632 B2	11/2013	Bell et al.		2010/0299959 A1	12/2010	Hammerslag	
8,652,164 B1	2/2014	Aston		2010/0319216 A1	12/2010	Grenzke et al.	
D702,529 S *	4/2014	Diez Herrera .....	D8/349	2011/0000173 A1	1/2011	Lander	
8,713,820 B2	5/2014	Kerns et al.		2011/0071647 A1	3/2011	Mahon	
D712,727 S *	9/2014	Geiger .....	D8/382	2011/0162236 A1	7/2011	Voskuil et al.	
8,984,719 B2	3/2015	Soderberg et al.		2011/0167543 A1	7/2011	Kovacevich et al.	
9,072,341 B2	7/2015	Jungkind		2011/0191992 A1	8/2011	Chen	
D735,987 S	8/2015	Hsu		2011/0197362 A1	8/2011	Chella et al.	
9,101,181 B2	8/2015	Soderberg et al.		2011/0225843 A1	9/2011	Kerns et al.	
9,125,455 B2	9/2015	Kerns et al.		2011/0258876 A1	10/2011	Baker et al.	
9,138,030 B2	9/2015	Soderberg et al.		2011/0266384 A1	11/2011	Goodman et al.	
9,248,040 B2	2/2016	Soderberg et al.		2012/0000091 A1	1/2012	Cotterman et al.	
9,516,923 B2 *	12/2016	Capra .....	A44B 11/25	2012/0004587 A1	1/2012	Nickel et al.	
2002/0050076 A1	5/2002	Borsoi et al.		2012/0005865 A1 *	1/2012	Boden .....	F16G 11/04 24/136 R
2002/0062579 A1	5/2002	Caeran		2012/0005995 A1	1/2012	Emery	
2002/0095750 A1	7/2002	Hammerslag		2012/0023717 A1	2/2012	Chen	
2002/0129518 A1	9/2002	Borsoi et al.		2012/0047620 A1	3/2012	Ellis et al.	
2002/0148142 A1	10/2002	Oorei et al.		2012/0101417 A1	4/2012	Joseph	
2002/0166260 A1	11/2002	Borsoi		2012/0102783 A1	5/2012	Swigart et al.	
2002/0178548 A1	12/2002	Freed		2012/0138882 A1	6/2012	Moore et al.	
2003/0079376 A1	5/2003	Oorei et al.		2012/0157902 A1	6/2012	Castillo et al.	
2003/0144620 A1	7/2003	Sieller		2012/0167290 A1	7/2012	Kovacevich et al.	
2003/0150135 A1	8/2003	Liu		2012/0174437 A1	7/2012	Heard	
2003/0177662 A1	9/2003	Elkington et al.		2012/0228419 A1	9/2012	Chen	
2003/0204938 A1	11/2003	Hammerslag		2012/0246974 A1	10/2012	Hammerslag et al.	
2004/0041452 A1	3/2004	Williams		2012/0310273 A1	12/2012	Thorpe	
2004/0211039 A1	10/2004	Livingston		2013/0014359 A1	1/2013	Chen	
2005/0054962 A1	3/2005	Bradshaw		2013/0025100 A1	1/2013	Ha	
2005/0060912 A1	3/2005	Holzer et al.		2013/0091667 A1	4/2013	Chen	
2005/0081339 A1	4/2005	Sakabayashi		2013/0091674 A1	4/2013	Chen	
2005/0081403 A1	4/2005	Mathieu		2013/0092780 A1	4/2013	Soderberg et al.	
2005/0087115 A1	4/2005	Martin		2013/0012856 A1	10/2013	Hammerslag et al.	
2005/0098673 A1	5/2005	Huang		2013/0019501 A1	10/2013	Gerber	
2005/0102861 A1	5/2005	Martin		2013/0269219 A1	10/2013	Burns et al.	
2005/0126043 A1	6/2005	Reagan et al.		2013/0277485 A1	10/2013	Soderberg et al.	
2005/0172463 A1	8/2005	Rolla		2013/0340283 A1	12/2013	Bell et al.	
2005/0184186 A1	8/2005	Tsoi et al.		2013/0345612 A1	12/2013	Bannister et al.	
2005/0198866 A1	9/2005	Wiper et al.		2014/0082963 A1	3/2014	Beers	
2006/0135901 A1	6/2006	Ingimundarson et al.		2014/0094728 A1	4/2014	Soderberg et al.	
2006/0156517 A1	7/2006	Hammerslag et al.		2014/0117140 A1	5/2014	Goodman et al.	
2006/0179685 A1	8/2006	Borel et al.		2014/0123440 A1	5/2014	Capra et al.	
2006/0185193 A1	8/2006	Pellegrini		2014/0123449 A1	5/2014	Soderberg et al.	
2006/0287627 A1	12/2006	Johnson		2014/0208550 A1	7/2014	Neiley	
2007/0006489 A1	1/2007	Case, Jr. et al.		2014/0221889 A1	8/2014	Burns et al.	
2007/0063459 A1	3/2007	Kavarsky		2014/0257156 A1 *	9/2014	Capra .....	A61F 5/0102 602/5
2007/0068040 A1	3/2007	Farys		2014/0290016 A1	10/2014	Lovett et al.	
2007/0084956 A1	4/2007	Chen		2014/0359981 A1	12/2014	Cotterman et al.	
2007/0113524 A1	5/2007	Lander		2015/0007422 A1	1/2015	Cavanagh et al.	
2007/0128959 A1	6/2007	Cooke		2015/0014463 A1	1/2015	Converse et al.	
2007/0169378 A1	7/2007	Soderberg et al.		2015/0026936 A1	1/2015	Kerns et al.	
2008/0016717 A1	1/2008	Ruban		2015/0033519 A1	2/2015	Hammerslag et al.	
2008/0060167 A1	3/2008	Hammerslag et al.		2015/0059206 A1	3/2015	Lovett et al.	
2008/0060168 A1	3/2008	Hammerslag et al.		2015/0076272 A1	3/2015	Trudel et al.	
2008/0066272 A1	3/2008	Hammerslag et al.		2015/0089779 A1	4/2015	Lawrence et al.	
2008/0066345 A1	3/2008	Hammerslag et al.		2015/0089835 A1	4/2015	Hammerslag et al.	
2008/0066346 A1	3/2008	Hammerslag et al.		2015/0101160 A1	4/2015	Soderberg et al.	
2008/0068204 A1	3/2008	Carmen et al.		2015/0150705 A1 *	6/2015	Capra .....	A61F 5/0102 602/6
2008/0083135 A1	4/2008	Hammerslag et al.		2015/0151070 A1	6/2015	Capra et al.	
2008/0092279 A1	4/2008	Chiang		2015/0190262 A1	7/2015	Capra et al.	
2008/0172848 A1	7/2008	Chen		2015/0223608 A1	8/2015	Capra et al.	
2008/0196224 A1	8/2008	Hu					
2009/0019734 A1	1/2009	Reagan et al.					
2009/0071041 A1	3/2009	Hooper					

(56)

References Cited

U.S. PATENT DOCUMENTS

2015/0237962 A1 8/2015 Soderberg et al.  
2015/0335458 A1 11/2015 Romo

FOREIGN PATENT DOCUMENTS

CH 199766 9/1938  
CH 204 834 A 5/1939  
CN 2613167 4/2004  
CN 201015448 2/2008  
DE 641976 2/1937  
DE 23 41 658 3/1974  
DE 29 00 077 A1 7/1980  
DE 31 01 952 A1 9/1982  
DE 38 13 470 11/1989  
DE 43 02 401 A1 8/1994  
DE 43 05 671 A1 9/1994  
DE 9308037 10/1994  
DE 43 26 049 A1 2/1995  
DE 9315776 2/1995  
DE 29503552.8 4/1995  
DE 196 24 553 1/1998  
DE 19945045 A1 3/2001  
DE 20 2010 000 354 U1 6/2010  
DE 11 2013 005 273 T5 9/2015  
EP 0 056 953 8/1982  
EP 0 099 504 2/1984  
EP 0 123 050 10/1984  
EP 0 155 596 9/1985  
EP 0 201 051 11/1986  
EP 0 255 869 2/1988  
EP 0 393 380 10/1990  
EP 0 589 232 A1 3/1994  
EP 0 589 233 A1 3/1994  
EP 0 614 625 A1 9/1994  
EP 0 651 954 A1 5/1995  
EP 0 679 346 11/1995  
EP 0 693 260 B1 1/1996  
EP 0 734 662 A1 10/1996  
EP 0 848 917 6/1998  
EP 0 923 965 6/1999  
EP 0 937 467 8/1999  
EP 1163860 12/2001  
EP 1 219 195 7/2002  
EP 1 236 412 A 9/2002  
EP 2298107 B1 3/2011  
EP 2359708 8/2011  
FR 1 404 799 7/1965  
FR 2 019 991 A 7/1970  
FR 2 598 292 A1 11/1987  
FR 2 726 440 A1 5/1996  
FR 2 770 379 A1 5/1999  
FR 2 814 919 A1 4/2002  
GB 189911673 7/1899  
GB 216400 5/1924  
GB 2 449 722 A 12/2008  
IT 1220811 B 6/1990  
IT PD 2003 000197 A 4/2003  
IT PD 2003 000198 A 3/2005  
JP 51-121375 10/1976  
JP 53-124987 3/1977  
JP 54-108125 2/1978  
JP H02-236025 9/1990  
JP 6-284906 2/1996  
JP 3030988 11/1996  
JP 3031760 12/1996  
JP 10-199366 7/1998  
JP 2004-016732 1/2004  
JP 2004-041666 2/2004  
JP 2009-504210 2/2009  
KR 20-0367882 11/2004  
KR 20-0400568 8/2005  
KR 10-0598627 7/2006  
KR 10-0953398 4/2010  
KR 10-1025134 B1 3/2011  
KR 10-1028468 4/2011

KR 10-1053551 7/2011  
WO 94/27456 12/1994  
WO 95/03720 2/1995  
WO 95/11602 5/1995  
WO 1995/03720 9/1995  
WO 98/33408 8/1998  
WO 98/37782 9/1998  
WO 99/09850 3/1999  
WO 99/15043 4/1999  
WO 99/43231 9/1999  
WO 00/53045 9/2000  
WO 2000/76337 A1 12/2000  
WO 01/08525 2/2001  
WO 01/15559 3/2001  
WO 02/051511 7/2002  
WO 2004/093569 11/2004  
WO 2005/013748 A1 2/2005  
WO 2007/016983 2/2007  
WO 2008/015214 2/2008  
WO 2008/033963 3/2008  
WO 2009/134858 11/2009  
WO 2010/059989 A2 5/2010  
WO 2012/165803 A2 12/2012  
WO 2015/035885 3/2015  
WO 2015/179332 A1 11/2015  
WO 2015/181928 A1 12/2015

OTHER PUBLICATIONS

La Sportiva, A Technical Lightweight Double Boot for Cold Environments, 1 page. Accessed on May 27, 2015. Retrieved from <http://www.sportiva.com/products/footwear/mountain/spantik>.  
“Strength of materials used to make my Safety Harnesses,” Elaine, Inc. Jul. 9, 2012. Retrieved from [https://web.archive.org/web/20120709002720/http://www.childharness.ca/strength\\_data.html](https://web.archive.org/web/20120709002720/http://www.childharness.ca/strength_data.html) on Mar. 17, 2014, 2 pages.  
International Search Report and Written Opinion for PCT/US2013/032326 dated Jun. 14, 2013, 27 pages.  
International Preliminary Report on Patentability for PCT/US2013/032326 dated Sep. 16, 2014, 6 pages.  
International Search Report and Written Opinion for PCT/US2013/057637 dated Apr. 7, 2014, 34 pages.  
International Preliminary Report on Patentability for PCT/US2013/057637 dated Mar. 3, 2015, 9 pages.  
International Search Report and Written Opinion for PCT/US2013/068342 dated Apr. 7, 2014, 29 pages.  
International Preliminary Report on Patentability for PCT/US2013/068342 dated May 5, 2015, 9 pages.  
International Search Report and Written Opinion for PCT/US2014/014952 dated Apr. 25, 2014, 17 pages.  
International Preliminary Report on Patentability for PCT/US2014/014952 dated Aug. 11, 2015, 9 pages.  
International Search Report and Written Opinion for PCT/US2014/066212 dated Apr. 22, 2015, 16 pages.  
International Search Report and Written Opinion for PCT/US2014/032574 dated Oct. 31, 2014, 19 pages.  
International Preliminary Report on Patentability for PCT/US2014/032574 dated Oct. 6, 2015, 12 pages.  
International Search Report and Written Opinion for PCT/US2014/045291 dated Nov. 6, 2014, 12 pages.  
International Preliminary Report on Patentability for PCT/US2014/045291 dated Jan. 5, 2016, 5 pages.  
International Search Report and Written Opinion for PCT/US2014/013458 dated May 19, 2014, 12 pages.  
International Preliminary Report on Patentability for PCT/US2014/013458 dated Jul. 28, 2015, 7 pages.  
International Search Report and Written Opinion for PCT/US2013/068814 dated Jun. 9, 2014, 18 pages.  
International Preliminary Report on Patentability for PCT/US2013/068814 dated May 12, 2015, 12 pages.  
Notice of Reasons for Rejection from the Japanese Patent Office dated Feb. 26, 2015 for design application No. 2014-015570, 4 pages.

(56)

**References Cited**

## OTHER PUBLICATIONS

International Search Report and Written Opinion for PCT/US2014/055710 dated Jul. 6, 2015, 19 pages.

International Search Report and Written Opinion for PCT/US2014/054420 dated Jul. 6, 2015, 21 pages.

The Preliminary Rejections from the Korean Intellectual Property Office for Application No. 30-2014-34959, is not translated into English. The document requests a renaming of the application to be in accordance with Korean patent law, 5 pages total.

The Preliminary Rejections from the Korean Intellectual Property Office for Application No. 30-2014-34959, is not translated into English. The document requests a revision of the drawings to be in accordance with Korean patent law, 6 pages total.

Anonymous, "Shore durometer," Wikipedia, the free encyclopedia, Mar. 10, 2012, XP002747470, Retrieved from the Internet: URL: [https://en.wikipedia.org/w/index.php?title=Shore\\_durometer&oldid=481128180](https://en.wikipedia.org/w/index.php?title=Shore_durometer&oldid=481128180) [retrieved on Oct. 20, 2015] \* shore A, shore D, durometer, polymer, rubber, gel; the whole document \*, 6 pages. "Save Tourniquet," 3 pages. Copyright 2015. Accessed on Dec. 11, 2015. Retrieved from <http://www.savetourniquet.com/>.

Certificate of Design Registration No. 30-809409 on Aug. 3, 2015 from the Korean Intellectual Property Office for Appln No. 30-2015-11475, 2 pages.

Certificate of Design Registration No. 30-809410 on Aug. 3, 2015 from the Korean Intellectual Property Office for Appln No. 30-2015-11476, 2 pages.

European Search Report for EP 14168875 dated Oct. 29, 2014, 9 pages.

International Search Report and Written Opinion for PCT/US2014/020894 dated Jun. 20, 2014, 12 pages.

International Preliminary Report on Patentability for PCT/US2014/020894 dated Sep. 8, 2015, 7 pages.

International Search Report and Written Opinion for PCT/US2014/041144 dated Dec. 10, 2014, 13 pages.

International Preliminary Report on Patentability for PCT/US2014/041144 dated Dec. 8, 2015, 9 pages.

International Search Report and Written Opinion for PCT/US2014/046238 dated Nov. 21, 2014, 17 pages.

Office Action from the German Patent and Trademark Office for Appln No. 402015100191.2, regarding the title of the invention, 2 pages.

Supplementary European Search Report for EP 13761841 dated Oct. 21, 2015, all pages.

Notice of Reasons for Rejection from the Japanese Patent Office dated Oct. 5, 2015 for design application No. 2015-004923, 4 pages.

Receipt of Certificate of Design Registration No. 1529678 from the Japanese Patent Office for design application No. 2014-015570 dated Jun. 26, 2015, 1 page.

International Preliminary Report on Patentability for PCT/US2014/046238 dated Jan. 12, 2016, 11 pages.

International Search Report and Written Opinion for PCT/US2015/054530 dated Jan. 13, 2016, 14 pages.

\* cited by examiner

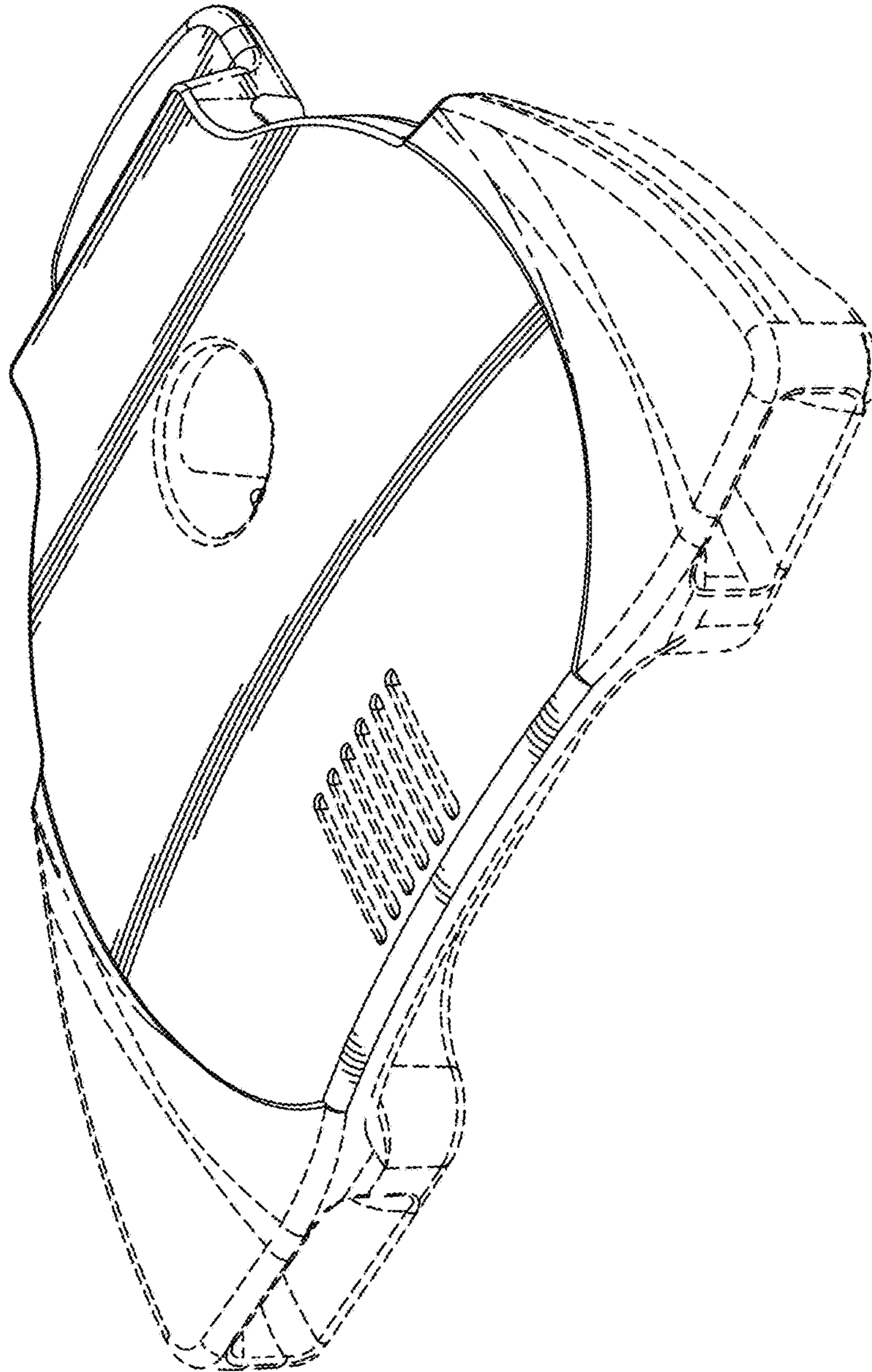


FIG. 1

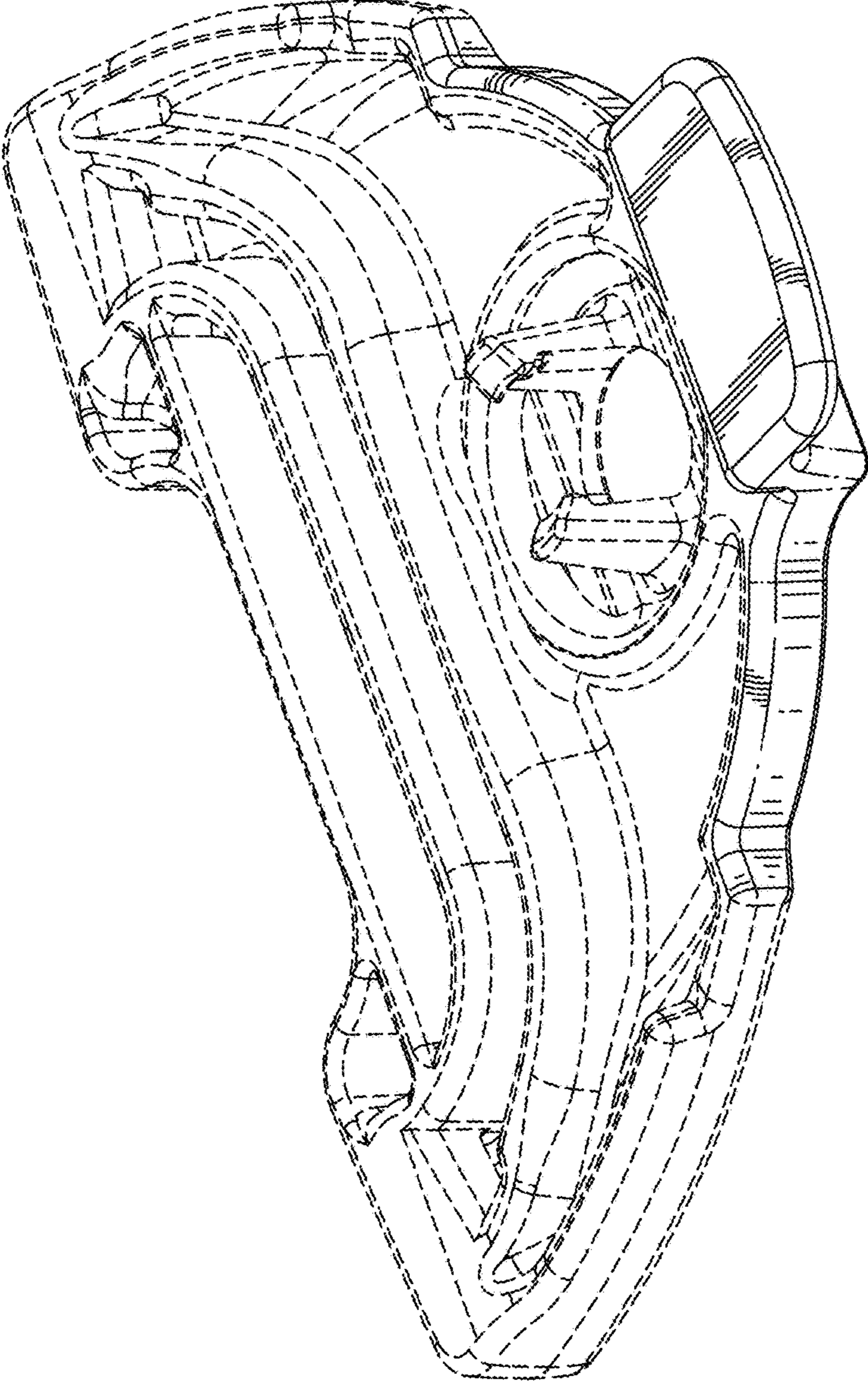
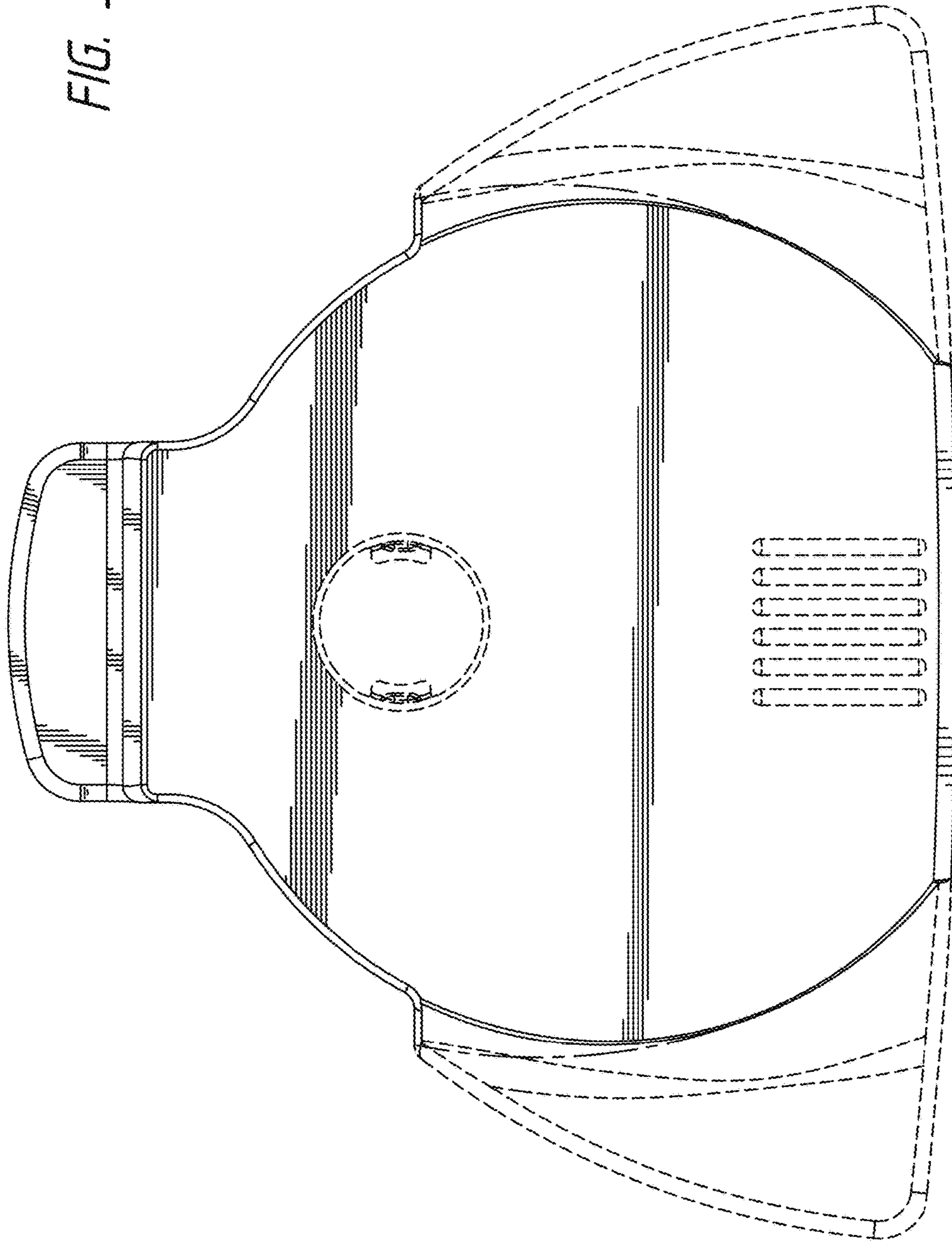


FIG. 2



FIG. 3



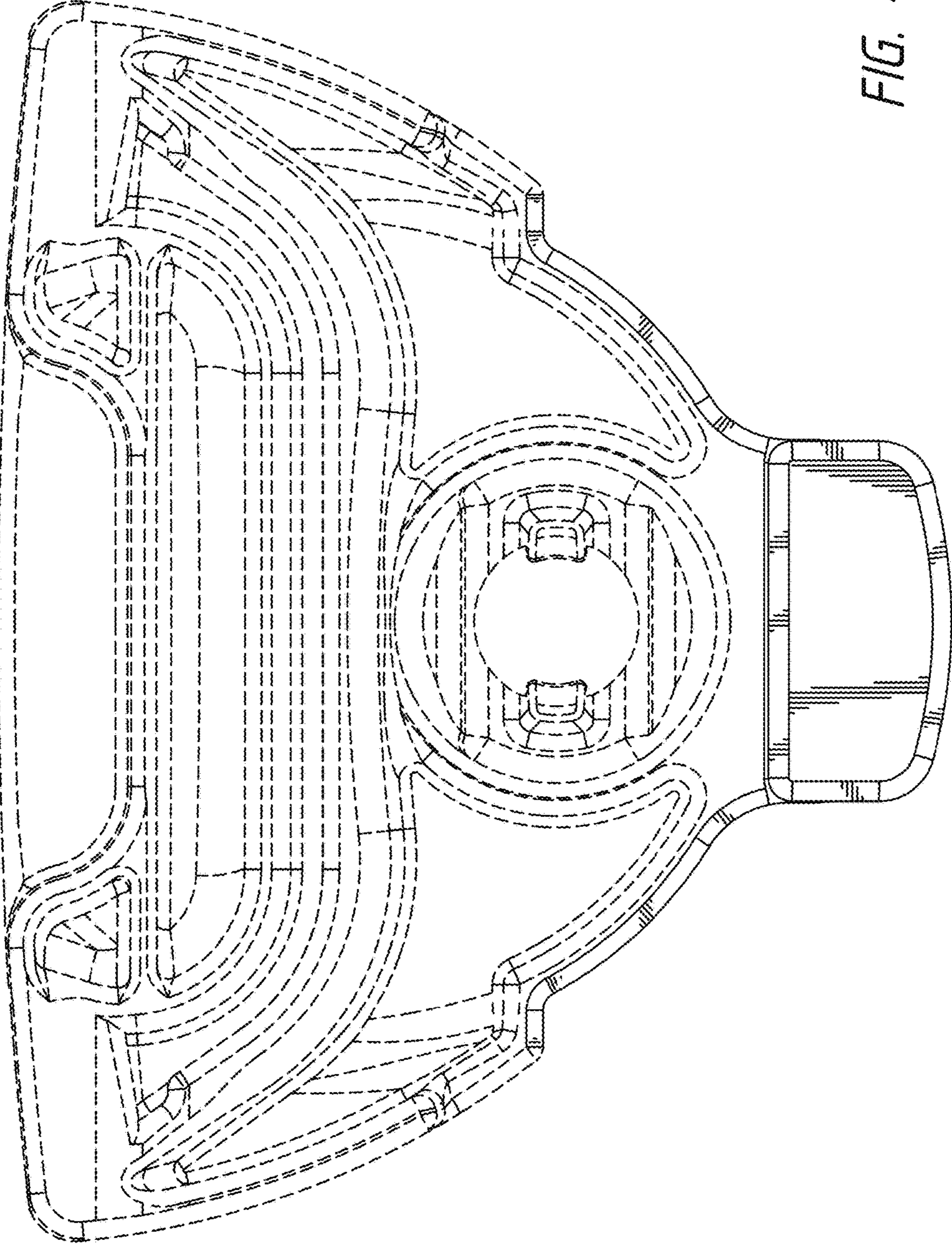


FIG. 4

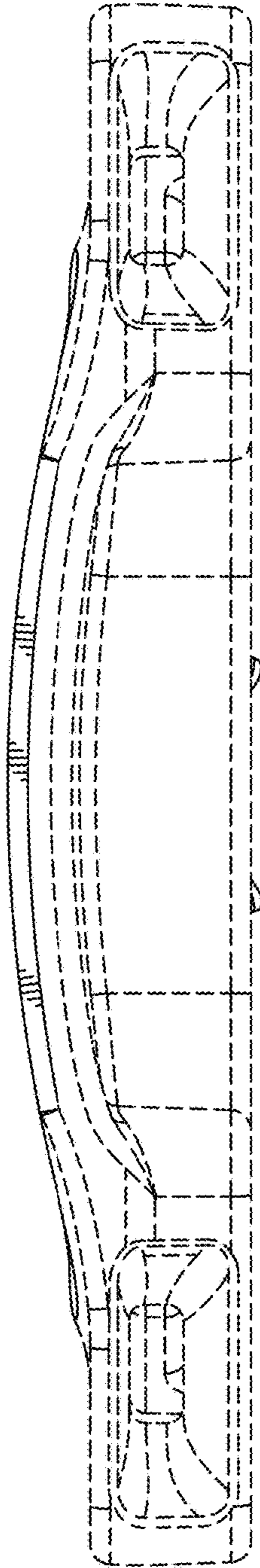


FIG. 5

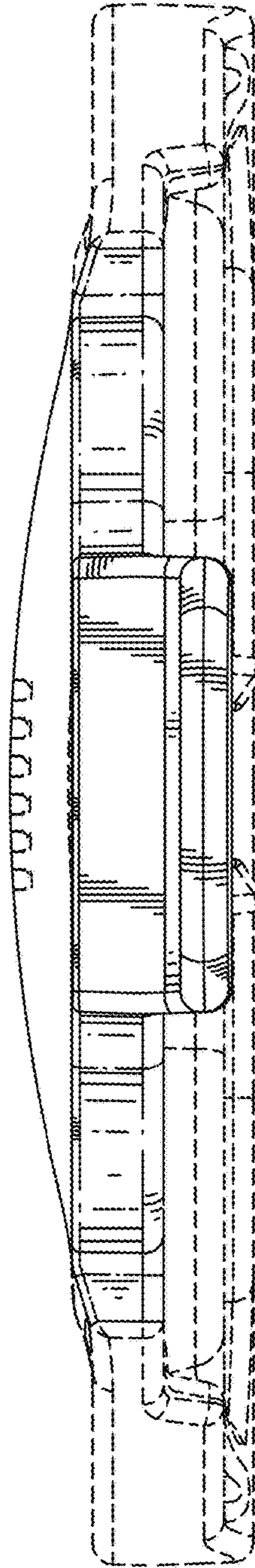


FIG. 6

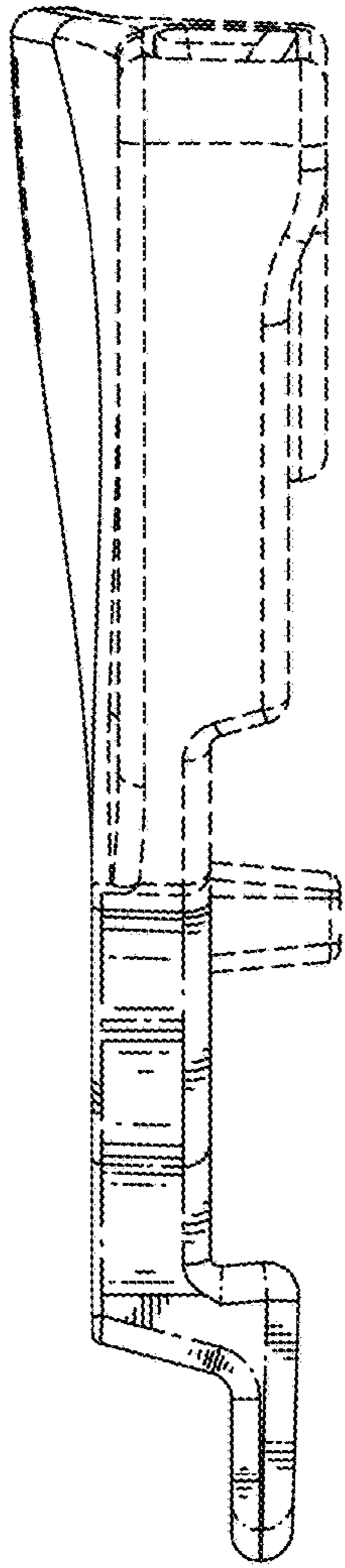


FIG. 7

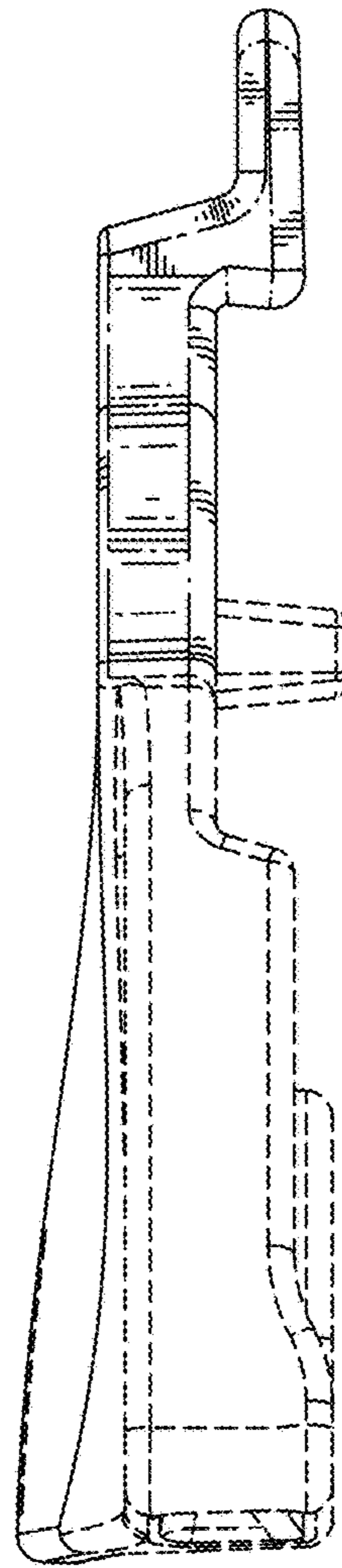


FIG. 8