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

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(54) **PARTICULATE FILTER FOR DIESEL ENGINE**

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(52) **U.S. Cl.** ..... **D23/365**

(58) **Field of Classification Search** ..... D23/363-365,  
D23/358, 386, 354, 341, 393; 55/385.3,  
55/502, 497, 506, 505, 521, 495, 422, 493,  
55/DIG. 30; 210/497.1; D25/119-122, 124,  
D25/126, 128, 138, 142, 147, 152, 156, 164,  
D25/199; 52/586.1, 586.2, 301; 428/34.4,  
428/334.4; D8/354; 256/65.14-65.16

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

1,796,316	A *	3/1931	Bemis	.....	D25/120
2,228,052	A *	1/1941	Gardner	.....	D25/122
3,186,561	A *	6/1965	Strassle	.....	D25/120
3,644,962	A *	2/1972	Hachtel	.....	D25/122
4,099,346	A *	7/1978	Isono	.....	D25/122
4,304,585	A	12/1981	Oda et al.		
4,357,987	A	11/1982	Oda et al.		
D315,027	S *	2/1991	Abbestam et al.	.....	D25/124
5,007,222	A *	4/1991	Raymond	.....	52/586.1
D346,036	S *	4/1994	Garber	.....	D25/126

D365,157	S *	12/1995	Tinen	.....	D25/138
D365,746	S *	1/1996	Chudoba et al.	.....	D25/124
5,523,133	A *	6/1996	Smith	.....	428/34.4
D371,612	S *	7/1996	Hsiao	.....	D25/124
D417,268	S	11/1999	Gillingham		

(Continued)

**FOREIGN PATENT DOCUMENTS**

EP 1142619 10/2001

(Continued)

**OTHER PUBLICATIONS**

U.S. Appl. No. 29/328,231, Unpublished.

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(57) **CLAIM**

The ornamental design for a particulate filter for diesel engine, as shown and described.

**DESCRIPTION**

FIG. 1 is a front view of a particulate filter for diesel engine showing our new design, the rear view being identical; FIG. 2 is a top plan view thereof, the bottom view being identical;

FIG. 3 is an enlarged right side view thereof;

FIG. 4 is an enlarged left side view thereof;

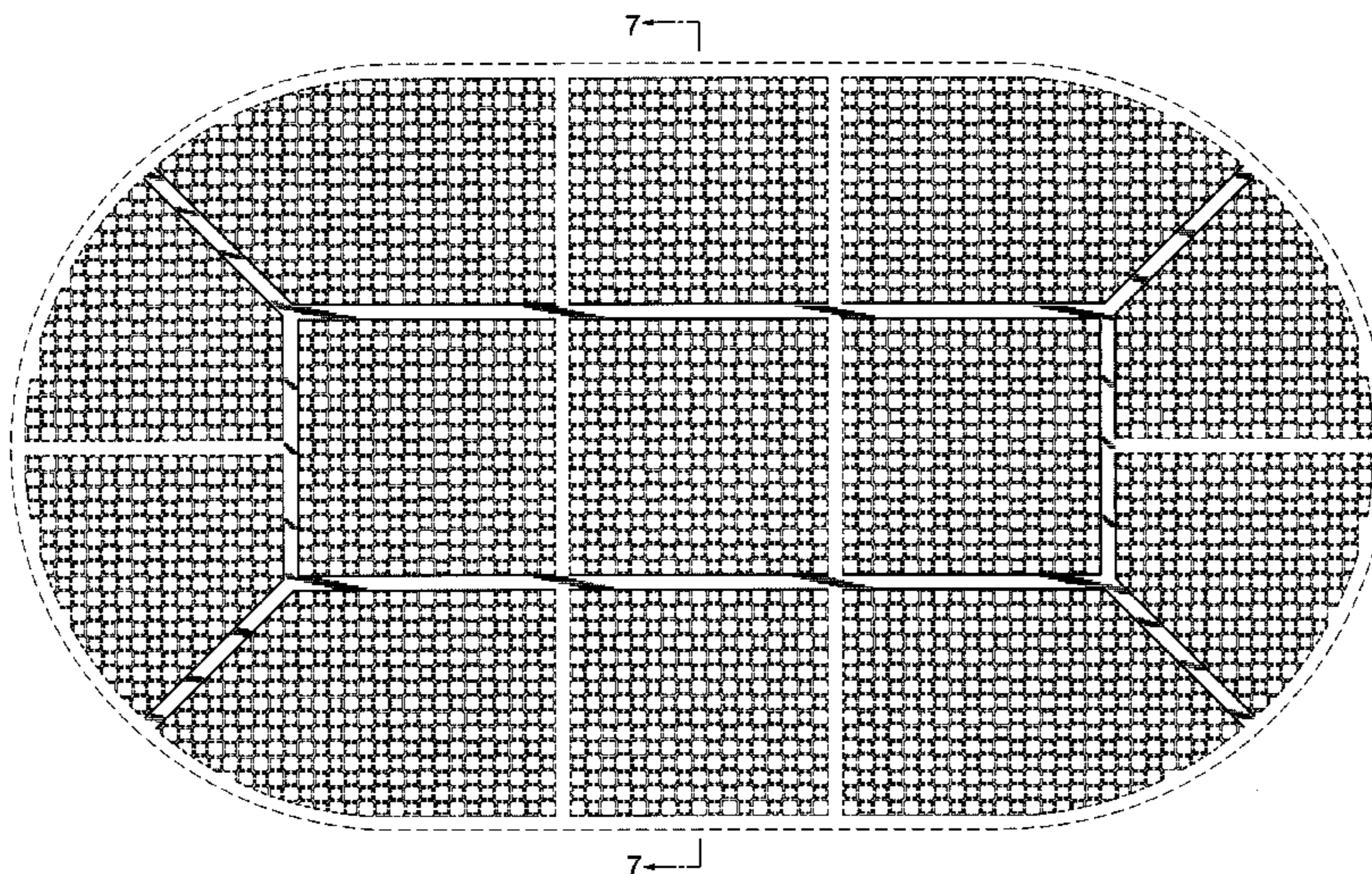
FIG. 5 is an enlarged cross-sectional view taken along line 5-5 in FIG. 1;

FIG. 6 is an enlarged cross-sectional view taken along line 6-6 in FIG. 1; and,

FIG. 7 is an enlarged cross-sectional view taken along line 7-7 in FIG. 3.

The feature shown in broken lines are shown for illustrative purposes in the drawings depict environmental subject matter only and form no part of the claimed design.

**1 Claim, 7 Drawing Sheets**

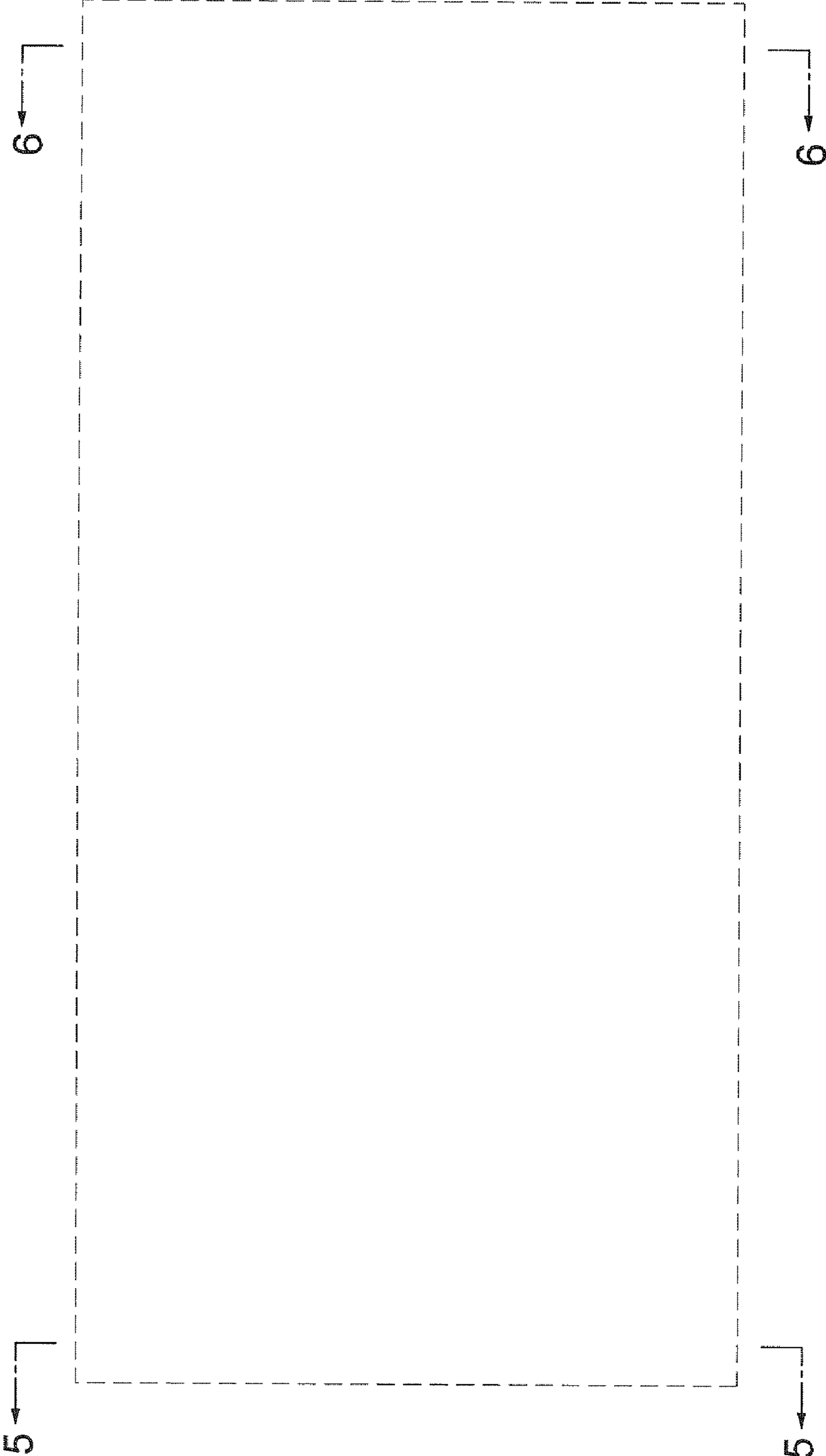


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U.S. PATENT DOCUMENTS				EP	1604723	12/2005
D425,633	S *	5/2000	Hunter ..... D25/138	EP	1604724	12/2005
D450,826	S	11/2001	Song	EP	1604725	12/2005
D461,003	S	7/2002	Gieseke et al.	EP	1618941	1/2006
D484,584	S	12/2003	Anderson et al.	EP	1666121	6/2006
6,669,751	B1	12/2003	Ohno et al.	EP	1688171	8/2006
D491,286	S *	6/2004	Winig et al. .... D25/152	EP	1775009	4/2007
D499,195	S *	11/2004	Winig et al. .... D25/152	EP	1925353	5/2008
D505,194	S	5/2005	Komori et al.	GB	2031571	4/1980
6,984,253	B2	1/2006	Ichikawa et al.	JP	55-046338	4/1980
D519,197	S	4/2006	Komori et al.	JP	61-051240	11/1986
D522,117	S	5/2006	Komori et al.	JP	2001-096112	4/2001
D523,543	S	6/2006	Komori et al.	JP	2001-096113	4/2001
D523,544	S	6/2006	Komori et al.	JP	2001-096116	4/2001
7,112,233	B2	9/2006	Ohno et al.	JP	2001-096117	4/2001
D530,003	S	10/2006	Komori et al.	JP	4051163	4/2001
D534,264	S	12/2006	Komori et al.	JP	4146048	4/2001
D538,911	S	3/2007	Komori et al.	JP	2001-162119	6/2001
7,326,271	B2	2/2008	Kasai et al.	JP	2001-162121	6/2001
7,393,376	B2	7/2008	Taoka et al.	JP	3803009	6/2001
7,427,309	B2	9/2008	Ohno et al.	JP	2001-190916	7/2001
7,435,279	B2	10/2008	Masukawa et al.	JP	11055771	10/2002
7,445,656	B2	11/2008	Bardon et al.	JP	11055772	10/2002
7,488,365	B2	2/2009	Golden et al.	JP	11055773	10/2002
7,517,379	B2	4/2009	Sorensen, Jr.	JP	11055774	10/2002
7,524,360	B2	4/2009	Cheng	JP	11055775	10/2002
7,537,634	B2	5/2009	Hatano et al.	JP	11055882	10/2002
7,550,025	B2	6/2009	Fukuda et al.	JP	11055883	10/2002
D616,115	S *	5/2010	Clayton ..... D25/126	JP	11072155	4/2003
D617,174	S *	6/2010	Schaefer et al. .... D25/122	JP	11089138	11/2003
2002/0197193	A1	12/2002	Harada et al.	JP	11089139	11/2003
2004/0055265	A1	3/2004	Ohno et al.	JP	11089428	11/2003
2006/0021310	A1	2/2006	Ohno et al.	JP	11095954	2/2004
2006/0213163	A1	9/2006	Taoka et al.	JP	11096386	2/2004
2007/0125053	A1	6/2007	Matsubara et al.	JP	12010438	6/2004
2008/0120950	A1	5/2008	Ohno et al.	JP	12010439	6/2004
2008/0236123	A1	10/2008	Chen et al.	JP	12010668	6/2004
				JP	2004-216375	8/2004
				JP	12013775	8/2004
				JP	12013776	8/2004
				JP	2006-061909	3/2006
				JP	2006-181575	7/2006
				JP	3889194	3/2007
				WO	10/23069	4/2001
				WO	WO 01/23069	4/2001
				WO	WO 01/051173	7/2001
				WO	WO 03/078026	9/2003
				WO	WO 2004/096414	11/2004
				WO	WO 2007-019801	2/2007
FOREIGN PATENT DOCUMENTS						
EP	1249262	10/2002				
EP	1486242	12/2004				
EP	1508355	2/2005				
EP	1508356	2/2005				
EP	1508357	2/2005				
EP	1508358	2/2005				
EP	1516659	3/2005				
EP	1604719	12/2005				
EP	1604720	12/2005				
EP	1604721	12/2005				
EP	1604722	12/2005				

\* cited by examiner



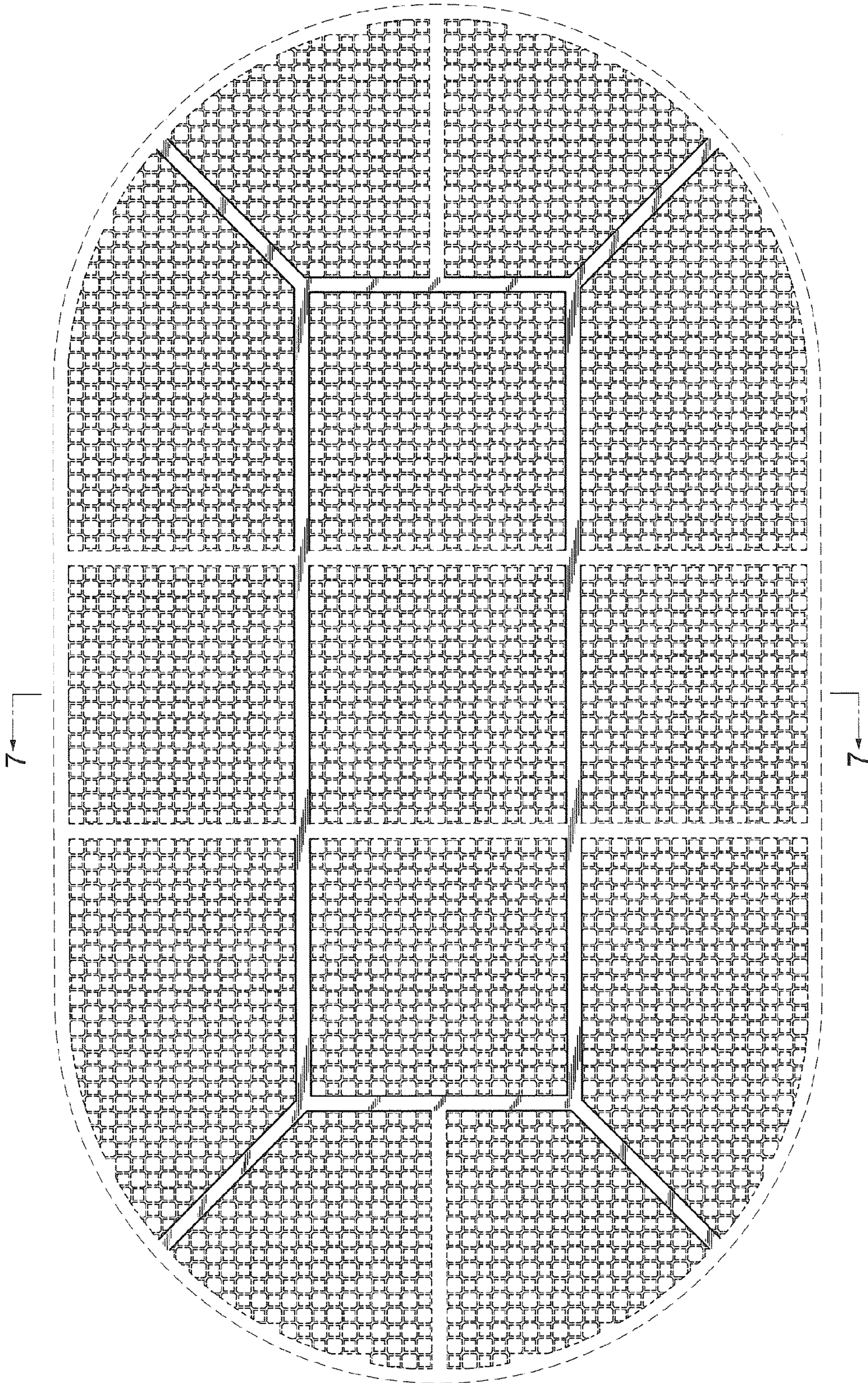
**FIG. 1**



**FIG. 2**

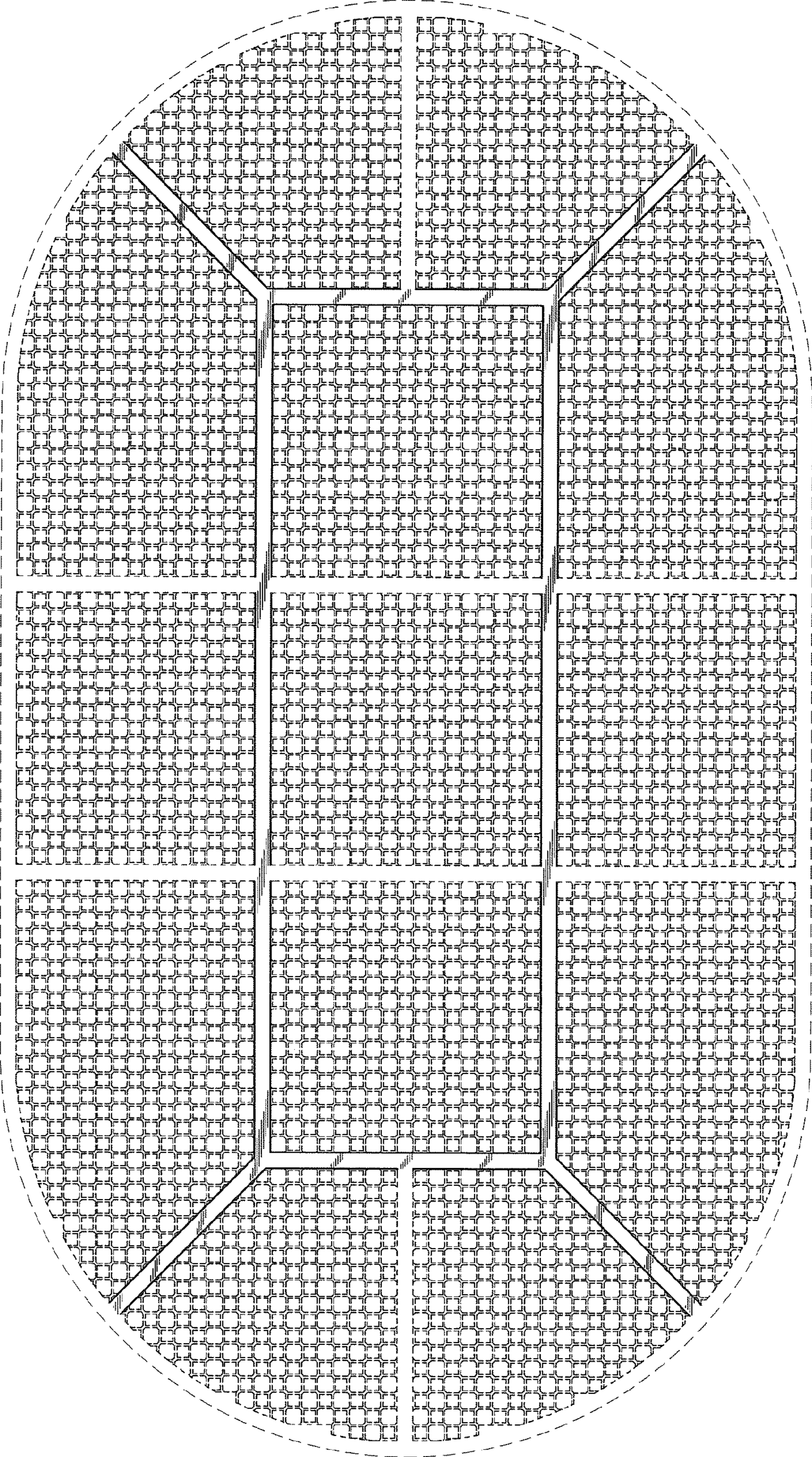


**FIG. 3**



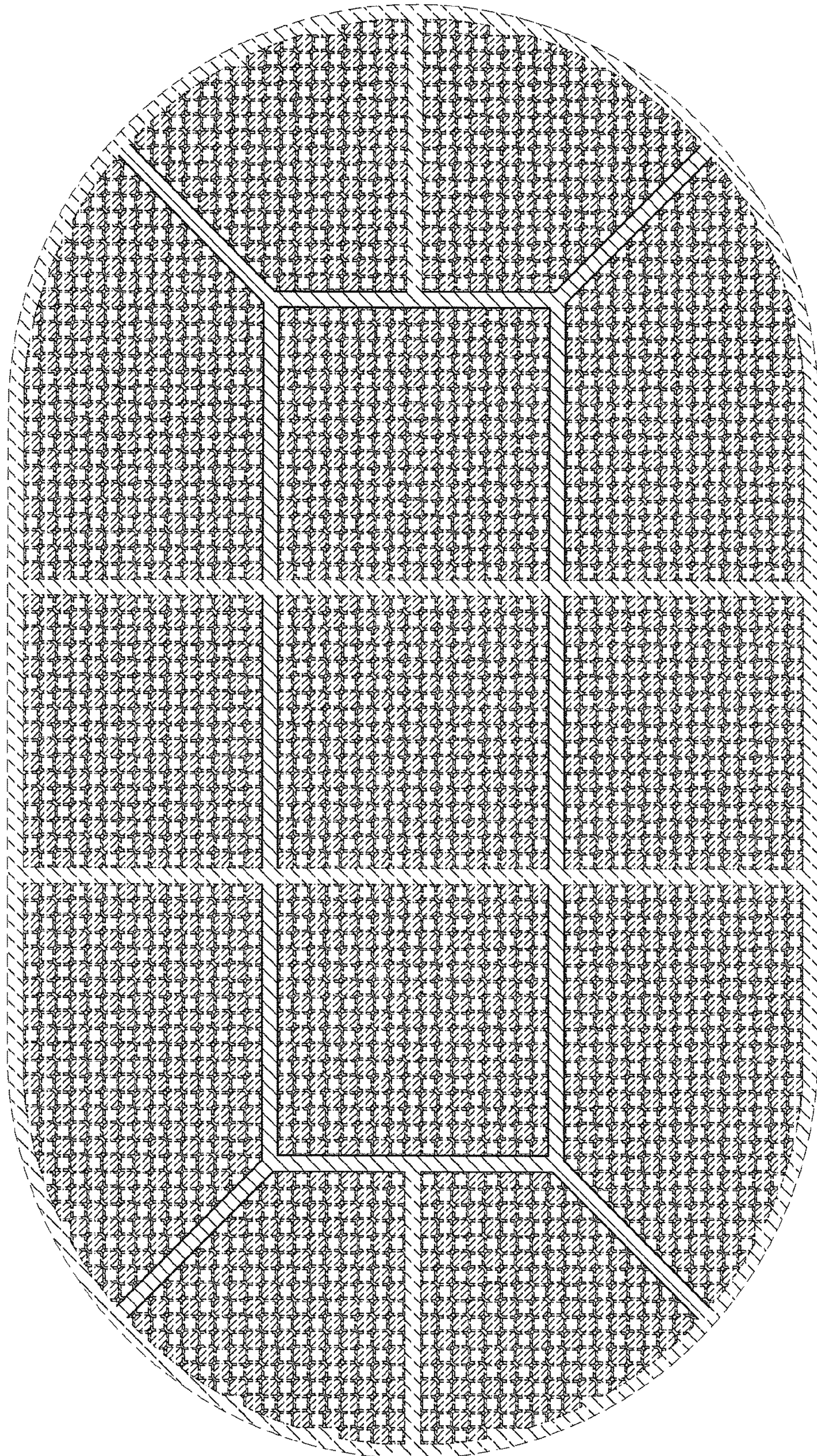


**FIG. 4**





*FIG. 5*





*FIG. 6*

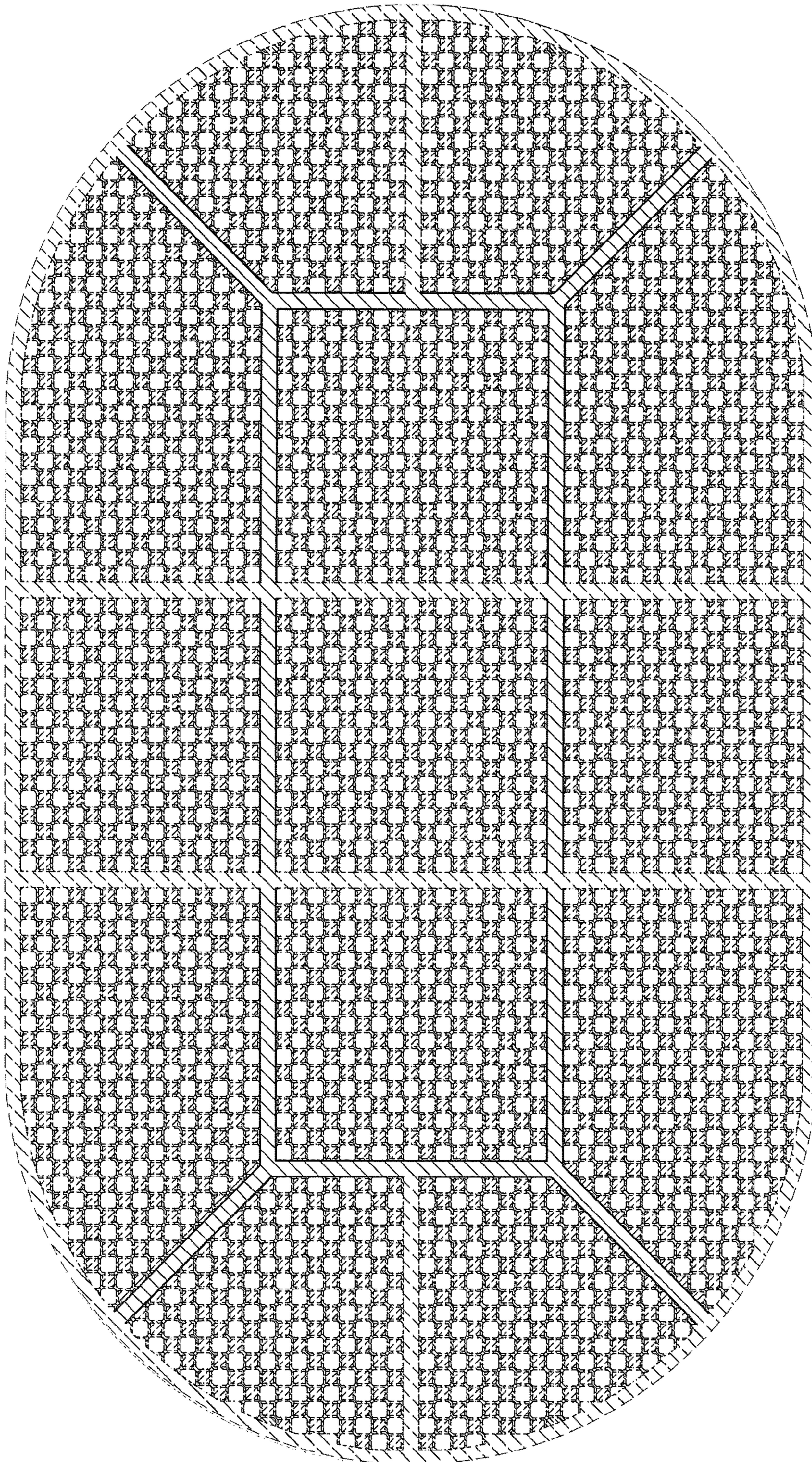




FIG. 7

