

FIG. 1

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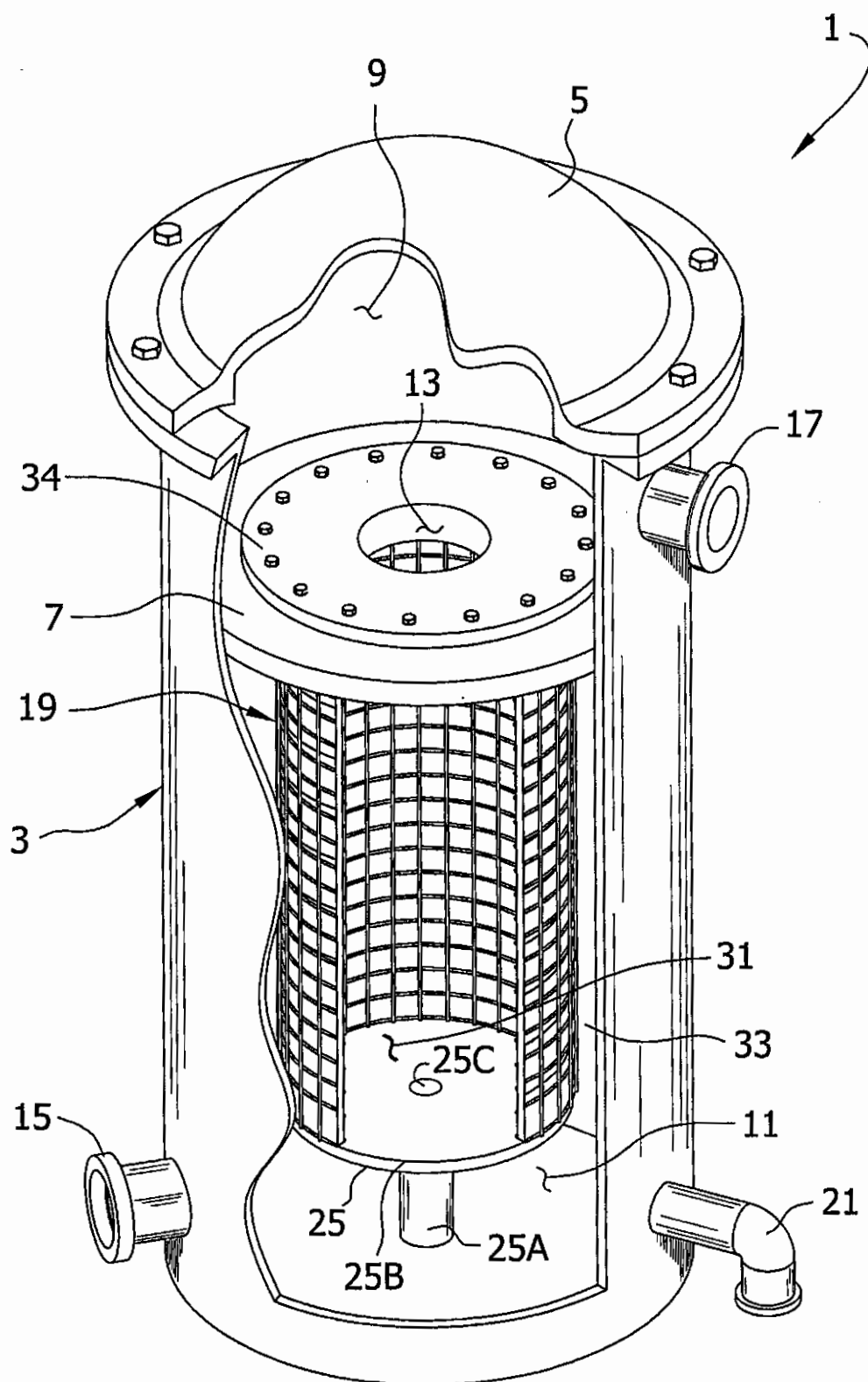
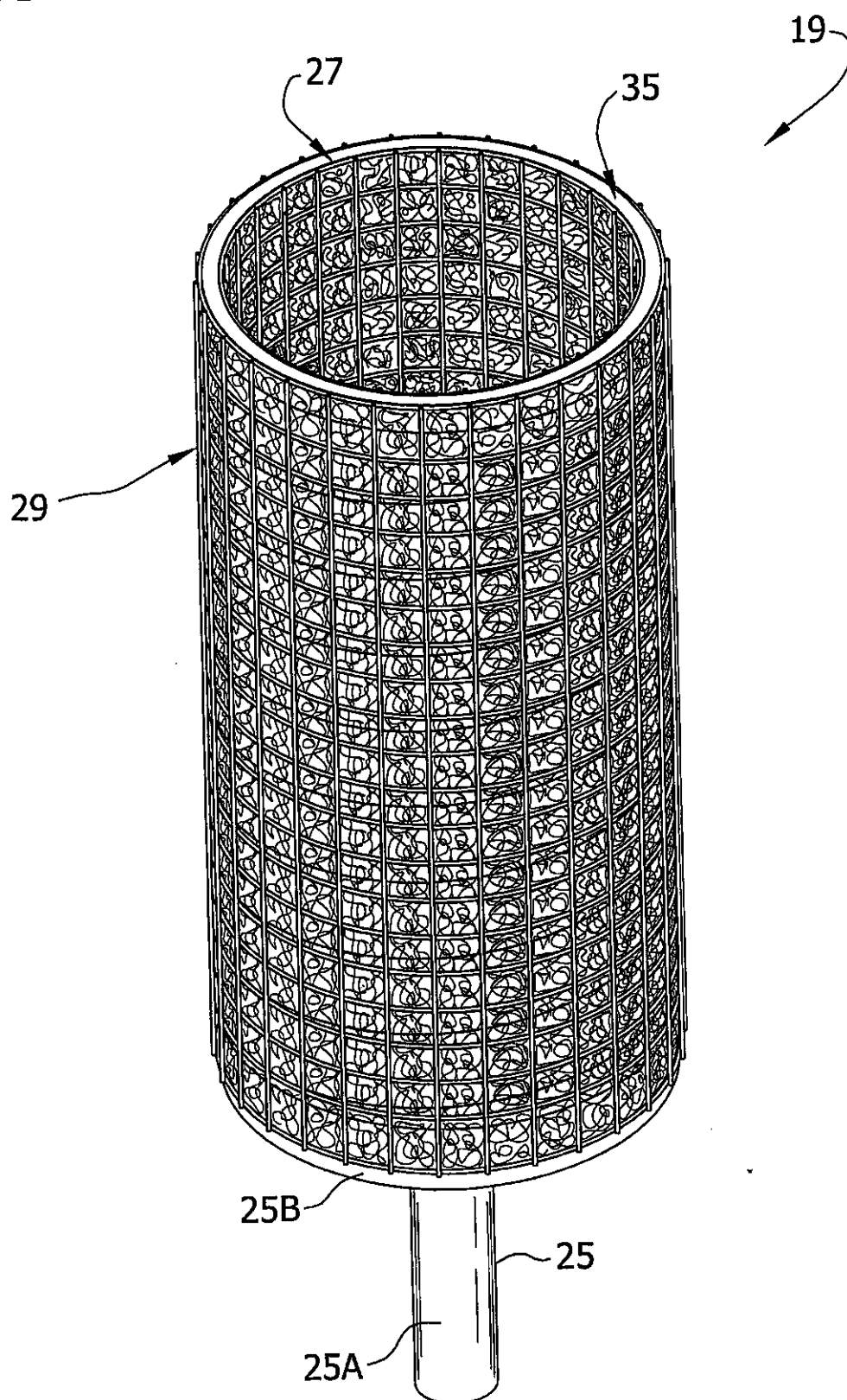


FIG. 2

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FIG. 3

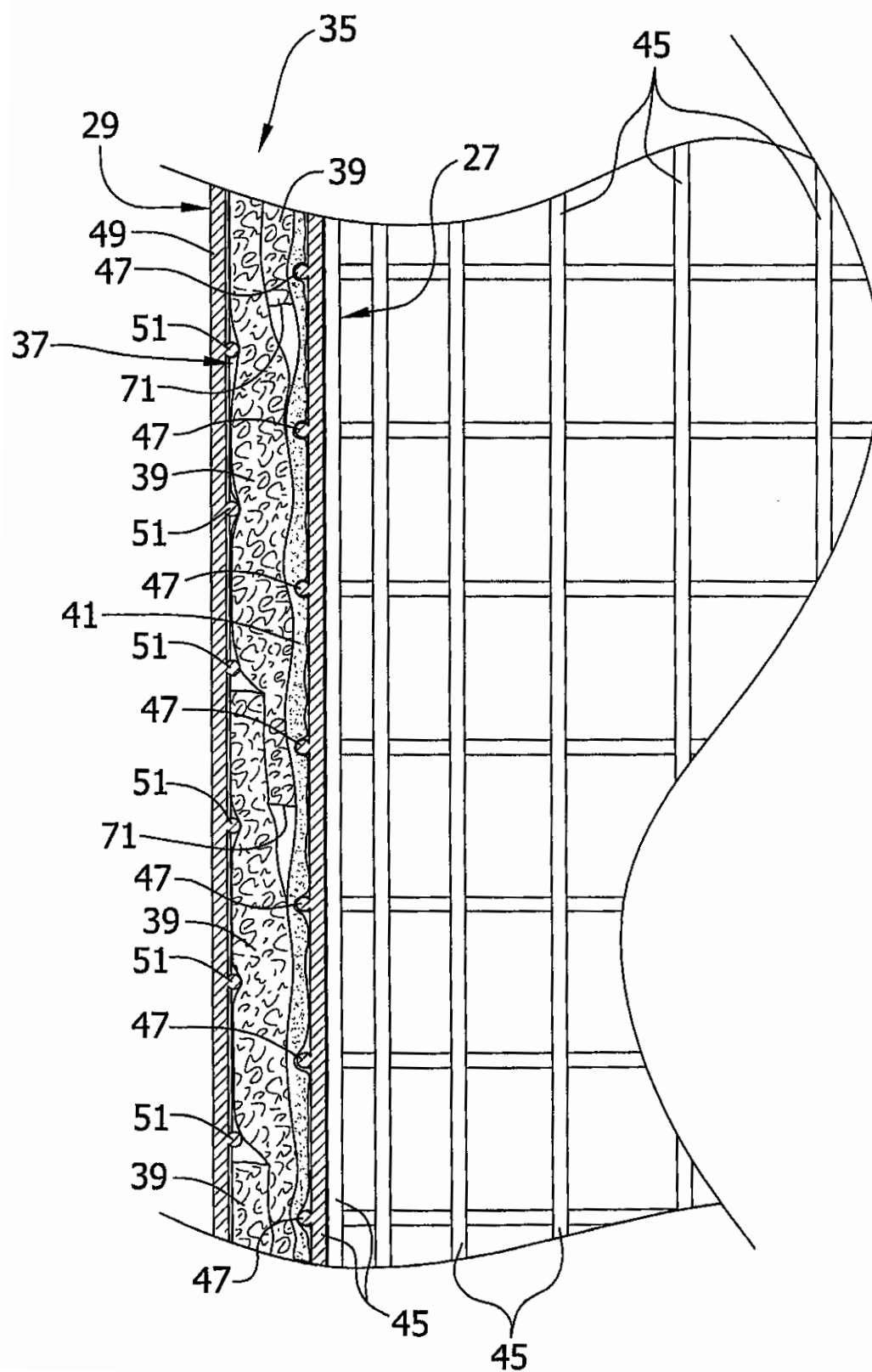
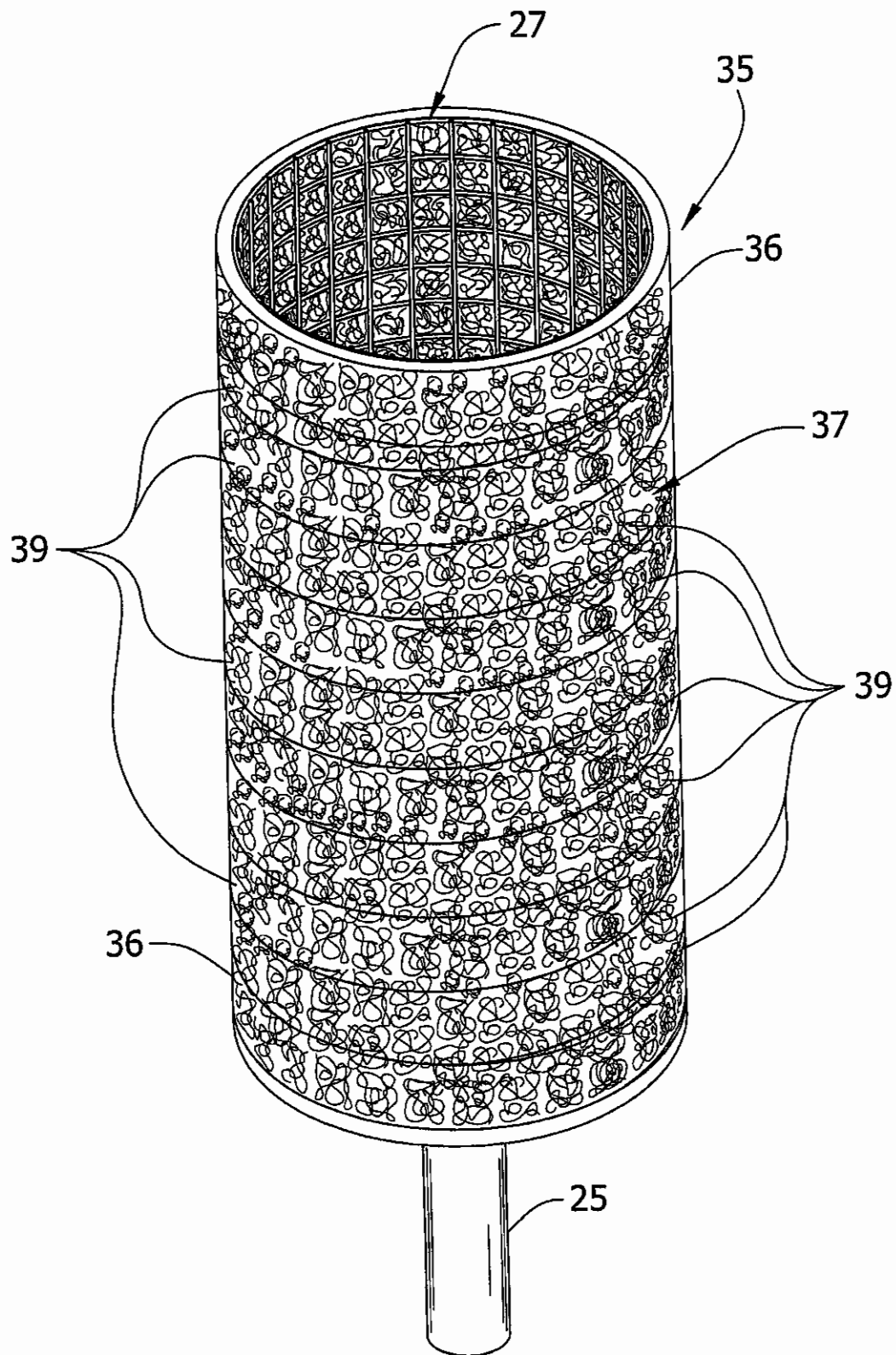


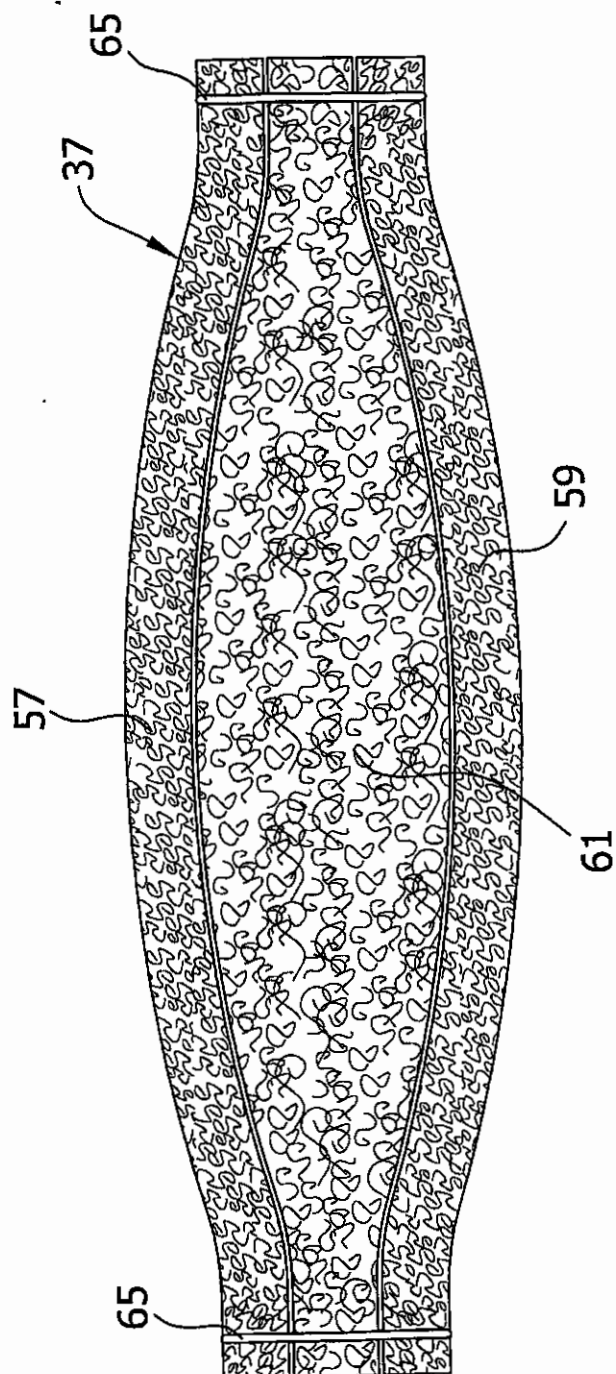
FIG. 4

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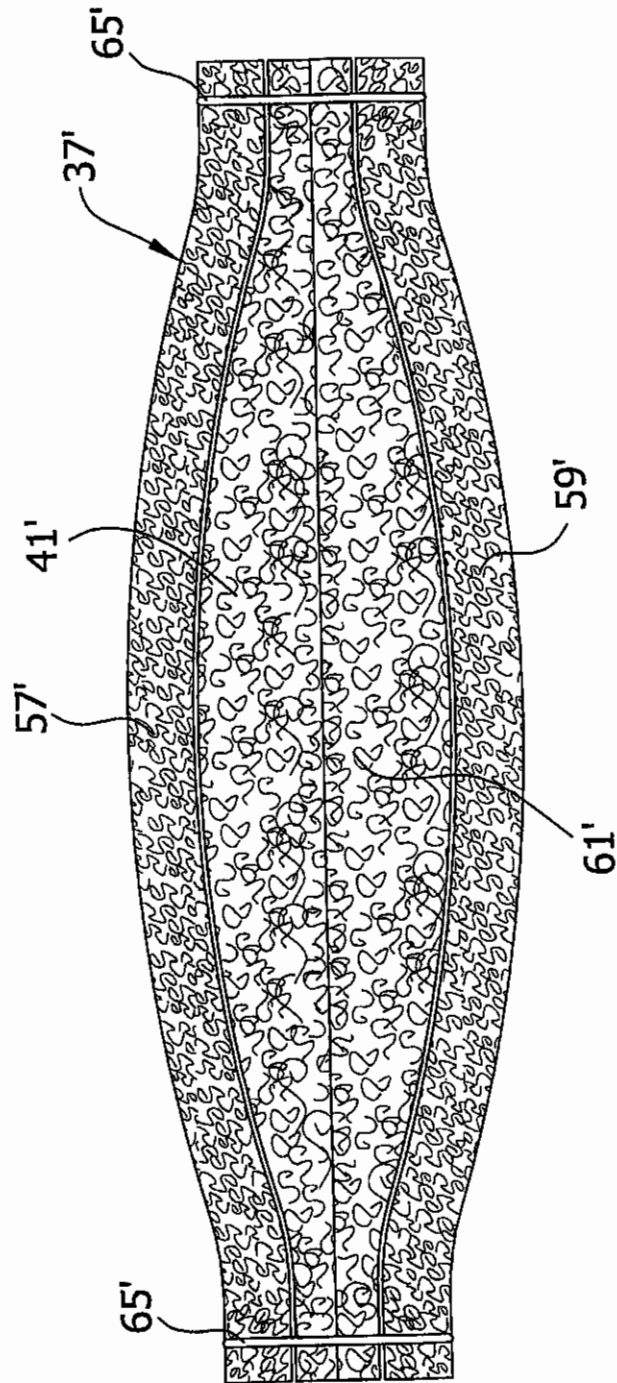
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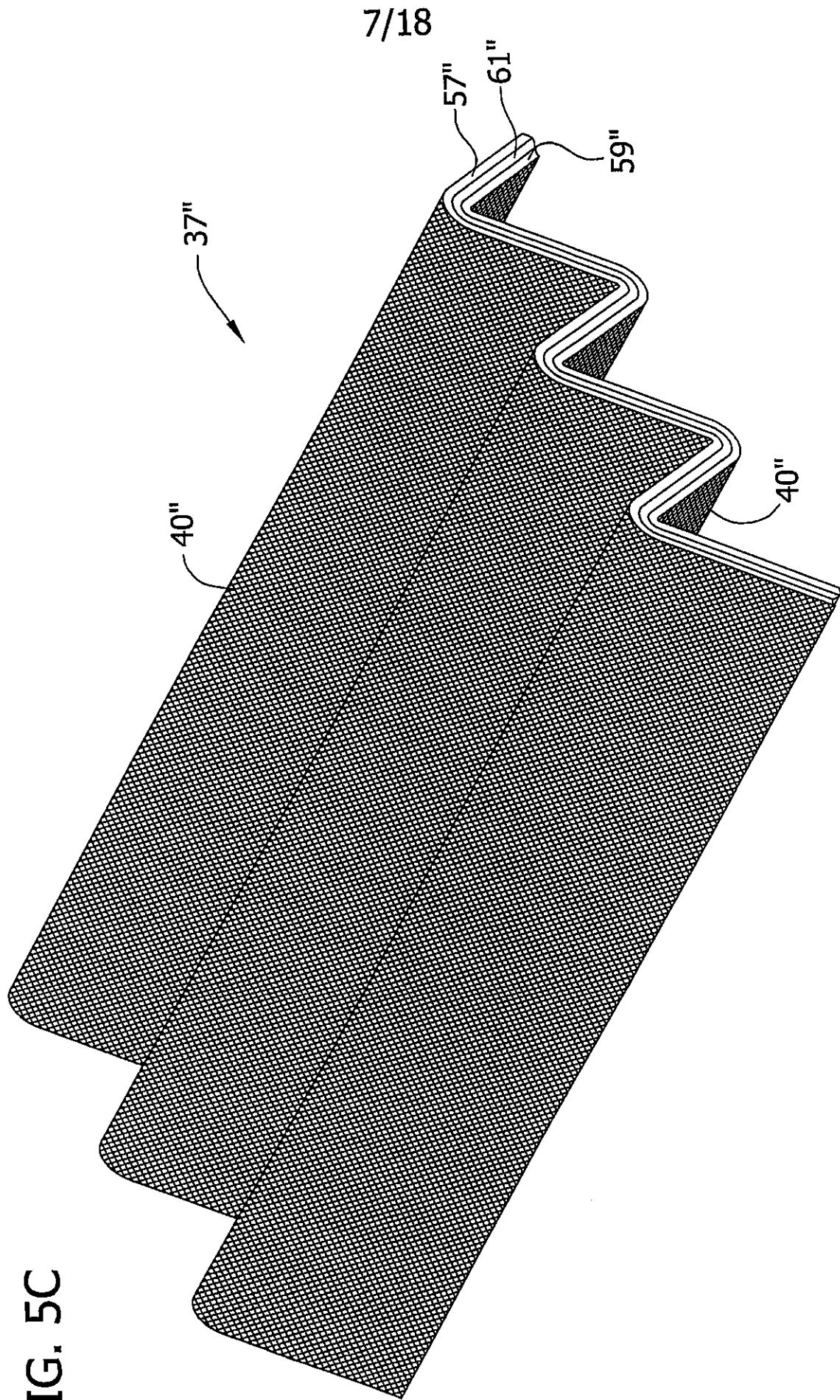
FIG. 5A



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FIG. 5B





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FIG. 6A

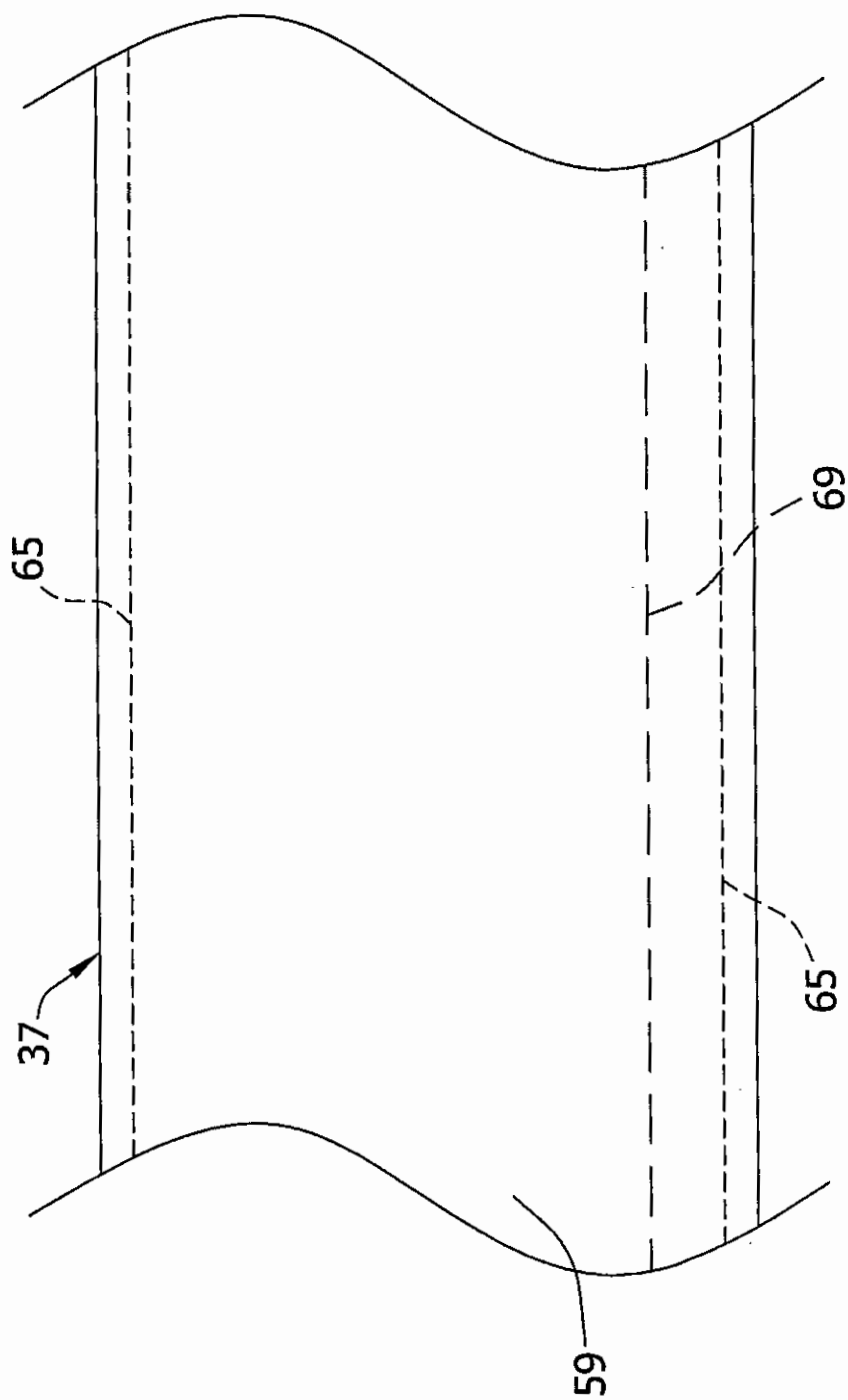
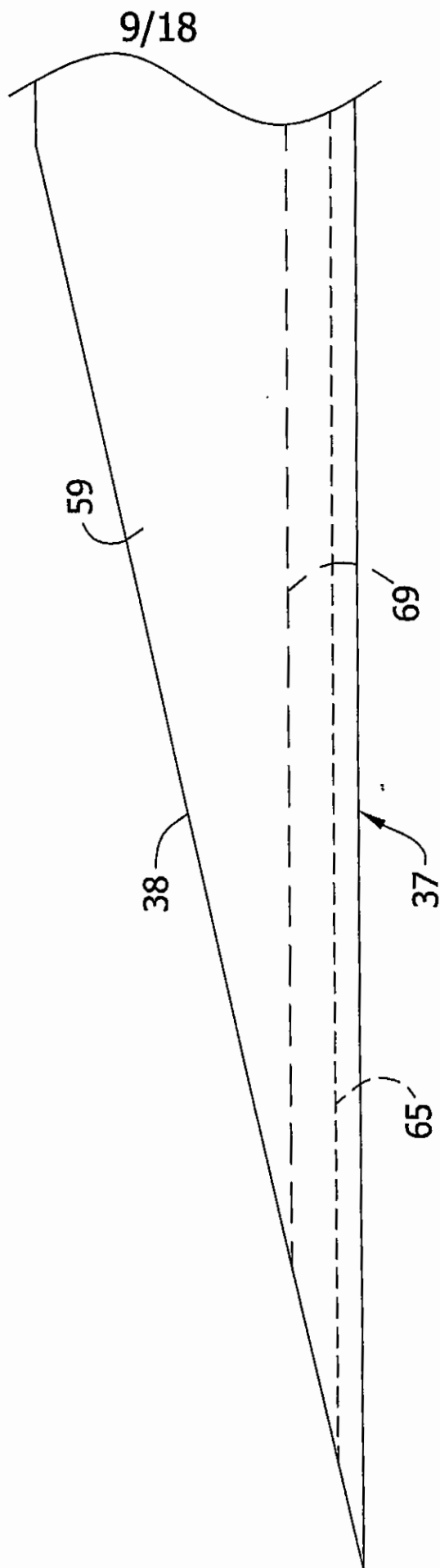
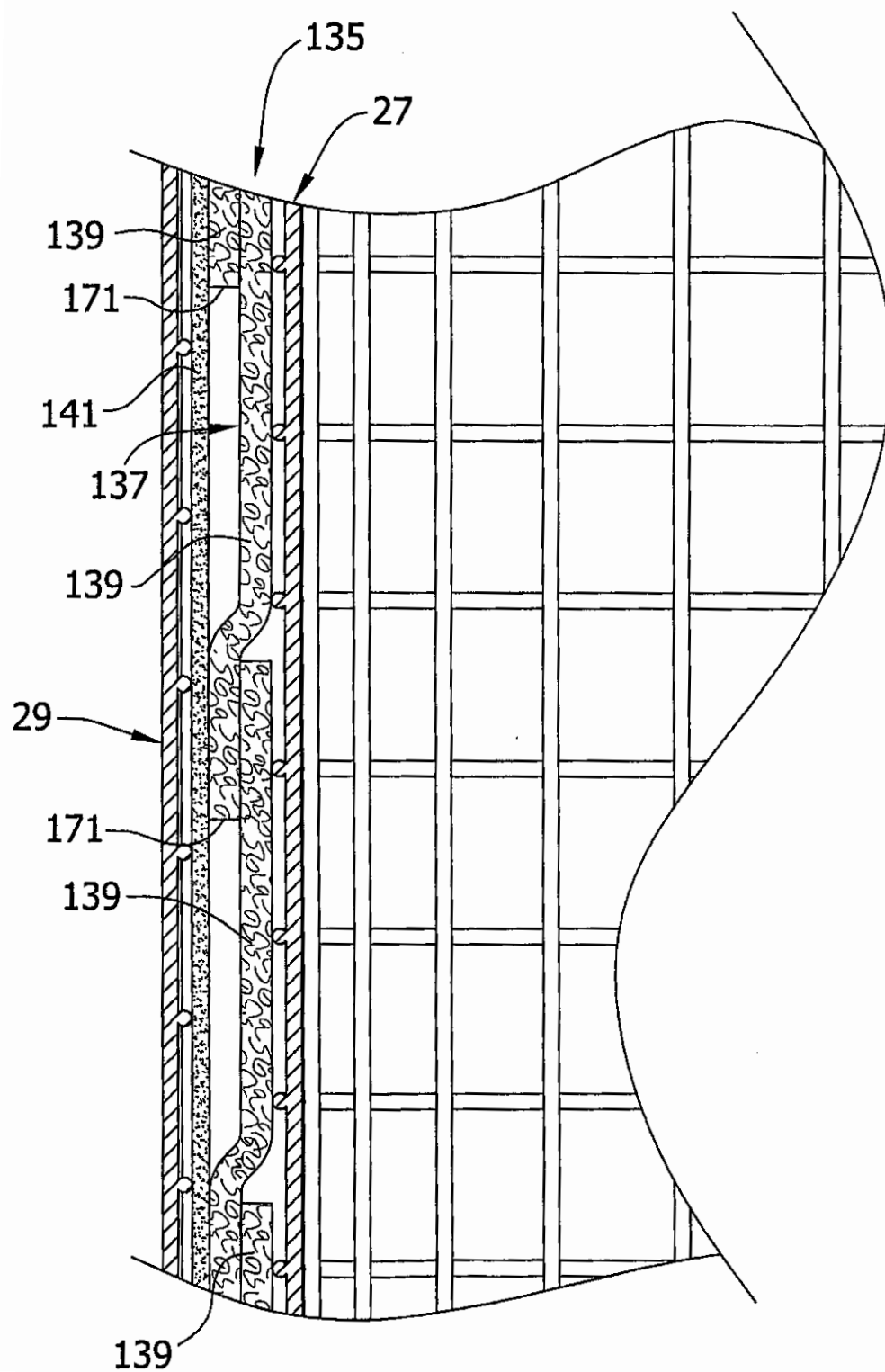


FIG. 6B



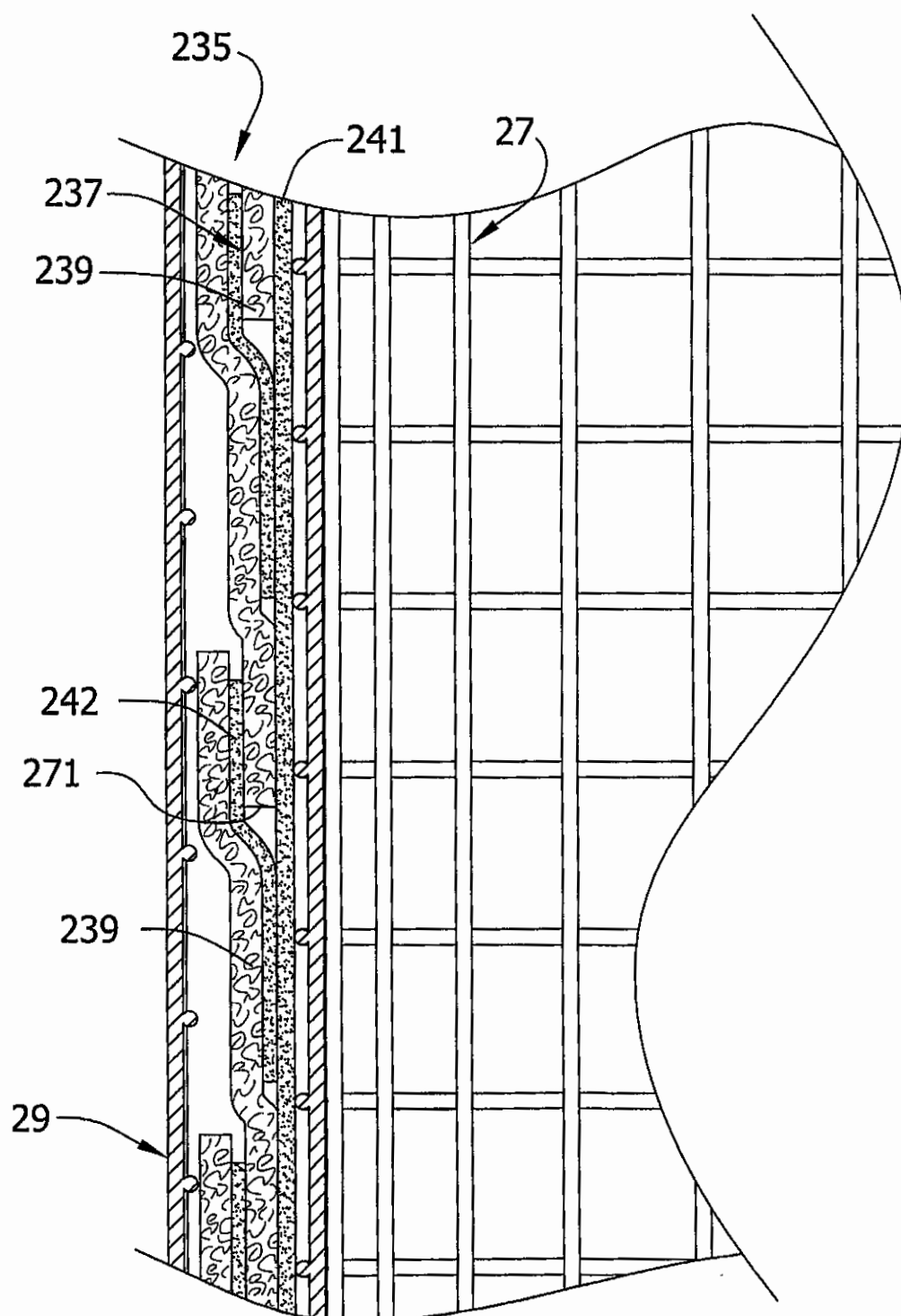
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FIG. 7



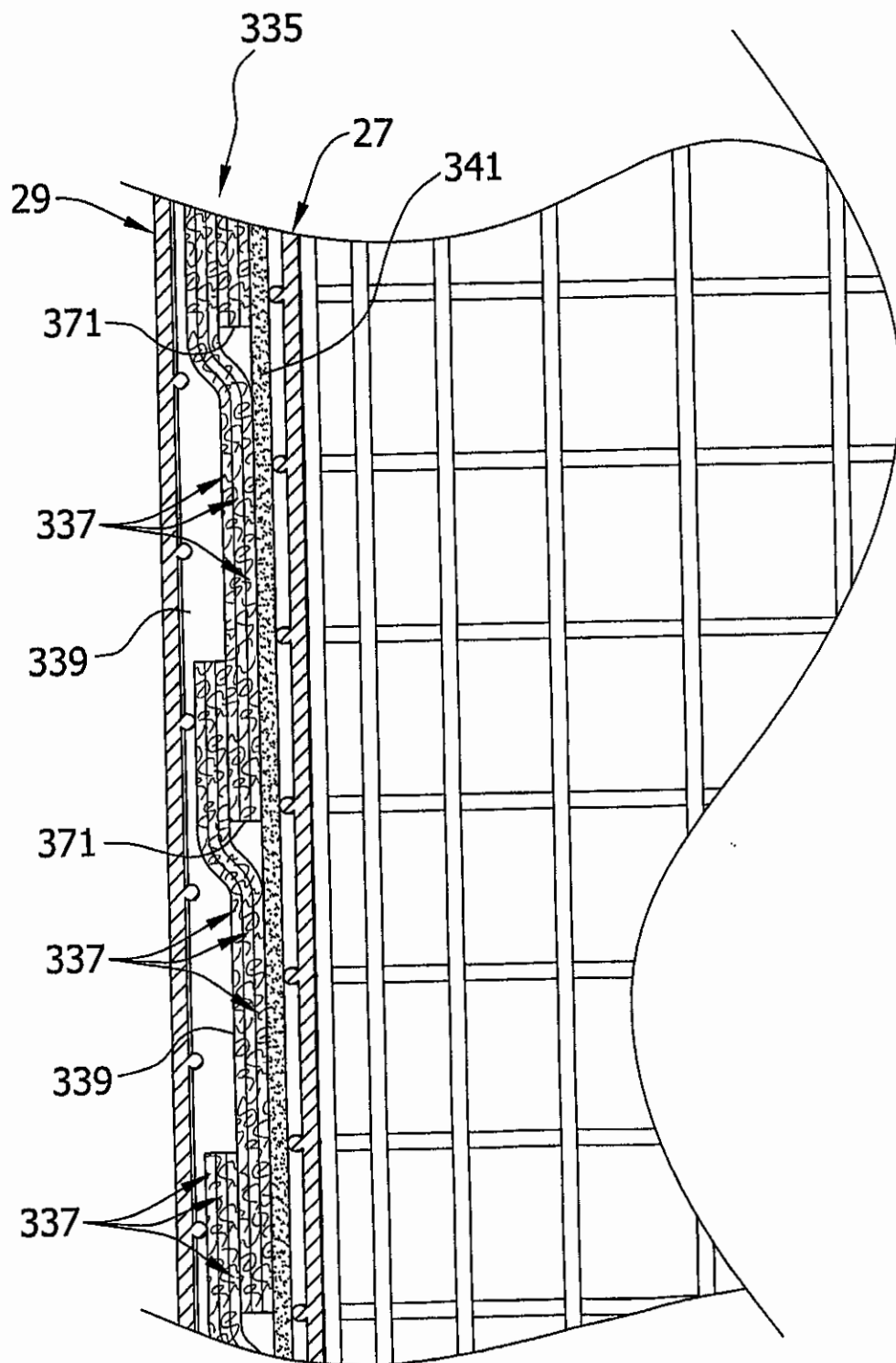
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FIG. 8



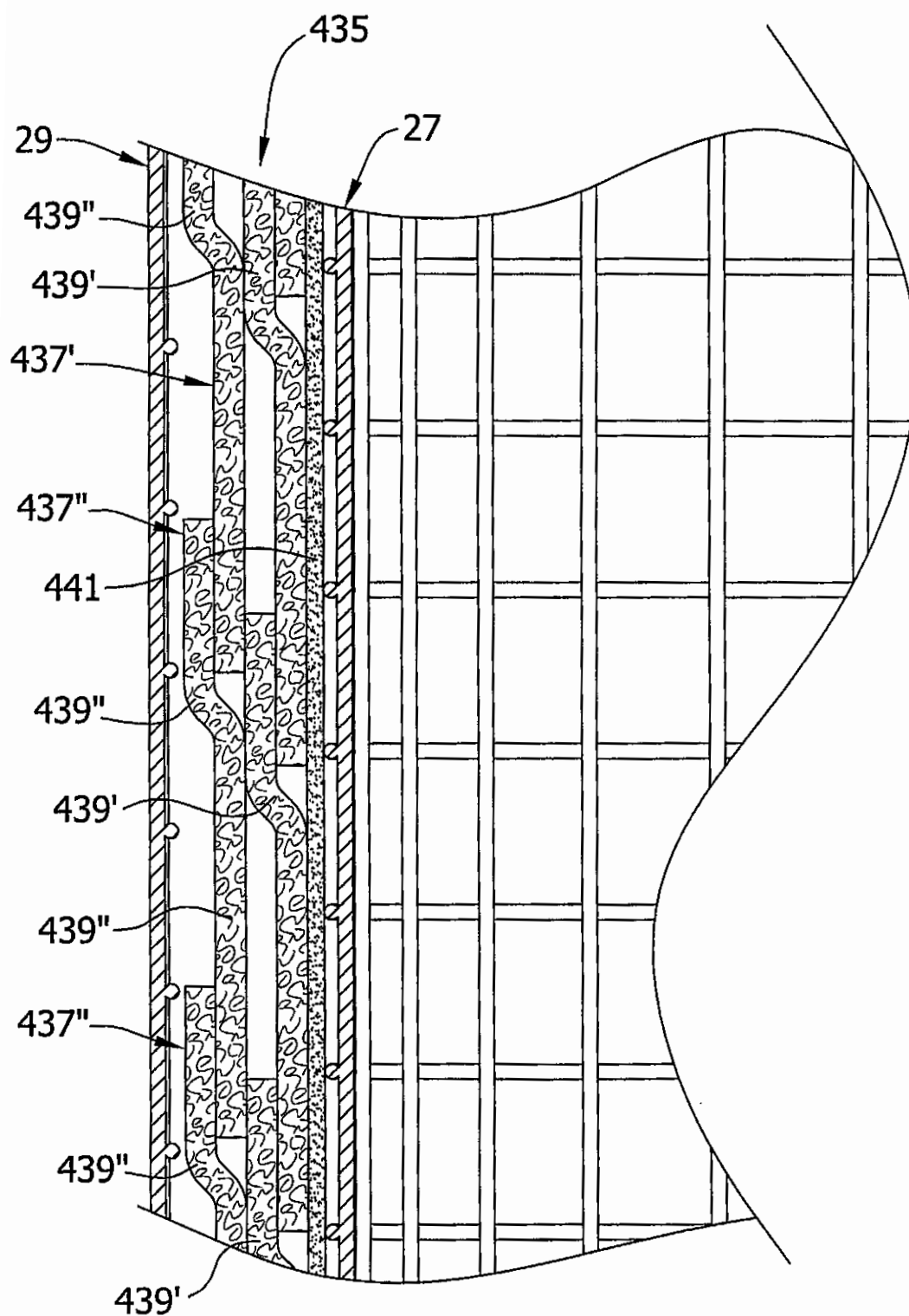
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FIG. 9



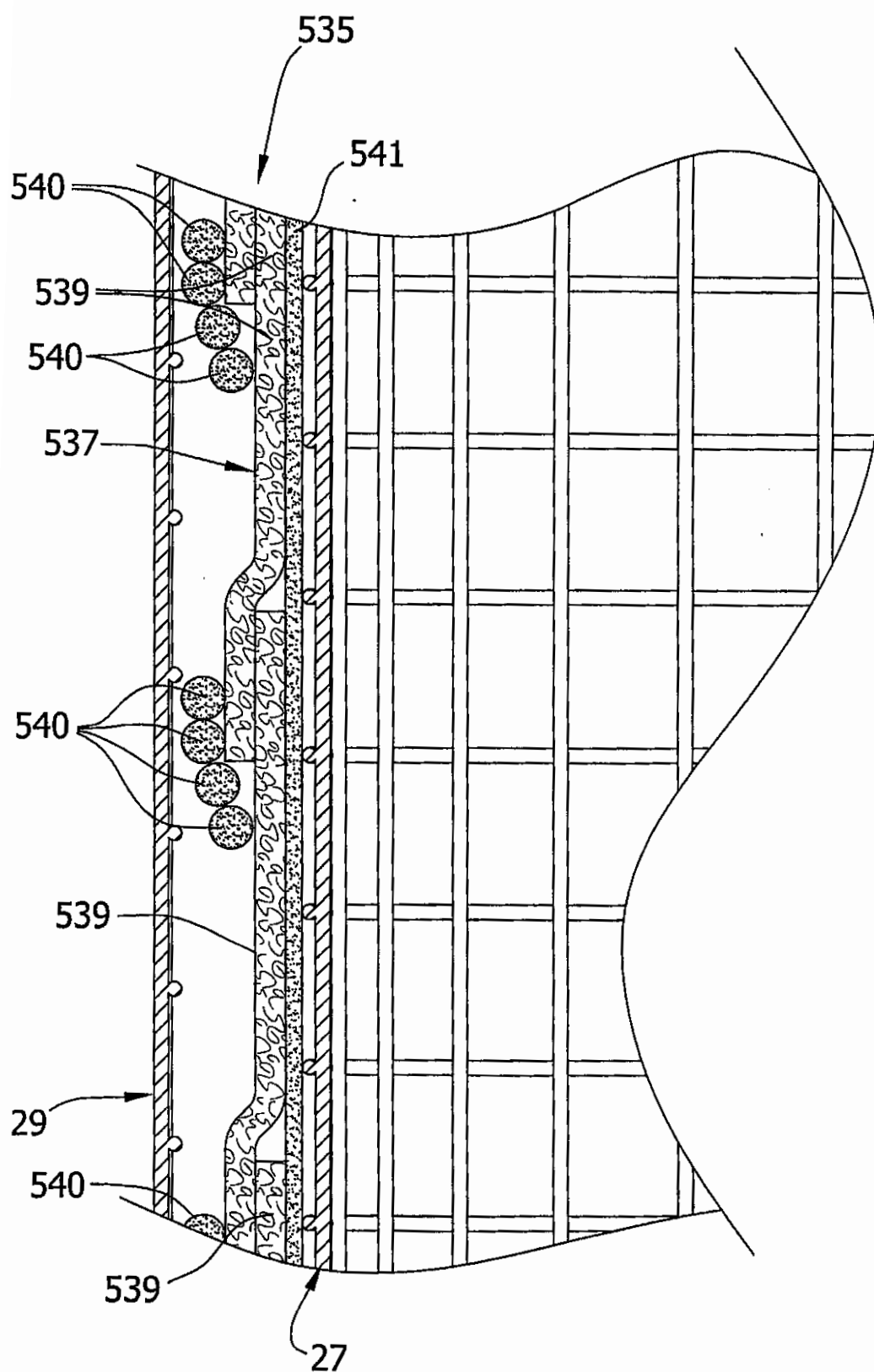
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FIG. 10



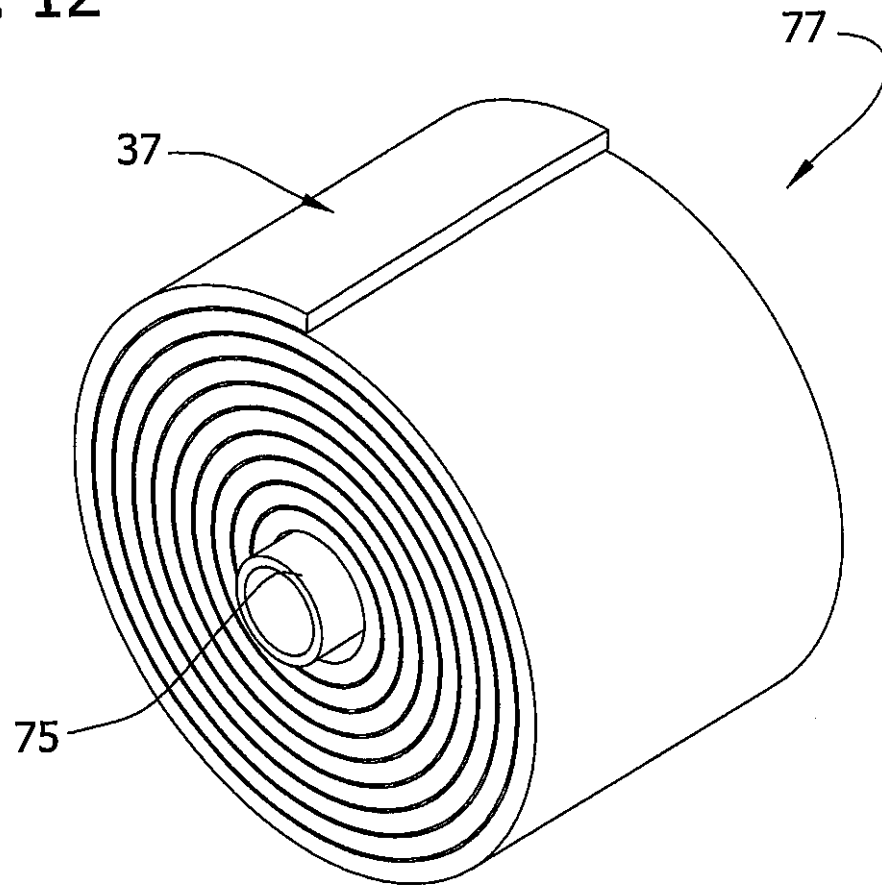
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FIG. 11



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FIG. 12



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FIG. 13

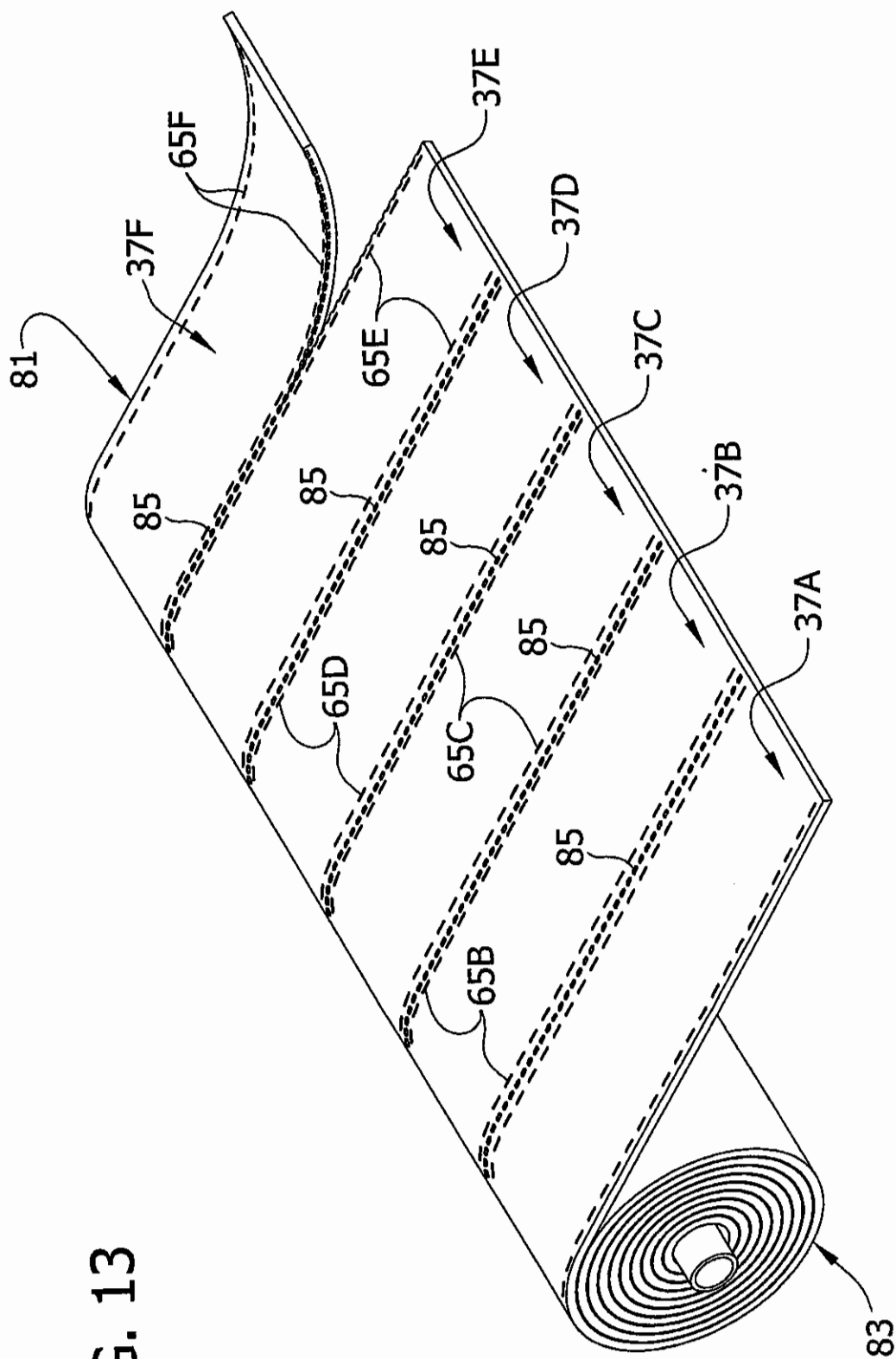


FIG. 14A

Flow Condition	w	Vb	CFM/ft of Bed	dP	Co, dry	Co, wet	W/D	Eff > 3	Eff <= 3	Eff < 1	Eff @ 0.6	Eff @ 0.3	OA Eff
LVLL	1.5	23.4	123.4	4.2	0.12645	0.1815	1.4351	83.48	92.06	91.84	92.78	87.88	92.56
LVHL	45.3	23.4	123.4	7.1	0.12645	0.3049	2.4110	99.99	97.1	94.93	94.23	86.48	99.44
HVLL	1.6	46.7	246.8	8.7	0.12645	0.1852	1.4650	98.59	89.89	89	92.99	88.31	95.41
HVHL	42.1	46.7	246.8	11.2	0.12645	0.2387	1.8875	100	97.66	96.09	97.23	93.76	99.8

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FIG. 14B

Flow Condition	w	Vb	CFM/ft of Bed	dP	Co, dry	Co, wet	W/D	Eff > 3	Eff < 3	Eff < 1	Eff @ 0.6	Eff @ 0.3	OA Eff
LVLL	1.8	23.4	134.8	2.4	0.0638	0.1024	1.6050	98.47	99.37	99.46	99.43	99.65	99
LVHL	47.4	23.4	134.8	5.5	0.0638	0.2329	3.6506	99.96	98.46	97.37	97.89	96.96	99.41
HVLL	2.0	46.7	269.0	5.2	0.0638	0.1119	1.7537	99.79	99.79	99.71	100	100	99.79
HVHL	58.2	42.9	247.3	9.9	0.0638	0.2313	3.6254	99.85	98.4	97.2	98.44	96.92	99.59
HHVLL	2.7	59.0	339.8	11.1	0.0638	0.1881	2.9488	99.17	98.37	97.71	99.27	98.98	98.82

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FIG. 15

Flow Condition	Vb	W	Bed Thickness	%Effy on	dP
	(fpm)	(mg/cf)	inches	0.3 micron	in. H ₂ O
LVLL	23.4	1.8	0.3	94.1	1.2
	23.4	1.8	0.6	99.65	2.4
	23.4	1.8	0.9	99.98	3.6
	23.4	1.8	1.2	99.999	4.8
LVHL	23.4	47.4	0.3	82.6	2.7
	23.4	47.4	0.6	97.0	5.5
	23.4	47.4	0.9	99.5	8.2
	23.4	47.4	1.2	99.9	10.9
HVLL**	46.7	2	0.3	83.2	2.6
	46.7	2	0.6	97.2	5.2
	46.7	2	0.9	99.5	7.8
	46.7	2	1.2	99.9	10.5
HVHL	42.9	58.2	0.3	82.4	5.0
	42.9	58.2	0.6	96.9	9.9
	42.9	58.2	0.9	99.5	14.9
	42.9	58.2	1.2	99.9	19.9
HHVLL	59	2.7	0.3	89.9	5.6
	59	2.7	0.6	99.0	11.1
	59	2.7	0.9	99.9	16.7
	59	2.7	1.2	99.99	22.3

** Collection efficiency measured for 0.2 micron particles