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(12) **United States Design Patent** (10) **Patent No.:** **US D786,443 S**  
**Blomberg et al.** (45) **Date of Patent:** **\*\* May 9, 2017**

(54) **FILTER ELEMENT**  
(71) Applicant: **3M INNOVATIVE PROPERTIES COMPANY**, St. Paul, MN (US)  
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2,840,184 A 12/1954 Stampe  
2,845,927 A 8/1958 Hill  
3,316,904 A 5/1967 Wall  
3,750,665 A 8/1973 Stranicky  
4,179,274 A \* 12/1979 Moon ..... A62B 23/02  
128/206.17  
4,299,605 A 11/1981 Aiyama  
4,382,440 A 5/1983 Kapp  
4,714,486 A 12/1987 Silverthorn  
4,886,058 A 12/1989 Brostrom  
(Continued)

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**FOREIGN PATENT DOCUMENTS**

CA 1069331 1/1980  
CA 2209246 7/1996  
(Continued)

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

*Primary Examiner* — Rhea Shields

(21) Appl. No.: **29/518,811**

(22) Filed: **Feb. 27, 2015**

(57) **CLAIM**

(51) **LOC (10) Cl.** ..... **24-00**

The ornamental design for a filter element, as shown and described.

(52) **U.S. Cl.**  
USPC ..... **D24/162**

**DESCRIPTION**

(58) **Field of Classification Search**  
USPC ..... D24/162, 164, 116, 110.1, 110;  
D23/209, 413; D34/10; 128/205.12,  
128/201.25, 206.17, 863, 205.27, 202.22;  
340/540  
CPC .. A62B 17/04; A62B 9/04; A62B 7/10; A62B  
18/006; A62B 18/088; A62B 23/02;  
G01N 29/036  
See application file for complete search history.

FIG. 1 is a perspective view showing the new design for a filter element;  
FIG. 2 is a front view thereof;  
FIG. 3 is a rear view thereof;  
FIG. 4 is a right side view thereof  
FIG. 5 is a left view thereof; and,  
FIG. 6 is a top view thereof, the bottom being a mirror image thereof.

(56) **References Cited**

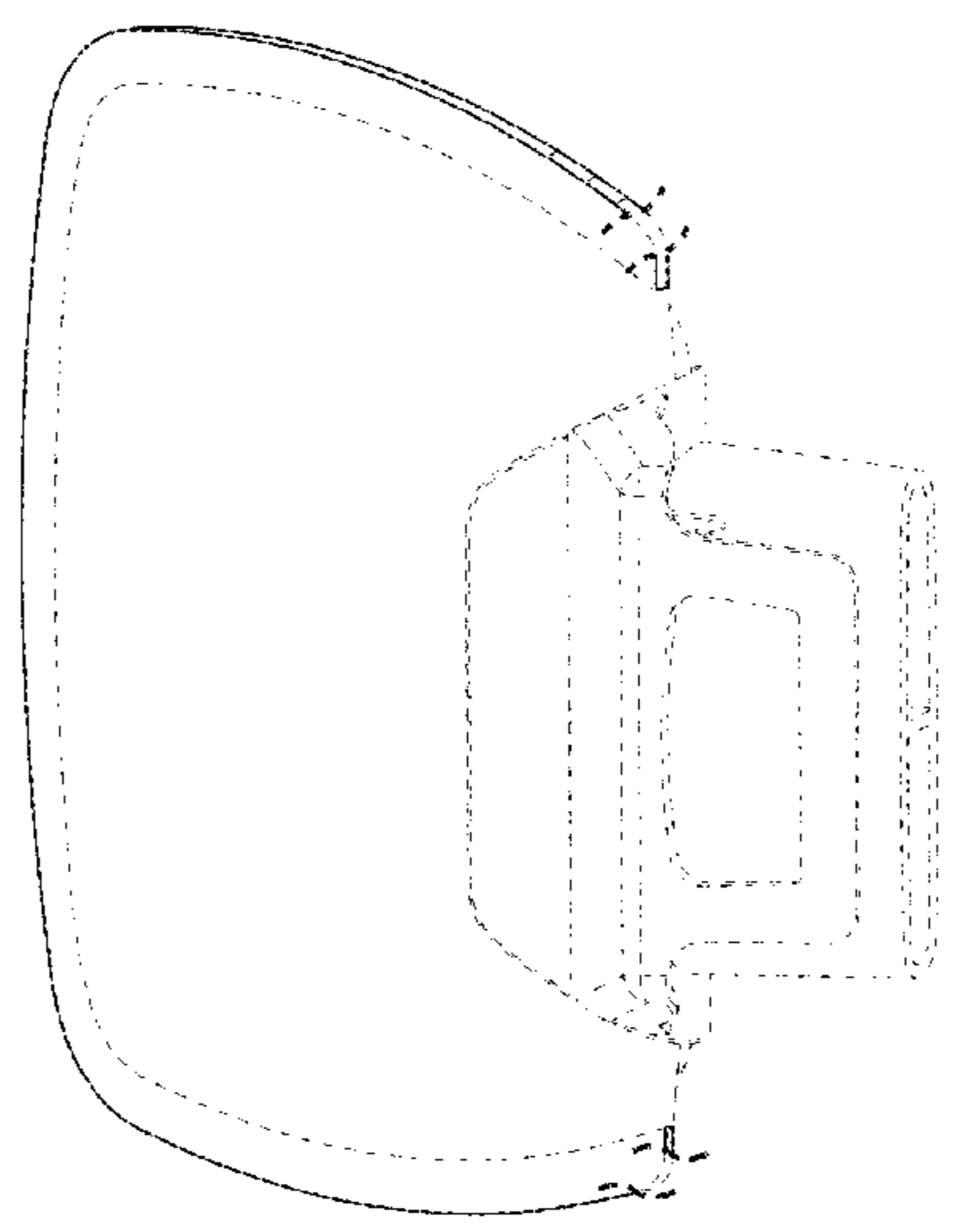
**U.S. PATENT DOCUMENTS**

2,206,061 A 11/1936 Splaine  
2,142,064 A 5/1937 Whipple  
2,205,368 A 11/1937 Whipple  
2,220,374 A 11/1940 Lewis  
2,320,770 A 12/1940 Cover  
2,227,959 A 1/1941 Cover  
2,295,119 A 9/1942 Malcom

In the drawings, the dash-dash broken lines illustrate environment and form no part of the claimed design, and any shading is provided to illustrate contour only and is not an indication of texture, gloss, etc.

The dot-dash broken lines in the figures immediately adjacent the solid lines represent a boundary between claimed and unclaimed subject matter and form no part of the claimed design.

**1 Claim, 3 Drawing Sheets**



(56)

References Cited

U.S. PATENT DOCUMENTS

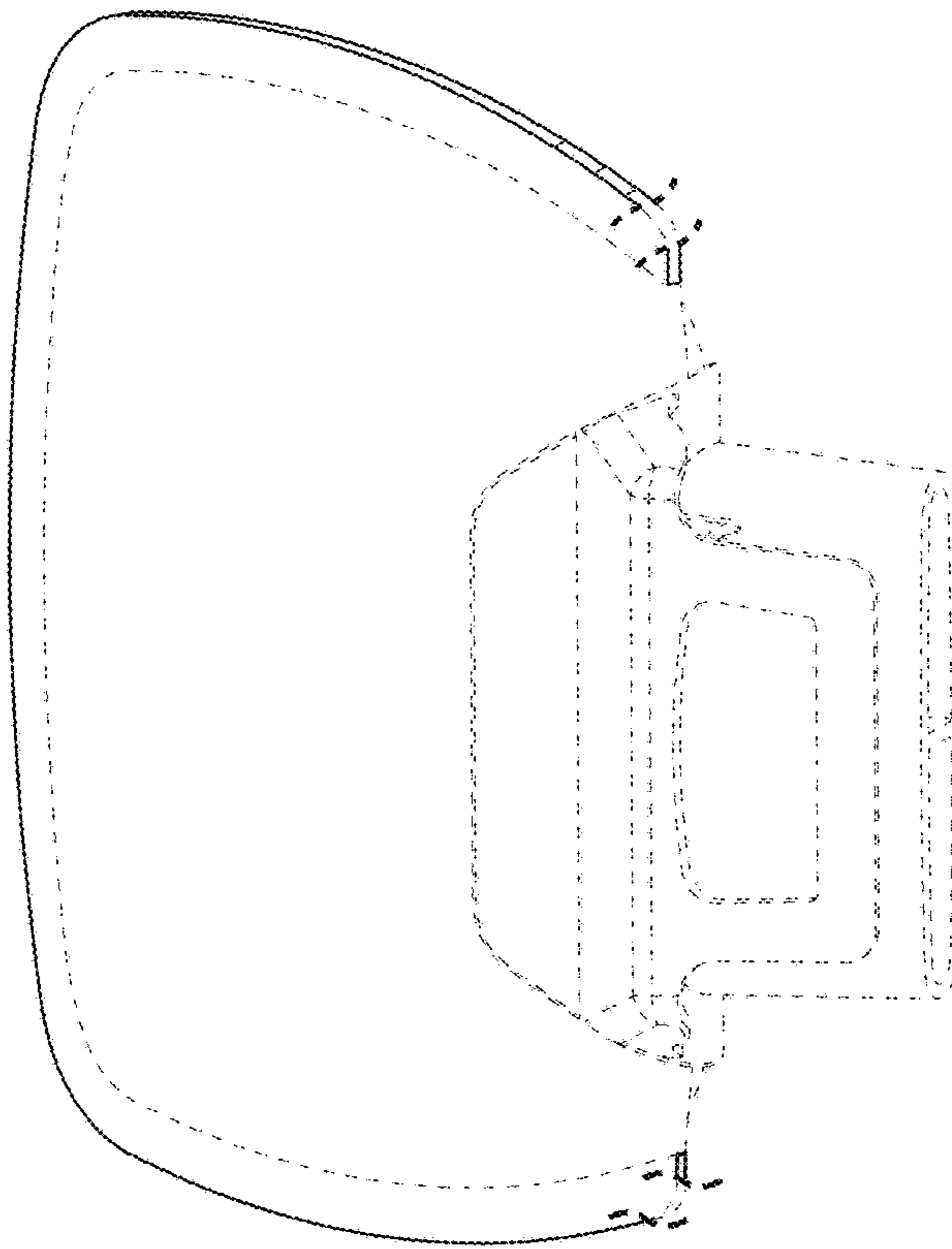
4,961,765 A 10/1990 Guhne  
 4,981,134 A 1/1991 Courtney  
 5,035,236 A 7/1991 Kanegaonkar  
 5,074,997 A 12/1991 Riley  
 D328,789 S \* 8/1992 Kopf ..... D24/162  
 5,140,980 A 8/1992 Haughey  
 5,222,488 A 6/1993 Forsgren  
 5,240,479 A 8/1993 Bachinski  
 D339,658 S 9/1993 Lahteenmaki  
 5,636,627 A 6/1997 Rochester  
 5,647,356 A 7/1997 Osendorf  
 5,720,789 A 2/1998 Pinson  
 5,732,695 A 3/1998 Metzger  
 5,992,414 A 11/1999 Tayebi  
 6,044,842 A 4/2000 Pereira  
 6,279,570 B1 8/2001 Mittelstadt  
 6,298,849 B1 10/2001 Scholey  
 6,345,620 B2 2/2002 Salapow  
 6,408,845 B1 6/2002 Pereira  
 D461,896 S \* 8/2002 Worthington ..... D24/162  
 6,467,481 B1 10/2002 Eswarappa  
 D465,568 S \* 11/2002 Petherbridge ..... D24/110  
 D493,521 S \* 7/2004 Guney ..... D24/110.1  
 6,761,169 B2 7/2004 Eswarappa  
 6,793,702 B2 9/2004 Eswarappa  
 7,334,579 B2 2/2008 Tayebi  
 D599,472 S \* 9/2009 Klausung ..... D23/413  
 D604,834 S \* 11/2009 Ungar ..... D24/110.1  
 D645,220 S \* 9/2011 Yang ..... D34/10  
 8,021,455 B2 9/2011 Adamek  
 D652,506 S 1/2012 Huberty  
 D652,910 S \* 1/2012 Duffy ..... D24/110.1  
 8,089,367 B2 \* 1/2012 Locke ..... G01N 29/036  
 340/540  
 8,230,860 B2 7/2012 Dankert  
 D677,781 S \* 3/2013 Choi ..... D24/110.1  
 8,388,714 B2 3/2013 Kearsley  
 D684,256 S \* 6/2013 Menezes ..... D24/110  
 8,460,423 B2 6/2013 Legare  
 8,590,532 B2 \* 11/2013 Forbes ..... A62B 17/04  
 128/205.27  
 8,721,402 B2 5/2014 Woo  
 8,757,151 B2 6/2014 Johnstone  
 8,839,788 B2 9/2014 Betz  
 D732,670 S \* 6/2015 Dwyer ..... D24/162  
 D739,936 S \* 9/2015 Blomquist ..... D24/162  
 D741,983 S \* 10/2015 Mueller ..... D23/209  
 D745,962 S \* 12/2015 Dwyer ..... D24/110.1  
 D746,437 S \* 12/2015 Blomberg ..... D24/110.1  
 D746,438 S \* 12/2015 Dwyer ..... D24/110.1  
 D748,801 S \* 2/2016 Suzuki ..... D24/162  
 D750,785 S \* 3/2016 Suzuki ..... D24/162  
 D751,189 S \* 3/2016 Suzuki ..... D24/116  
 D752,227 S \* 3/2016 Suzuki ..... D24/162  
 2003/0089089 A1 5/2003 Fecteau  
 2004/0031489 A1 2/2004 Tayebi  
 2004/0055604 A1 3/2004 Viner  
 2005/0081497 A1 4/2005 Connor  
 2006/0081249 A1 4/2006 Duxbury  
 2006/0090754 A1 5/2006 Mittelstadt  
 2006/0196157 A1 9/2006 Greer  
 2007/0144123 A1 6/2007 Angadjivand  
 2009/0065006 A1 3/2009 Patterson  
 2009/0263546 A1 10/2009 Rea  
 2010/0154369 A1 6/2010 Berisha

2010/0294274 A1\* 11/2010 Poirier ..... A62B 18/088  
 128/202.22  
 2011/0283505 A1 11/2011 Billingsley  
 2011/0284006 A1 11/2011 Legare  
 2013/0139818 A1 6/2013 Billingsley  
 2014/0216473 A1 8/2014 Dwyer  
 2014/0216475 A1\* 8/2014 Blomberg ..... A62B 9/04  
 128/863  
 2014/0251327 A1 9/2014 Mittelstadt  
 2015/0136142 A1\* 5/2015 Blomberg ..... A62B 7/10  
 128/206.17  
 2015/0290478 A1\* 10/2015 Curran ..... A62B 18/006  
 128/201.25  
 2015/0336718 A1\* 11/2015 Dwyer ..... A62B 18/006  
 128/205.12

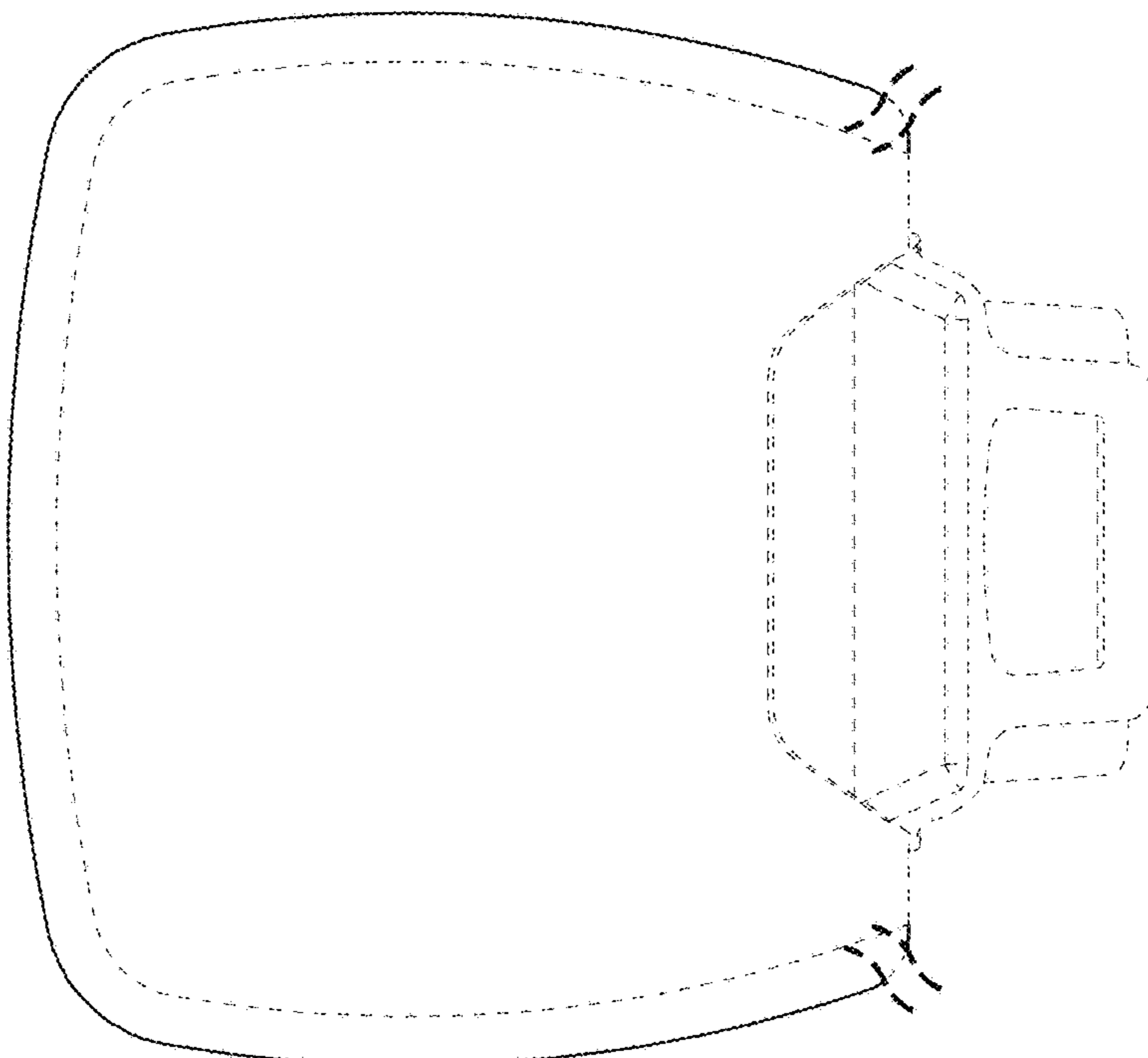
FOREIGN PATENT DOCUMENTS

CA 2209857 7/1996  
 CA 2295170 11/1999  
 CA 2405510 10/2001  
 CA 2567266 5/2007  
 CN 201098482 8/2008  
 CN 201190125 2/2009  
 CN 101554942 10/2009  
 CN 201342303 U 11/2009  
 CN 101628649 1/2010  
 CN 101703828 5/2010  
 CN 201603485 U 10/2010  
 CN 202983422 6/2013  
 CN 203540246 U 4/2014  
 DE 2041931 3/1972  
 DE 3719419 12/1988  
 DE 10213654 9/2003  
 DE 10328002 1/2005  
 DE 202011100327 7/2011  
 DK 9200731 6/1992  
 EP 44721 1/1982  
 EP 0234277 9/1987  
 EP 0310970 4/1989  
 EP 1016599 7/2000  
 EP 1110610 6/2001  
 EP 1800729 6/2007  
 FR 814797 6/1937  
 FR 2511605 2/1983  
 FR 2544218 10/1984  
 GB 470850 8/1937  
 JP 02108844 4/1990  
 JP 06062349 U 9/1994  
 JP 09192246 7/1997  
 JP 2000140587 5/2000  
 JP 2000288105 10/2000  
 JP 2002346326 12/2002  
 KR 20060121699 11/2006  
 KR 100900755 6/2009  
 KR 20090010452 U 10/2009  
 KR 100943196 2/2010  
 KR 100959146 5/2010  
 KR 100961411 6/2010  
 KR 100978602 8/2010  
 KR 20110000792 U 1/2011  
 KR 20110037710 4/2011  
 KR 20110005024 U 5/2011  
 KR 101051109 7/2011  
 PL 172113 8/1997  
 RU 2008126072 1/2010  
 SE 8403209 6/1984  
 TW 262201 4/2005

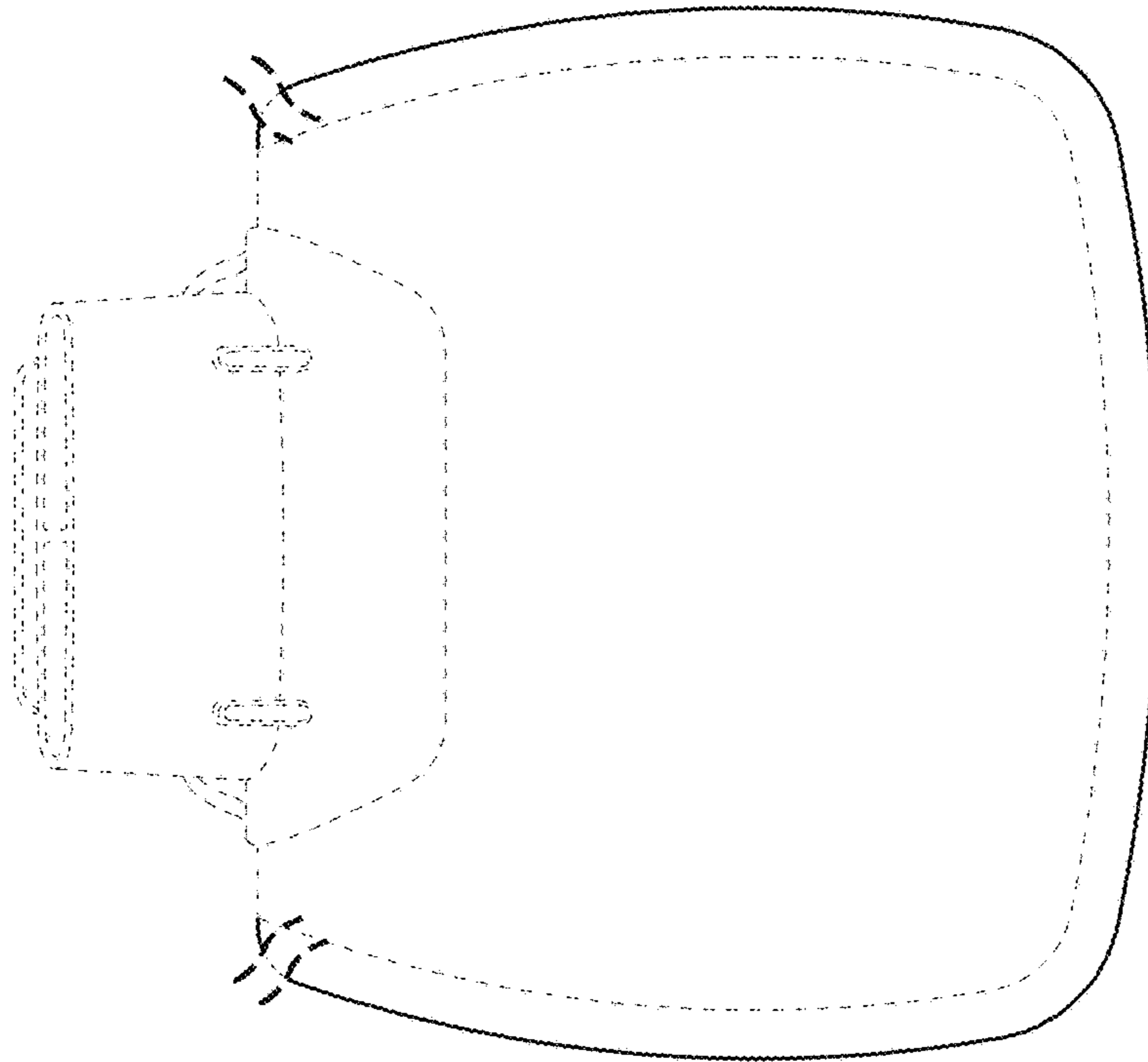
\* cited by examiner



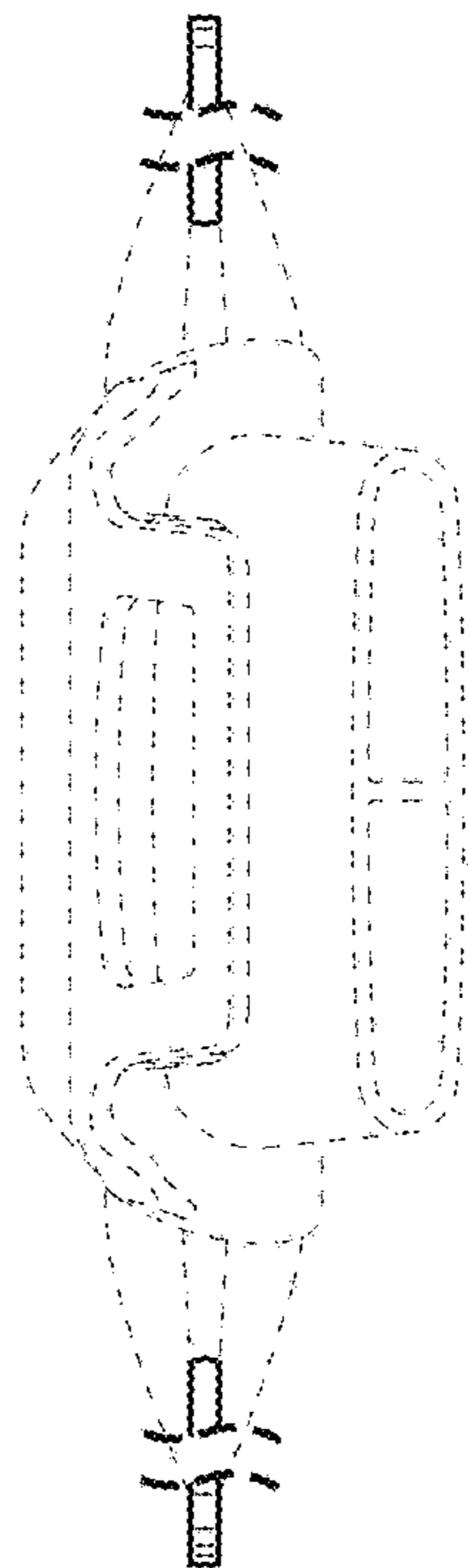
*Fig. 1*



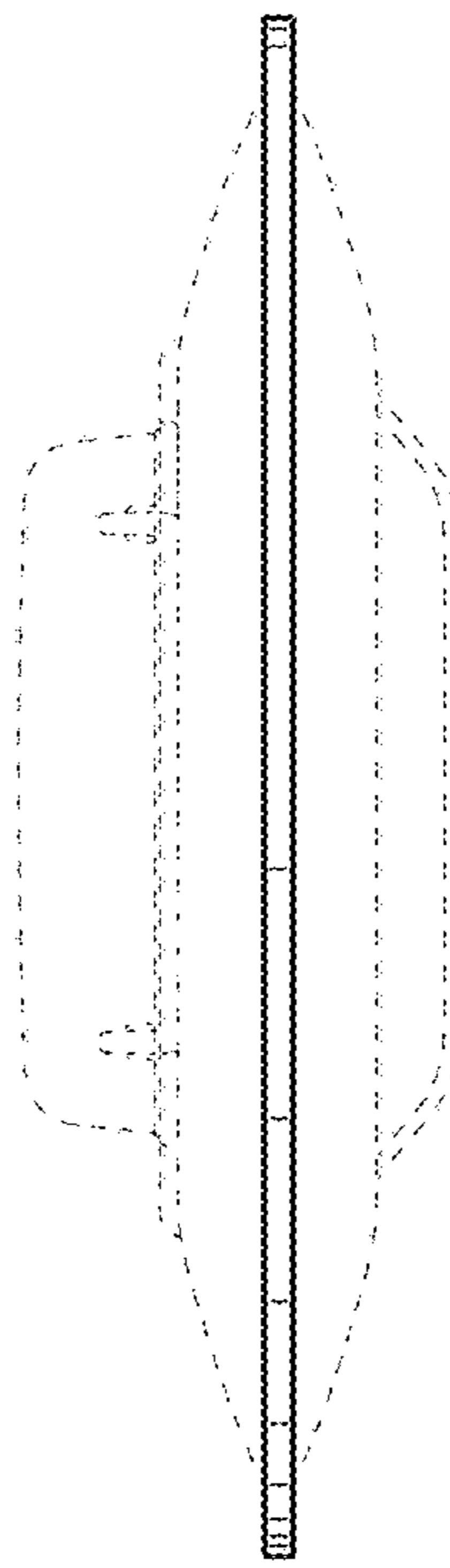
*Fig. 2*



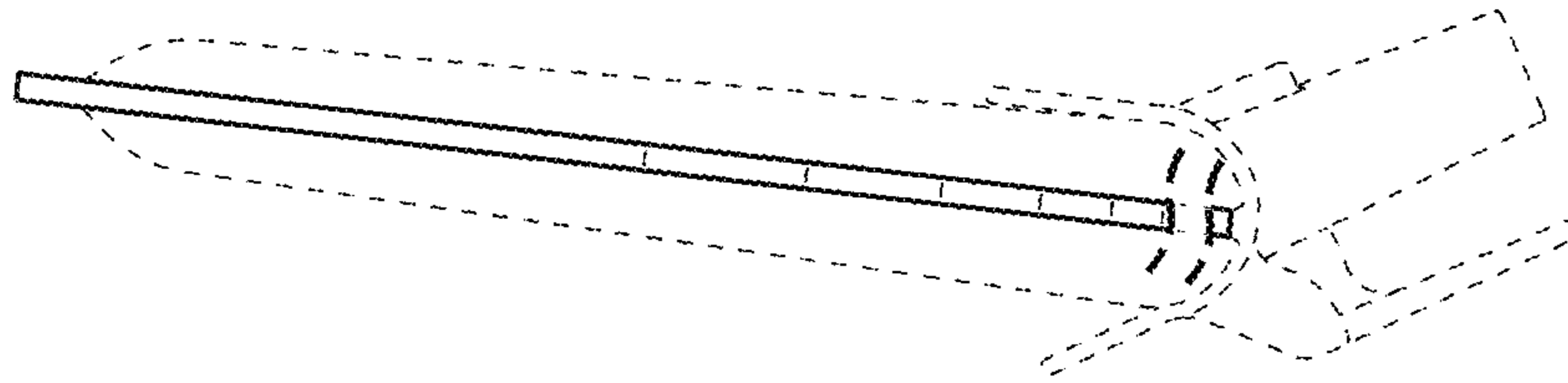
*Fig. 3*



*Fig. 4*



*Fig. 5*



*Fig. 6*

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : D786,443 S  
APPLICATION NO. : 29/518811  
DATED : May 9, 2017  
INVENTOR(S) : David Blomberg

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

Item (57) Column 2

Lines 13-15, delete “The dot-dash broken lines in the figures immediately adjacent the solid lines represent a boundary between claimed and unclaimed subject matter” and insert --In Figures 1, 2, 3, 4, and 6, the Filter Element is shown with a symbolic break in its width and length. The appearance of any portion of the article between the break lines forms no part of the claimed design. In the drawings, the broken lines are for the purpose of illustrating the environment only--, therefor.

Signed and Sealed this  
Eighteenth Day of July, 2017



Joseph Matal  
*Performing the Functions and Duties of the  
Under Secretary of Commerce for Intellectual Property and  
Director of the United States Patent and Trademark Office*