



US00D767116S

(12) **United States Design Patent**
Blomberg et al.

(10) **Patent No.:** **US D767,116 S**

(45) **Date of Patent:** **** Sep. 20, 2016**

- (54) **RESPIRATOR MASK HAVING AN EXHALATION PORT**
- (71) Applicant: **3M INNOVATIVE PROPERTIES COMPANY**, St. Paul, MN (US)
- (72) Inventors: **David M. Blomberg**, Lino Lakes, MN (US); **William A. Mittelstadt**, Woodbury, MN (US)
- (73) Assignee: **3M Innovative Properties Company**, St. Paul, MN (US)

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

(21) Appl. No.: **29/518,804**

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

(51) **LOC (10) Cl.** **29-02**

(52) **U.S. Cl.**
USPC **D24/110.1**

(58) **Field of Classification Search**
USPC D24/110.1-110.4, 110.6, 127, 162;
D29/105, 107, 108, 110; D23/332,
D23/335, 355, 356, 366, 388, 412; D7/667;
D14/451, 250, 388, 399, 217-219,
D14/138 AA, 138 AB, 138 AC; D3/255, 319,
D3/320; D21/324; D18/6, 7, 11, 12, 12.2
CPC A62B 18/00; A62B 18/02; A62B 18/025;
A62B 18/08; A62B 18/10; A62B 23/00;
A62B 23/02; A62B 23/025; A62B 23/06;
A41D 13/11; A61M 16/0622; A61M
16/0616; A61M 16/0816; A61M 16/08;
A61M 16/0633; A61M 16/0666; A61M
2210/0618; A61M 16/0683
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

- 1,413,063 A * 4/1922 Sailer A21B 3/13
126/390.1
- 2,055,853 A 9/1936 Schwartz
- 2,062,834 A 12/1936 Schwartz

- 2,225,395 A * 12/1940 Young F16K 15/148
137/512.15
- 2,235,624 A 3/1941 Schwartz
- 2,326,651 A * 8/1943 Husted F16K 15/148
137/512.15
- D138,398 S * 8/1944 Reynolds D7/667

(Continued)

FOREIGN PATENT DOCUMENTS

- AU 359131 12/2014
- AU 359132 12/2014
- AU 359133 12/2014
- AU 359134 12/2014
- AU 359135 12/2014
- AU 359136 12/2014
- AU 359137 12/2014
- CA 82141 10/1997
- CA 106801 12/2005

(Continued)

OTHER PUBLICATIONS

3M™ Cool Flow™ Valve information obtained from the internet on Mar. 18, 2014: http://solutions.3m.com/wps/portal/3M/en_EU/PPE_SafetySolutions_EU/Safety/FeaturedProducts/CoolFlowValve/.

(Continued)

Primary Examiner — Barbara Fox
Assistant Examiner — Lilyana Bekic

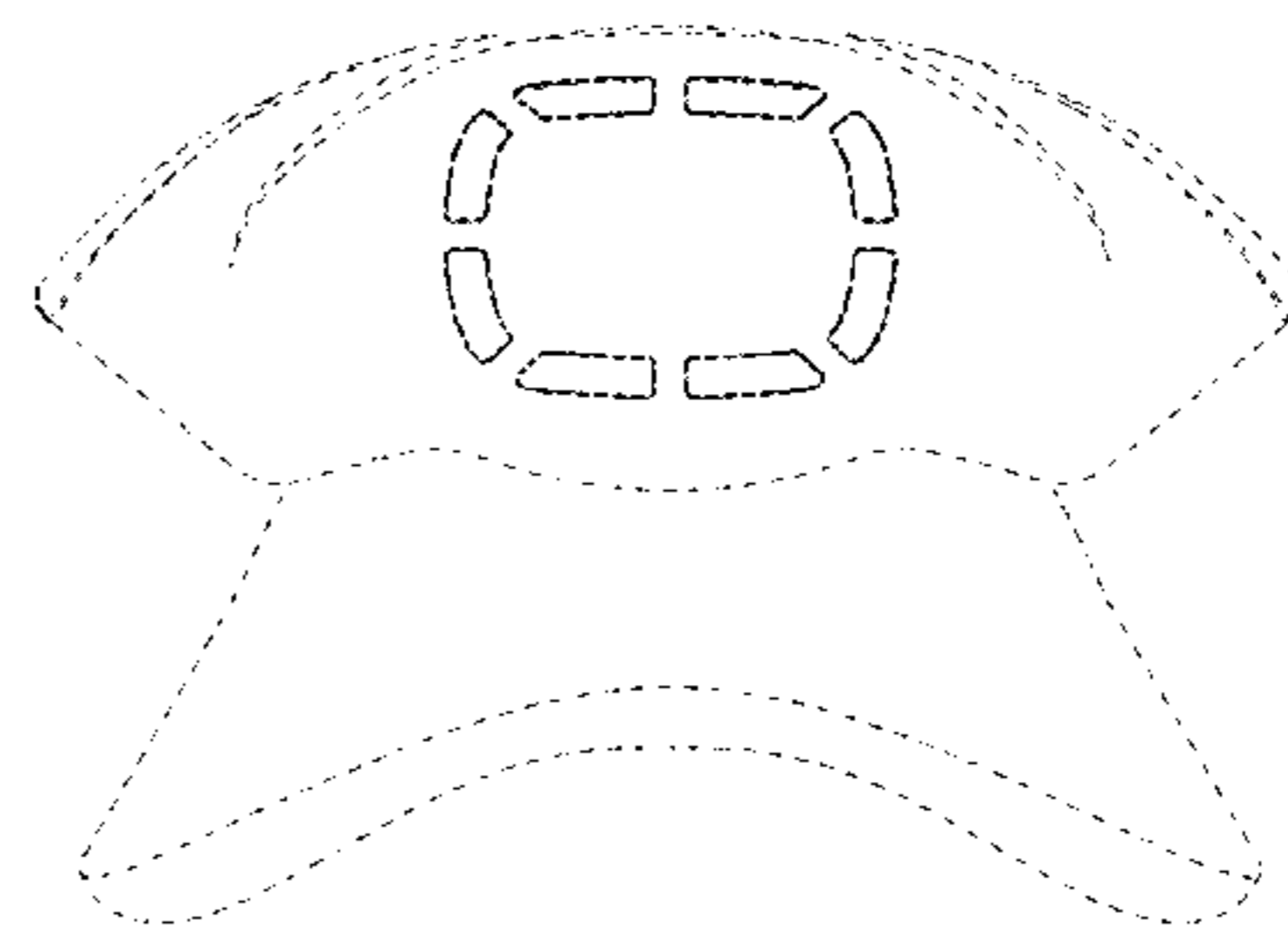
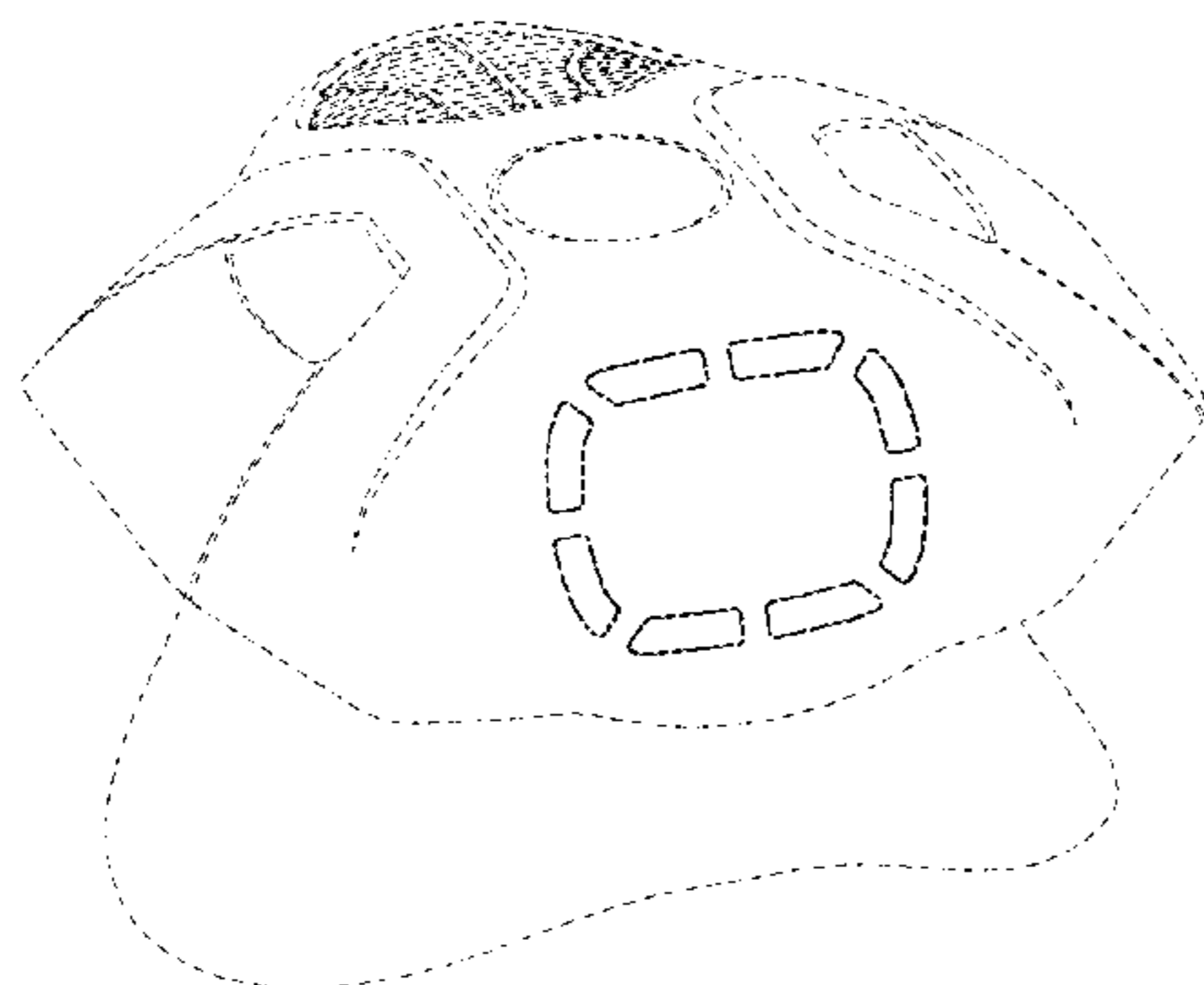
(57) **CLAIM**

The ornamental design for a respirator mask having an exhalation port, as shown and described.

DESCRIPTION

FIG. 1 is a perspective view showing the new design for a respirator mask having an exhalation port;
FIG. 2 is a front view thereof;
FIG. 3 is a rear view thereof;
FIG. 4 is a right side view thereof, the left side being a mirror image thereof;
FIG. 5 is a top view thereof; and,
FIG. 6 is a bottom view thereof.
The broken lines in the drawings illustrate portions of the respirator mask having an exhalation port that form no part of the claimed design.

1 Claim, 3 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2,505,173 A * 4/1950 Conley A62B 18/00
128/206.15

2,640,481 A * 6/1953 Conley A62B 18/10
128/206.15

2,652,828 A * 9/1953 Matheson A62B 18/00
128/201.19

2,787,333 A 4/1957 Boone

2,791,216 A * 5/1957 Churchill A62B 18/025
128/206.17

2,858,828 A 11/1958 Matheson

2,874,693 A 2/1959 Matheson

D185,505 S * 6/1959 Lowell D14/219

2,893,163 A * 7/1959 Hazel, Jr. A47G 23/03
248/346.11

3,085,591 A * 4/1963 Schneider A62B 18/10
137/854

3,199,524 A * 8/1965 Mitchell A61B 5/097
128/201.28

D236,790 S * 9/1975 Bruno et al. D25/36

D263,108 S * 2/1982 Juracsik D7/388

D272,646 S * 2/1984 Tsuji D23/364

D281,481 S * 11/1985 Geiser D7/359

4,562,837 A 1/1986 Schlobohm

4,592,350 A * 6/1986 Maryyanek A62B 23/02
128/206.17

D286,213 S 10/1986 Maryyanek

4,850,346 A * 7/1989 Michel A62B 18/025
128/206.15

4,869,244 A * 9/1989 Nentchev A62B 18/08
128/201.19

4,921,512 A 5/1990 Maryyanek

4,932,399 A 6/1990 Cappa

4,934,361 A * 6/1990 Michel A62B 18/025
128/206.17

D314,592 S * 2/1991 Feurey D21/324

5,062,421 A * 11/1991 Burns A62B 18/025
128/205.27

D323,383 S * 1/1992 Keays D23/366

5,086,768 A 2/1992 Niemeyer

5,148,803 A 9/1992 Schlobohm

D339,658 S 9/1993 Lahteenmaki

D362,389 S * 9/1995 Frye D9/452

RE35,062 E 10/1995 Brostrom

5,463,693 A * 10/1995 Birli H04R 27/00
381/367

5,515,846 A 5/1996 Drews

5,579,761 A 12/1996 Yuschak

5,592,937 A * 1/1997 Freund A62B 18/025
128/206.16

5,611,925 A 3/1997 Yasue

5,647,356 A 7/1997 Osendorf

5,666,949 A 9/1997 Debe

5,669,375 A 9/1997 Dahrendorf

D390,653 S * 2/1998 Blasdell D24/110.5

5,720,280 A * 2/1998 Elstran A62B 7/12
128/200.24

D408,414 S * 4/1999 Stead D14/219

5,924,420 A * 7/1999 Reischel A62B 18/08
128/206.17

6,016,804 A * 1/2000 Gleason A62B 18/10
128/205.25

6,062,221 A * 5/2000 Brostrom A62B 18/084
128/206.27

6,216,693 B1 4/2001 Rekow

D441,441 S * 5/2001 Upson D23/366

6,298,849 B1 10/2001 Scholey

6,382,206 B1 * 5/2002 Palazzotto A62B 18/08
128/201.19

D473,937 S * 4/2003 Fecteau D24/110.1

6,550,479 B1 4/2003 Duxbury

6,575,165 B1 6/2003 Cook

6,732,733 B1 * 5/2004 Brostrom A62B 18/084
128/206.27

6,761,169 B2 7/2004 Eswarappa

6,793,702 B2 9/2004 Eswarappa

D504,417 S * 4/2005 Reza D14/218

D518,571 S 4/2006 Martin

D528,993 S * 9/2006 Wilson D13/168

7,121,279 B2 10/2006 Dennis

D535,003 S * 1/2007 Buthier D23/366

7,171,966 B2 2/2007 Schrader

D552,925 S * 10/2007 Kloppsteck D7/361

D561,246 S * 2/2008 Matsuda D14/347

D562,060 S * 2/2008 Kloppsteck D7/361

D562,621 S * 2/2008 Kloppsteck D7/360

7,419,526 B2 9/2008 Greer

D604,724 S * 11/2009 Vorreiter D14/240

7,827,990 B1 11/2010 Melidis

D652,070 S * 1/2012 Takahashi D18/7

8,118,026 B2 2/2012 Gebrewold

8,342,180 B2 1/2013 Martin

D678,508 S 3/2013 Choi

D683,446 S 5/2013 Eves

D724,052 S * 3/2015 Nakahira D14/188

9,034,489 B2 * 5/2015 Jing 106/287.1

2001/0013347 A1 8/2001 Rekow

2002/0195109 A1 12/2002 Mittelstadt

2003/0217752 A1 11/2003 Muller

2004/0003810 A1 1/2004 Templeton

2005/0126572 A1 6/2005 Gosweiler

2006/0254592 A1 * 11/2006 Anders A62B 18/025
128/206.21

2007/0272169 A1 11/2007 Barney

2008/0156329 A1 * 7/2008 Gerson A62B 23/02
128/206.12

2009/0078264 A1 3/2009 Martin

2009/0139526 A1 6/2009 Melidis

2010/0059060 A1 * 3/2010 Evensson A62B 9/06
128/205.27

2010/0218761 A1 * 9/2010 Flannigan A62B 18/025
128/201.19

2012/0000465 A1 1/2012 Cavaliere

2012/0024289 A1 2/2012 Johnstone

2012/0174922 A1 7/2012 Virr

2012/0218265 A1 8/2012 Wakayama

2013/0133664 A1 5/2013 Startare

2014/0216447 A1 * 8/2014 Kihlberg A62B 18/08
128/201.19

2014/0216448 A1 * 8/2014 Kihlberg A62B 18/08
128/201.19

2014/0251327 A1 * 9/2014 Mittelstadt A62B 18/10
128/202.22

2015/0034080 A1 * 2/2015 Furuichi A62B 18/08
128/201.19

2015/0128936 A1 * 5/2015 Flannigan A62B 18/025
128/201.19

2015/0136141 A1 * 5/2015 Mittelstadt A62B 18/025
128/206.15

2015/0238785 A1 * 8/2015 Chuang A62B 23/06
128/202.27

FOREIGN PATENT DOCUMENTS

CN 3342471 12/2003

CN 3457902 6/2005

CN 3674586 7/2007

CN 300757753 3/2008

CN 300801845 7/2008

CN 301345091 9/2010

CN 301787238 1/2012

CN 301841897 2/2012

CN 301863214 3/2012

CN 302193139 11/2012

CN 302193145 11/2012

CN 302386273 4/2013

CN 302571626 9/2013

CN 302675143 12/2013

CN 302754689 3/2014

DE M9107635-0001 6/1992

DE 29700093 3/1997

EM 000096961-0001 2/2004

EM 000455506-0001 12/2005

EM 001233373-0002 10/2010

EM 001233373-0003 10/2010

(56)

References Cited

FOREIGN PATENT DOCUMENTS

EM	001862939-0001	5/2011
EM	001871401-0001	8/2011
EM	001871401-0003	8/2011
EM	001871401-0004	8/2011
EM	001871401-0005	8/2011
EM	001352645-0001	12/2012
EM	001352645-0002	12/2012
EM	001355259-0001	1/2013
EM	001355259-0002	1/2013
EM	001378673-0001	8/2013
EM	001401335-0001	1/2014
EM	001401335-0002	1/2014
EM	001401335-0003	1/2014
EM	001401335-0004	1/2014
EM	001401335-0005	1/2014
EM	001401335-0006	1/2014
EM	001405609-0001	3/2014
EM	001405609-0002	3/2014
EM	001405609-0003	3/2014
EM	001405609-0004	3/2014
EP	1582231	10/2005
FR	916655-001	12/1991
FR	972590-001	9/1997
GB	2078022	2/1999
GB	2490507	11/2012
JP	D1253605	10/2005
JP	D1334600	6/2008
JP	D1423131	9/2011
JP	D1424448	10/2011
JP	D1433068	2/2012
JP	D1489843	2/2014
KR	300365183	10/2004
KR	300387985	7/2005
KR	300402015	12/2005
KR	10-0773460	11/2007
KR	300484303	3/2008
KR	300497704	7/2008
KR	300505691	9/2008
KR	300514863	12/2008
KR	300516185	1/2009
KR	300526158	4/2009
KR	300542031	10/2009
KR	300563142	6/2010
KR	300649412	6/2012
KR	300649413	6/2012
KR	300662871	10/2012
KR	300683043	3/2013
KR	300683052	3/2013
KR	300683069	3/2013
KR	300684091	3/2013
KR	300726258	1/2014
KR	300726303	1/2014
RU	63184	6/2007
RU	86788 S	10/2013
WO	03/090873	11/2003
WO	2004/071565	8/2004
WO	2008/082415	7/2008
WO	2009/038857	3/2009
WO	2012/140514	10/2012

OTHER PUBLICATIONS

3M™ FF400 Respirator information obtained from the internet on Mar. 17, 2014: http://solutions.3m.com/wps/portal/3M/en_US/3M-PPE-Safety-Solutions/Personal-Protective-Equipment/safety-products/Ultimate-FX/.

3M™ Maintenance Free Half Mask Respirators 4000 Series information obtained from the internet on Mar. 18, 2014: http://solutions.3m.com/wps/portal/3M/en_EU/PPE_SafetySolutions_EU/Safety/Product_Catalogue/?N=5548558+3294361848+3294857473&rt=rud.

3M™ 6000 Respirator information obtained from the internet on Mar. 18, 2014: http://solutions.3m.com/wps/portal/3M/en_US/

GlobalMining/Home/Products/WorkerSafety/?PC_Z7_RJH9U5230GM530IQDGUMOE3O51000000_nid=2TX60V5VQPbeKXCTK5DQ71gl.

3M™ Half Facepiece 7500 Series Ultimate Reusable Respirator information obtained from the internet on Mar. 18, 2014: http://solutions.3m.com/wps/portal/3M/en_US/ElectricalUtility/Home/Products/Catalog/~?N=5551730&rt=c3.

3M™ Full Facepiece Reusable Respirator 6800 information obtained from the internet on Mar. 18, 2014: [http://solutions.3m.com/wps/portal/3M/en_US/3M-PPE-Safety-Solutions/Personal-Protective-Equipment/Products/Product-Catalog/?N=4294930437+5011378&Nr=AND\(hrcy_id%3AGST29W6QVWgs_TC2BMJQKFQ_N2RL3FHWVK_GPD0K8BC31gv\)&rt=d](http://solutions.3m.com/wps/portal/3M/en_US/3M-PPE-Safety-Solutions/Personal-Protective-Equipment/Products/Product-Catalog/?N=4294930437+5011378&Nr=AND(hrcy_id%3AGST29W6QVWgs_TC2BMJQKFQ_N2RL3FHWVK_GPD0K8BC31gv)&rt=d).

Ekastu Safety Half Mask Polimask GAMMA/Silicon information obtained from internet on Mar. 25, 2014: http://www.ekastu.de/product_info.php/language/en/info/p18_Halbmaske-Polimask-GAMMA-Silikone.html/XTCsid/4b51b4a707af63184be8a64ba03b9117.

Koken Model 1091D Respirator information obtained from the internet on Mar. 17, 2014: <http://www.koken-ltd.co.jp/english/particulatesrespirators.htm>.

Koken Particulate Respirators webpage, <http://www.koken-ltd.co.jp/english/particulatesrespirators.htm>, obtained from internet on Jun. 3, 2013.

MSA Ultra Elite® Full-Facepiece Respirator information obtained from the internet on Mar. 18, 2014: [http://us.msasafety.com/Air-Purifying-Respirators-\(APS\)/Full-Face-Masks/Ultra-Elite%26reg%3B-Full-Facepiece-Respirators/p/000050000500001084](http://us.msasafety.com/Air-Purifying-Respirators-(APS)/Full-Face-Masks/Ultra-Elite%26reg%3B-Full-Facepiece-Respirators/p/000050000500001084).

MSA Advantage® 420 Half-Mask Respirator information obtained from the internet on Mar. 18, 2014: [http://us.msasafety.com/Air-Purifying-Respirators-\(APR\)/Half-Masks/Advantage%26reg%3B-420-Half-Mask-Respirator/p/000100000200001150](http://us.msasafety.com/Air-Purifying-Respirators-(APR)/Half-Masks/Advantage%26reg%3B-420-Half-Mask-Respirator/p/000100000200001150).

North® by Honeywell 7700 Series Silicone Half Mask Respirator information obtained from the internet on Mar. 18, 2014: <http://www.northernsafety.com/Product/7700/North-by-Honeywell-7700-Series-Silicone-Half-Mask-Respirator>.

Scott AV-3000 Facepiece information obtained from the internet on Mar. 18, 2014: <https://www.scottsafety.com/en/us/pages/ProductDetail.aspx?ProductDetail=AV-3000%20Facepiece>.

Scott Excel™ Half-Facepiece information obtained from the internet on Mar. 18, 2014: https://www.scottsafety.com/en/us/DocumentandMedia1/xcelbro_6301_0201.pdf.

Shigematsu Gas Respirators information, pp. 11-16, obtained from Shigematsu's website on Mar. 17, 2014: http://www.sts-japan.com/english/product_catalog.html.

Survivair Blue 1 respirator information obtained from the internet on Mar. 17, 2014, [http://www.honeywellsafety.com/Products/Respiratory_Protection/Survivair_Blue_1_\(NIOSH\).aspx?site=/usa](http://www.honeywellsafety.com/Products/Respiratory_Protection/Survivair_Blue_1_(NIOSH).aspx?site=/usa).

Survivair/Willson Premier Plus Respirator information obtained from the internet on Mar. 18, 2014: <http://store.parkersafetyinc.com/servlet/Detail?no=75>.

U.S. Appl. No. 29/491,539 to Blomberg et al., filed May 22, 2014, entitled Respirator Mask Having a Circular Button.

U.S. Appl. No. 29/491,540 to Blomberg et al., filed May 22, 2014, entitled Respirator Communication Grill.

U.S. Appl. No. 29/491,541 to Blomberg et al., filed May 22, 2014, entitled Respirator Engagement Opening.

U.S. Appl. No. 29/491,542 to Blomberg et al., filed May 22, 2014, entitled Respirator Mask.

U.S. Appl. No. 29/491,544 to Blomberg et al., filed May 22, 2014, entitled Respirator Mask Exhalation Port.

U.S. Appl. No. 29/491,545 to Blomberg et al., filed May 22, 2014, entitled Respirator Mask Body.

U.S. Appl. No. 29/491,546 to Mittelstadt et al., filed May 22, 2014, entitled Respirator Mask Having a Face Seal Flexing Region.

* cited by examiner

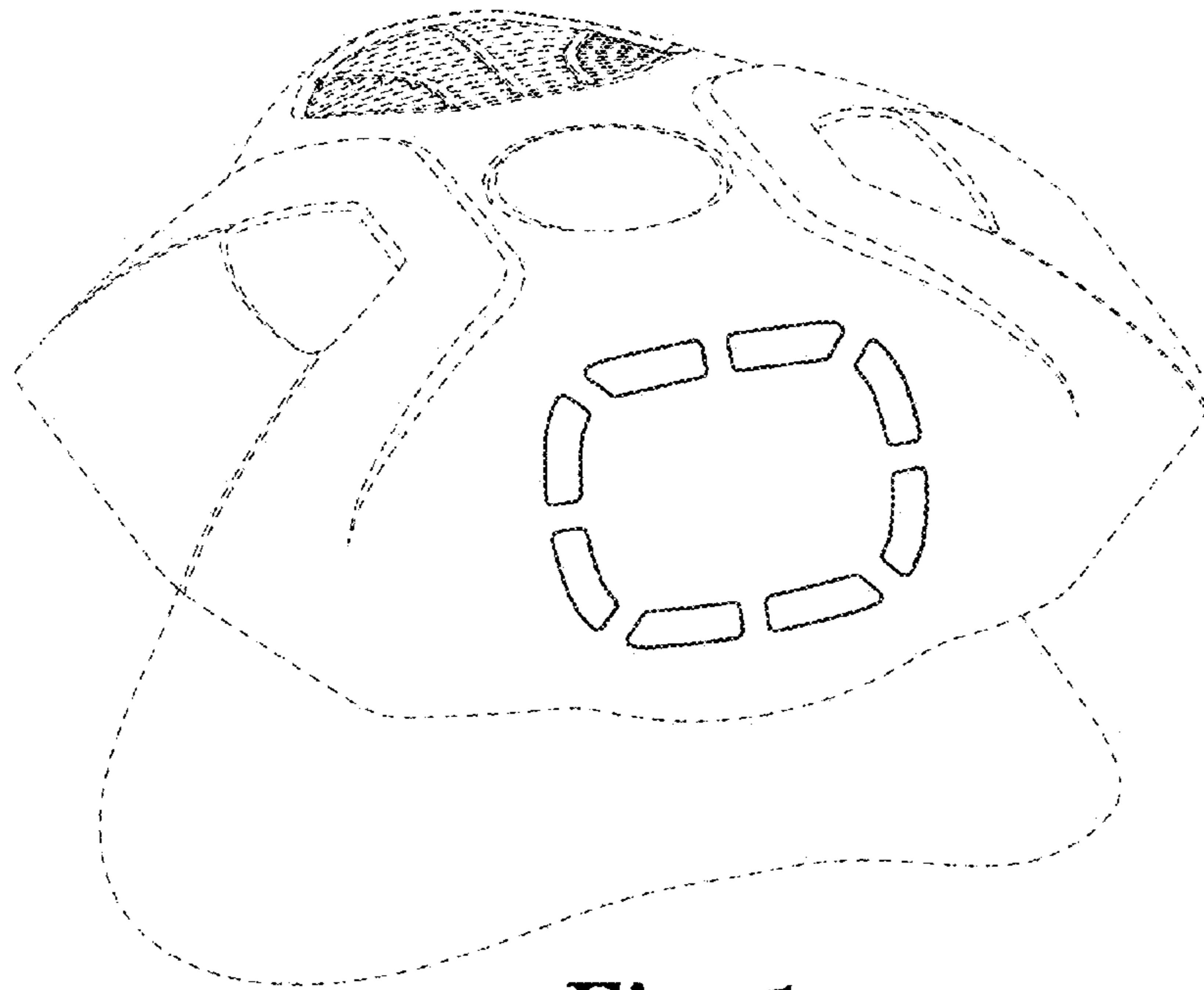


Fig. 1

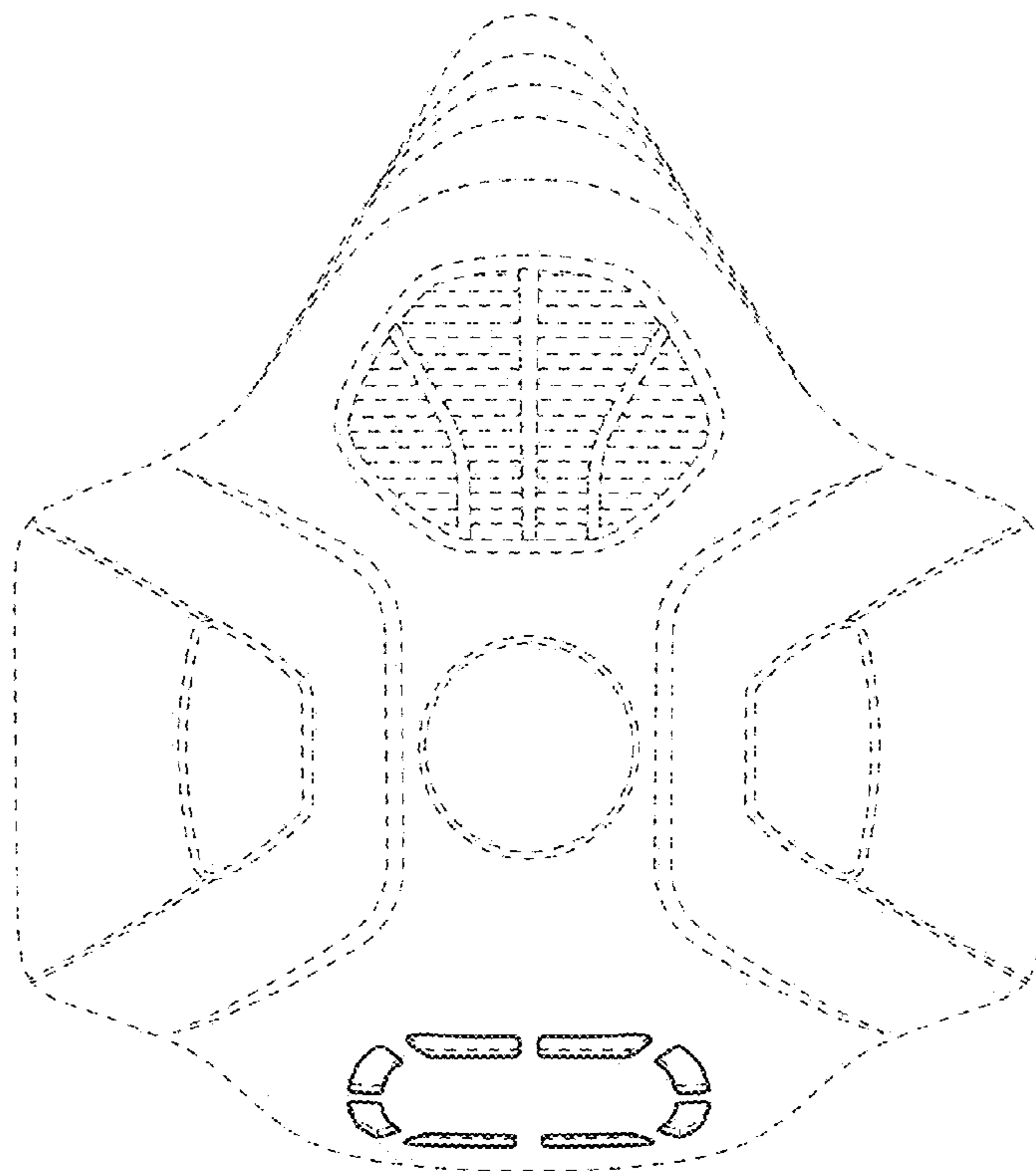


Fig. 2

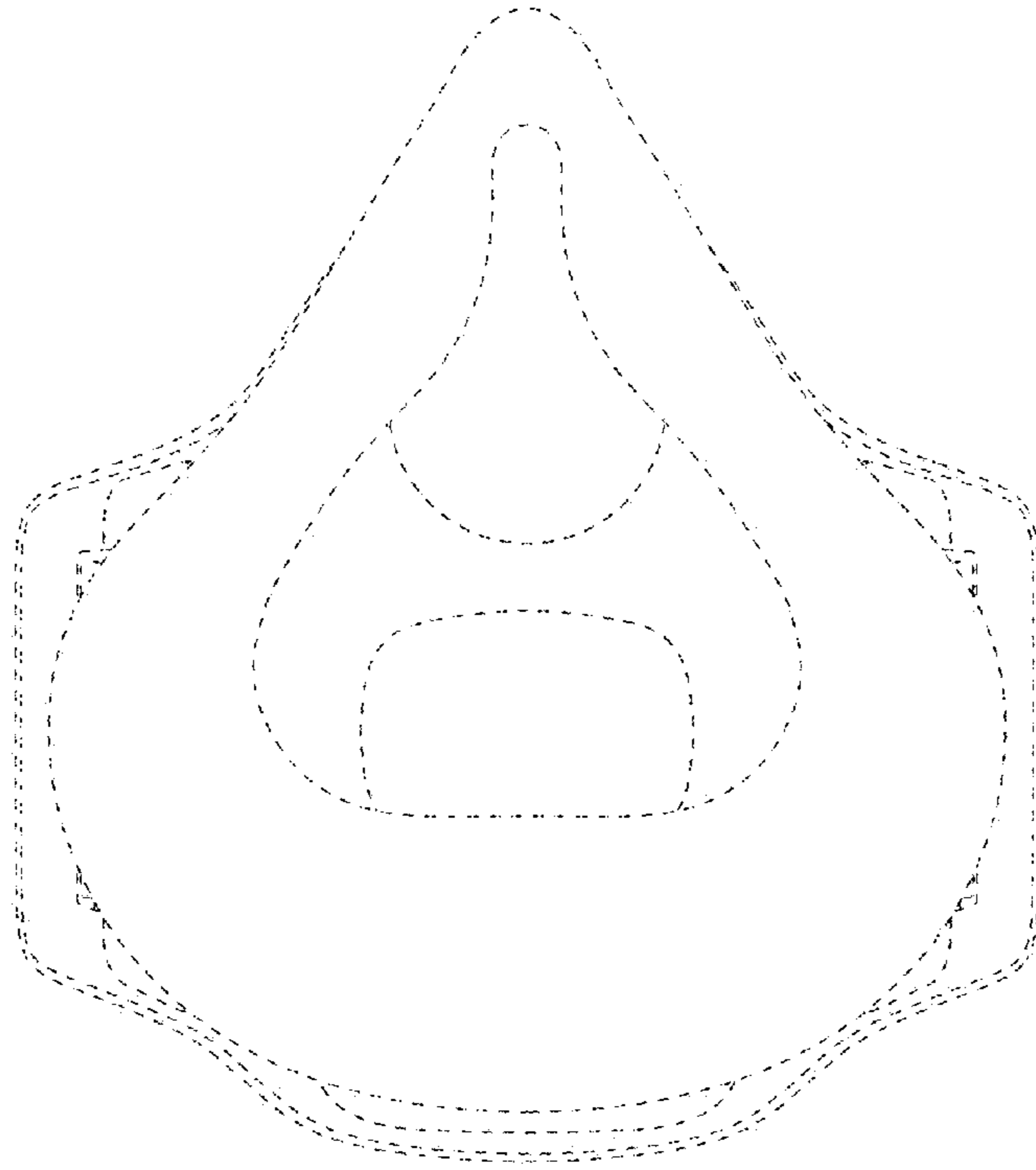


Fig. 3

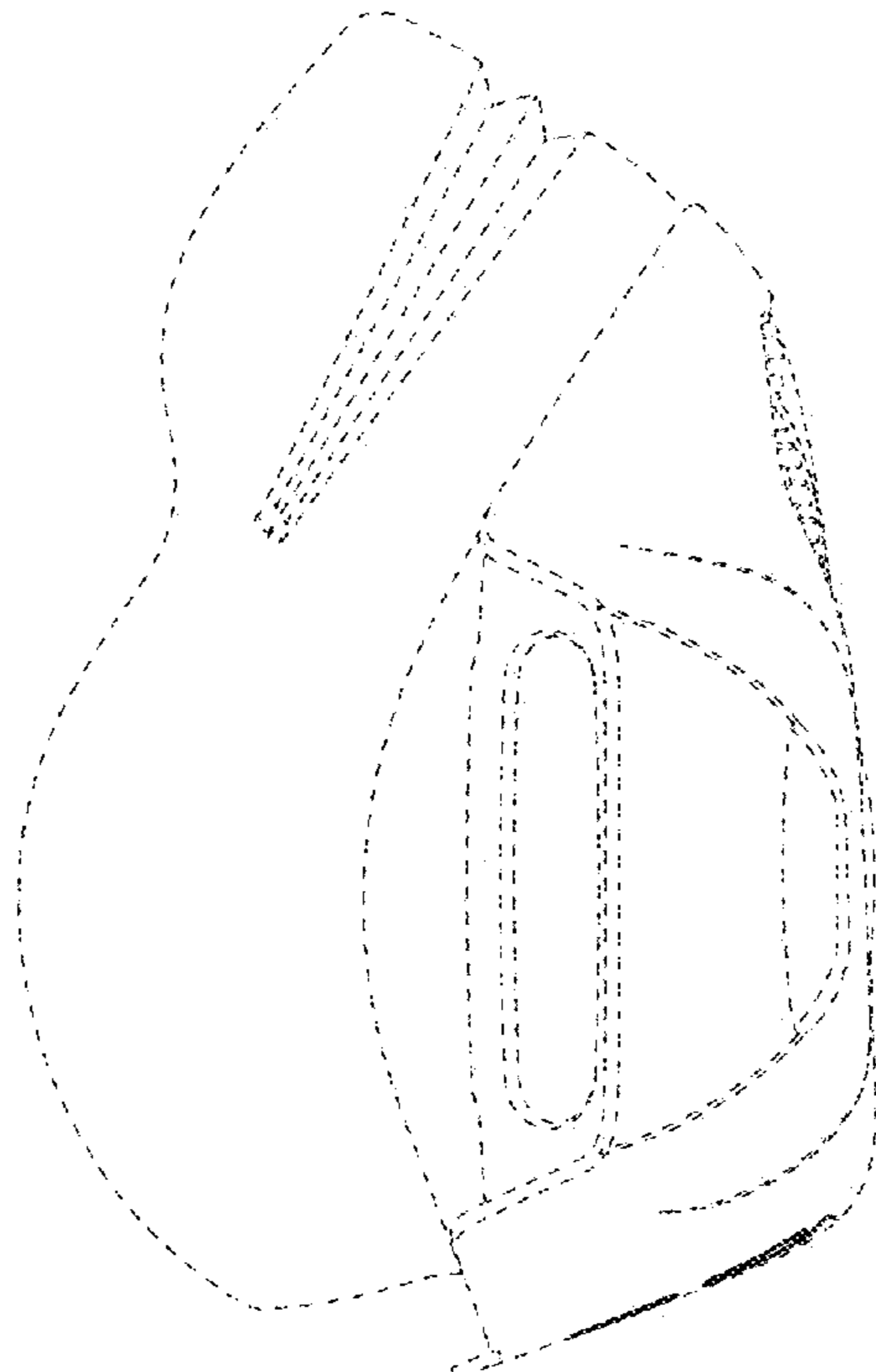


Fig. 4

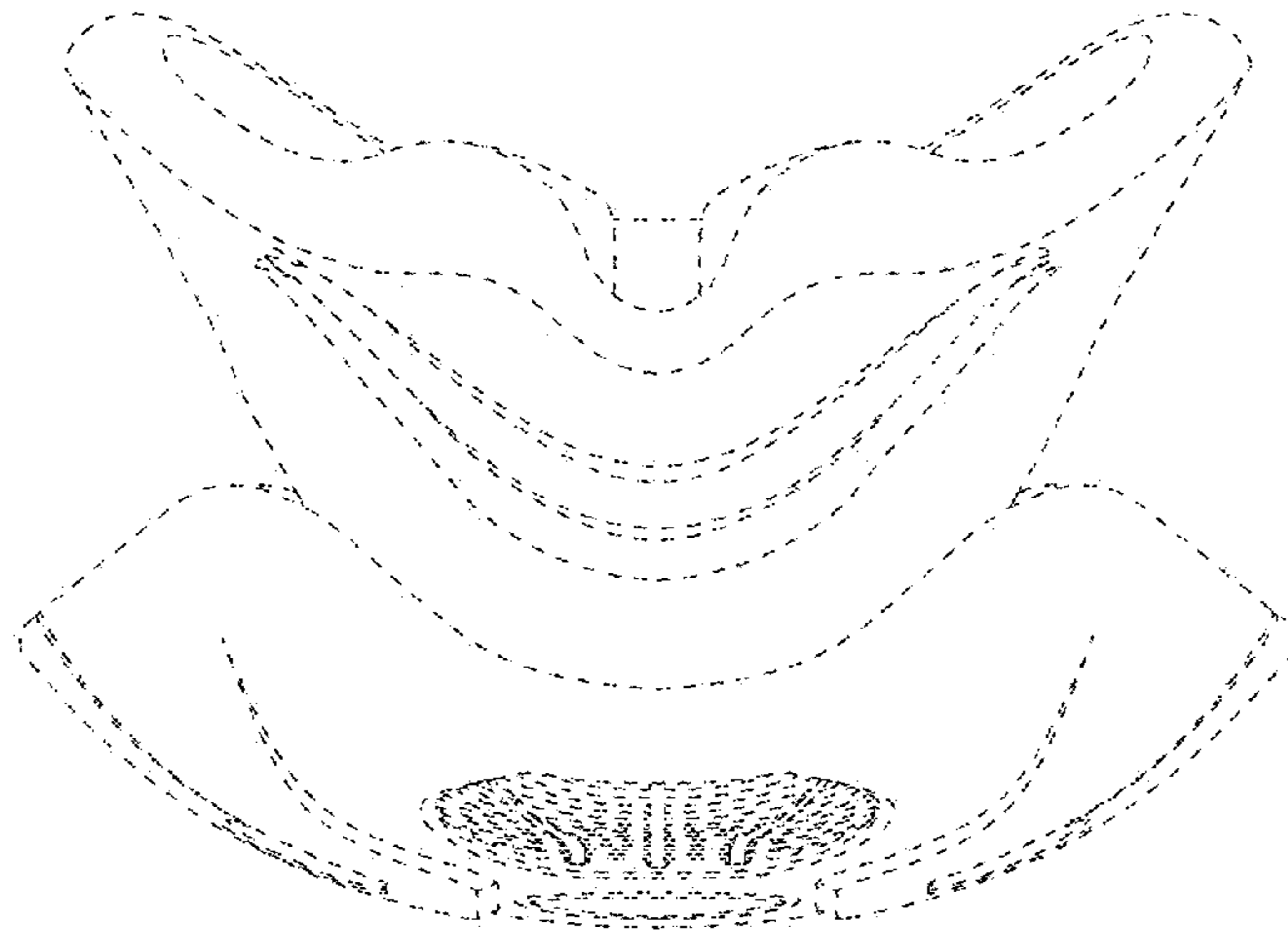


Fig. 5

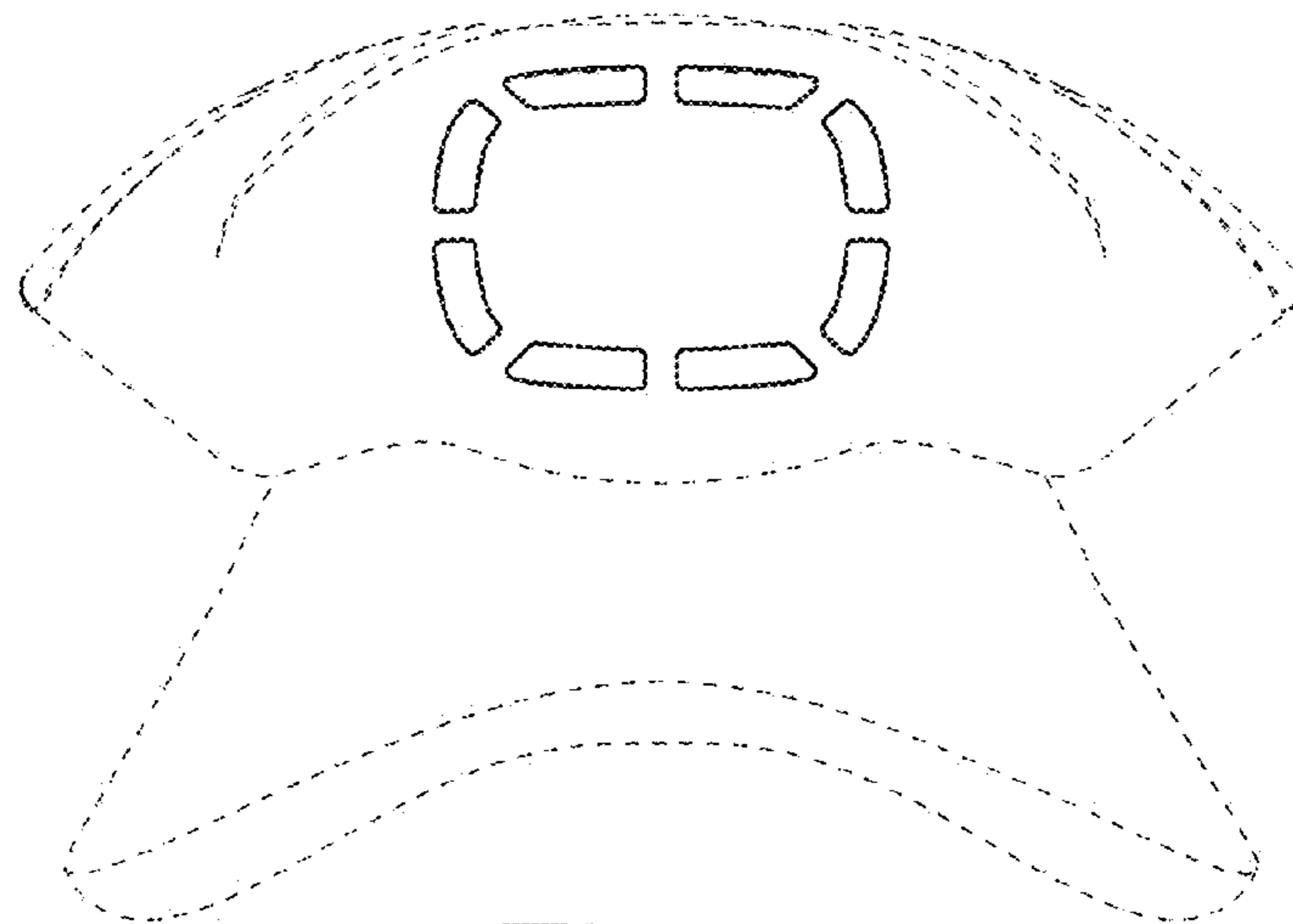


Fig. 6