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(54) MEDICAMENT DELIVERY DEVICE COVER

FOREIGN PATENT DOCUMENTS

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DE 2019296 11/1971
DE 20 2009 003 009 7/2009
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OTHER PUBLICATIONS

"Allerject Canada's first 'talking' epinephrine auto-injector" by Sanofi Canada. Posting date: Jan. 25, 2013. Retrieval date: Oct. 18, 2022. Retrieved from internet: <https://www.newswire.ca/news-releases/allerject-canadas-first-talking-epinephrine-auto-injector-511884451.html> (Year: 2013).*
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(57) CLAIM

The ornamental design for a medicament delivery device cover, as shown and described.

DESCRIPTION

FIG. 1 is a front view of a medicament delivery device cover;
FIG. 2. is a front perspective view of the medicament delivery device cover surrounding a medicament delivery device;
FIG. 3 is a rear view of a medicament delivery device cover;
FIG. 4 is a rear perspective view of the medicament delivery device cover surrounding a medicament delivery device;
FIG. 5 is a rear perspective view of the medicament delivery device cover;
FIG. 6 is a top left perspective view of the medicament delivery device cover; and
FIG. 7 is a top rear perspective view of the medicament delivery device cover.
In the drawings, the dashed lines (- -) depict portions of the article that form no part of the claimed design. The relatively light shade lines on the surface portions indicate contour, not surface decoration, and the light shade lines form no part of the claimed design.

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USPC D24/121

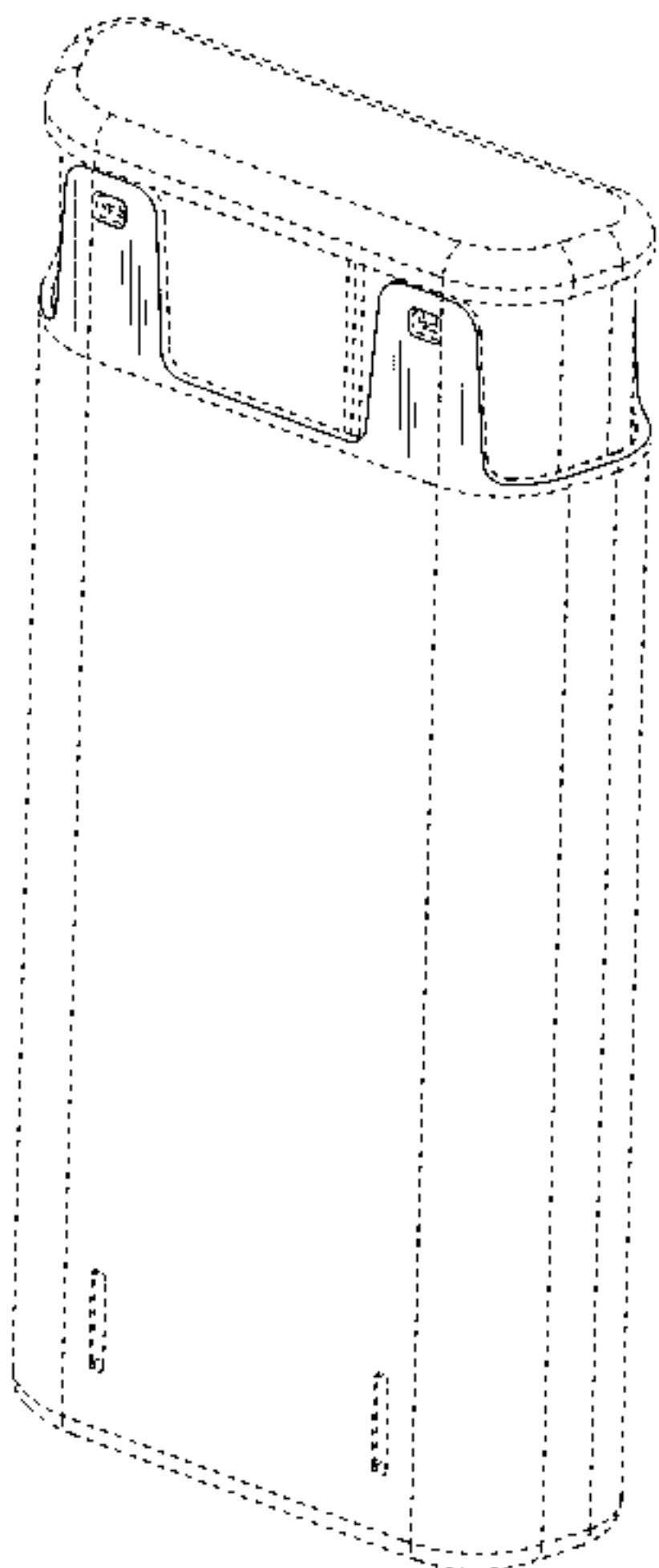
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CPC A61M 5/20; A61M 5/2033; A61M 5/2046; A61M 5/2053; A61M 5/24; A61M 2005/2026; A61M 2005/206; A61M 2005/2073
See application file for complete search history.

(56) References Cited

U.S. PATENT DOCUMENTS

2,409,656 A 10/1946 Austin
D168,131 S * 11/1952 Touart, Jr. 131/231
(Continued)

1 Claim, 7 Drawing Sheets



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References Cited

U.S. PATENT DOCUMENTS

2,960,087 A 11/1960 Uytenbogaar
 3,055,362 A 9/1962 Uytenbogaar
 3,115,133 A 12/1963 Morando
 3,426,448 A 2/1969 Sarnoff
 3,563,373 A 2/1971 Paulson
 3,565,070 A 2/1971 Hanson et al.
 3,688,765 A 9/1972 Gasaway
 3,768,472 A 10/1973 Hodosh et al.
 3,795,061 A 3/1974 Sarnoff et al.
 3,797,489 A 3/1974 Sarnoff
 3,941,130 A 3/1976 Tibbs
 3,945,379 A 3/1976 Pritz et al.
 4,031,889 A 6/1977 Pike
 4,108,177 A 8/1978 Pistor
 4,124,024 A 11/1978 Schwebel et al.
 4,226,235 A 10/1980 Sarnoff et al.
 4,227,528 A 10/1980 Wardlaw
 4,258,713 A 3/1981 Wardlaw
 4,360,019 A 11/1982 Portner et al.
 4,378,015 A 3/1983 Wardlaw
 4,424,057 A 1/1984 House
 4,425,120 A 1/1984 Sampson et al.
 4,441,629 A 4/1984 Mackal
 4,484,910 A 11/1984 Sarnoff et al.
 4,573,976 A 3/1986 Sampson et al.
 4,596,556 A 6/1986 Morrow et al.
 4,610,666 A 9/1986 Pizzino
 4,617,557 A 10/1986 Gordon
 4,624,660 A 11/1986 Mijers et al.
 4,640,686 A 2/1987 Dalling et al.
 4,643,721 A 2/1987 Brunet
 4,664,653 A 5/1987 Sagstetter et al.
 4,666,430 A 5/1987 Brown et al.
 4,673,657 A 6/1987 Christian
 4,681,567 A 7/1987 Masters et al.
 4,689,042 A 8/1987 Sarnoff et al.
 4,693,708 A 9/1987 Wanderer et al.
 4,781,697 A 11/1988 Slaughter
 4,782,841 A 11/1988 Lopez
 4,784,652 A 11/1988 Wikstroem
 4,795,433 A 1/1989 Sarnoff
 4,822,340 A 4/1989 Kamstra
 4,826,489 A 5/1989 Haber et al.
 4,853,521 A 8/1989 Claeys et al.
 4,874,382 A 10/1989 Lindemann et al.
 4,894,054 A 1/1990 Miskinyar
 4,906,235 A 3/1990 Roberts
 4,915,695 A 4/1990 Koobs
 4,941,880 A 7/1990 Burns
 4,955,871 A 9/1990 Thomas
 4,959,056 A 9/1990 Dombrowski et al.
 4,968,302 A 11/1990 Schluter et al.
 4,983,164 A 1/1991 Hook et al.
 5,000,736 A 3/1991 Kaufhold, Jr. et al.
 5,024,656 A 6/1991 Gasaway et al.
 5,037,306 A 8/1991 van Schoonhoven
 5,038,023 A 8/1991 Saliga
 5,041,088 A 8/1991 Ritson et al.
 5,042,977 A 8/1991 Bechtold et al.
 5,062,603 A 11/1991 Smith et al.
 5,064,413 A 11/1991 McKinnon et al.
 5,071,353 A 12/1991 van der Wal
 5,085,642 A 2/1992 Sarnoff et al.
 5,092,842 A 3/1992 Bechtold et al.
 5,092,843 A 3/1992 Monroe et al.
 5,104,380 A 4/1992 Holman et al.
 5,125,898 A 6/1992 Kaufhold, Jr. et al.
 5,147,311 A 9/1992 Pickhard
 5,167,641 A 12/1992 Schmitz

5,199,949 A 4/1993 Haber et al.
 5,224,936 A 7/1993 Gallagher
 5,240,146 A 8/1993 Smedley et al.
 D338,727 S * 8/1993 Rand et al. D24/231
 5,244,465 A 9/1993 Michel
 5,271,527 A 12/1993 Haber et al.
 5,281,198 A 1/1994 Haber et al.
 5,286,258 A 2/1994 Haber et al.
 5,295,965 A 3/1994 Wilmot
 5,298,023 A 3/1994 Haber et al.
 5,298,024 A 3/1994 Richmond
 5,312,326 A 5/1994 Myers et al.
 5,314,412 A 5/1994 Rex
 5,318,544 A 6/1994 Drypen et al.
 5,343,519 A 8/1994 Feldman
 5,344,407 A 9/1994 Ryan
 5,354,284 A 10/1994 Haber et al.
 5,356,376 A 10/1994 Milijasevic et al.
 5,358,489 A 10/1994 Wyrick
 5,363,842 A 11/1994 Mishelevich et al.
 5,380,281 A 1/1995 Tomellini et al.
 5,383,851 A 1/1995 McKinnon, Jr. et al.
 5,383,864 A 1/1995 van den Heuvel
 5,394,866 A 3/1995 Ritson et al.
 5,395,345 A 3/1995 Gross
 5,399,163 A 3/1995 Peterson et al.
 5,405,362 A 4/1995 Kramer et al.
 5,417,660 A 5/1995 Martin
 5,451,210 A 9/1995 Kramer et al.
 5,466,217 A 11/1995 Myers et al.
 5,478,316 A 12/1995 Bitdinger et al.
 5,514,097 A 5/1996 Knauer
 5,514,135 A 5/1996 Earle
 5,527,287 A 6/1996 Miskinyar
 5,540,664 A 7/1996 Wyrick
 5,558,679 A 9/1996 Tuttle
 5,567,160 A 10/1996 Massino
 5,568,555 A 10/1996 Shamir
 5,569,192 A 10/1996 van der Wal
 5,584,815 A 12/1996 Pawelka et al.
 5,615,771 A 4/1997 Hollister
 5,616,132 A 4/1997 Newman
 5,645,534 A 7/1997 Chanoch
 5,658,259 A 8/1997 Pearson et al.
 5,662,612 A 9/1997 Niehoff
 5,681,291 A 10/1997 Galli
 5,681,292 A 10/1997 Tober et al.
 5,692,492 A 12/1997 Bruna et al.
 5,695,476 A 12/1997 Harris
 5,697,916 A 12/1997 Schraga
 5,716,338 A 2/1998 Hjertman et al.
 5,728,074 A 3/1998 Castellano et al.
 5,772,635 A 6/1998 Dastur et al.
 5,779,677 A 7/1998 Frezza
 5,792,190 A 8/1998 Olson et al.
 5,800,397 A 9/1998 Wilson et al.
 5,805,423 A 9/1998 Wever et al.
 5,809,997 A 9/1998 Wolf
 5,814,020 A 9/1998 Gross
 5,823,346 A 10/1998 Weiner
 5,832,488 A 11/1998 Eberhardt
 5,837,546 A 11/1998 Allen et al.
 5,846,089 A 12/1998 Weiss et al.
 5,848,988 A 12/1998 Davis
 5,848,990 A 12/1998 Cirelli et al.
 5,852,590 A 12/1998 de la Huerga
 5,853,292 A 12/1998 Eggert et al.
 RE35,986 E 12/1998 Ritson et al.
 5,858,001 A 1/1999 Tsals et al.
 5,865,795 A 2/1999 Schiff et al.
 5,868,711 A 2/1999 Kramer et al.
 5,868,713 A 2/1999 Klippenstein
 5,868,721 A 2/1999 Marinacci et al.
 5,876,380 A 3/1999 Manganini et al.
 D407,487 S 3/1999 Greubel et al.
 5,899,879 A * 5/1999 Umbaugh A61M 5/30
 5,925,021 A 7/1999 Castellano et al.
 5,928,195 A 7/1999 Malamud et al.
 5,941,857 A 8/1999 Nguyen et al.
 5,964,739 A 10/1999 Champ

(56)

References Cited

U.S. PATENT DOCUMENTS

5,970,457	A	10/1999	Brant et al.	6,574,166	B2	6/2003	Niemiec
5,971,953	A	10/1999	Bachynsky	6,575,939	B1	6/2003	Brunel
6,015,438	A	1/2000	Shaw	6,585,685	B2	7/2003	Staylor et al.
6,030,363	A	2/2000	Kriesel	6,585,698	B1	7/2003	Packman et al.
6,039,713	A	3/2000	Botich et al.	6,589,158	B2	7/2003	Winkler
6,045,534	A	4/2000	Jacobsen et al.	6,595,956	B1	7/2003	Gross et al.
6,050,977	A	4/2000	Adams	6,599,272	B1	7/2003	Hjertman et al.
6,056,728	A	5/2000	von Schuckmann	RE38,189	E	7/2003	Walker et al.
6,062,901	A	5/2000	Liu et al.	6,613,010	B2	9/2003	Castellano
6,063,053	A	5/2000	Castellano et al.	6,616,627	B2	9/2003	Willis et al.
6,074,213	A	6/2000	Hon	6,633,796	B1	10/2003	Pool et al.
6,077,106	A	6/2000	Mish	6,641,566	B2	11/2003	Douglas et al.
6,083,199	A	7/2000	Thorley et al.	6,645,171	B1	11/2003	Robinson et al.
6,084,526	A	7/2000	Blotky et al.	6,645,181	B1	11/2003	Lavi
6,086,562	A	7/2000	Jacobsen et al.	6,648,850	B2	11/2003	Landau
6,096,002	A	8/2000	Landau	6,656,163	B1	12/2003	Marshall et al.
6,099,504	A	8/2000	Gross et al.	6,659,980	B2	12/2003	Moberg et al.
6,102,896	A	8/2000	Roser	6,673,035	B1	1/2004	Rice et al.
6,119,684	A	9/2000	Noehl et al.	6,676,630	B2	1/2004	Landau et al.
6,120,786	A	9/2000	Cheikh	6,679,862	B2	1/2004	Diaz et al.
6,123,685	A	9/2000	Reynolds	6,689,093	B2	2/2004	Landau
6,149,626	A	11/2000	Bachynsky et al.	6,692,469	B1	2/2004	Weekes et al.
6,158,613	A	12/2000	Novosel et al.	6,702,778	B2	3/2004	Hill et al.
6,161,281	A	12/2000	Dando et al.	6,706,019	B1	3/2004	Parker et al.
6,165,155	A	12/2000	Jacobsen et al.	6,707,763	B2	3/2004	Osberg et al.
6,179,812	B1	1/2001	Botich et al.	6,708,050	B2	3/2004	Carim
6,192,891	B1	2/2001	Gravel et al.	6,722,916	B2	4/2004	Buccinna et al.
6,193,695	B1	2/2001	Rippstein, Jr.	6,723,077	B2	4/2004	Pickup et al.
6,202,642	B1	3/2001	McKinnon et al.	6,726,657	B1	4/2004	Dedig et al.
6,210,359	B1	4/2001	Patel et al.	6,726,661	B2	4/2004	Munk et al.
6,210,369	B1	4/2001	Wilmot et al.	6,736,796	B2	5/2004	Shekalim
6,219,587	B1	4/2001	Ahlin et al.	6,743,203	B1	6/2004	Pickhard
6,221,045	B1	4/2001	Duchon et al.	6,743,635	B2	6/2004	Neel et al.
6,221,055	B1	4/2001	Shaw et al.	6,749,437	B2	6/2004	Chan
6,245,046	B1	6/2001	Sibbitt	6,752,781	B2	6/2004	Landau et al.
6,258,063	B1	7/2001	Haar et al.	6,764,469	B2	7/2004	Broselow
6,258,068	B1	7/2001	Kirchhofer et al.	6,767,336	B1	7/2004	Kaplan
6,259,654	B1	7/2001	de la Huerga	6,770,052	B2	8/2004	Hill et al.
6,264,629	B1	7/2001	Landau	6,770,056	B2	8/2004	Price et al.
6,270,479	B1	8/2001	Bergens et al.	6,783,509	B1	8/2004	Landau et al.
6,280,421	B1	8/2001	Kirchhofer et al.	6,786,875	B2	9/2004	Barker et al.
6,312,412	B1	11/2001	Saied et al.	6,786,885	B2	9/2004	Hochman et al.
6,317,630	B1	11/2001	Gross et al.	6,793,646	B1	9/2004	Giambattista et al.
6,334,070	B1	12/2001	Nova et al.	6,803,856	B1	10/2004	Murphy et al.
6,364,866	B1	4/2002	Furr et al.	6,805,686	B1	10/2004	Fathallah et al.
6,371,939	B2	4/2002	Bergens et al.	6,808,514	B2	10/2004	Schneider et al.
6,383,168	B1	5/2002	Landau et al.	6,809,653	B1	10/2004	Mann et al.
6,387,078	B1	5/2002	Gillespie, III	6,817,986	B2	11/2004	Slate et al.
6,405,912	B2	6/2002	Giannou	6,830,560	B1	12/2004	Gross et al.
6,406,455	B1	6/2002	Willis et al.	6,839,304	B2	1/2005	Niemiec et al.
6,411,567	B1	6/2002	Niemiec et al.	6,872,200	B2	3/2005	Mann et al.
6,413,236	B1	7/2002	Van Dyke	6,875,195	B2	4/2005	Choi
6,419,656	B1	7/2002	Vetter et al.	6,883,222	B2	4/2005	Landau
6,425,897	B2	7/2002	Overes et al.	6,923,764	B2	8/2005	Aceti et al.
6,427,684	B2	8/2002	Ritsche et al.	6,936,029	B2	8/2005	Mann et al.
6,428,517	B1	8/2002	Hochman et al.	6,936,032	B1	8/2005	Bush, Jr. et al.
6,428,528	B2	8/2002	Sadowski et al.	6,937,150	B2	8/2005	Medema et al.
6,475,181	B1	11/2002	Potter et al.	6,942,646	B2	9/2005	Langley et al.
6,478,771	B1	11/2002	Lavi et al.	6,946,299	B2	9/2005	Neel et al.
6,482,186	B1	11/2002	Douglas et al.	6,949,082	B2	9/2005	Langley et al.
6,494,863	B1	12/2002	Shaw et al.	6,952,604	B2	10/2005	DeNuzzio et al.
6,500,150	B1	12/2002	Gross et al.	6,953,445	B2	10/2005	Wilmot et al.
6,514,230	B1	2/2003	Munk et al.	6,953,693	B2	10/2005	Neel et al.
6,529,446	B1	3/2003	de la Huerga	6,958,691	B1	10/2005	Anderson et al.
6,530,900	B1	3/2003	Daily	6,959,247	B2	10/2005	Neel et al.
6,530,904	B1	3/2003	Edwards et al.	6,960,192	B1	11/2005	Flaherty et al.
6,535,714	B2	3/2003	Melker et al.	6,961,285	B2	11/2005	Niemiec et al.
6,540,672	B1	4/2003	Simonsen et al.	6,964,650	B2	11/2005	Alexandre et al.
6,540,675	B2	4/2003	Aceti et al.	6,969,259	B2	11/2005	Pastrick et al.
6,544,234	B1	4/2003	Gabriel	6,979,316	B1	12/2005	Rubin et al.
6,551,276	B1	4/2003	Mann et al.	6,979,326	B2	12/2005	Mann et al.
6,551,298	B1	4/2003	Zhang et al.	6,985,870	B2	1/2006	Martucci et al.
6,554,798	B1	4/2003	Mann et al.	6,997,911	B2	2/2006	Klitmose
6,558,320	B1	5/2003	Causey, III et al.	7,014,470	B2	3/2006	Vann
6,565,533	B1	5/2003	Smith et al.	7,074,211	B1	7/2006	Heiniger et al.
6,569,123	B2	5/2003	Alchas et al.	7,104,972	B2	9/2006	Moller et al.
6,572,584	B1	6/2003	Shaw et al.	7,113,101	B2	9/2006	Petersen et al.
				7,116,233	B2	10/2006	Zhurin
				7,118,553	B2	10/2006	Scherer
				7,126,879	B2	10/2006	Snyder
				7,158,011	B2	1/2007	Brue

(56)

References Cited

U.S. PATENT DOCUMENTS

7,191,916	B2	3/2007	Clifford et al.	9,517,307	B2 *	12/2016	Blondino et al. ... A61M 5/2053
7,299,981	B2	11/2007	Hickle et al.	9,542,826	B2 *	1/2017	Edwards et al. G09B 9/00
7,329,241	B2	2/2008	Horvath et al.	9,555,191	B2 *	1/2017	Edwards et al. A61M 5/002
7,357,790	B2	4/2008	Hommann et al.	9,586,011	B2	3/2017	Roberts et al.
7,416,540	B2	8/2008	Edwards et al.	9,821,113	B2	11/2017	Cole et al.
7,465,294	B1	12/2008	Vladimirsky	10,071,203	B2	9/2018	Edwards et al.
7,500,963	B2	3/2009	Westbye et al.	10,105,499	B2	10/2018	Schwartz et al.
7,500,967	B2	3/2009	Thorley et al.	D833,065	S *	11/2018	Alarcon D27/186
7,503,907	B1	3/2009	Lesch, Jr.	10,192,464	B2 *	1/2019	Edwards et al. H04R 1/028
7,544,188	B2	6/2009	Edwards et al.	10,251,999	B2	4/2019	Cole et al.
7,611,491	B2	11/2009	Pickhard	10,332,623	B2 *	6/2019	Edwards et al. G16H 40/67
7,611,495	B1	11/2009	Gianturco	10,363,374	B2	7/2019	Nazzaro et al.
7,637,891	B2	12/2009	Wall	10,576,206	B2 *	3/2020	Edwards et al. A61M 5/3204
7,648,482	B2	1/2010	Edwards et al.	10,688,244	B2 *	6/2020	Edwards et al. A61P 37/08
7,648,483	B2	1/2010	Edwards et al.	10,695,485	B2	6/2020	Nazzaro
7,654,983	B2	2/2010	De La Sema et al.	10,695,495	B2 *	6/2020	Blondino et al. G16H 40/63
7,674,246	B2	3/2010	Gillespie et al.	10,737,028	B2 *	8/2020	Edwards et al. A61M 5/326
7,686,788	B2	3/2010	Freymann et al.	10,960,134	B2	3/2021	Salter et al.
7,731,686	B2	6/2010	Edwards et al.	D921,190	S *	6/2021	Shor et al. D24/111
7,731,690	B2	6/2010	Edwards et al.	2001/0005781	A1	6/2001	Bergens et al.
7,749,194	B2	7/2010	Edwards et al.	2001/0037087	A1	11/2001	Knauer
7,758,550	B2	7/2010	Bollenbach et al.	2002/0016567	A1	2/2002	Hochman et al.
7,771,397	B1	8/2010	Olson	2002/0042596	A1	4/2002	Hartlaub et al.
7,806,866	B2	10/2010	Hommann et al.	2002/0055711	A1	5/2002	Lavi et al.
7,850,662	B2	12/2010	Veasey et al.	2002/0074345	A1	6/2002	Schneider et al.
7,871,393	B2	1/2011	Monroe	2002/0076679	A1	6/2002	Aman
7,901,377	B1	3/2011	Harrison et al.	2002/0079326	A1	6/2002	Fuchs
7,901,384	B2	3/2011	Kleyman et al.	2002/0095120	A1	7/2002	Larsen et al.
7,918,823	B2	4/2011	Edwards et al.	2002/0096543	A1	7/2002	Juselius
7,918,832	B2	4/2011	Veasey et al.	2003/0028145	A1	2/2003	Duchon et al.
7,931,614	B2	4/2011	Gonnelli et al.	2003/0040717	A1	2/2003	Saulenas et al.
7,938,802	B2	5/2011	Bicknell et al.	2003/0105430	A1	6/2003	Lavi et al.
7,938,808	B2	5/2011	Pessin	2003/0106824	A1	6/2003	Wilmot et al.
7,947,017	B2	5/2011	Edwards et al.	2003/0120222	A1	6/2003	Vaillancourt
8,016,788	B2	9/2011	Edwards et al.	2003/0132128	A1	7/2003	Mazur
8,021,335	B2	9/2011	Lesch, Jr.	2003/0135388	A1	7/2003	Martucci et al.
8,105,281	B2	1/2012	Edwards et al.	2003/0233070	A1	12/2003	De La Serna et al.
8,105,293	B2	1/2012	Pickhard	2004/0015125	A1	1/2004	Alexandre et al.
8,123,719	B2	2/2012	Edwards et al.	2004/0019326	A1	1/2004	Gilbert et al.
8,162,886	B2	4/2012	Sadowski et al.	2004/0024361	A1	2/2004	Fago et al.
8,172,082	B2	5/2012	Edwards et al.	2004/0024367	A1	2/2004	Gilbert
8,172,790	B2	5/2012	Hunter et al.	2004/0039336	A1	2/2004	Amark et al.
8,206,360	B2	6/2012	Edwards et al.	2004/0039337	A1	2/2004	Letzing
8,231,573	B2	7/2012	Edwards et al.	2004/0039368	A1	2/2004	Reilly et al.
8,313,466	B2	11/2012	Edwards et al.	2004/0054327	A1	3/2004	Gillespie, III
8,361,029	B2	1/2013	Edwards et al.	2004/0073169	A1	4/2004	Amisar et al.
8,409,141	B2	4/2013	Johansen et al.	2004/0092874	A1	5/2004	Mazidji et al.
8,425,462	B2	4/2013	Edwards et al.	2004/0094146	A1	5/2004	Schiewe et al.
8,608,698	B2	12/2013	Edwards et al.	2004/0116854	A1	6/2004	Abulhaj et al.
8,632,504	B2	1/2014	Young	2004/0138611	A1	7/2004	Griffiths et al.
8,647,306	B2	2/2014	Schwartz et al.	2004/0143298	A1	7/2004	Nova et al.
8,684,968	B2	4/2014	Genosar	2004/0159364	A1	8/2004	Landau et al.
8,690,827	B2	4/2014	Edwards et al.	2004/0210199	A1	10/2004	Atterbury et al.
8,728,042	B2	5/2014	Pickhard	2004/0220524	A1	11/2004	Sadowski et al.
8,734,394	B2	5/2014	Adams et al.	2004/0249358	A1	12/2004	McWethy et al.
8,747,357	B2	6/2014	Stamp et al.	2004/0267204	A1	12/2004	Brustowicz
8,899,987	B2 *	12/2014	Edwards et al. .. A61M 15/0001 434/262	2005/0027255	A1	2/2005	Lavi et al.
8,900,197	B2	12/2014	Crow	2005/0033234	A1	2/2005	Sadowski et al.
8,920,377	B2	12/2014	Edwards et al.	2005/0033386	A1	2/2005	Osborn et al.
8,939,943	B2 *	1/2015	Edwards et al. A61M 11/007 604/198	2005/0049561	A1	3/2005	Hommann et al.
8,939,959	B2	1/2015	Baney et al.	2005/0062603	A1	3/2005	Fuerst et al.
8,945,048	B2	2/2015	Thorley et al.	2005/0090781	A1	4/2005	Baba et al.
8,961,455	B2	2/2015	Holmqvist et al.	2005/0090782	A1	4/2005	Marshall et al.
8,992,477	B2	3/2015	Raday et al.	2005/0101912	A1	5/2005	Faust et al.
9,022,022	B2 *	5/2015	Edwards et al. A61M 5/2046 128/200.14	2005/0134433	A1	6/2005	Sweeney, II et al.
9,022,980	B2	5/2015	Edwards et al.	2005/0148931	A1	7/2005	Juhasz
9,044,549	B2	6/2015	Niklasson	2005/0148945	A1	7/2005	Chen
9,056,170	B2	6/2015	Edwards et al.	2005/0159705	A1	7/2005	Crawford et al.
9,084,849	B2	7/2015	Edwards et al.	2005/0165360	A1	7/2005	Stamp
9,149,579	B2 *	10/2015	Edwards et al. A61M 5/2033	2005/0168337	A1	8/2005	Mahoney
9,173,999	B2	11/2015	Edwards et al.	2005/0171477	A1	8/2005	Rubin et al.
9,289,563	B2	3/2016	Pickhard et al.	2005/0182358	A1	8/2005	Veit et al.
9,345,831	B2	5/2016	Raday et al.	2005/0183982	A1	8/2005	Giewercer
9,352,099	B2	5/2016	Roberts et al.	2005/0192530	A1	9/2005	Castellano
				2005/0192534	A1	9/2005	Wolbring et al.
				2005/0197654	A1	9/2005	Edman et al.
				2005/0203466	A1	9/2005	Hommann et al.
				2005/0222539	A1	10/2005	Gonzales et al.
				2005/0261742	A1	11/2005	Nova et al.
				2005/0267403	A1	12/2005	Landau et al.
				2005/0273059	A1	12/2005	Mernoe et al.

(56)

References Cited

U.S. PATENT DOCUMENTS

2005/0277891	A1	12/2005	Sibbitt	
2006/0030819	A1	2/2006	Young et al.	
2006/0053036	A1	3/2006	Coffman et al.	
2006/0058848	A1	3/2006	Piraino et al.	
2006/0111666	A1	5/2006	Hommann et al.	
2006/0111671	A1	5/2006	Klippenstein	
2006/0116639	A1	6/2006	Russell	
2006/0129089	A1	6/2006	Stamp	
2006/0129090	A1	6/2006	Moberg et al.	
2006/0173408	A1	8/2006	Wyrick	
2006/0184133	A1	8/2006	Pessin	
2006/0189938	A1	8/2006	Hommann et al.	
2006/0200077	A1	9/2006	Righi et al.	
2006/0223027	A1	10/2006	Smith et al.	
2006/0235354	A1	10/2006	Kaal et al.	
2006/0247579	A1	11/2006	Friedman	
2006/0265186	A1	11/2006	Holland et al.	
2007/0008113	A1	1/2007	Spoonhower et al.	
2007/0021720	A1	1/2007	Guillermo	
2007/0074722	A1	4/2007	Giroux et al.	
2007/0100288	A1	5/2007	Bozeman et al.	
2007/0129686	A1	6/2007	Daily et al.	
2007/0135767	A1	6/2007	Gillespie, III et al.	
2007/0173772	A1	7/2007	Liversidge et al.	
2007/0184847	A1	8/2007	Hansen et al.	
2007/0210147	A1	9/2007	Morrone et al.	
2007/0213598	A1	9/2007	Howard et al.	
2007/0233001	A1	10/2007	Burroughs et al.	
2007/0265568	A1	11/2007	Tsals et al.	
2008/0111685	A1	5/2008	Olson et al.	
2008/0147006	A1	6/2008	Brunnberg et al.	
2008/0154200	A1	6/2008	Lesch et al.	
2008/0171995	A1	7/2008	Vitullo et al.	
2008/0188798	A1	8/2008	Weber	
2008/0208114	A1	8/2008	Landau et al.	
2008/0228143	A1	9/2008	Stamp	
2008/0255513	A1	10/2008	Kaal et al.	
2008/0262443	A1	10/2008	Hommann	
2009/0093759	A1	4/2009	Judd et al.	
2009/0192486	A1	7/2009	Wilmot et al.	
2009/0209939	A1	8/2009	Verespej et al.	
2009/0221962	A1	9/2009	Kaal et al.	
2009/0240200	A1	9/2009	Heneveld et al.	
2009/0318361	A1	12/2009	Noera et al.	
2010/0010454	A1	1/2010	Marshall et al.	
2010/0049125	A1	2/2010	James et al.	
2010/0137808	A1	6/2010	Wilmot et al.	
2010/0152659	A1	6/2010	Streit et al.	
2010/0160894	A1	6/2010	Julian et al.	
2010/0185148	A1	7/2010	Gillespie, III et al.	
2010/0185178	A1	7/2010	Sharp et al.	
2010/0280460	A1	11/2010	Markussen	
2010/0286612	A1	11/2010	Cirillo et al.	
2011/0046565	A1	2/2011	Radmer et al.	
2011/0077589	A1	3/2011	Karlsson et al.	
2011/0092917	A1*	4/2011	Wei et al.	A61M 5/24 604/240
2011/0092954	A1	4/2011	Jennings	
2011/0098655	A1	4/2011	Jennings et al.	
2011/0201999	A1	8/2011	Cronenberg et al.	
2011/0202011	A1	8/2011	Wozencroft	
2011/0213314	A1	9/2011	Guillermo	
2011/0245761	A1	10/2011	Jennings et al.	
2011/0270220	A1	11/2011	Genosar	
2011/0319864	A1	12/2011	Beller et al.	
2012/0046613	A1	2/2012	Plumptre	
2012/0056019	A1	3/2012	Renz et al.	
2012/0101446	A1	4/2012	Heald	
2012/0101449	A1*	4/2012	Holmqvist	A61M 5/2033 604/218
2012/0101475	A1	4/2012	Wilmot et al.	
2012/0107783	A1	5/2012	Julian et al.	
2012/0116319	A1	5/2012	Grunhut	
2012/0130318	A1	5/2012	Young	
2012/0143144	A1	6/2012	Young	
2012/0172804	A1	7/2012	Plumptre	
2012/0172817	A1	7/2012	Brüggemann et al.	

2012/0191049	A1	7/2012	Harms et al.	
2012/0209200	A1	8/2012	Jones et al.	
2012/0233834	A1	9/2012	Szechinski et al.	
2012/0238960	A1	9/2012	Smith et al.	
2012/0253288	A1	10/2012	Dasbach et al.	
2012/0259285	A1	10/2012	Schabbach et al.	
2012/0271243	A1	10/2012	Plumptre et al.	
2012/0283648	A1	11/2012	Veasey et al.	
2012/0283651	A1	11/2012	Veasey et al.	
2012/0283662	A1	11/2012	MacDonald et al.	
2012/0289906	A1	11/2012	Jones et al.	
2012/0289929	A1	11/2012	Boyd et al.	
2012/0310168	A1	12/2012	Plumptre et al.	
2012/0310206	A1	12/2012	Kouyoumjian et al.	
2012/0323186	A1	12/2012	Karlsen et al.	
2012/0325865	A1	12/2012	Forstreuter et al.	
2012/0330244	A1	12/2012	Helmer et al.	
2013/0060231	A1	3/2013	Adlon et al.	
2013/0060232	A1	3/2013	Adlon et al.	
2013/0079718	A1	3/2013	Shang et al.	
2013/0079725	A1	3/2013	Shang et al.	
2013/0096512	A1	4/2013	Ekman et al.	
2013/0110050	A1	5/2013	Boyd et al.	
2013/0131602	A1	5/2013	Kemp et al.	
2013/0138049	A1	5/2013	Kemp et al.	
2013/0150800	A1	6/2013	Kemp et al.	
2013/0172822	A1	7/2013	Ekman et al.	
2013/0204199	A1	8/2013	Hourmand et al.	
2013/0218074	A1	8/2013	Holmqvist et al.	
2013/0226084	A1	8/2013	Samandi et al.	
2013/0236872	A1	9/2013	Laurusonis et al.	
2013/0245562	A1	9/2013	Kouyoumjian et al.	
2013/0266919	A1	10/2013	Baker et al.	
2013/0274662	A1	10/2013	Hourmand et al.	
2013/0274707	A1	10/2013	Wilmot et al.	
2013/0296796	A1	11/2013	Hourmand et al.	
2013/0317427	A1	11/2013	Brereton et al.	
2013/0317477	A1	11/2013	Edwards et al.	
2013/0317480	A1	11/2013	Reber et al.	
2013/0331785	A1*	12/2013	Wozencroft	A61M 5/50 604/110
2014/0025014	A1	1/2014	Radmer et al.	
2014/0031760	A1	1/2014	Mercer et al.	
2014/0046259	A1	2/2014	Reber et al.	
2014/0103075	A1	4/2014	Bennison et al.	
2014/0114250	A1	4/2014	DeSalvo et al.	
2014/0128840	A1	5/2014	Rao et al.	
2014/0135705	A1	5/2014	Hourmand et al.	
2014/0257185	A1	9/2014	Bechmann et al.	
2014/0367288	A1*	12/2014	Ziegner	A61M 5/002 206/366
2015/0238695	A1	8/2015	Edwards et al.	
2015/0283323	A1	10/2015	Young et al.	
2016/0015907	A1	1/2016	Edwards et al.	
2016/0045670	A1	2/2016	Edwards et al.	
2016/0184521	A1	6/2016	Edwards et al.	
2016/0250414	A1	9/2016	Edwards et al.	
2017/0290982	A1	10/2017	Edwards et al.	
2018/0008774	A1	1/2018	Edwards et al.	
2018/0235840	A1	8/2018	Genosar	
2019/0151548	A1	5/2019	Edwards et al.	
2019/0175837	A1	6/2019	Edwards et al.	
2019/0275253	A1	9/2019	Edwards et al.	
2019/0282763	A1	9/2019	Edwards et al.	
2019/0358399	A1	11/2019	Edwards et al.	
2019/0381245	A1	12/2019	Edwards et al.	
2021/0205538	A1*	7/2021	Egloff	A61M 5/31511

FOREIGN PATENT DOCUMENTS

EM	009017676-0005	*	7/2022
EP	1287840	A1	3/2003
EP	1462134	A1	9/2004
EP	1518575	A1	3/2005
EP	1712178	A2	10/2006
EP	1095668		4/2007
FR	1514210		2/1968
FR	2506161		11/1982
FR	2509615		1/1983
FR	2700959		2/1993
GB	2490807		11/2012

(56)

References Cited

FOREIGN PATENT DOCUMENTS

MX	PA04009276	1/2005
WO	91/04760	4/1991
WO	92/18176	10/1992
WO	93/02720	2/1993
WO	95/13838	5/1995
WO	95/26009	9/1995
WO	95/35126	12/1995
WO	98/52632	11/1998
WO	99/10031	3/1999
WO	2001/024690	4/2001
WO	2001/026020	4/2001
WO	2001/041849	6/2001
WO	2001/088828	11/2001
WO	2001/093926	12/2001
WO	2002/083205	10/2002
WO	2002/083212	10/2002
WO	2002/100469	12/2002
WO	2003/011378	2/2003
WO	2003/013632	2/2003
WO	2003/095001	11/2003
WO	2003/097133	11/2003
WO	2004/041330	5/2004
WO	2004/047890	6/2004
WO	2004/047891	6/2004
WO	2004/047892	6/2004
WO	2004/047893	6/2004
WO	2004/054644	7/2004
WO	2005/050526	6/2005
WO	2005/070481	8/2005
WO	2005/077441	8/2005
WO	2006/058426	6/2006
WO	2006/109778	10/2006
WO	2006/125692	11/2006
WO	2008/005315	1/2008
WO	2008/082704	7/2008
WO	2008/148864	12/2008
WO	2009/095735	8/2009
WO	2010/033806	3/2010
WO	2011/157930	12/2011
WO	2012/164402 A2	12/2012
WO	2013/044172	3/2013
WO	2019/063307 A1	4/2019

OTHER PUBLICATIONS

"Anaphylaxis Canada Product Catalogue," Anaphylaxis Canada > Living with Anaphylaxis > Tools and Resources [online] [retrieved on Jan. 24, 2007] Retrieved from the Internet <URL: http://anaphylaxis.org/content/livingwith/product_catalogue.asp>, 9 pages.

"Flex Circuits/flexible circuits design guide," [online] [retrieved on Aug. 28, 2006] Retrieved from the Internet <URL: <http://flexiblecircuit.co.uk/FlexCircuitsDesignGuide.htm>>, 7 pages.

"Flexible circuits / Flex circuits / Flexible Technology Ltd.," Flexible Technology Limited [online] [retrieved on Aug. 28, 2006] Retrieved from the Internet <URL: <http://www.flexibletechnology.com/>>, 2 pages.

"How to use Auvi-Q?" posted by user NorthCoAllergyAsthma. Posting date: Mar. 18, 2013. Retrieval date: Oct. 18, 2018. Retrieved from internet: <https://www.youtube.com/watch?v=bZI5vXwZUOg> (Year: 2013).*

"Insect Stings Auto-injector Pouches and Carry Cases," The Insect Stings On-Line Shop, [online] [retrieved on Jan. 24, 2007] Retrieved from the Internet <URL: <http://www.insectstings.co.uk/acatalog/AutoInjectorPouches.html>>, 3 pages.

"Merck Serono Launches easypod(R), First Electronic Growth Hormone Injection Device," Jan. 30, 2007 [online] [retrieved on Feb. 5, 2007] Retrieved from the Internet <URL: <http://www.biz.yahoo.com/prnews/070130/ukm028.html?v=8>>, 3 pages.

"Microfluidics Device Provides Programmed, Long-Term Drug Dosing," nano techwire.com [online] [retrieved on Nov. 28, 2006] Retrieved from the Internet <URL: <http://nanotechwire.com/news.asp?nid=3141&ntid=124&pg=1>>, 3 pages.

AED Professionals™ Brochure [online] [retrieved on Jun. 1, 2007] Retrieved from the Internet <URL: <http://www.aedprofessionals.com>>, 4 pages.

ALLAN, R., "Medical Electronics: Technology Advances Will Revolutionize Healthcare," Sep. 30, 2002 [online] [retrieved on Nov. 28, 2006] Retrieved from the Internet <URL: <http://www.elecdesign.com/Articles/Index.cfm?AD=1&ArticleID=2041>>, 3 pages.

CliniSense Corporation, "LifeTrack Technology A new method to detect improper storage." Stability [online] [retrieved on Jun. 1, 2007] Retrieved from the Internet <URL: <http://www.clinisense.com/tech.htm>>, 2 pages.

Examination Report for Australian Patent Application No. 2012211307, mailed Mar. 3, 2014, 3 pages.

Examination Report for British Patent Application No. GB 0708523.6, mailed Dec. 8, 2008.

Examination Report for British Patent Application No. GB 0822532.8, mailed Jan. 21, 2009.

Examination Report for British Patent Application No. GB 0822532.8, mailed May 21, 2009.

Heartsine Technology, samaritan™ PAD ACCESSORIES [online] [retrieved on Jun. 1, 2007] Retrieved from the Internet <URL: <http://www.heartsine.com/aboutsam-accessories.htm>>, 4 pages.

International Search Report and Written Opinion for International Application No. PCT/US2012/022675, mailed May 25, 2012.

Search Report and Written Opinion for International Patent Application No. PCT/US07/84891 mailed Sep. 15, 2008, 7 pages.

International Search Report and Written Opinion for International Patent Application No. PCT/US07/007626, mailed Sep. 29, 2008.

Office Action for Canadian Patent Application No. 2,586,525, mailed Aug. 17, 2010.

Office Action for Canadian Patent Application No. 2,825,600, mailed Feb. 1, 2018.

Office Action for Israel Patent Application No. 227617, mailed Sep. 19, 2016.

Office Action for Japanese Patent Application No. 2013-551324, mailed Jan. 13, 2016.

Office Action for U.S. Appl. No. 11/562,061, mailed Feb. 3, 2009.

Office Action for U.S. Appl. No. 11/758,393, mailed May 13, 2009.

Office Action for U.S. Appl. No. 12/119,016, mailed Nov. 3, 2011.

Office Action for U.S. Appl. No. 12/138,987, mailed Oct. 5, 2009.

Office Action for U.S. Appl. No. 13/053,451, mailed Nov. 15, 2012.

Office Action for U.S. Appl. No. 14/803,821, mailed Aug. 27, 2018.

Office Action for U.S. Appl. No. 14/803,821, mailed Feb. 9, 2018.

Office Action for U.S. Appl. No. 15/631,076, mailed Apr. 8, 2019.

Office Action for U.S. Appl. No. 15/696,287, mailed Nov. 16, 2017.

Office Action for U.S. Appl. No. 15/738,008, mailed Aug. 22, 2019.

Office Action for U.S. Appl. No. 16/426,412, mailed Sep. 17, 2019.

Office Action for U.S. Appl. No. 29/719,899, mailed Oct. 27, 2022.

Office Action for U.S. Appl. No. 16/438,203, mailed Jul. 18, 2019.

RFID Gazette, "Smart Labels in Healthcare," Sep. 29, 2005 [online] [retrieved on Nov. 28, 2006] Retrieved from the Internet <URL: <http://www.rfidgazette.org/2005/09/smartlabelsin.html>>, 2 pages.

RUPPAR, D., "Implant Technologies Expected to Remain a Niche but Effective Method of Drug Delivery," Drug Delivery Technology, Feb. 2007, Vol. 7, No. 2 [online] [retrieved on Jun. 1, 2007] Retrieved from the Internet <URL: <http://www.drugdeliverytech->

SCHOLZ, O., "Drug depot in a tooth," [online] [retrieved on Feb. 6, 2007] Retrieved from the Internet <URL: <http://www.fraunhofer.de/fhg/EN/press/pi/2007/02Mediendienst22007Thema2.jsp?print=true>>, 1 page.

Supplementary Search Report for European Patent Application No. 12740010.9, mailed Aug. 5, 2014.

Third Party Observations filed in European Patent Application No. 07864490.3, mailed Aug. 22, 2016.

"Solutions for Medical Devices," 3M Brochure, ©3M, (2006), 80-6201-3490-0, 8 pages.

(56)

References Cited

OTHER PUBLICATIONS

TINGELSTAD, M., "Revolutionary Medical Technology Increases Demand for Flexible Interconnects," [online] May 15, 2006 [retrieved on Nov. 15, 2006] Retrieved from the Internet <URL: <http://www.ecnmag.com/index.asp?layout=articlePrint&ArticleID=CA6332947>>, 3 pages.

"Flexible circuits capabilities of Flexible Technology Limited," Our Flexible Circuits Capabilities [online] [retrieved on Aug. 28, 2006] Retrieved from the Internet <URL: <http://www.flexibletechnology.com/FlexiblecircuitsCapability.htm>>, 2 pages.

CliniSense Corporation, "Drug delivery devices A potentially harsh environment for drugs," Stability [online] [retrieved on Jun. 1, 2007] Retrieved from the Internet <URL: <http://www.clinisense.com/devices.htm>>, 2 pages.

* cited by examiner

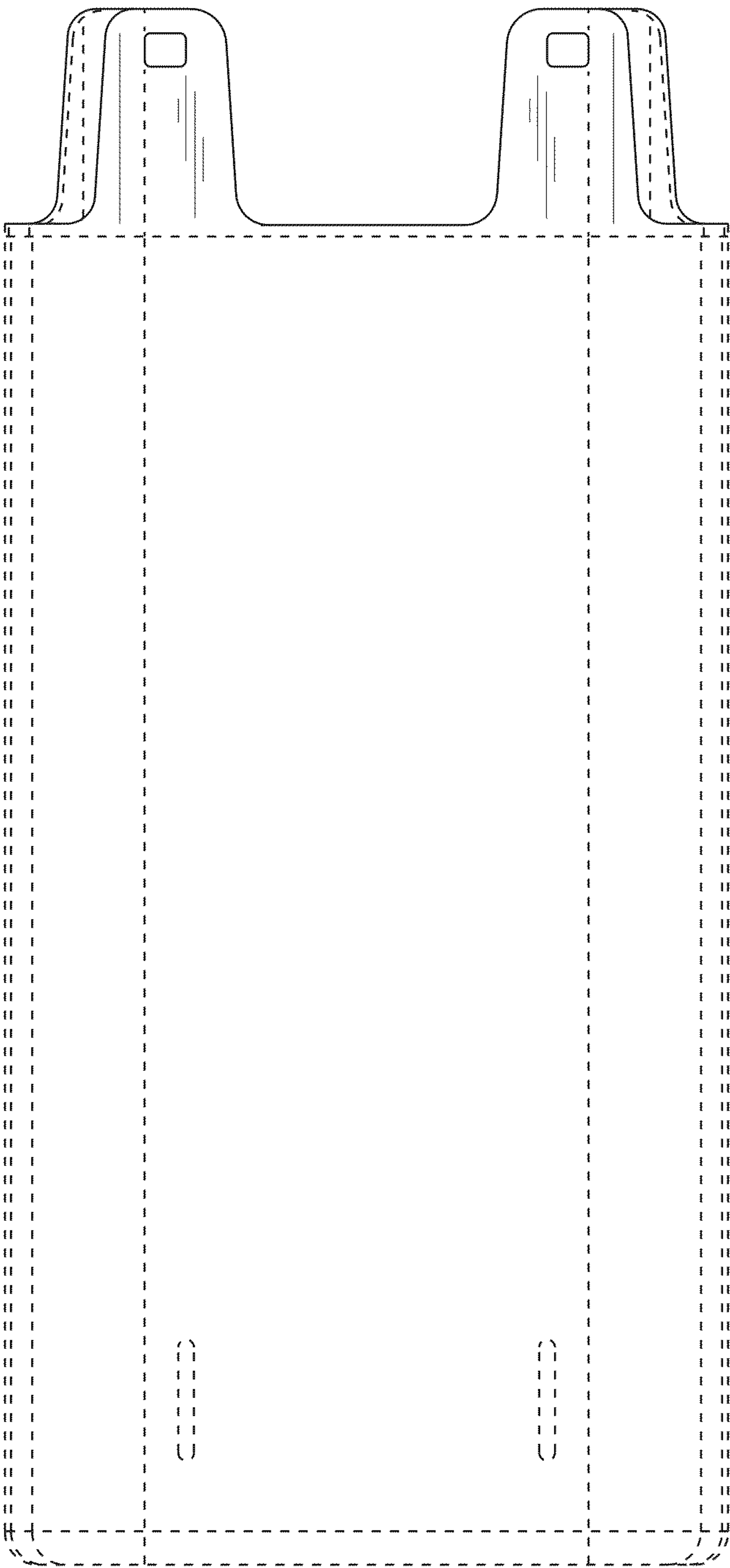


FIG. 1

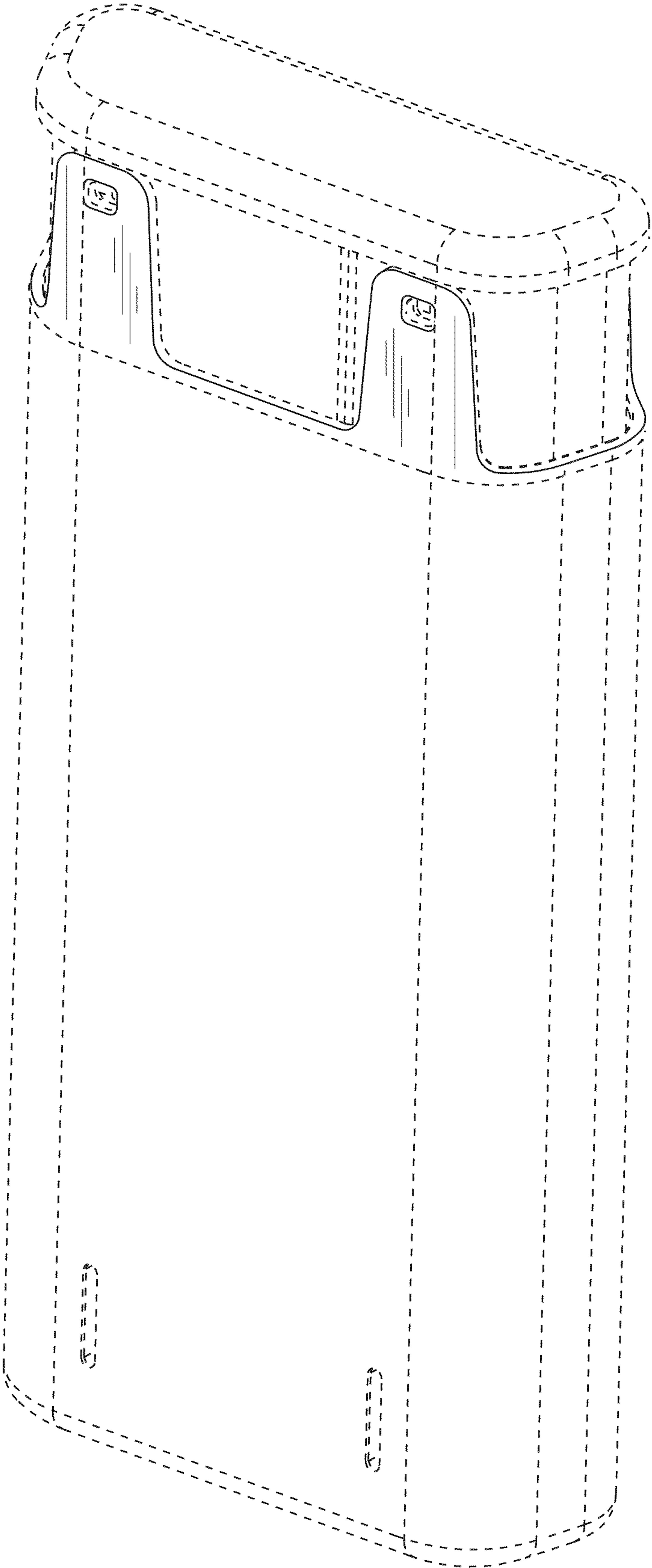


FIG. 2

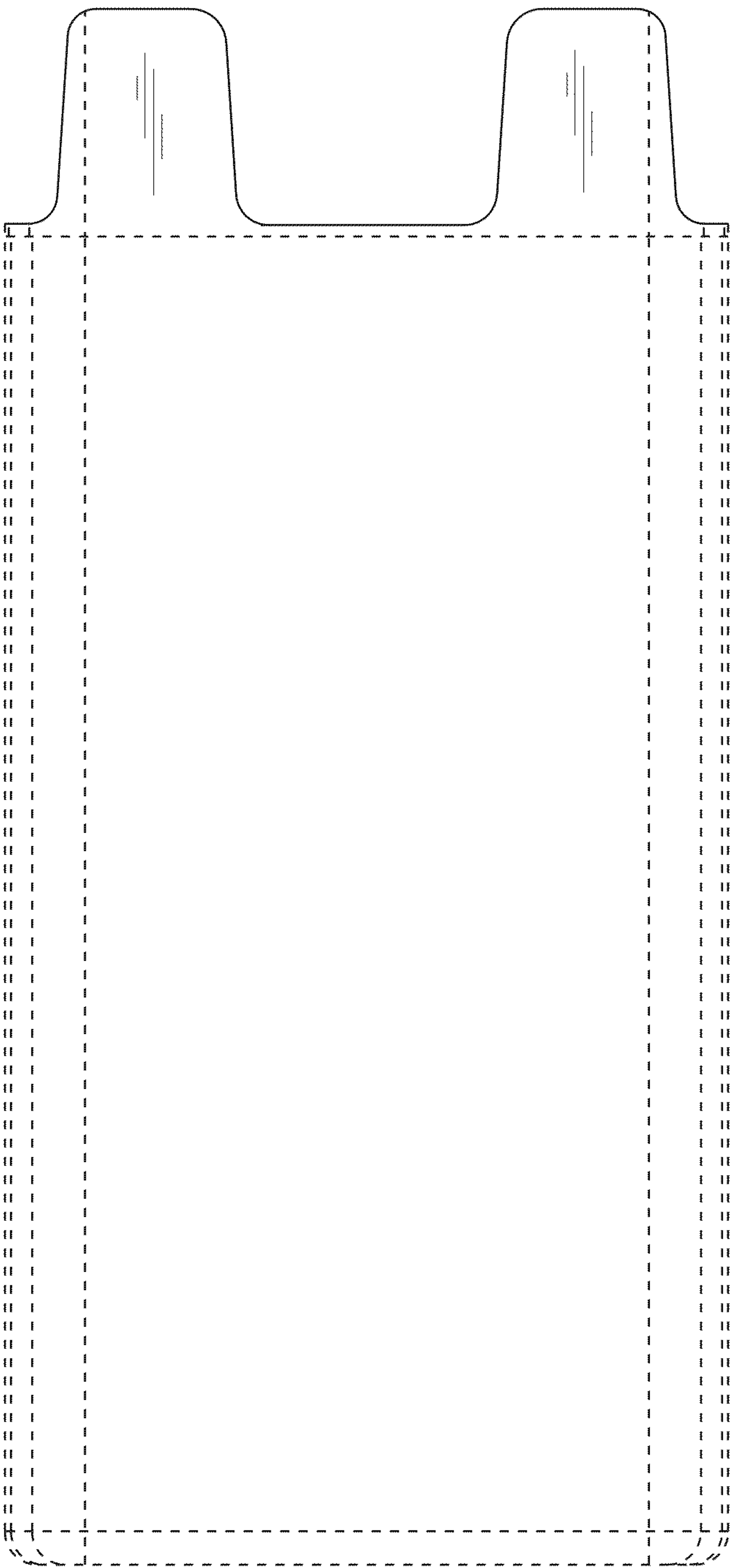


FIG. 3

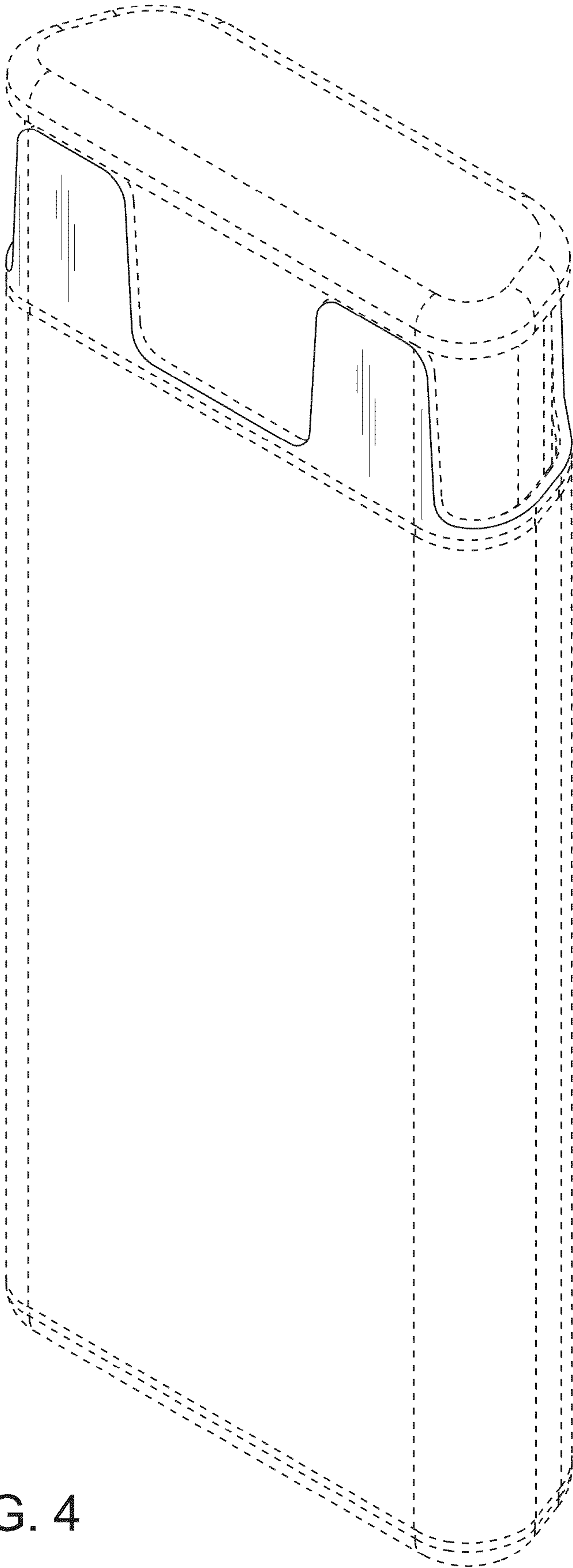


FIG. 4

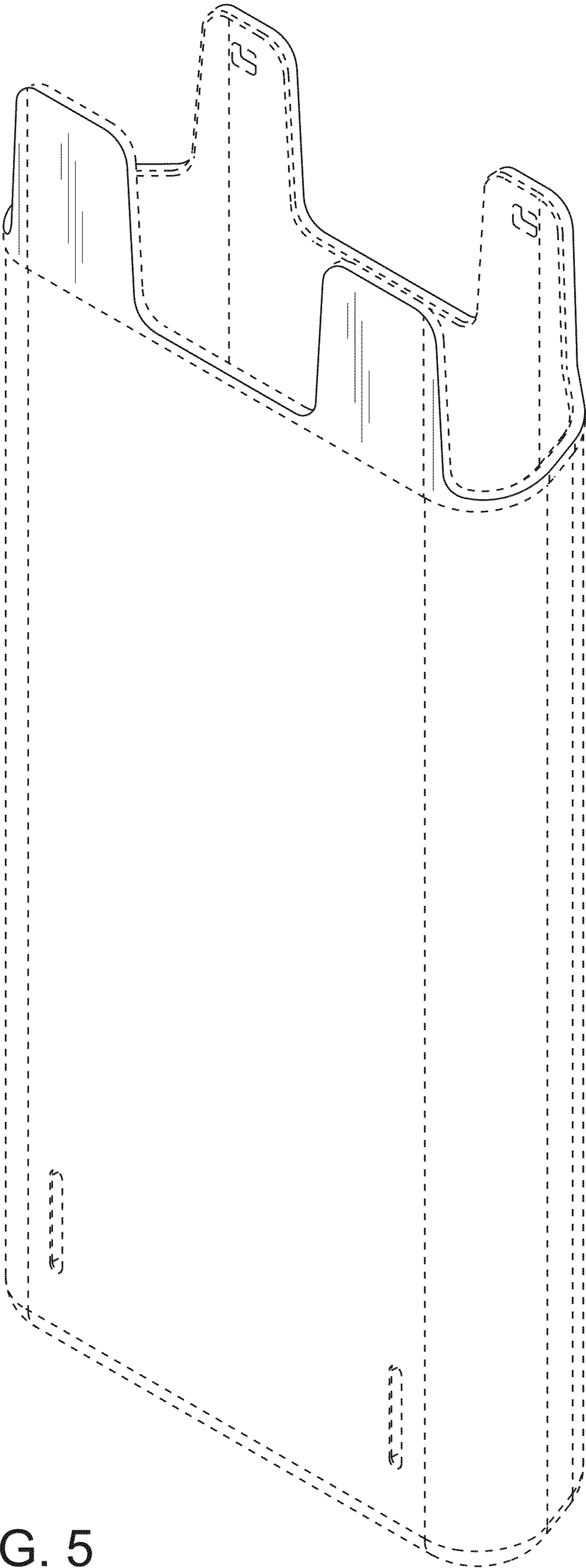


FIG. 5

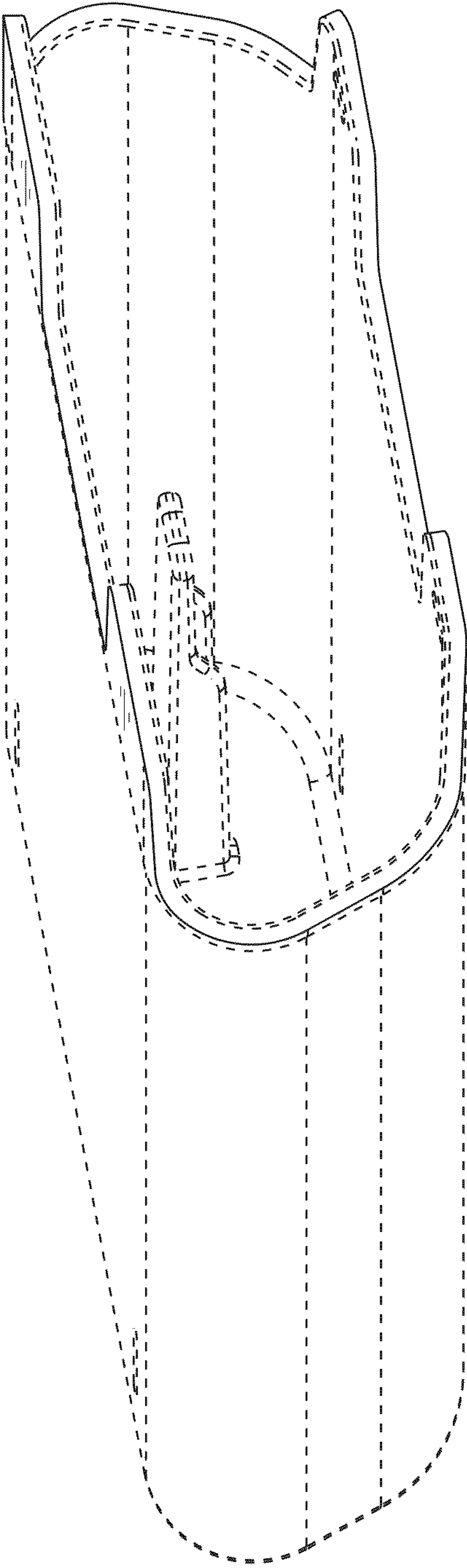


FIG. 6

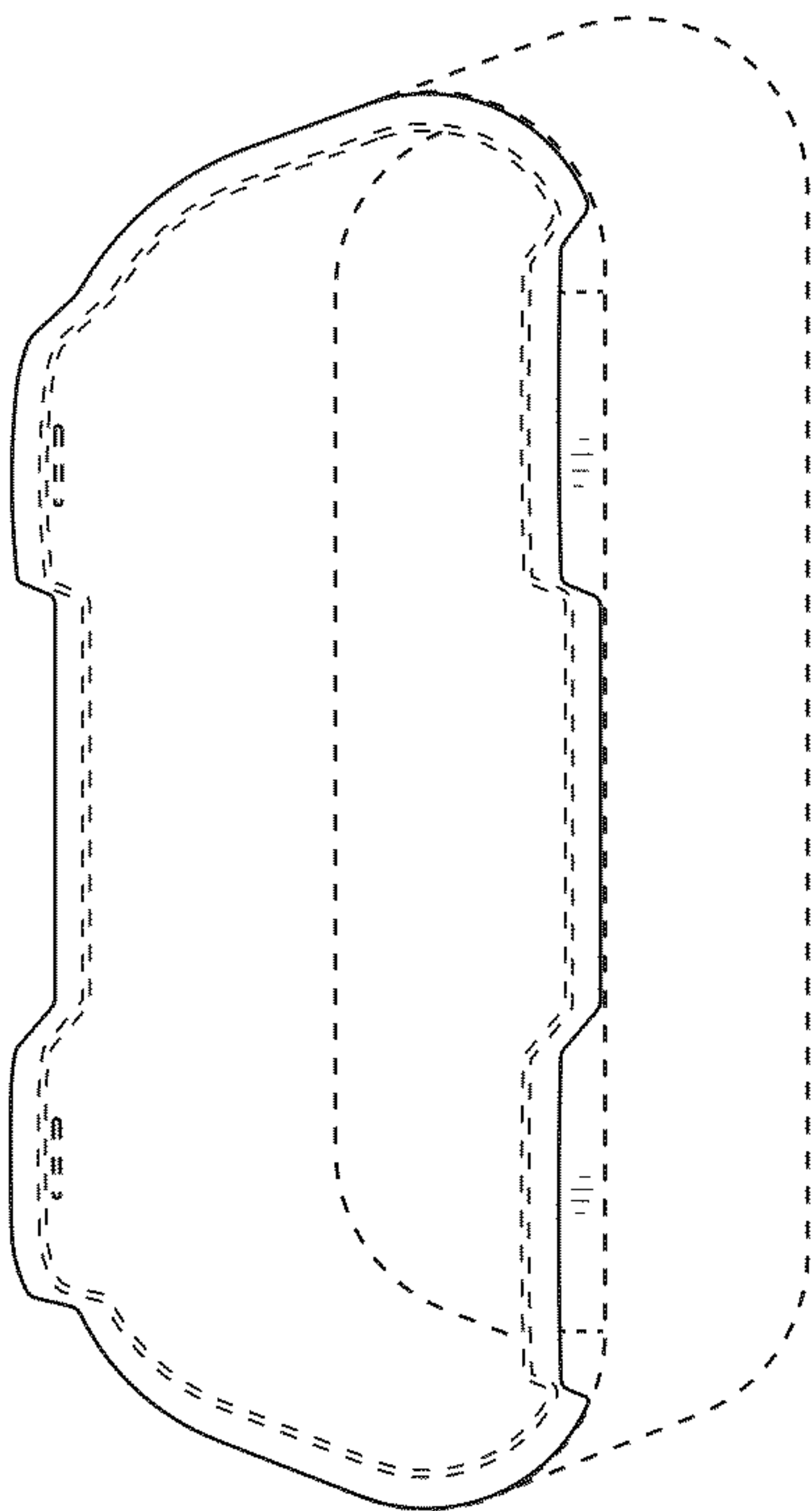


FIG. 7