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

(10) **Patent No.:** **US D853,044 S**  
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- (54) **INNER SHELL OF A HELMET**
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D332,442 S 1/1993 Simpson  
 5,230,101 A 7/1993 Hedges  
 5,461,731 A 10/1995 Shida  
 (Continued)

**FOREIGN PATENT DOCUMENTS**

DE 102009056511 A1 6/2011  
 EP 1228798 A1 8/2002  
 (Continued)

**OTHER PUBLICATIONS**

3M TM Versaflo TM Powered Air Purifying Respirator TR-600; Heavy Industry Evolve to TR-600; 3M Personal Safety Division; pp. 1-3; estimated Jan. 2014.

(Continued)

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(57) **CLAIM**

The ornamental design for an inner shell of a helmet, as shown and described.

**DESCRIPTION**

FIG. 1 is a perspective view of an inner shell of a helmet showing our new design, in a used condition with a helmet shown in broken lines;  
 FIG. 2 is a front perspective view thereof;  
 FIG. 3 is a back perspective view thereof;  
 FIG. 4 is a front view thereof;  
 FIG. 5 is a back view thereof;  
 FIG. 6 is a right side view thereof;  
 FIG. 7 is a left side view thereof;  
 FIG. 8 is a top view thereof; and,  
 FIG. 9 is a bottom view thereof.

The broken lines shown in the drawings represent portions of the inner shell of a helmet, that form no part of the claimed design.

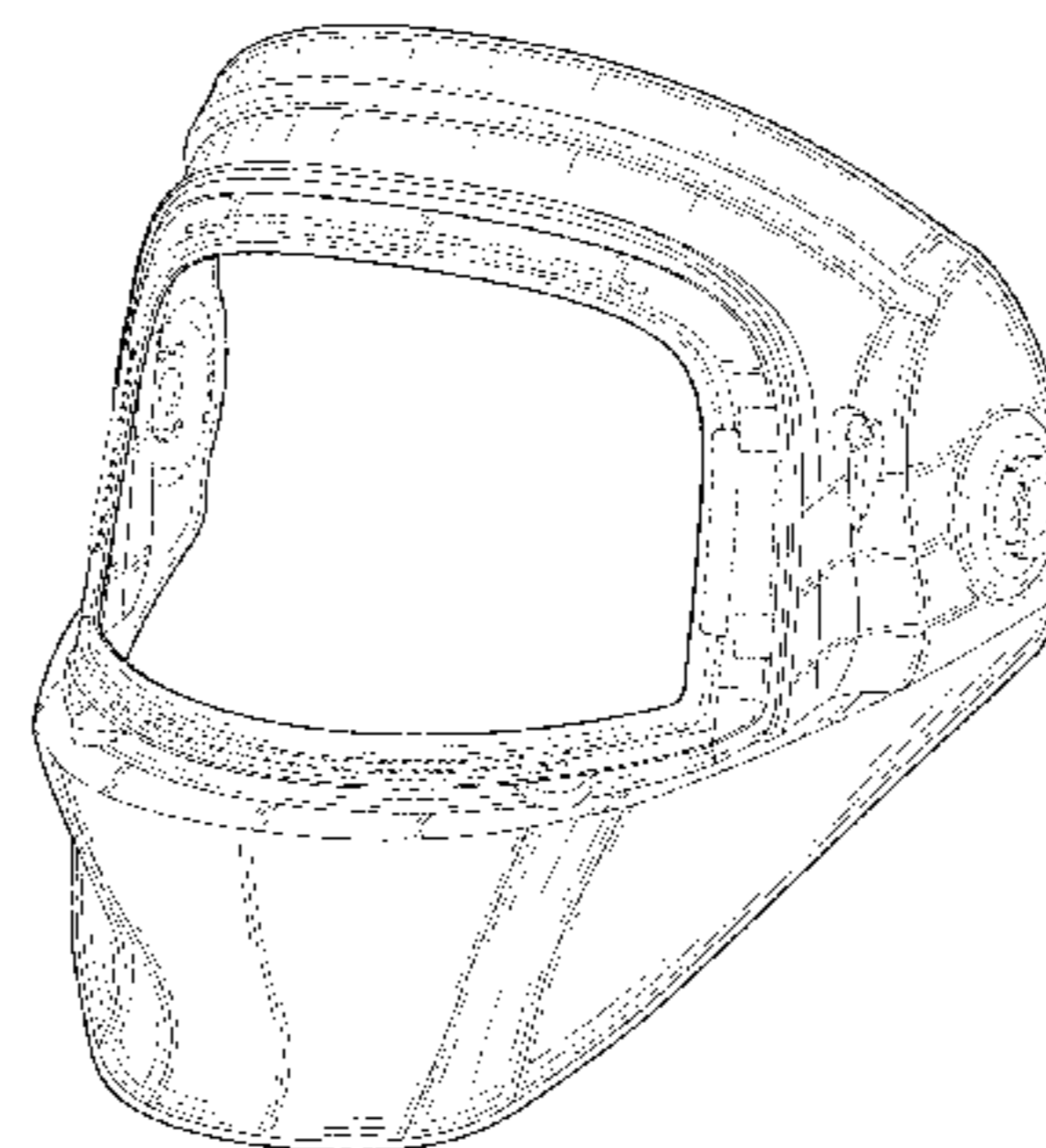
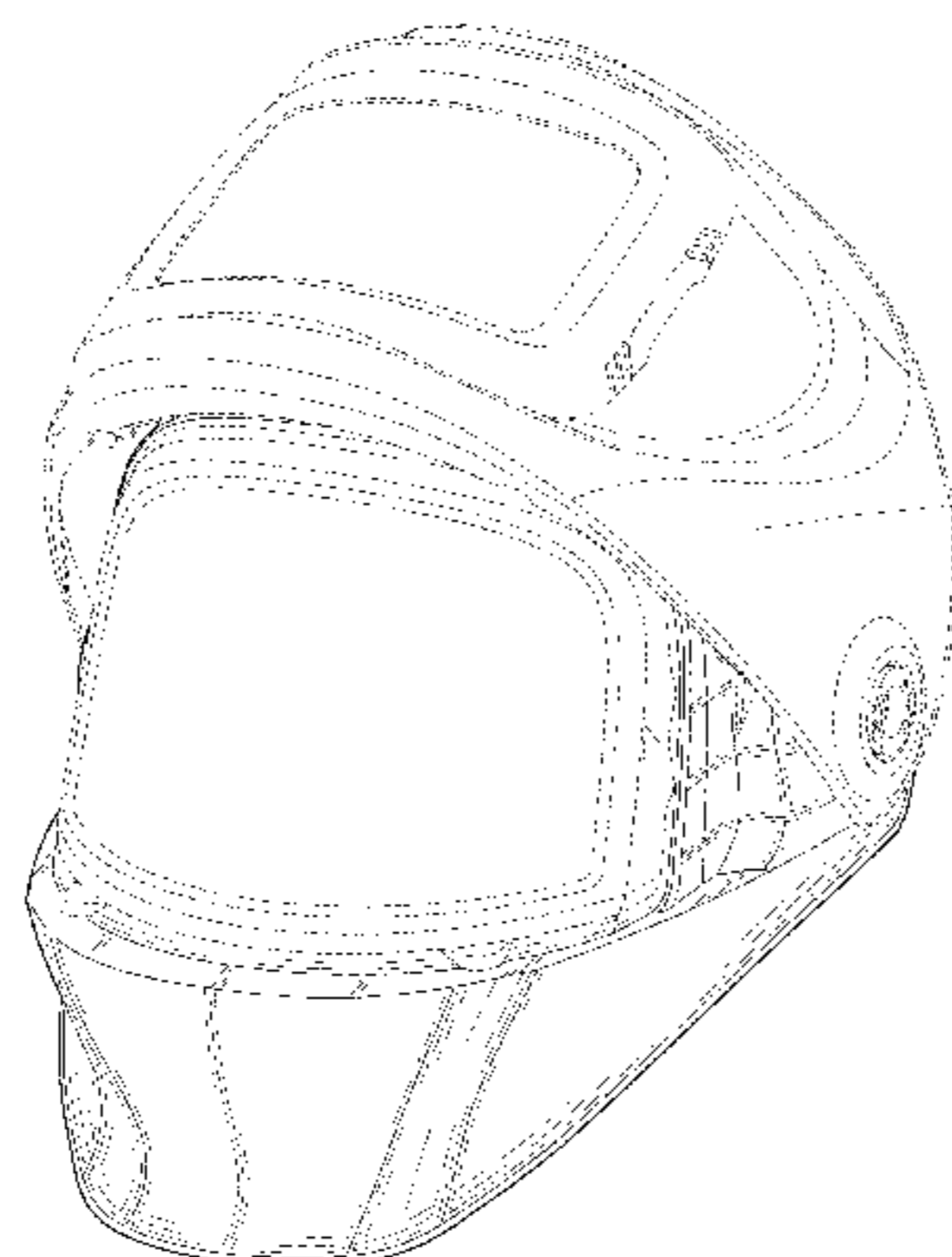
**1 Claim, 9 Drawing Sheets**

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- (21) Appl. No.: **29/639,579**
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- (52) **U.S. Cl.**  
USPC ..... **D29/110**
- (58) **Field of Classification Search**  
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D24/110.1, 110.2, 110.3  
CPC .. A61F 9/06; A61F 9/061; A61F 9/064; A61F 9/065; A61F 9/067; A61F 9/068  
See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

2,964,038 A	12/1960	Leslie
3,806,102 A	4/1974	Valenta
3,812,853 A	5/1974	Crain
3,982,095 A	9/1976	Robinson
4,113,627 A	9/1978	Leason
D255,029 S	5/1980	Brownlie
D259,954 S	7/1981	Reichl
4,414,172 A	11/1983	Leason
4,502,873 A	3/1985	Mottram
4,826,598 A	5/1989	Cain
5,063,926 A	11/1991	Forsgren
5,091,997 A	3/1992	Foehl
5,103,815 A	4/1992	Siegel



(56)

References Cited

U.S. PATENT DOCUMENTS

5,619,989	A	4/1997	Kruger	8,082,600	B2	12/2011	Morin	
5,688,460	A	11/1997	Ruschke	D652,931	S	1/2012	Petteway	
5,766,469	A	6/1998	Boast	8,104,094	B2	1/2012	Uttrachi	
D398,421	S *	9/1998	Crafoord .....	D654,224	S *	2/2012	Wu .....	D29/110
5,857,215	A *	1/1999	Ferguson .....	D654,225	S *	2/2012	Wu .....	D29/110
				D654,226	S *	2/2012	Wu .....	D29/110
				D654,634	S *	2/2012	Wu .....	D29/110
				D657,445	S	4/2012	Curran	
				8,172,190	B2	5/2012	Dang	
				D662,672	S	6/2012	Carlburg	
5,885,499	A	3/1999	Aksberg	D663,412	S	7/2012	Virr	
5,924,420	A	7/1999	Reischel	D666,288	S	8/2012	Bainton	
D414,861	S	10/1999	Metzger	D667,126	S	9/2012	Cho	
D416,649	S	11/1999	Burns	D668,326	S	10/2012	Bainton	
6,014,971	A	1/2000	Danish	8,336,113	B2	12/2012	Uttrachi	
6,016,805	A	1/2000	Burns	D673,477	S	1/2013	Szellos	
6,035,451	A	3/2000	Burns	D675,789	S	2/2013	Wanhainen	
D423,518	S	4/2000	Milligan	8,387,162	B2	3/2013	Huh	
6,060,689	A	5/2000	Wilson	D679,374	S	4/2013	Virr	
6,062,221	A	5/2000	Brostrom	D679,375	S	4/2013	Kenyon	
6,081,931	A	7/2000	Burns	D680,641	S	4/2013	Dwyer	
6,102,033	A	8/2000	Baribeau	D681,190	S	4/2013	Dwyer	
6,123,077	A	9/2000	Bostock	D682,418	S	5/2013	Krepel	
6,186,140	B1	2/2001	Hoague	8,505,121	B2	8/2013	Ahlgren	
D439,878	S	4/2001	Ark	D690,413	S	9/2013	Abel	
6,248,280	B1	6/2001	Kern	8,584,265	B2	11/2013	Lilenthal	
6,250,299	B1	6/2001	Danisch	D696,766	S	12/2013	Maurer	
6,279,572	B1	8/2001	Danisch	8,627,517	B2	1/2014	Ahlgren	
6,298,498	B1	10/2001	Burns	8,745,770	B2	6/2014	Ahlgren	
D452,911	S	1/2002	Danielsson	8,806,662	B2	8/2014	Huh	
6,367,085	B1	4/2002	Berg	8,821,621	B2	9/2014	Dwyer	
6,403,008	B1	6/2002	Schann	8,839,788	B2	9/2014	Betz	
6,416,570	B2	7/2002	Goto	8,875,318	B2	11/2014	Huh	
6,438,763	B2	8/2002	Guay	D722,696	S	2/2015	Blomquist	
6,575,165	B1	6/2003	Cook	8,955,162	B2	2/2015	Huh	
D483,860	S	12/2003	Knoch	D723,698	S	3/2015	Cockley	
6,666,209	B2	12/2003	Bennett	D724,197	S	3/2015	Hughes	
D486,916	S	2/2004	Cheung	D728,163	S *	4/2015	Zhou .....	D29/110
D493,884	S	6/2004	Virr	D728,777	S	5/2015	Spear	
D492,781	S	7/2004	Vielhaber	D730,528	S	5/2015	Yang	
D498,527	S	11/2004	Virr	D744,108	S	5/2015	Verma	
D498,528	S	11/2004	Van Brunt	D731,123	S	6/2015	Spear	
6,895,960	B2	5/2005	Fabin	D732,670	S	6/2015	Dwyer	
D513,074	S	12/2005	Nakamura	9,066,552	B2	6/2015	Ahlgren	
D526,413	S	8/2006	Baker	D745,137	S	12/2015	Pipe	
7,093,302	B1	8/2006	Burns	D746,438	S	12/2015	Dwyer	
D526,212	S	9/2006	Conway	D752,228	S	3/2016	Verma	
D540,989	S *	4/2007	Huh .....	D753,345	S *	4/2016	Yang .....	D29/110
D540,990	S *	4/2007	Huh .....	D756,519	S	5/2016	Adams	
7,197,774	B2	4/2007	Curran	D760,902	S	7/2016	Persson	
D544,598	S	6/2007	Lithgow	D762,846	S	8/2016	Fehr	
D550,349	S	9/2007	Lithgow	D763,437	S	8/2016	Dwyer	
D557,406	S	12/2007	Lithgow	D765,237	S	8/2016	Danford	
D560,795	S	1/2008	Lithgow	D767,754	S	9/2016	Danford	
D561,891	S	2/2008	Lithgow	D774,180	S	12/2016	Wu	
D561,893	S	2/2008	Gunaratnam	D775,346	S	12/2016	Beth	
D565,801	S *	4/2008	Curci .....	D776,256	S	1/2017	Formica	
D577,816	S	9/2008	Ungar	D776,802	S	1/2017	Loew	
D578,204	S	10/2008	Lithgow	D779,674	S	2/2017	Blomberg	
D584,003	S *	12/2008	Juhlin .....	D780,906	S	3/2017	Engelbreth	
D585,131	S	1/2009	Trevor-Wilson	D782,694	S	3/2017	Wainwright	
D585,540	S	1/2009	Lithgow	D783,792	S	4/2017	Goransson	
D586,051	S *	2/2009	Martin .....	D785,161	S	4/2017	Dravitzki	
D586,956	S *	2/2009	Huh .....	D785,780	S	5/2017	Scarborough	
D589,138	S	3/2009	Kenyon	D786,443	S	5/2017	Blomberg	
D590,494	S	4/2009	Lithgow	D788,988	S *	6/2017	Zhou .....	D29/110
D592,301	S	5/2009	Cork	D788,989	S *	6/2017	Zhou .....	D29/110
7,594,278	B2	9/2009	Huh	D789,614	S *	6/2017	Huh .....	D29/110
D604,853	S	11/2009	Abel	D790,685	S	6/2017	Silkaitis	
D612,480	S	3/2010	Cork	D790,883	S	6/2017	Formica	
7,748,381	B2	7/2010	Croll	D791,303	S	7/2017	Pipe	
D627,044	S	11/2010	Virr	D791,329	S	7/2017	Verma	
7,841,026	B2	11/2010	Makris	D793,626	S *	8/2017	Yang .....	D29/110
7,865,968	B2	1/2011	Lilenthal	D834,754	S *	11/2018	Ambring .....	D29/110
D632,375	S	2/2011	Curran	D835,352	S *	12/2018	Ambring .....	D29/110
D643,114	S	8/2011	Virr	2007/0079417	A1 *	4/2007	Huh .....	A61F 9/065
D644,319	S	8/2011	Virr					2/8.2
D647,209	S	10/2011	Muller	2008/0060102	A1 *	3/2008	Matthews .....	A61F 9/061
8,056,152	B2	11/2011	Brace					2/8.2



(56)

**References Cited**

## U.S. PATENT DOCUMENTS

2012/0260918 A1 10/2012 Sayers et al.  
 2013/0206139 A1 8/2013 Krepel et al.  
 2013/0206806 A1 8/2013 Hu et al.

## FOREIGN PATENT DOCUMENTS

EP 1350550 A1 10/2003  
 GB 2156232 A 10/1985

## OTHER PUBLICATIONS

3M TM Versaflo TM Powered Air Purifying Respirator TR-600; Pharmaceutical to TR-600; 3M Personal Safety Division; pp. 1-3; estimated Jan. 2014.

3M TM Versaflo TM Powered Air Purifying Respirator TR-600; Evolve to TR-600; 3M Personal Safety Division; pp. 1-2; estimated Jan. 2014.

Powered Air-Purifying Respirator (PAPR); OM-234 936 Rev K; Owners Manual; www.MillerWelds.com; pp. 1-44; estimated Jan. 2014.

PAPR Powered Air Purifying Respirator; "The Power of the Blue"; Welding Protection; Miller Electric Mfg. Co.; www.MillerWelds.com; pp. 1-2; Apr. 2009.

3M TM Personal Safety Division; 3M TM Versaflo TM Powered Air Purifying Respirator TR-600 brochure, Evolve to TR-600, pp. 1-6, estimated Jan. 2014.

3M TM Personal Safety Division; The New 3M TM Versaflo TM Powered Air Purifying Respirator TR-600 brochure, Evolve to TR-600—Heavy Industry, pp. 1-4, estimated Jan. 2014.

3M TM Personal Safety Division; The New 3M TM Versaflo TM Powered Air Purifying Respirator TR-600 brochure, Evolve to TR-600—Pharmaceutical, pp. 1-4, estimated Jan. 2014.

3M TM Versaflo TM Respirator Systems for Healthcare Professionals; Comfort and Simplicity Versatility; 3M.com/Versaflo; pp. 1-4; estimated Jan. 2014.

3M TM Versaflo TM Respirator Systems for Pharmaceutical Applications; Comfort Simplicity Versatility; pp. 1-2; estimated Jan. 2014.

3M TM Versaflo TM Respirator Systems; Comfort Simplicity Versatility; pp. 1-8; estimated Jan. 2014.

3M TM Versaflo TM S-Series Hoods and Headcovers for powered and Supplied Air Respirators; Comfort Simplicity Versatility; pp. 1-12; estimated Jan. 2014.

3M TM Versaflo TM TR-300 Powered Air Purifying Respirators; Protection from Particles; Comfort Simplicity Versatility; pp. 1-4; estimated Jan. 2014.

PAPR Powered Air Purifying Respirator; Welding Protection; Miller Electric Mfg. Co.; pp. 1-2; estimated Jan. 2014.

3M Air-Mate; Powered Air Purifying Respirator (PAPR) product matrix; pp. 1-3; estimated Jan. 2015.

3M Versaflo M-Series Headgear for Powered and Supplied Air Respirators; pp. 1-8; estimated Jan. 2015.

3m Speedglas Welding Safety Catalog; pp. 1-55, Jan. 2018.

Viking 1740 Ignition Welding Helmet; K4375; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 1840 All American Helmet; K3173-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 1840 Aztec Helmet; K4175-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 1840 Black Welding Helmet; K3023-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking Auto Darkening Welding Helmets with 4C Lens Technology brochure; 2450 Model; The Lincoln Electric Company; Mar. 2017; pp. 1-8.

Viking 2450 All American Helmet; K3174-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 All American Welding Helmet; K3230-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 Black Digital Series Welding Helmet; K3028-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 Graveyard Shift Welding Helmet; K3099-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 Heavy Metal Welding Helmet; K3029-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 Jessi The Welder Welding Helmet; K4437-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 Street Rod Welding Helmet; K3035-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 2450 White Tail Welding Helmet; K3028-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 All American Helmet; K3175-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Black Welding Helmet; K3034-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Code Red Welding Helmet; K4034-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Foose Imposter Welding Helmet; K3028-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Jessi vs. The Robot Welding Helmet; K3372-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 MOJO Welding Helmet; K3101-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Motorhead Welding Helmet; K3100-3; webpage retrieved on Mar. 28, 2016; pp. 1-2.

Viking 3350 Polar Arc Welding Helmet; K3255-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Terracuda Welding Helmet; K3039-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Twisted Metal Welding Helmet; K3248-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 White Tail Camo Welding Helmet; K4412-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Viking 3350 Zombie Welding Helmet; K4158-3; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Techman Freflow V3; Powered Air Purifying Respirator; Webpage retrieved on Mar. 28, 2018; pp. 1-3.

Techman Freflow V1; Powered Air Purifying Respirator; Webpage retrieved on Mar. 28, 2018; pp. 1-3.

Viking Industrial Passive; The Lincoln Company, Jun. 2014; pp. 1-2.

ITW 9400 Series Auto Darkening Welding Helmet Manual; Titanium Series; Miller Electric Company; estimated Jan. 2010; pp. 1-32.

ITW 9400i Series Auto Darkening Welding Helmet; Miller Electric Company; webpage retrieved Mar. 28, 2018; pp. 1-2.

ITW Elite—Auto Darkening Welding Helmets Elite Manual; Elite Series; Miller Electric Company; webpage retrieved Mar. 28, 2018; pp. 1-2.

ITW Elite Camouflage—Auto Darkening Welding Helmet; Elite Series; Miller Electric Company; webpage retrieved Mar. 28, 2018; pp. 1-2.

Translas Brochure; Airforce V3 Fresh Air Set; Multifunctional Flip-Up Design; by Welders for Welders—Translas.com; pp. 1-2; estimated Jan. 2018.

Translas Helmet & PAPR design webpage; www.translas.com:80/en/productsafety/helmets-papr/; webpage estimated Dec. 26, 2017.

Translas Catalog; by Welders for Welders; pp. 1-298; e.g., p. 272, estimated Jan. 2018.

ITW Elite Stars and Stripes Auto Darkening Welding Helmet; Elite Series; Miller Electric Company; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Tecmen Passive Welding Helmet; Model ST100; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Tecmen Passive Welding Helmet; Model ST200; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Tecmen Auto Darkening Welding Helmet; iEASY Series; TM14-ADF735S; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Tecmen Auto Darkening Welding Helmet; iWeld Series; TM14-ADF710S; webpage retrieved on Mar. 28, 2018; pp. 1-2.

Tecmen Auto Darkening Welding Helmet; iWeld Series; TM14-ADF715S; webpage retrieved on Mar. 28, 2018; pp. 1-2.

(56)

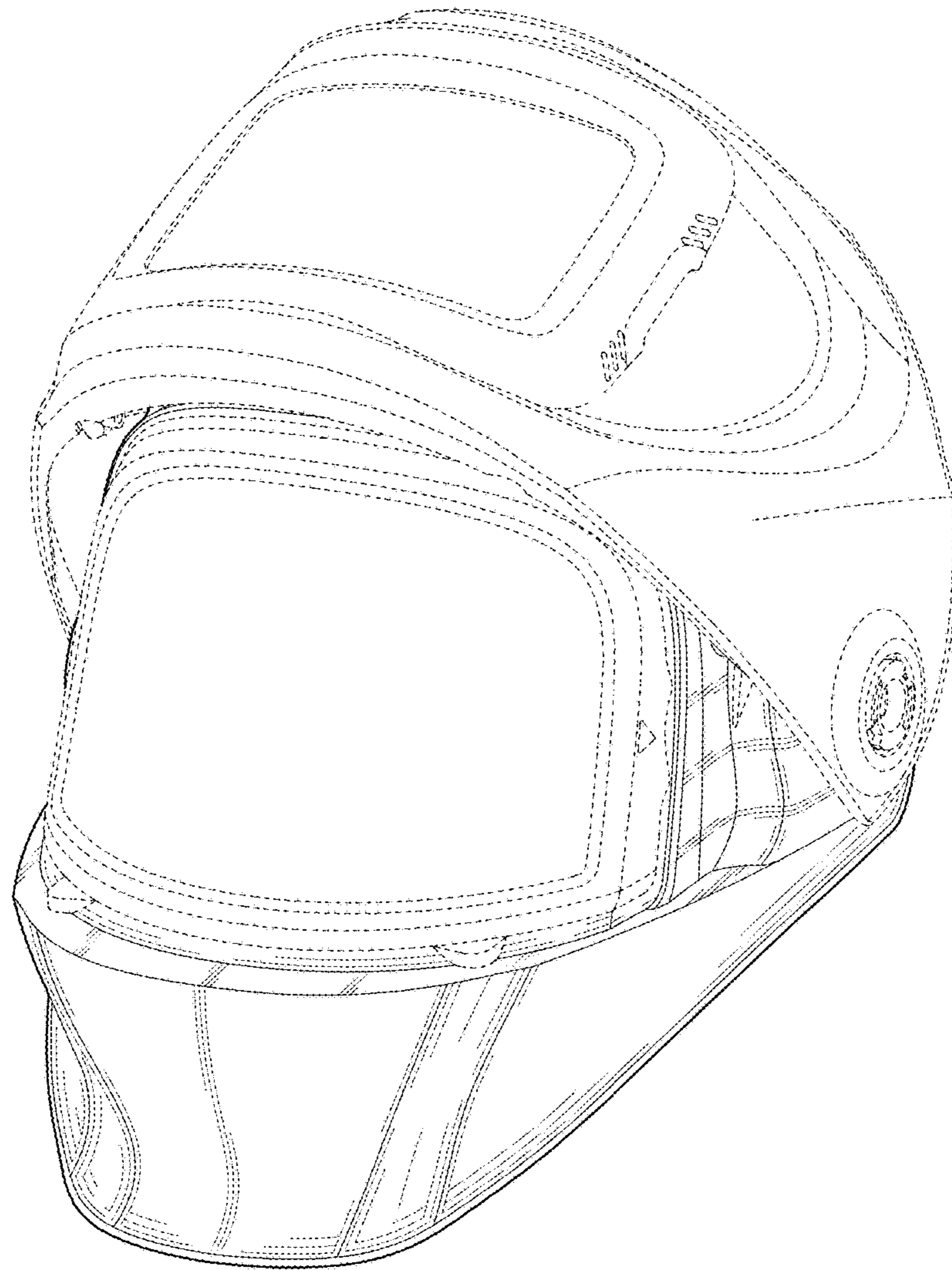
**References Cited**

OTHER PUBLICATIONS

- Tecmen Auto Darkening Welding Helmet; iWeld Series; TM14-ADF720S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; iWeld Series; TM14-ADF725S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; iWeld Series; TM14-ADF730S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; iMUX Series; TM14-ADF815S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; iMUX Series; TM14-ADF820S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; iMUX Series; TM14-ADF830S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; Easy Series; TM17-ADF615J; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- Tecmen Auto Darkening Welding Helmet; Easy Series; TM17-ADF720S; webpage retrieved on Mar. 28, 2018; pp. 1-2.
- ITW Elite Lucky's Speed Shop—Auto Darkening Welding Helmet; Elite Series; Miller Electric Company; webpage retrieved Mar. 28, 2018; pp. 1-2.
- Viking 1740 Series; Auto Darkening Welding Helmets Brochure; Nov. 2017; pp. 1-2.
- Viking PAPR 3350 Welding helmet; Powered Air Purifying Respirator Brochure; Oct. 2017; pp. 1-8.
- Tecmen Auto Darkening Welding Helmet; iEasy Series; TM17-ADF725S; webpage retrieved on Mar. 26, 2018; pp. 1-2.

\* cited by examiner

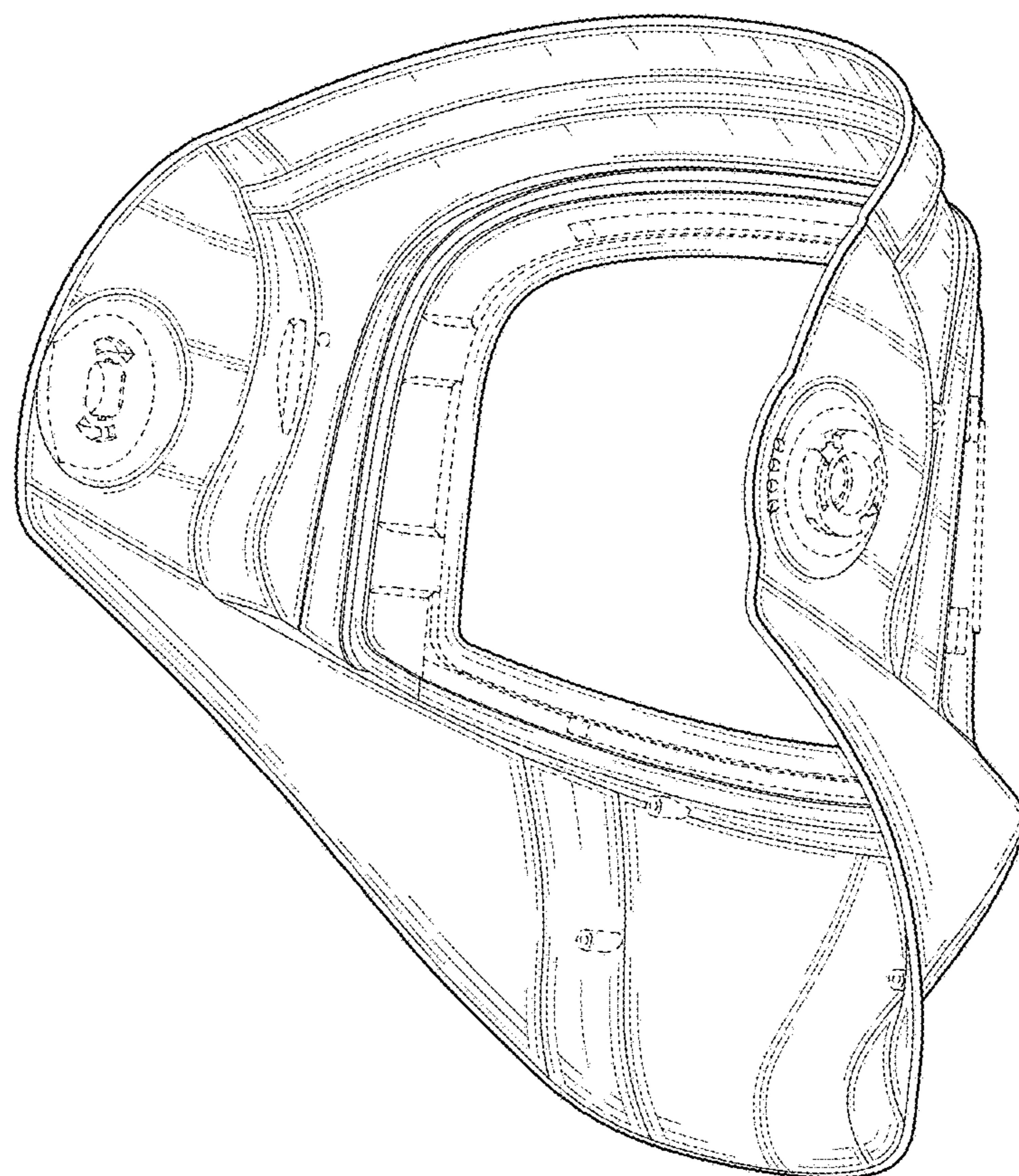




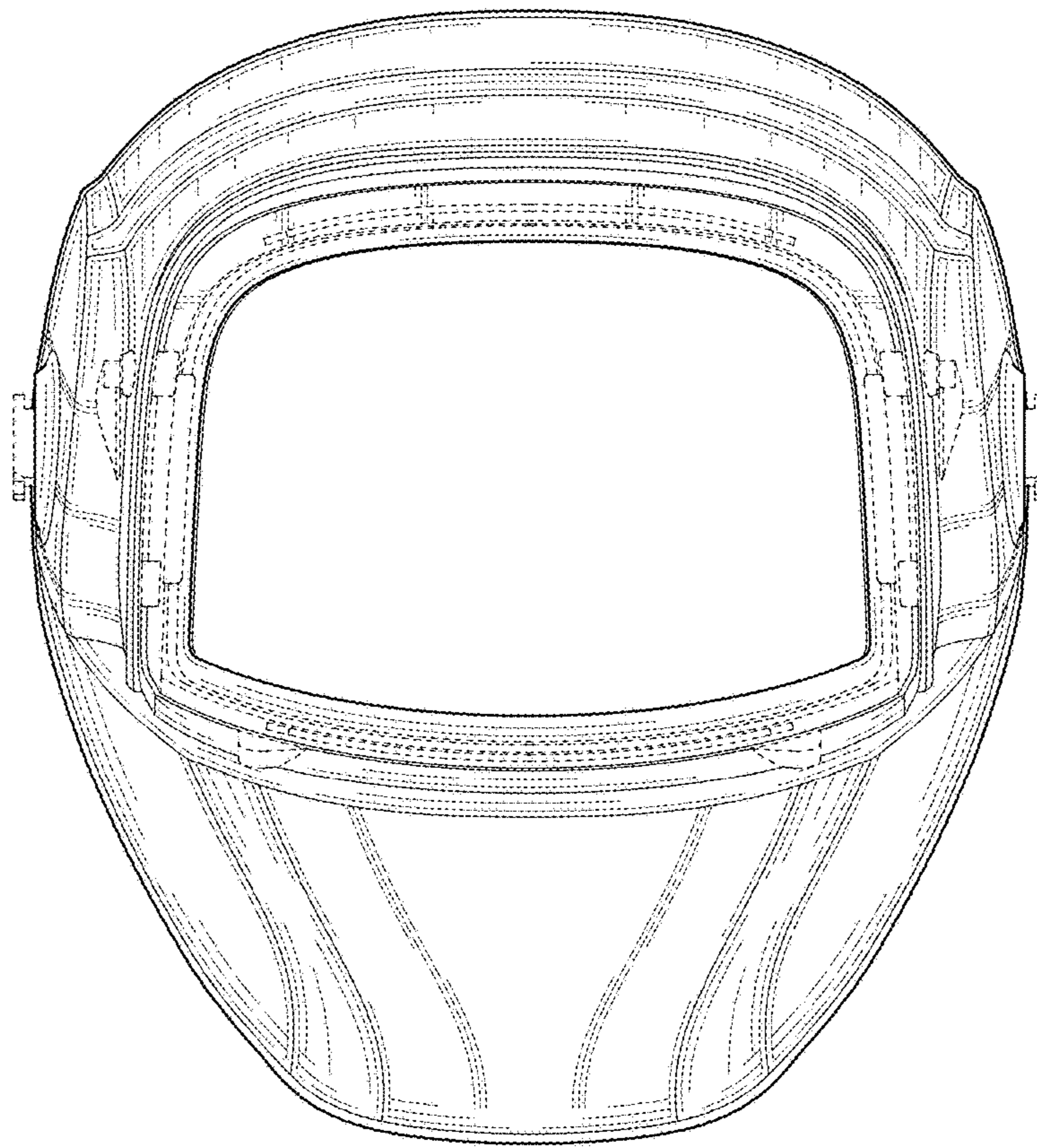
**FIG. 1**



**FIG. 2**

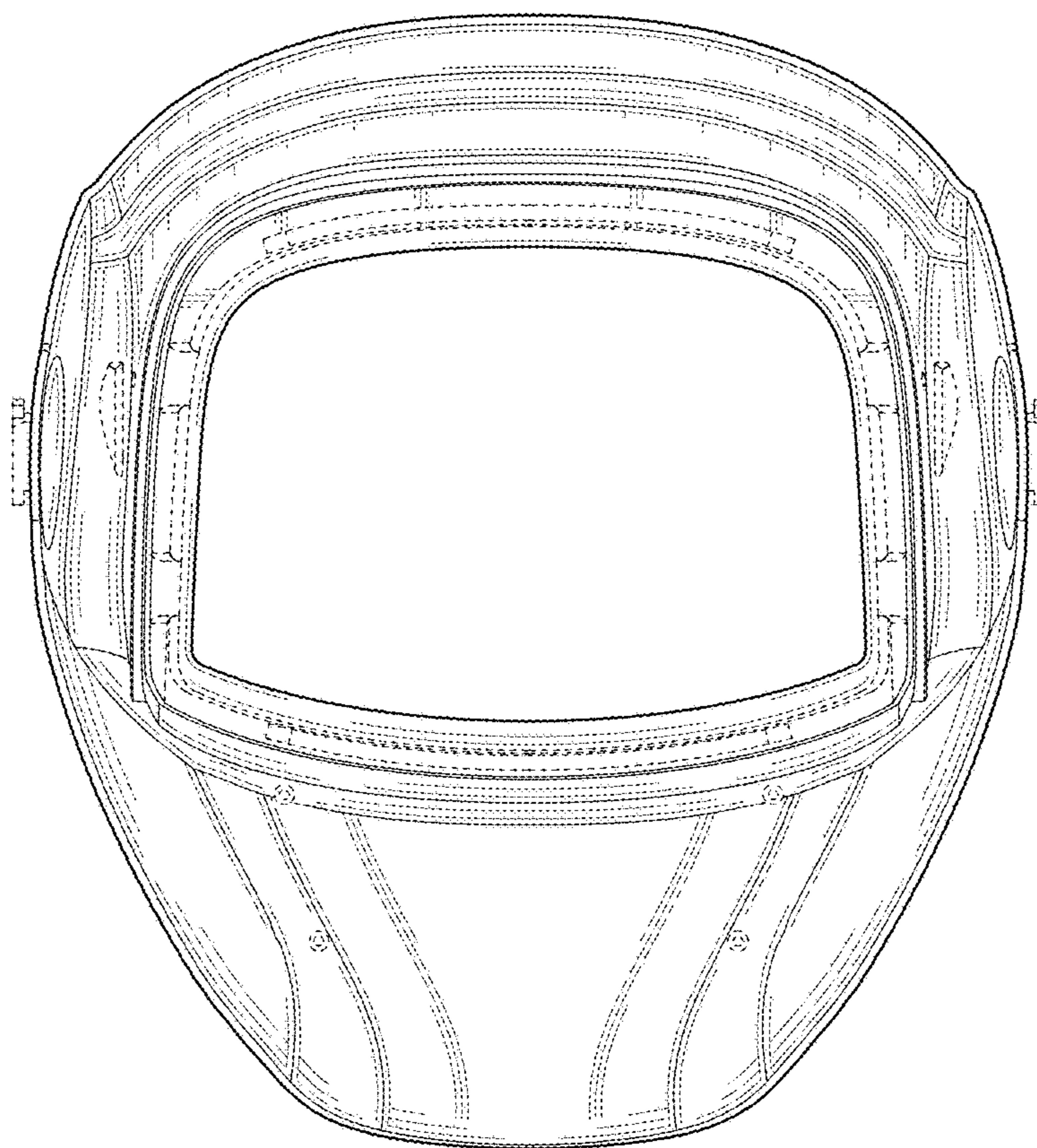


**FIG. 3**

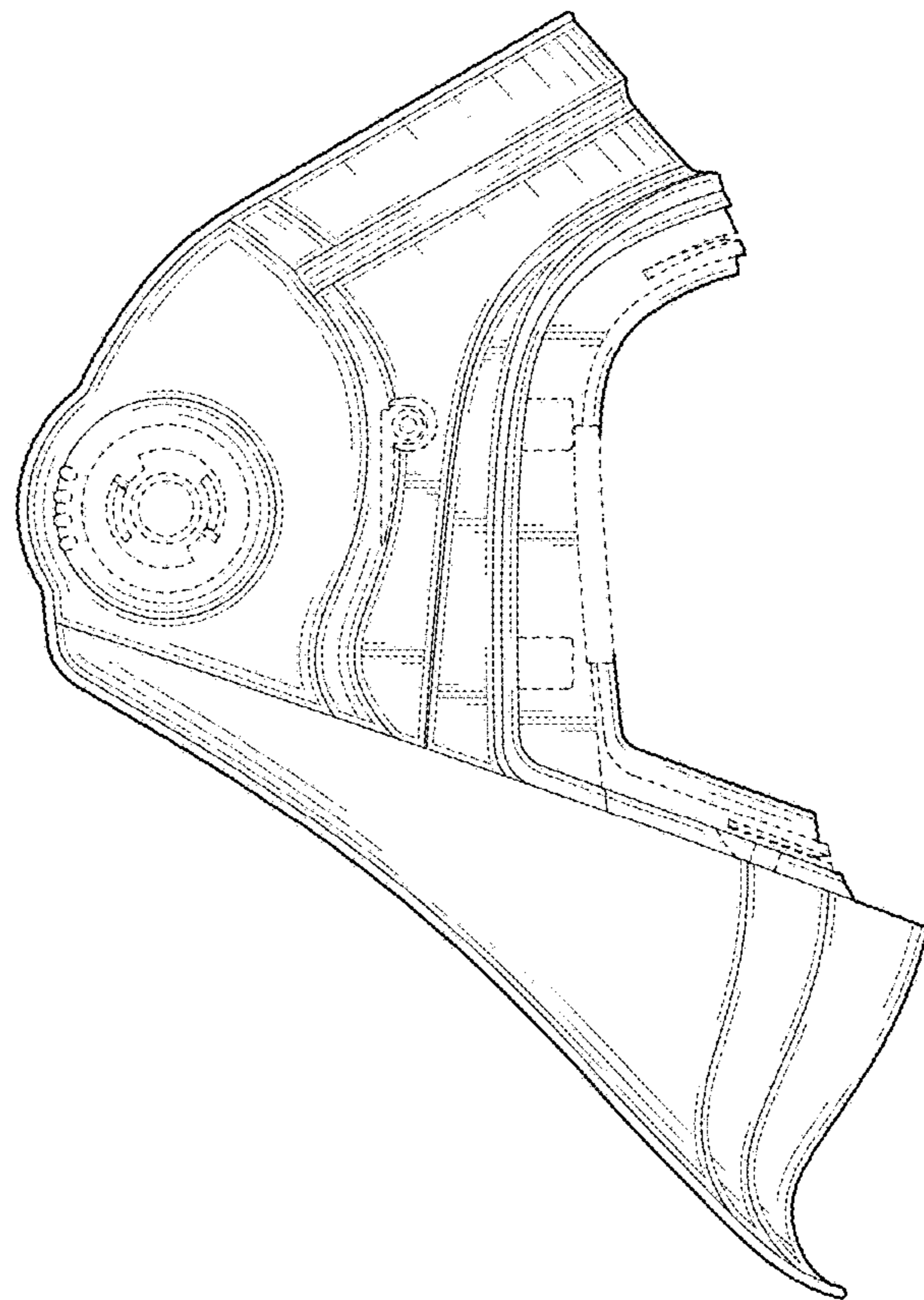


**FIG. 4**



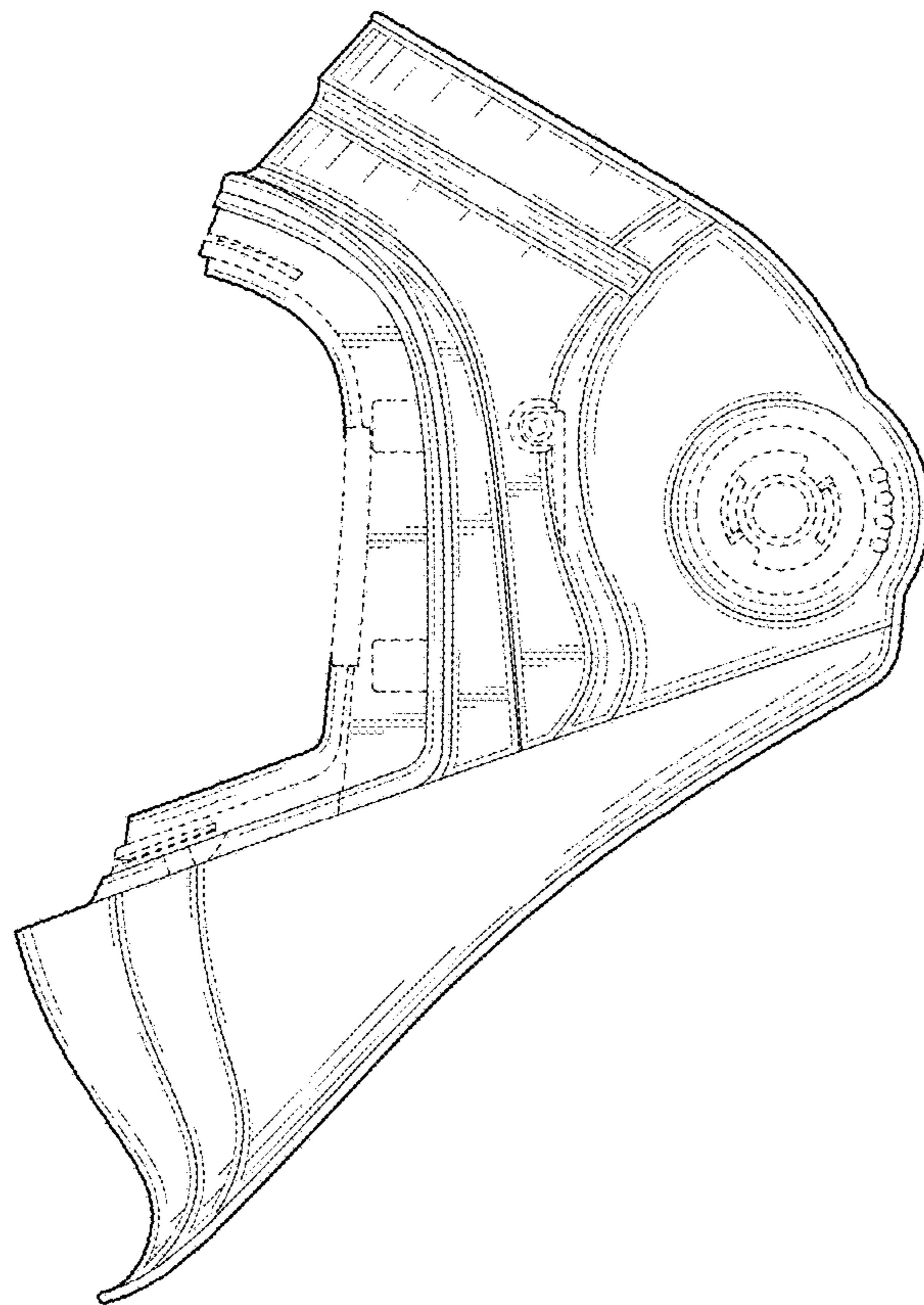


**FIG. 5**

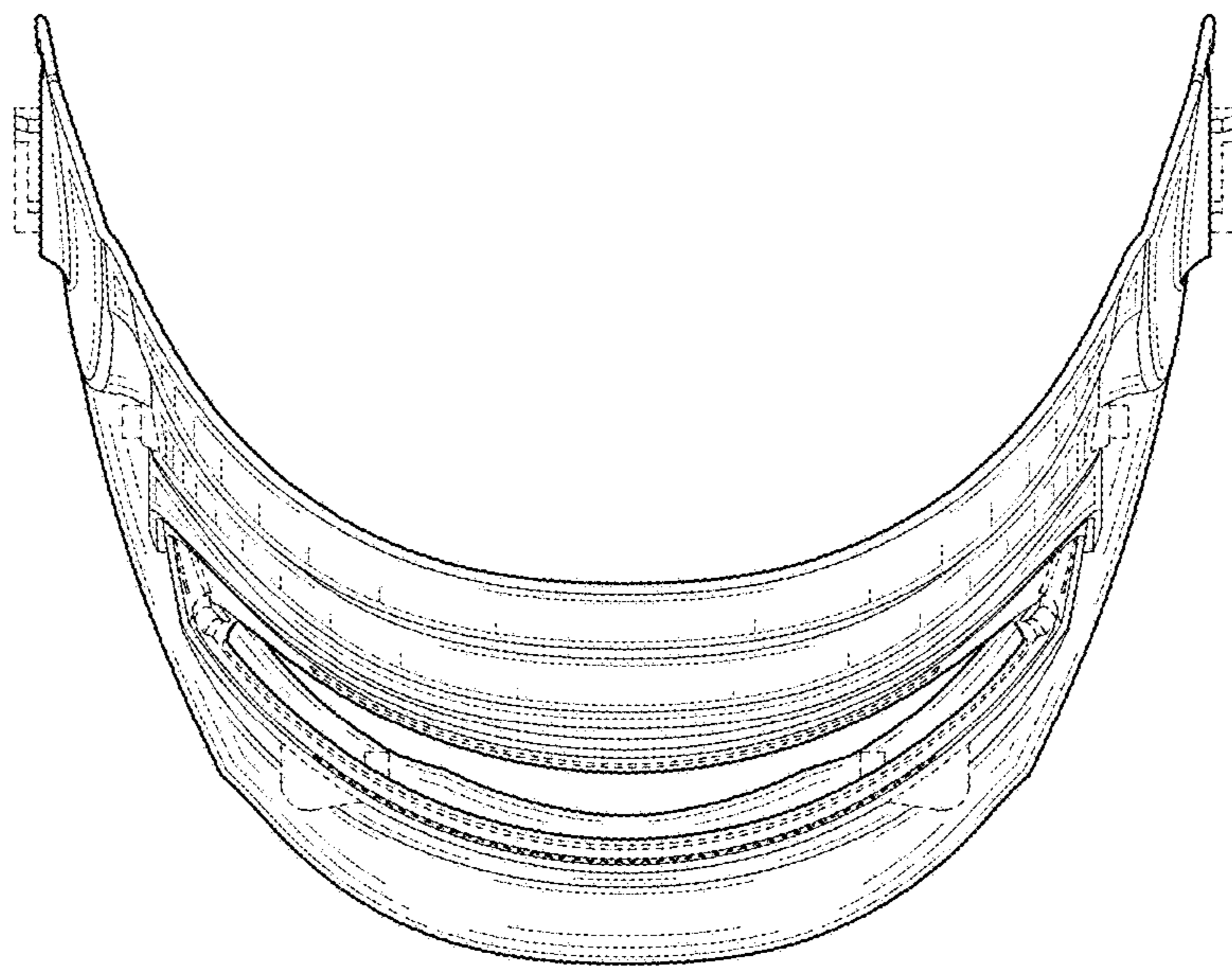


**FIG. 6**



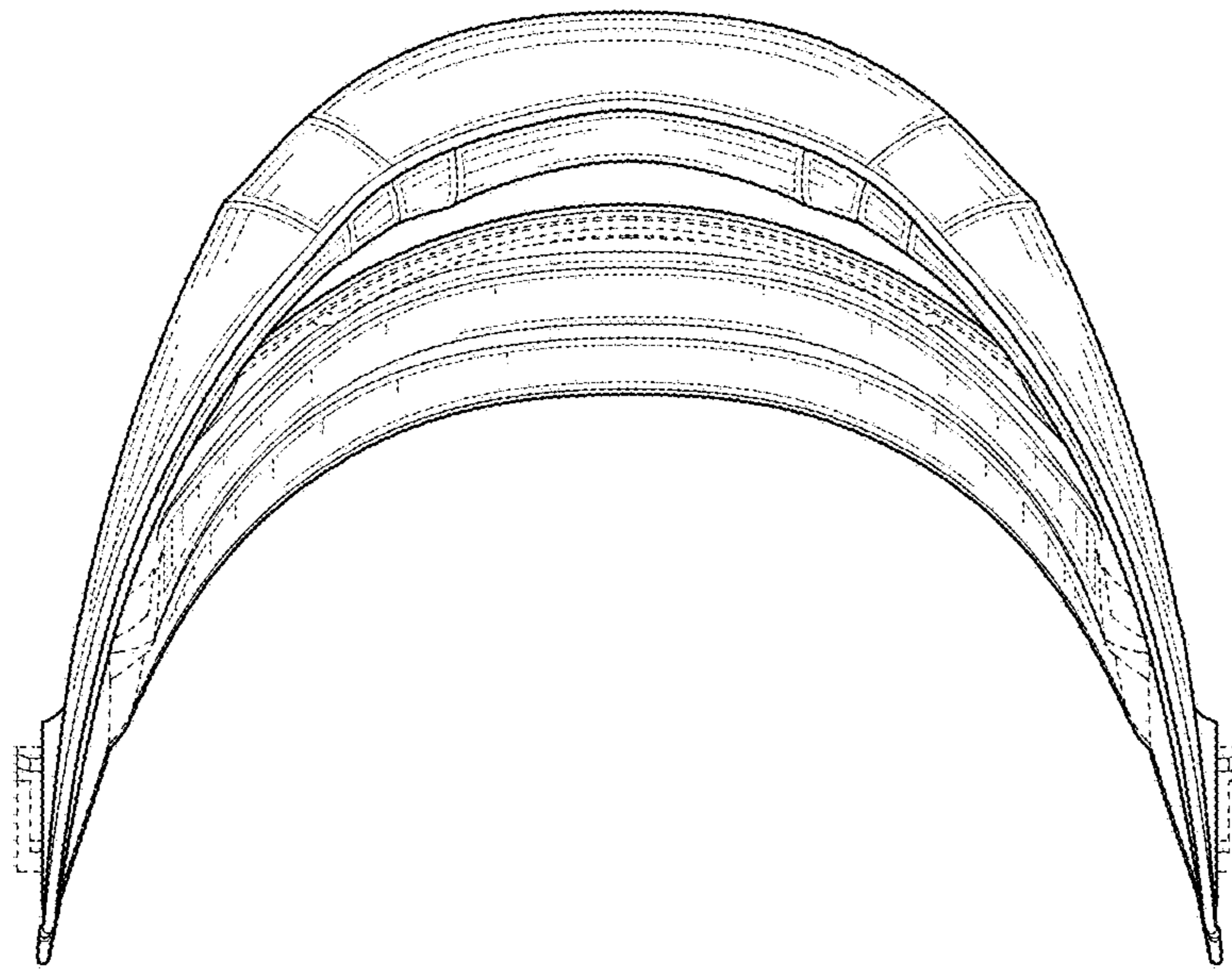


**FIG. 7**



**FIG. 8**





**FIG. 9**