

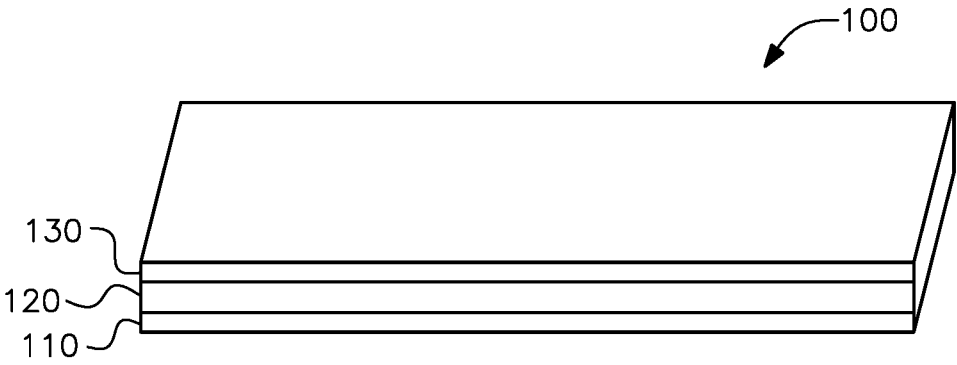
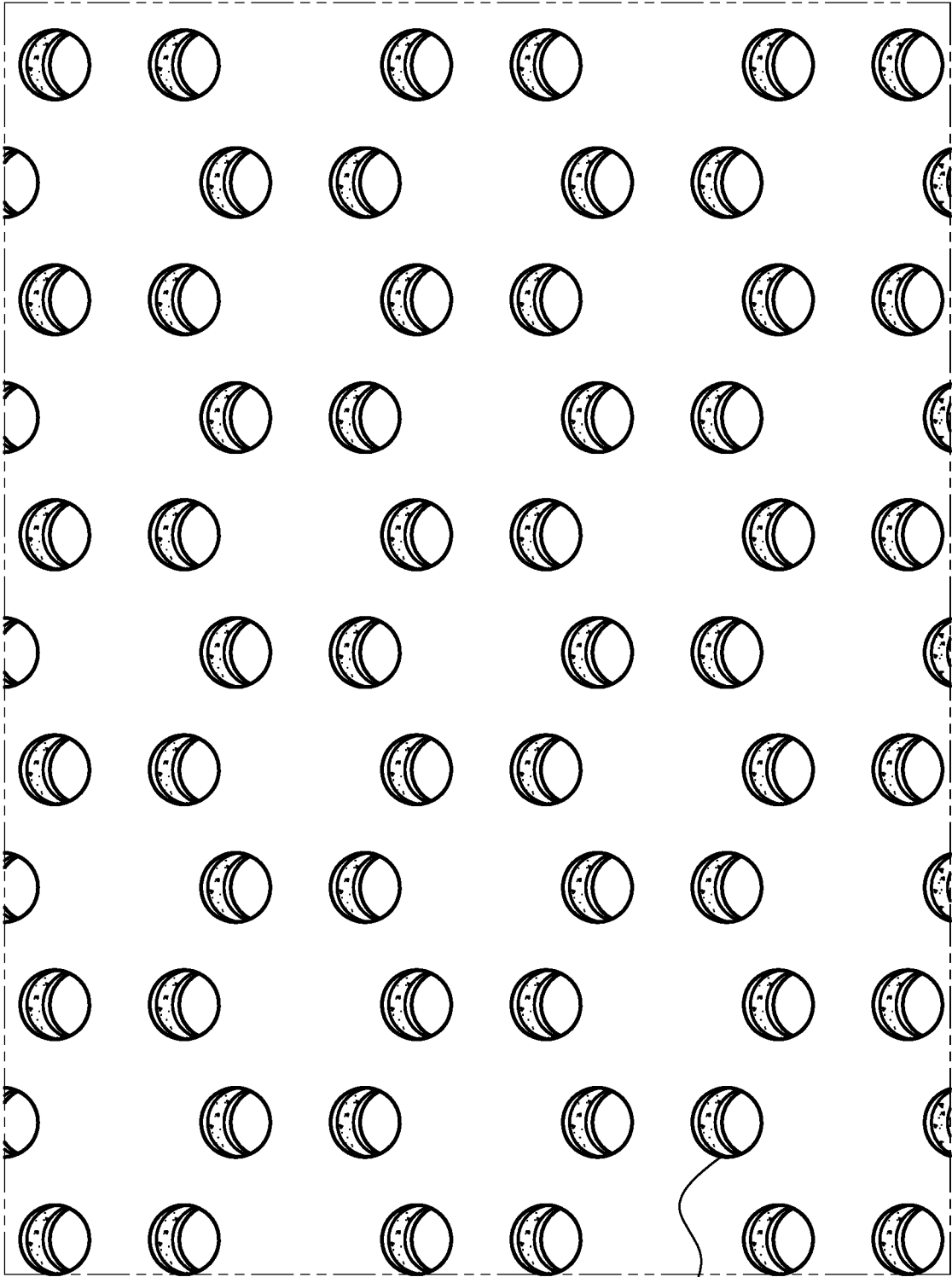


FIG. 1



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FIG. 2

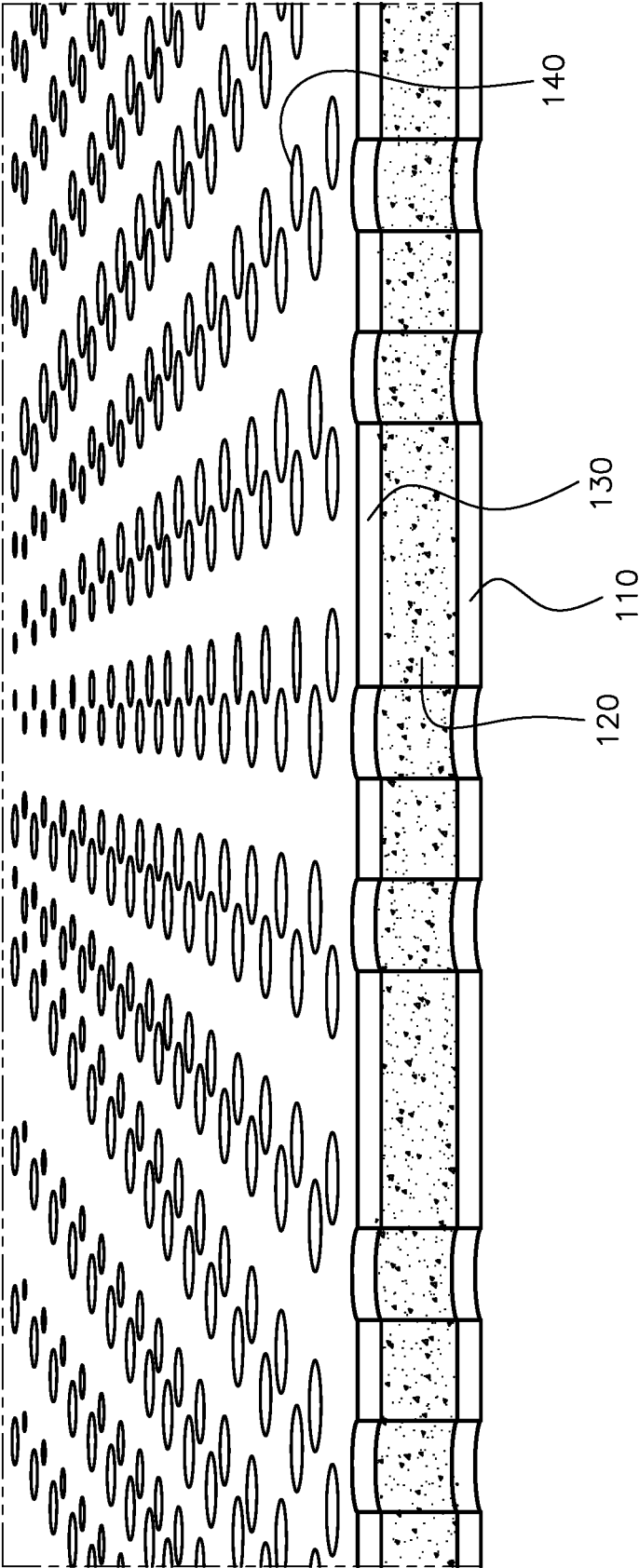
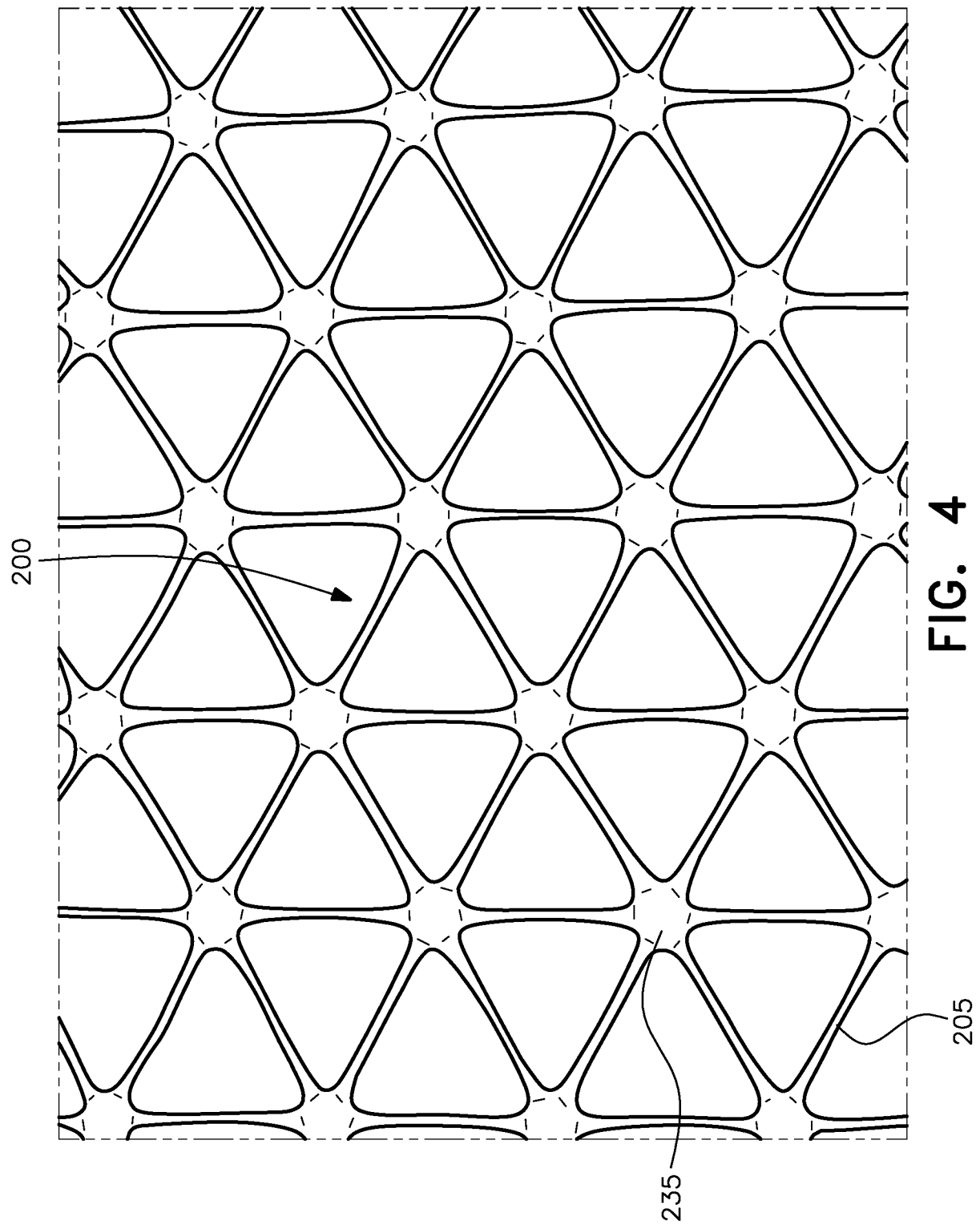


FIG. 3



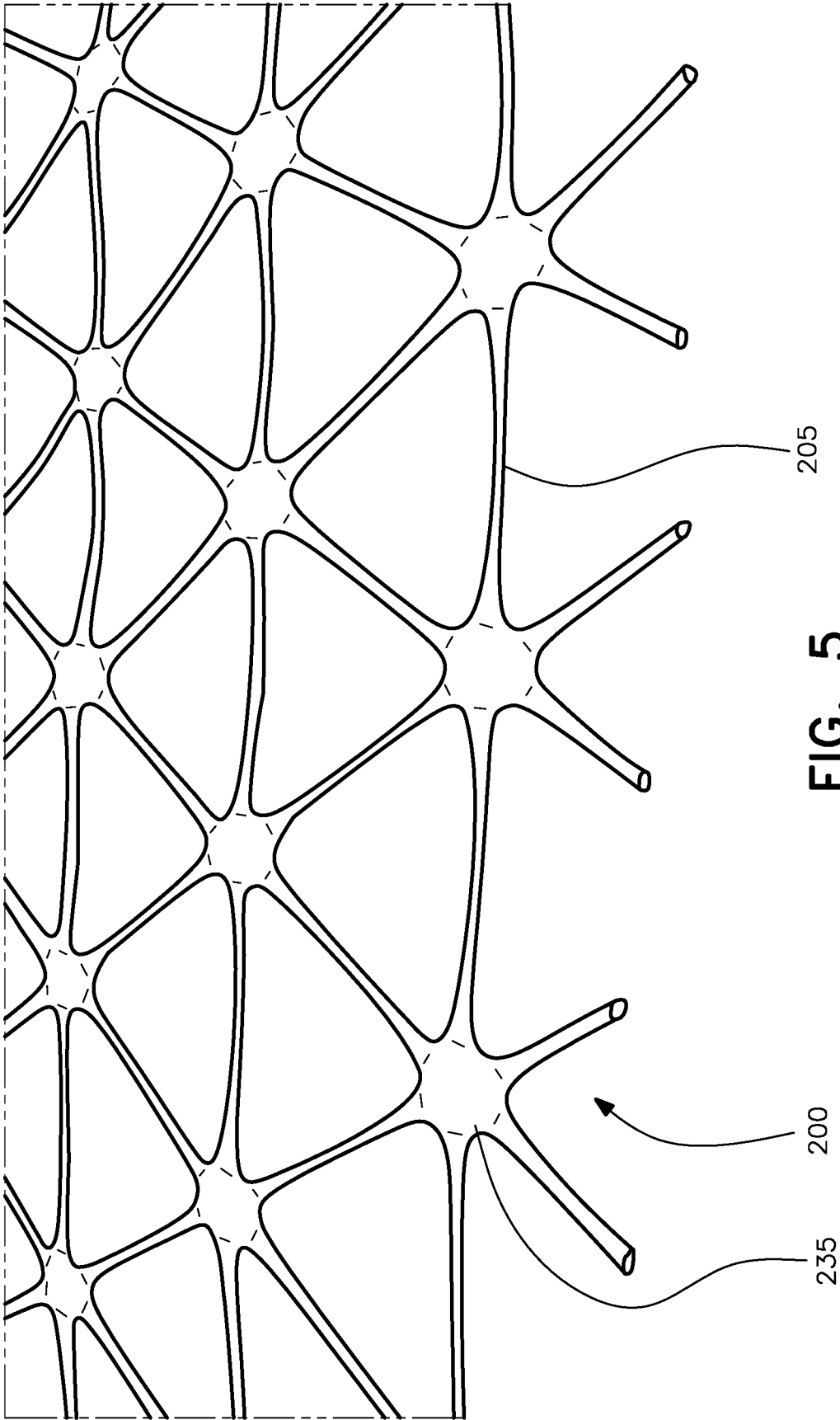
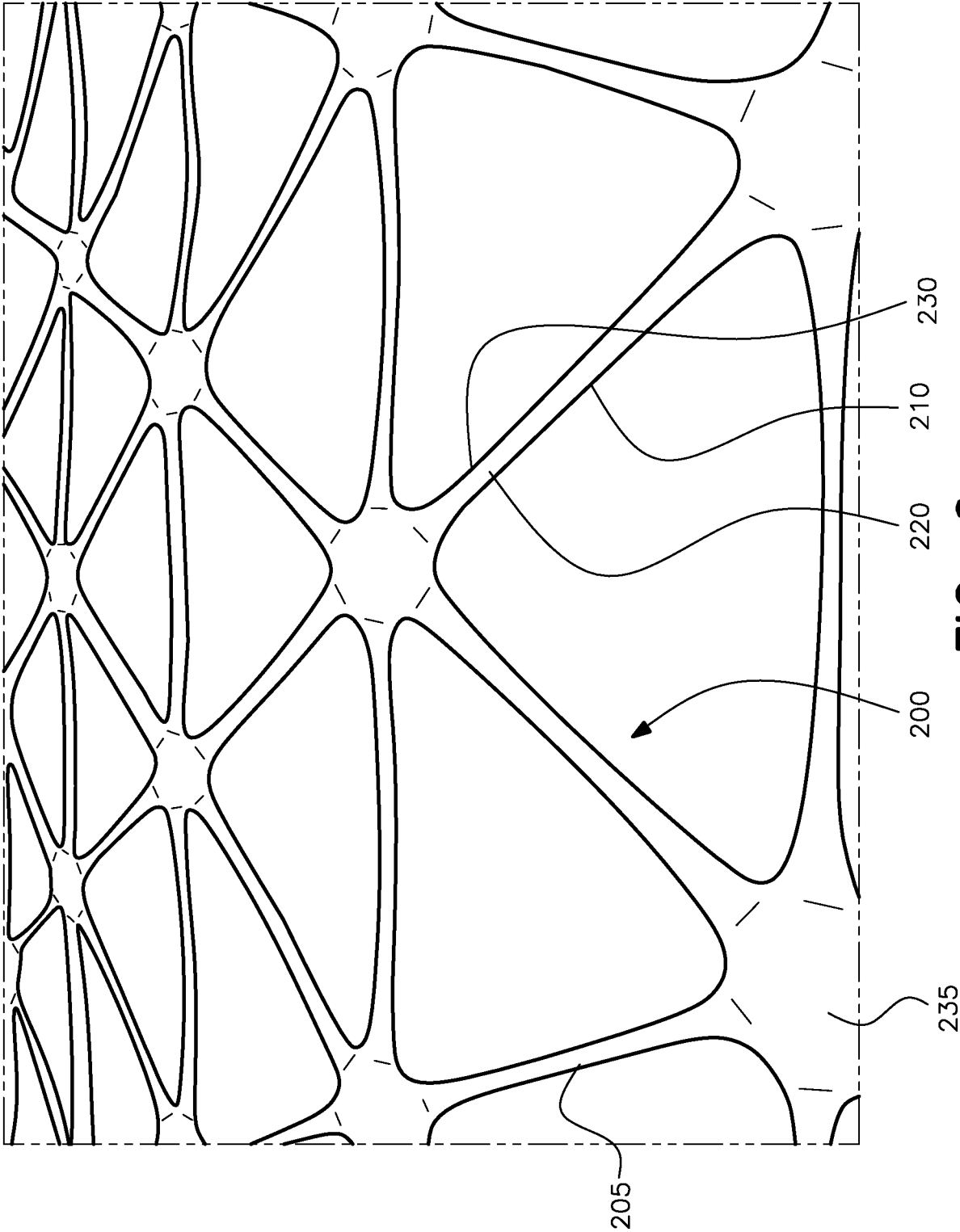


FIG. 5



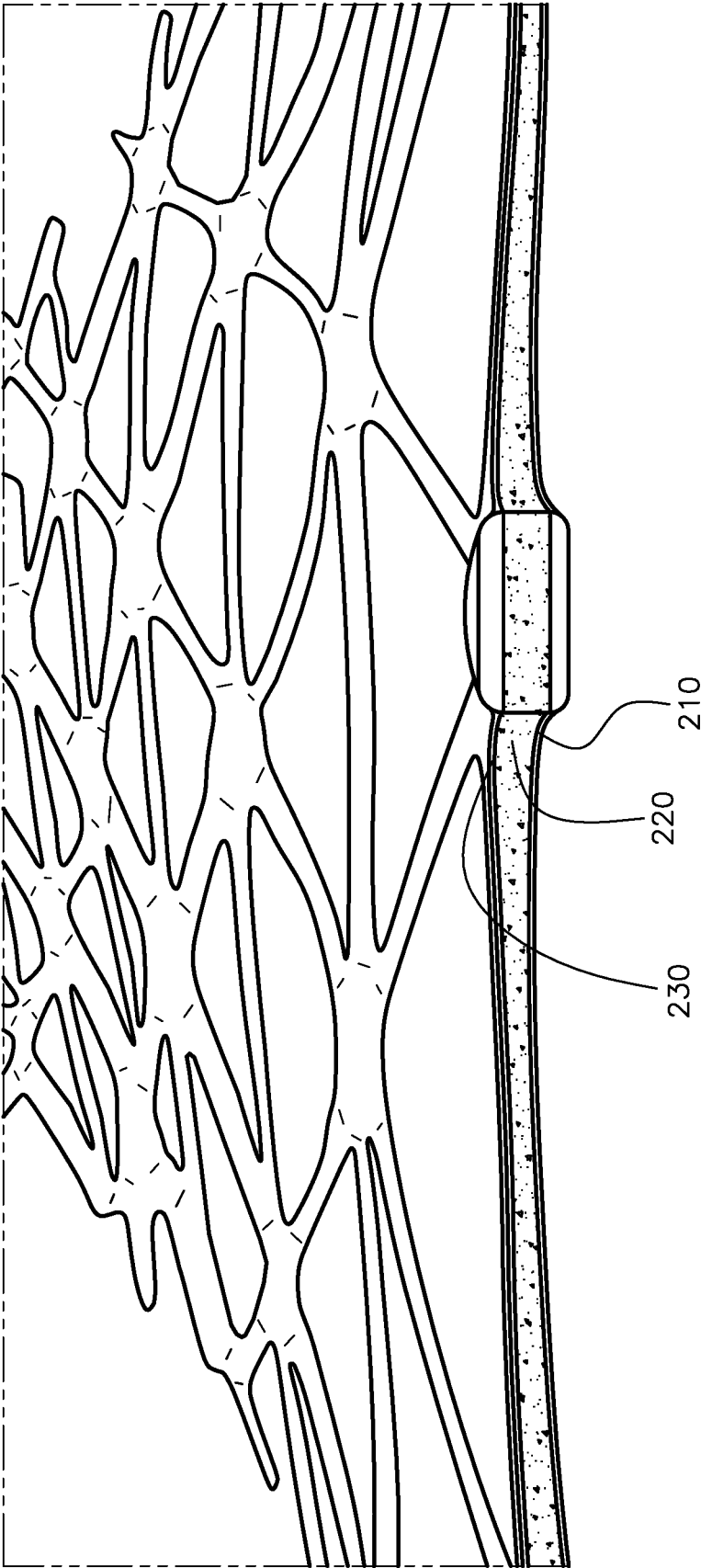


FIG. 7

Applied Moment (cm-kg)	Rotation (degrees)				Rotation	Aperture Stability Modulus (cm-kg/degree)		
Specimen 1	Load Cycle 1	Load Cycle 2	Load Cycle 3	Load Cycle 4	Average (degrees)	Average	Initial	Offset
	2.10	1.30	1.50	1.50	1.60	3.10	3.70	3.50
	4.40	2.40	2.50	2.50	2.95	3.40		
	6.40	3.50	3.60	3.50	4.25	3.50		
	8.10	4.50	4.60	4.50	5.43	3.70		
	9.90	5.90	5.80	5.80	6.85	3.60		
Average Aperture Stability Modulus (cm-kg/degree)								

FIG. 8

PRODUCT PROPERTIES		TEST METHOD	UNITS	TX160 (spec)		TX160 (AVG QC)		32% BSR 4.6mm sheet		50% BSR 4.6mm sheet		Virgin Lab	
Characteristics				MD	TD	MD	TD	MD	TD	MD	TD	MD	TD
Carbon Black		ASTM 4218	%		0.5		0.5		0.5		0.5		0.5
Unit Weight		ASTM D3376	kg/m ²		0.223		0.220		0.210		0.214		0.203

Load Capacity													
Tensile modulus at .5% Strain		ASTM D6637-01	lb/ft kN/m	750.0	750.0	900.0	950.0	1135.0	1050.0	1250.0	1200.0	1380.0	1300.0
Tensile modulus at 2% Strain		ASTM D6637-01	lb/ft kN/m	na	na	260.0	280.0	344.5	200.0	355.0	355.0	420.5	390.0
Tensile modulus at 5% Strain		ASTM D6637-01	lb/ft kN/m	na	na	196.0	210.0	254.0	136.0	256.0	254.0	311.8	284.0

Structural Integrity													
Junction Strength		GRI:GG2-87	lb/ft kN/m	21.4	18.6		12.6		15.9		17.6		17.0
Junction Efficiency		GRI:GG2-87	%		93		92		103		119		104
Junction Strength		GRI:GG2-01	lb N	862	750		563		651		677		707
Flexural Stiffness (Overall)		ASTM D5732-95 ⁹	mg-cm		575,000		860,000		1,150,939				
Aperture Stability (Torsional Rigidity)		Kinney-01	kg-cm/deg		3.2		3.8		na		6.2		na

FIG. 9

PRODUCT PROPERTIES			TEST METHOD		UNITS		TX140		TX140		TX140		SN20140407		SN20140408		SN20140409	
Load Capacity			(spec)		(AVG QC)		MD		TD		MD		TD		MD		TD	
Tensile modulus at .5% Strain	ASTM D6637-01	lb/ft kN/m		220.0						300.0			280.0			320.0		300.0
Tensile modulus at 2% Strain	ASTM D6637-01	lb/ft kN/m		na						230.0			255.0			245.0		250.0
Tensile modulus at 5% Strain	ASTM D6637-01	lb/ft kN/m		na						176.0			190.0			182.0		180.0
Structural Integrity																		
Flexural Stiffness (Overall)	ASTM D5732-95 ⁹	mg-cm		250,000						389,981								
Aperture Stability (Torsional Rigidity)	Kinney-01	kg-cm/deg		3.0									4.5			na		na

FIG. 10

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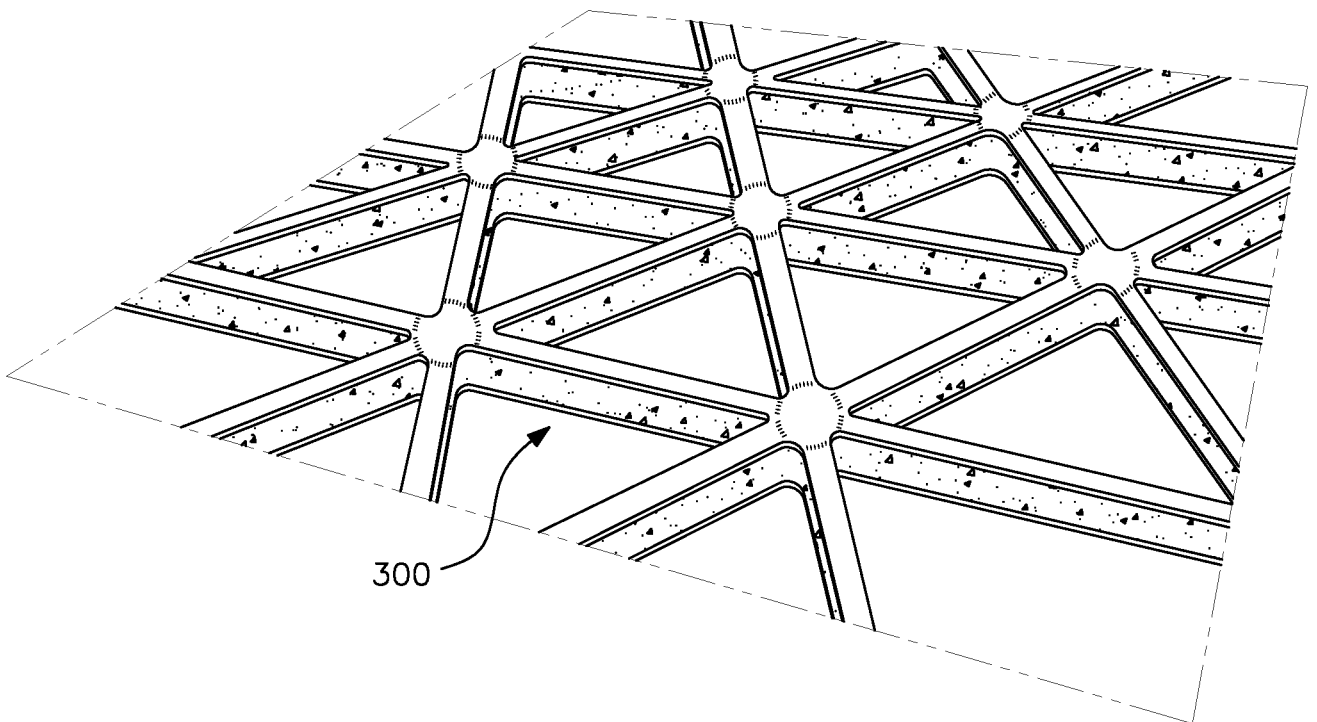


FIG. 11

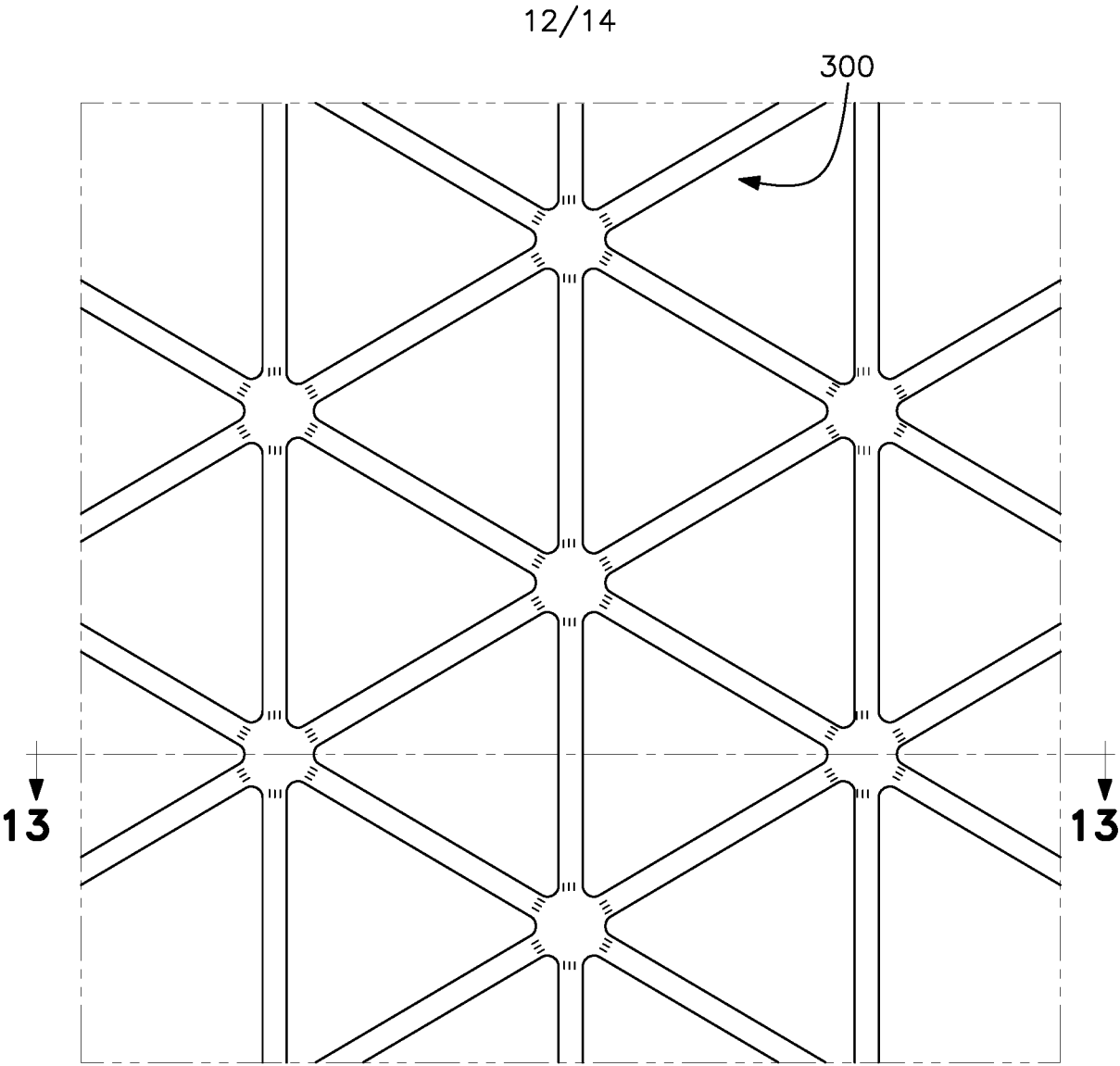


FIG. 12

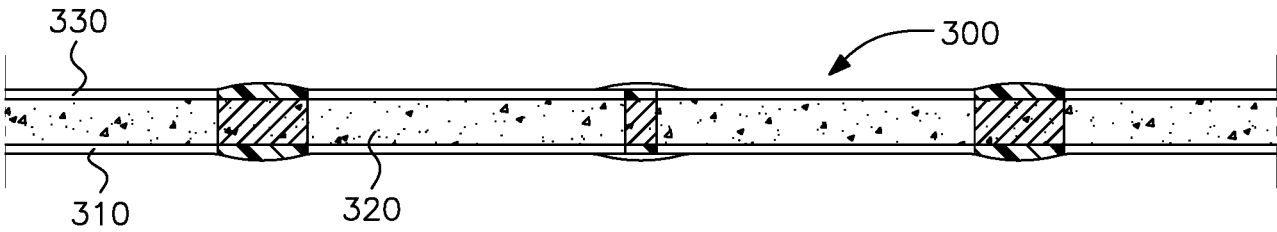


FIG. 13

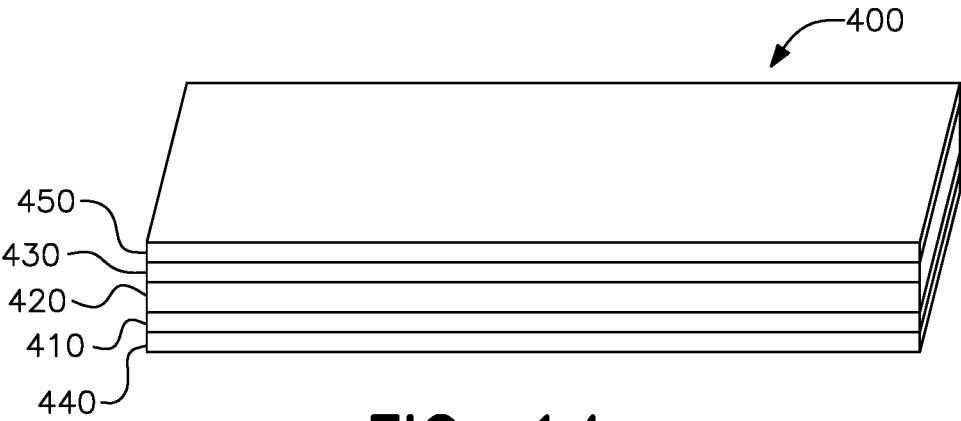


FIG. 14

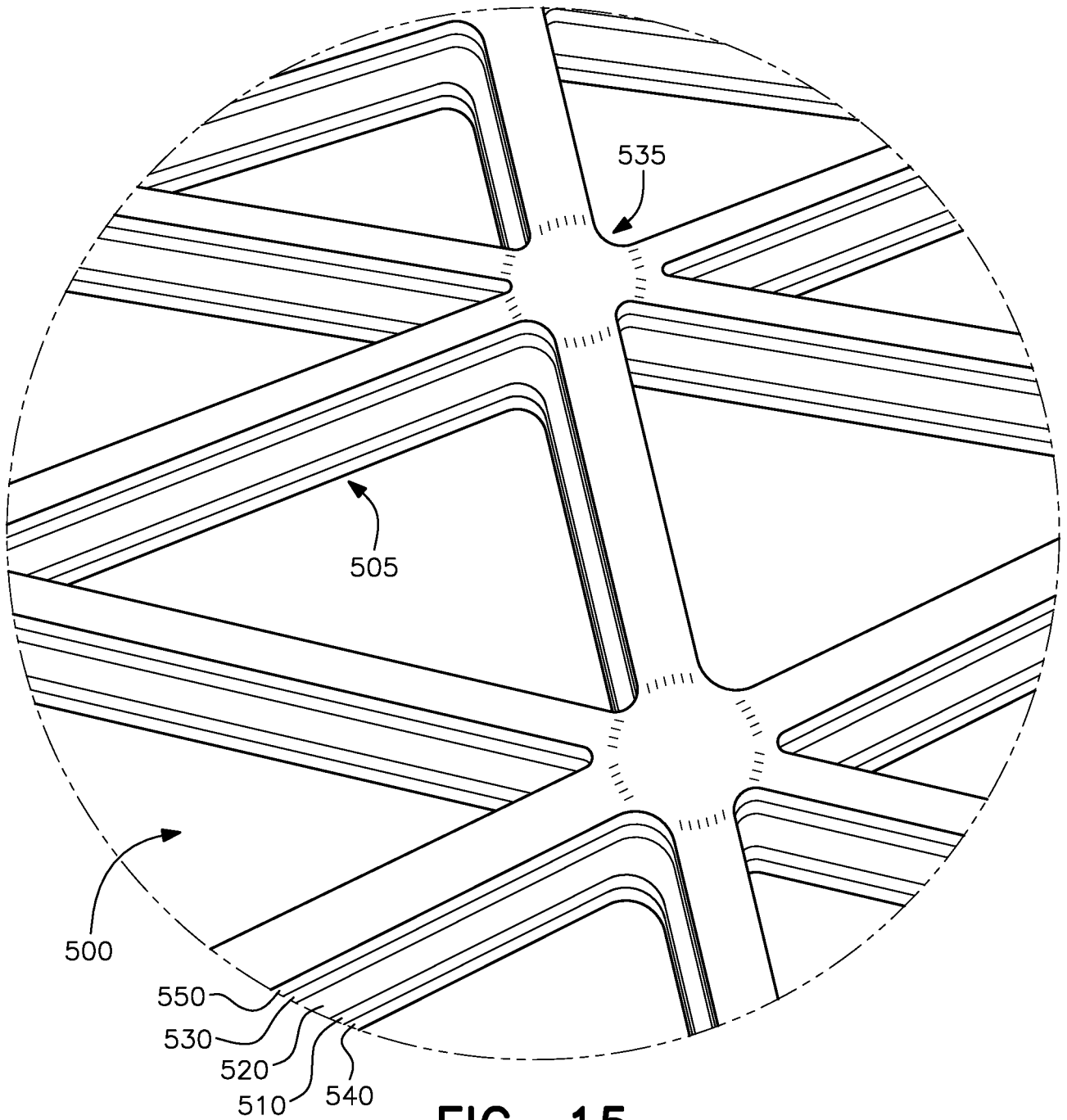


FIG. 15