



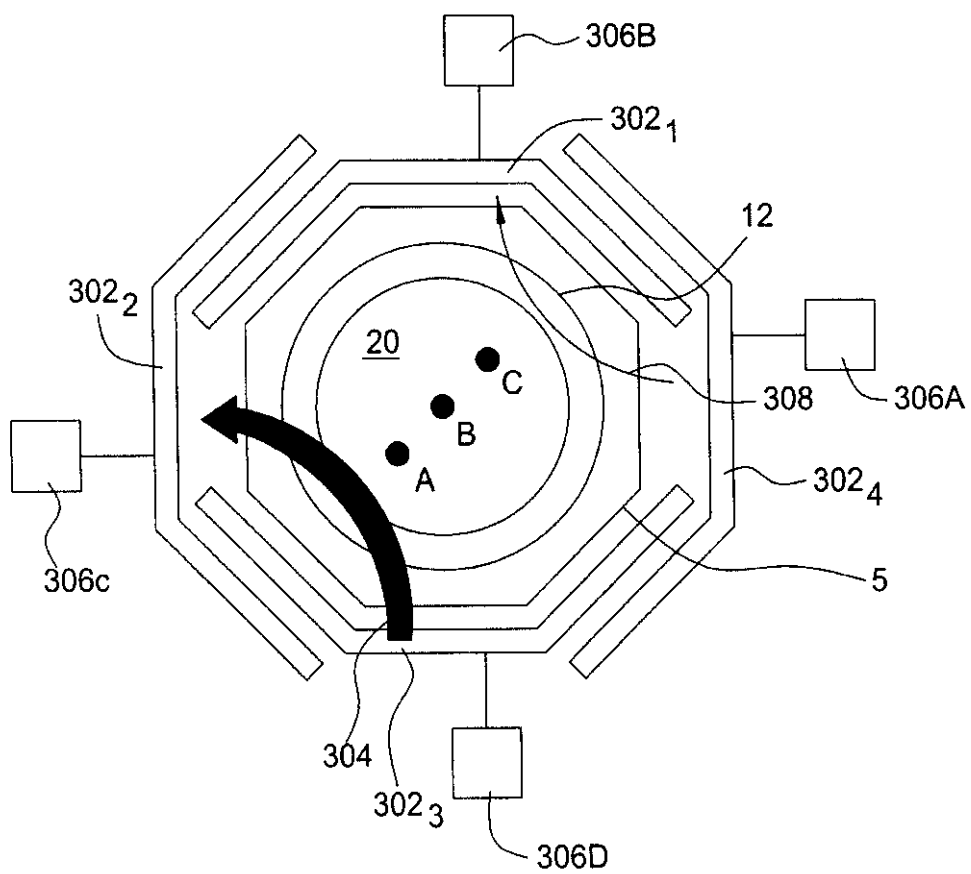


FIG. 3

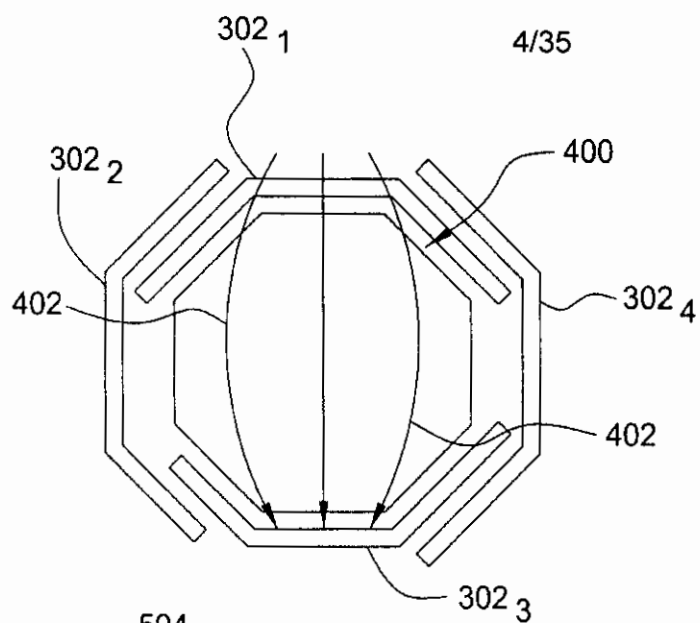


FIG. 4A

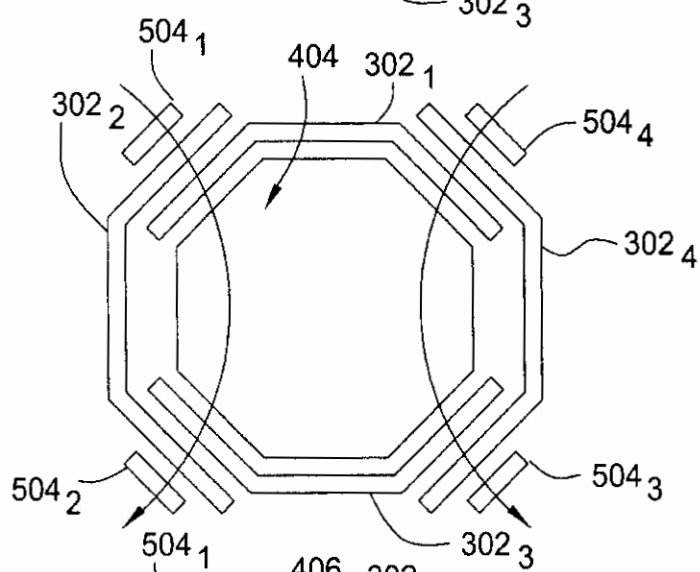


FIG. 4B

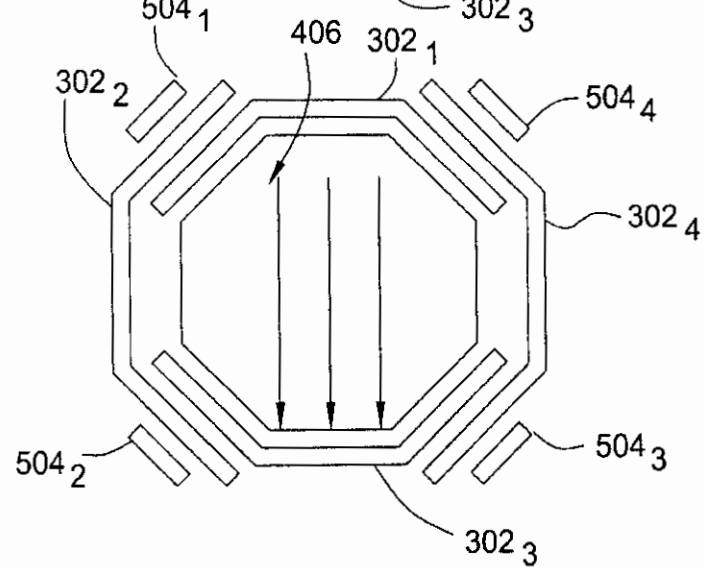


FIG. 4C

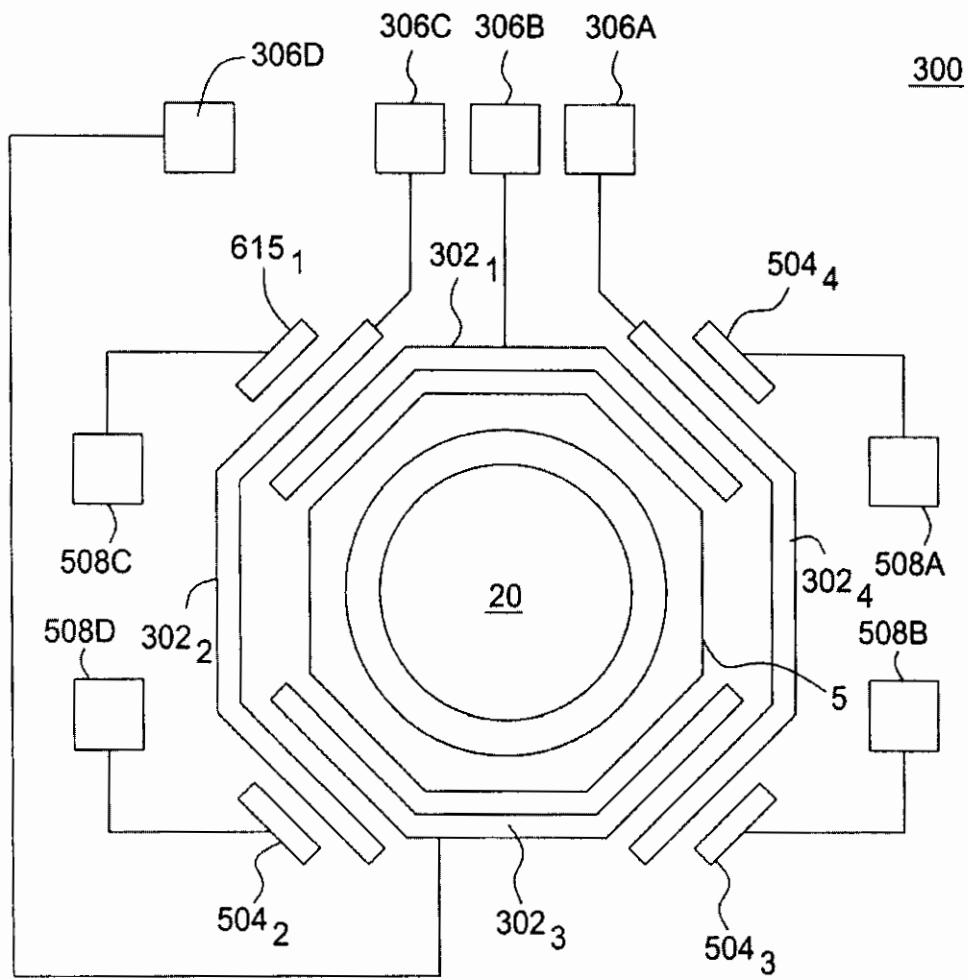


FIG. 5

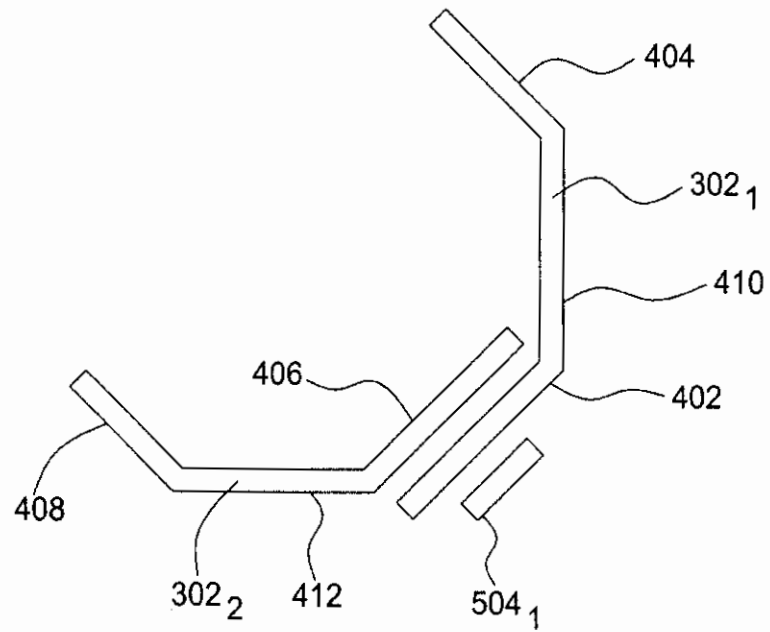


FIG. 6

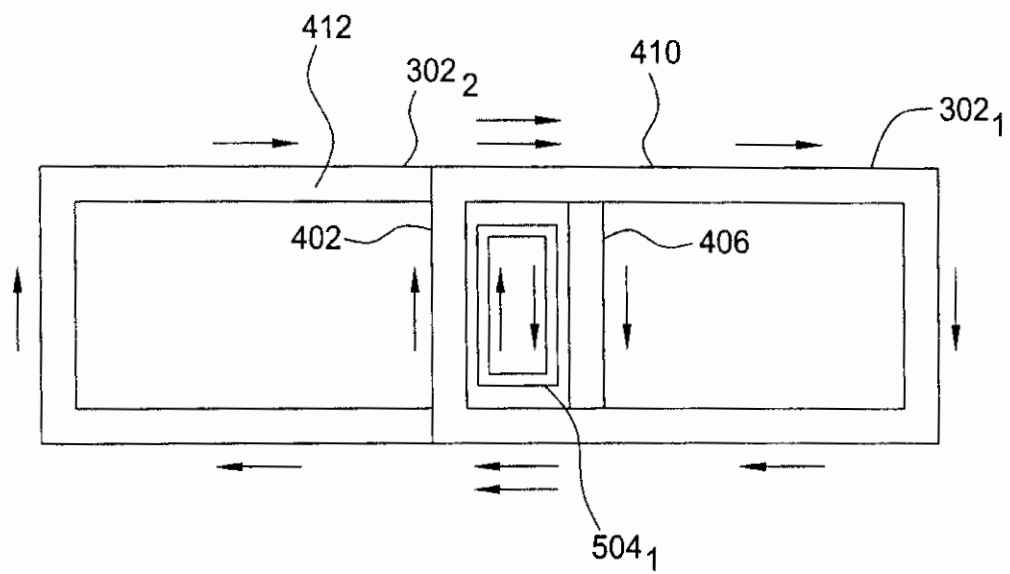


FIG. 7

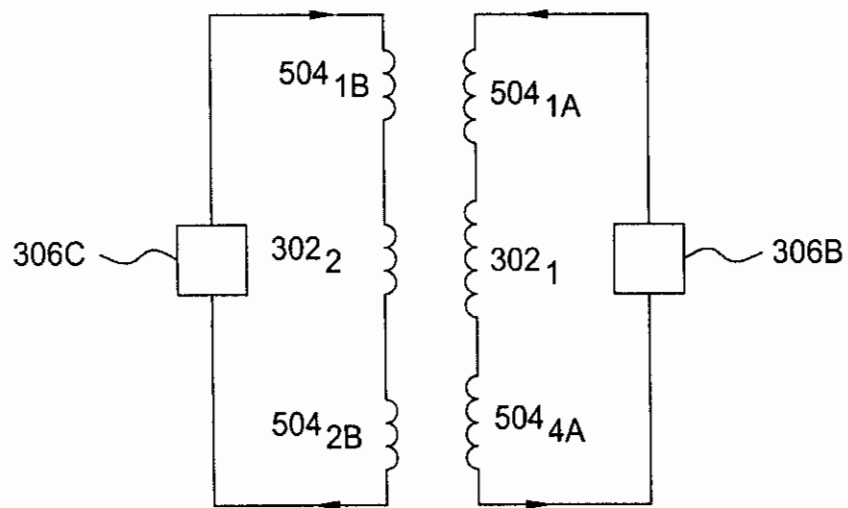


FIG. 7A

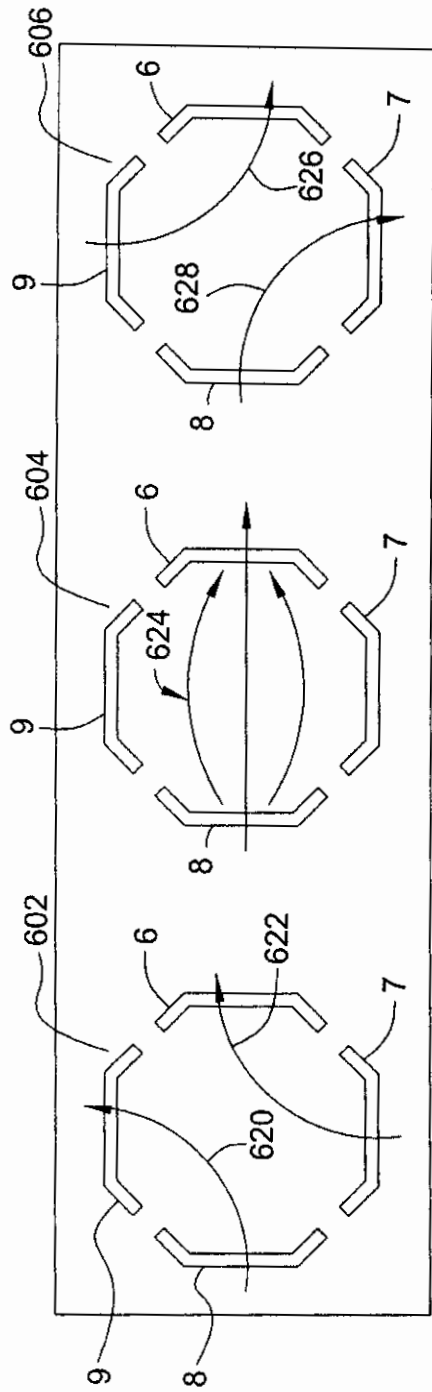


FIG. 8A
(PRIOR ART)

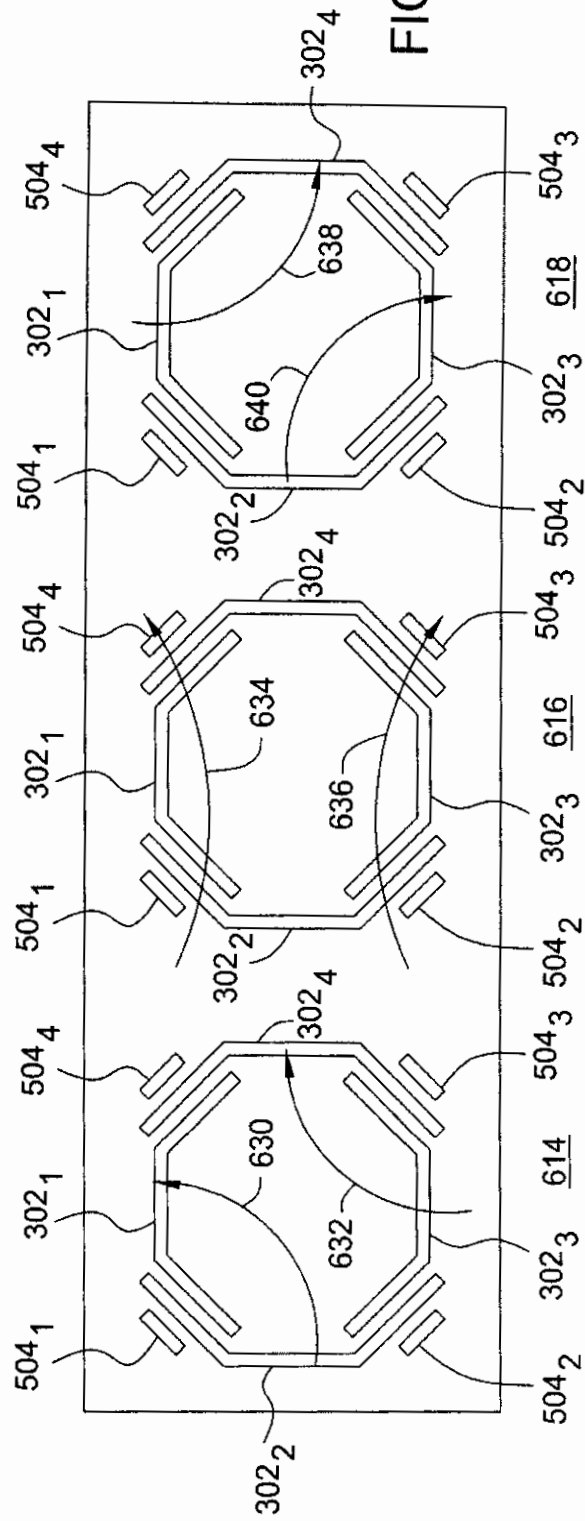


FIG. 8B

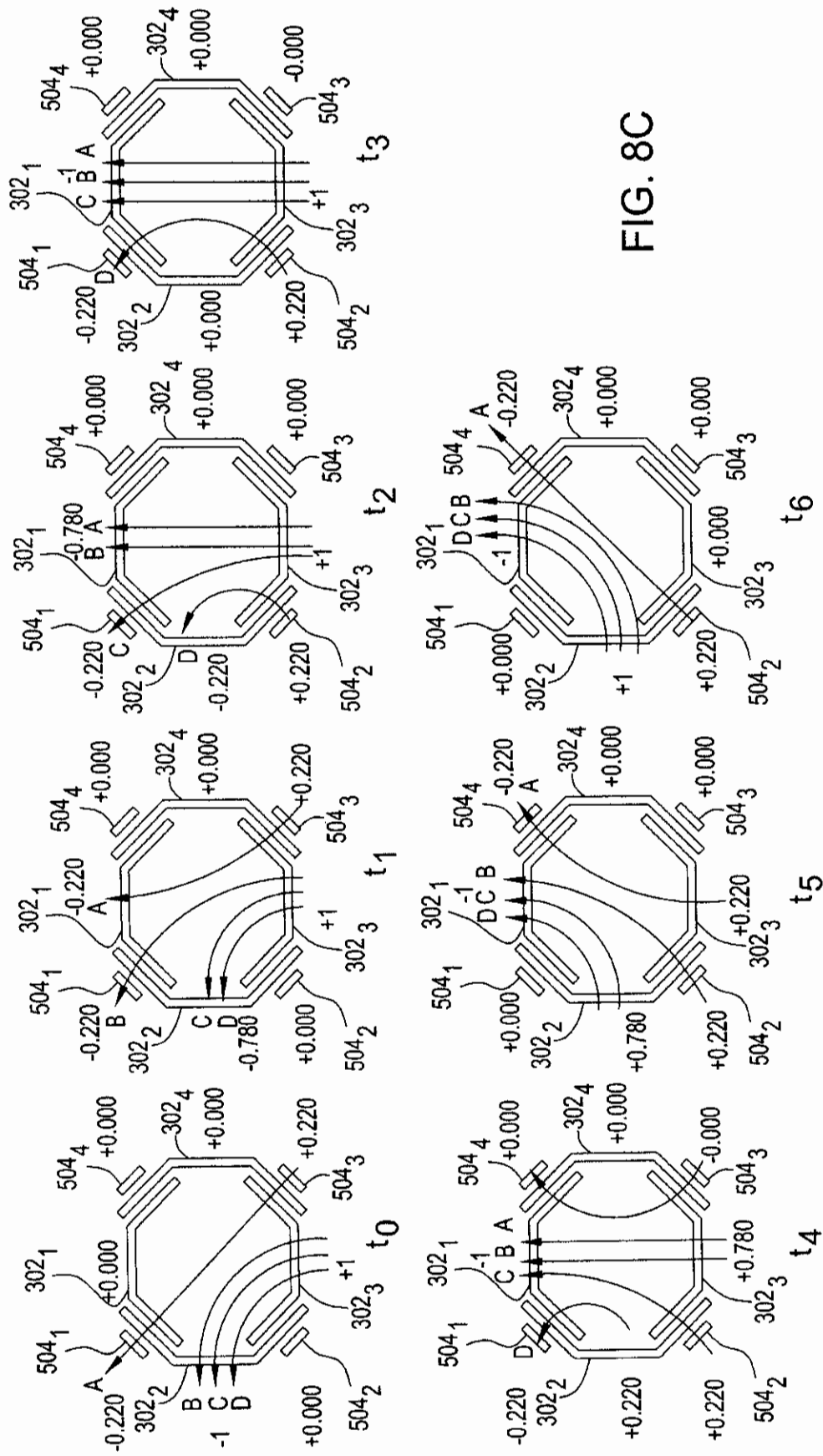


FIG. 8C

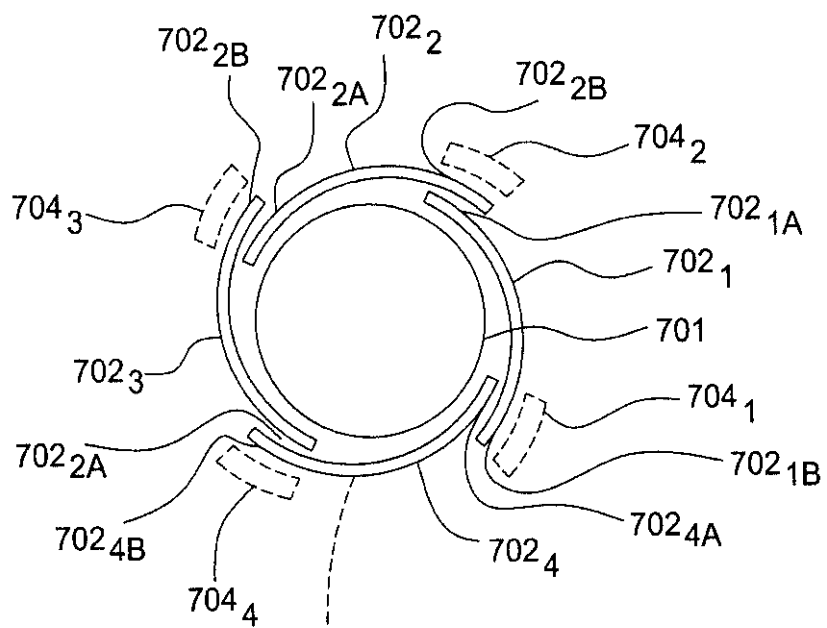


FIG. 9

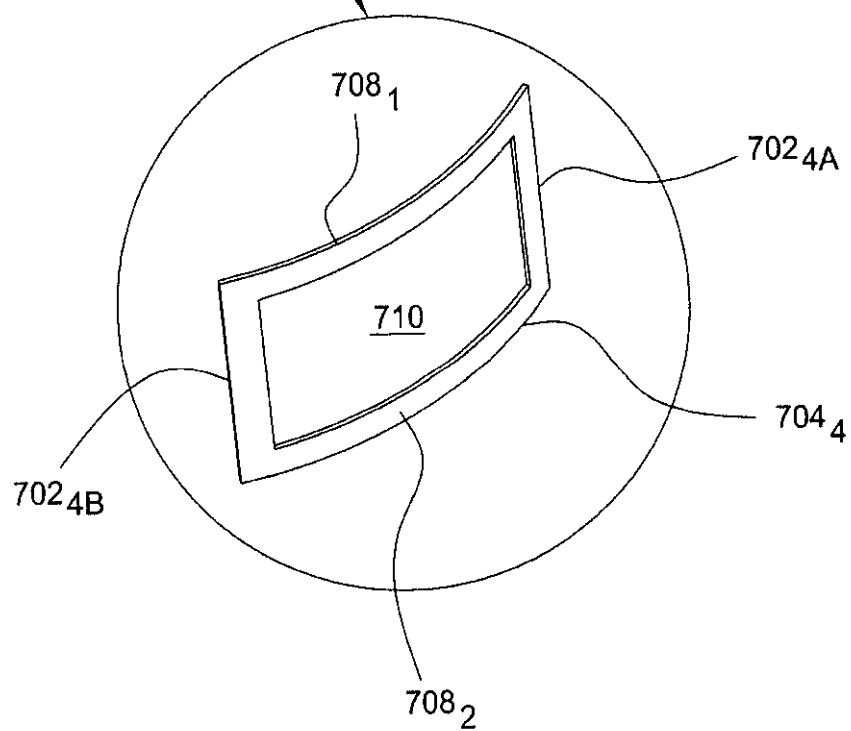


FIG. 9A

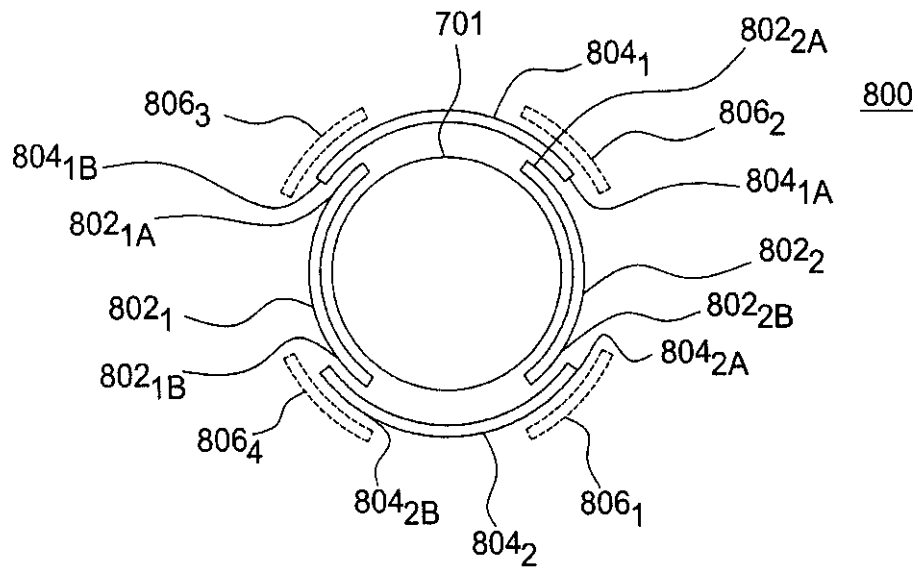


FIG. 10

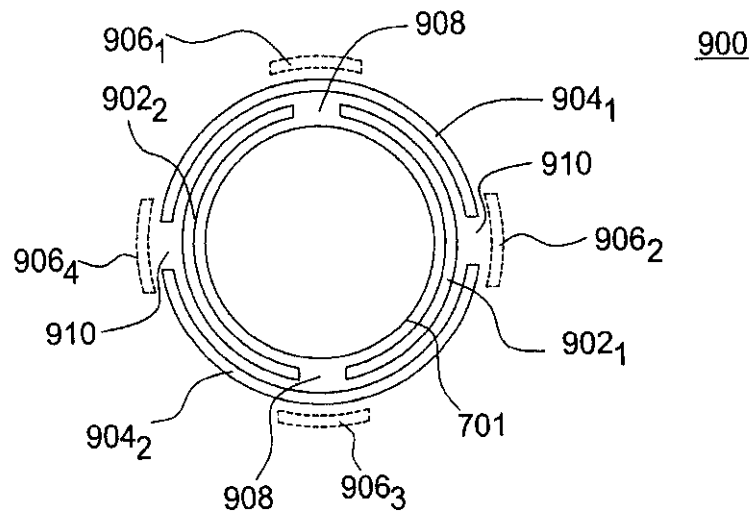
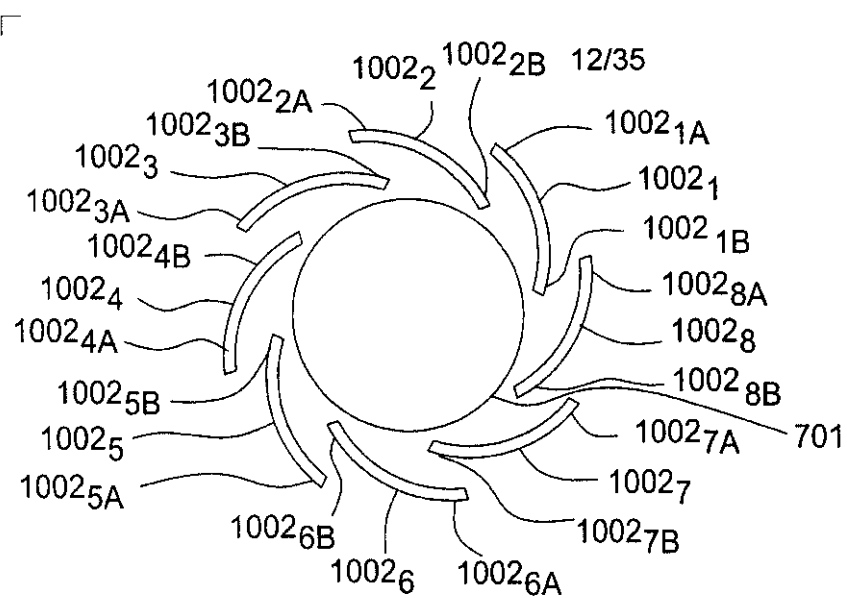
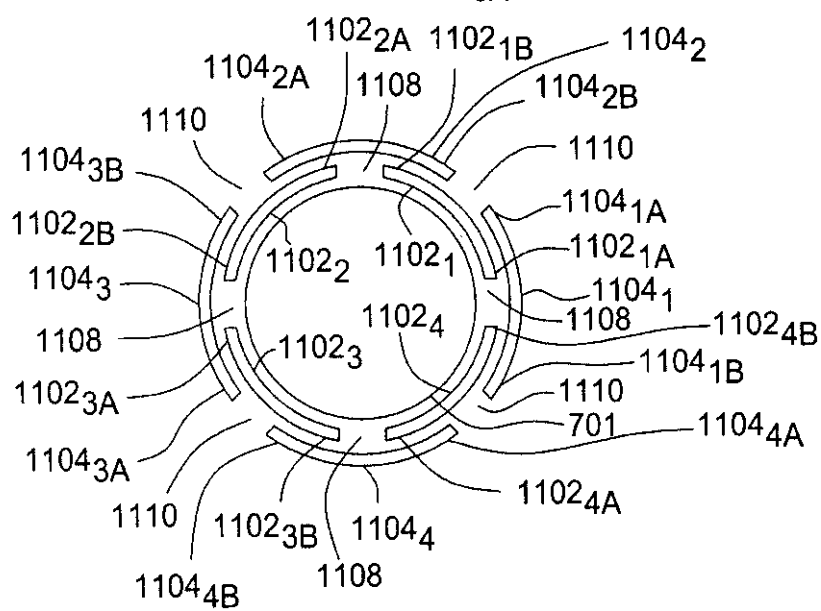


FIG. 11



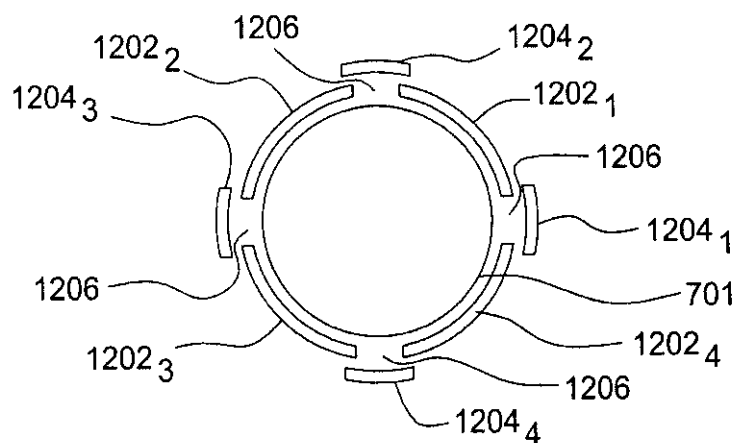
1000

FIG. 12



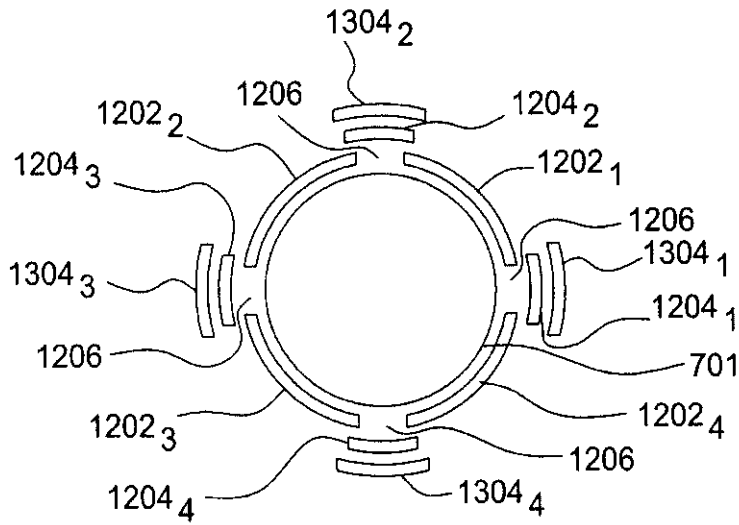
1100

FIG. 13



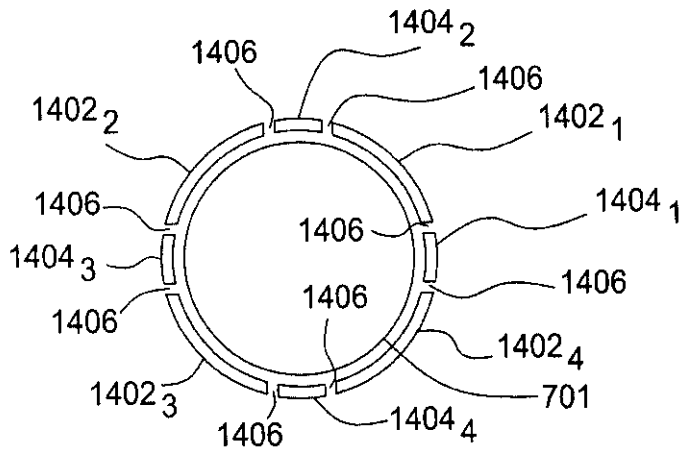
1200

FIG. 14



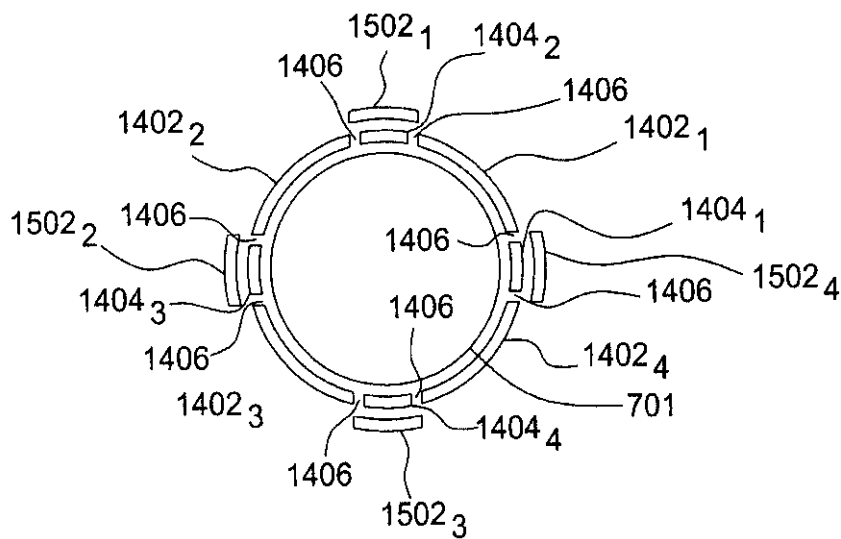
1300

FIG. 15



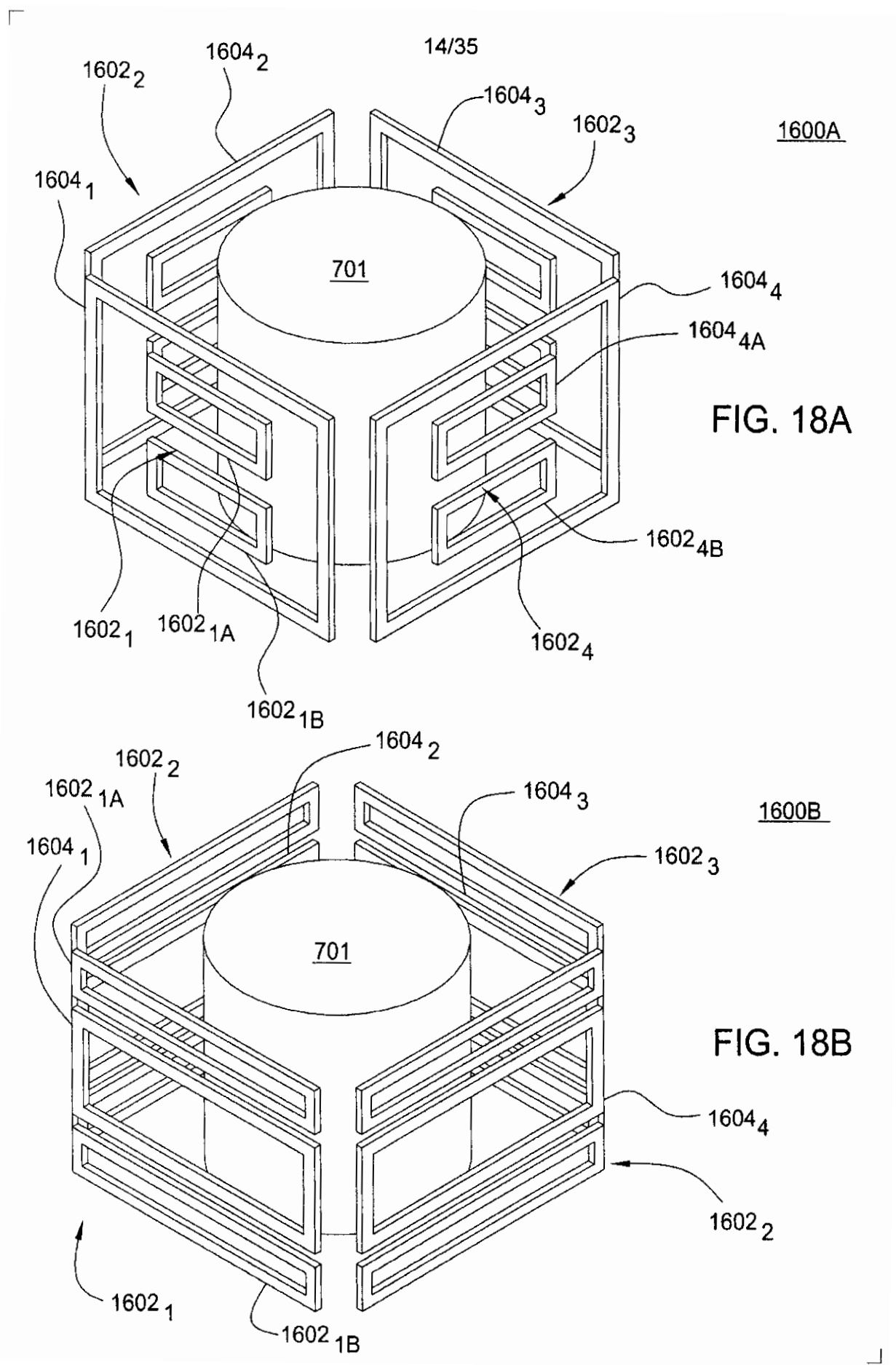
1400

FIG. 16



1500

FIG. 17



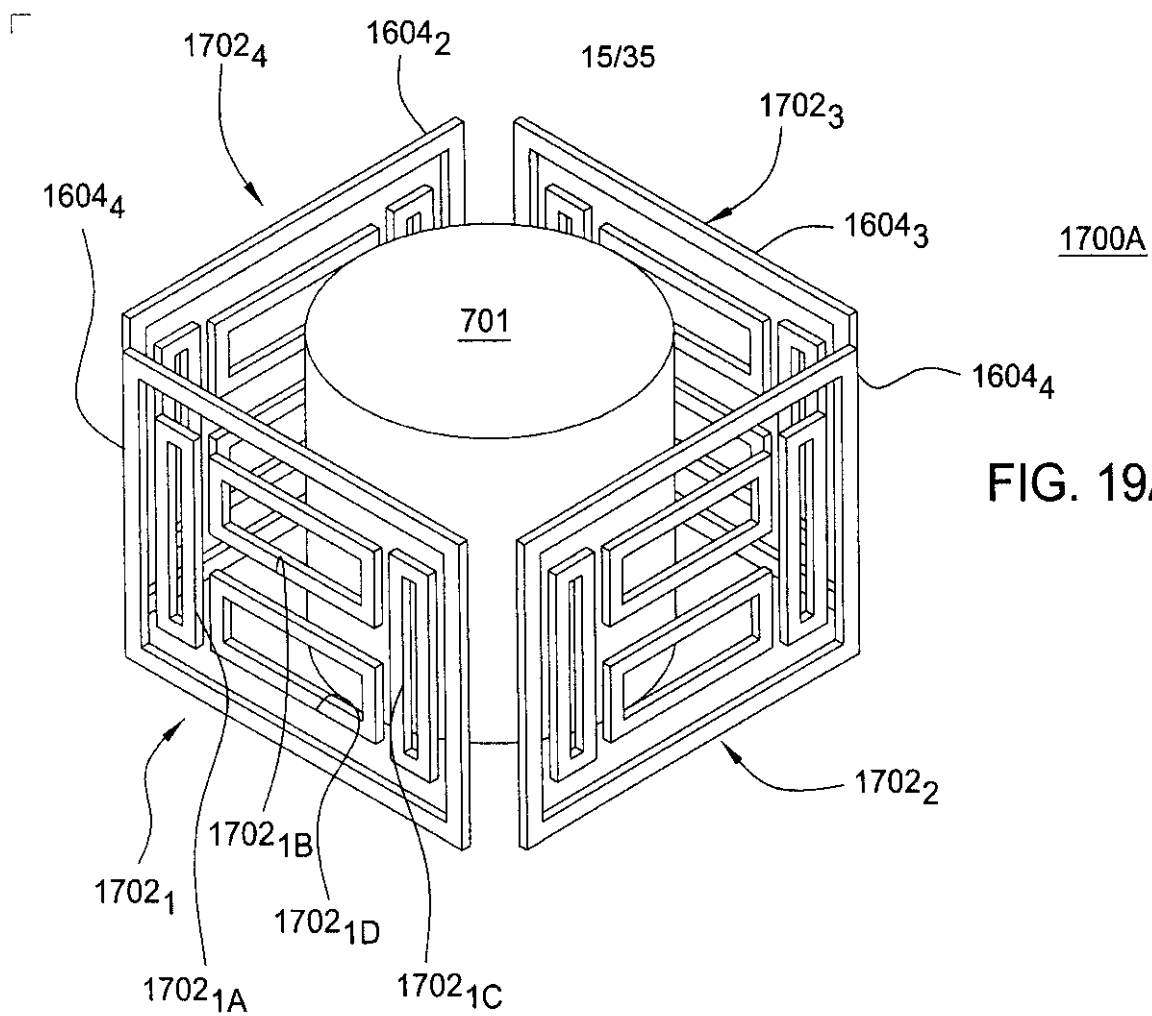


FIG. 19A

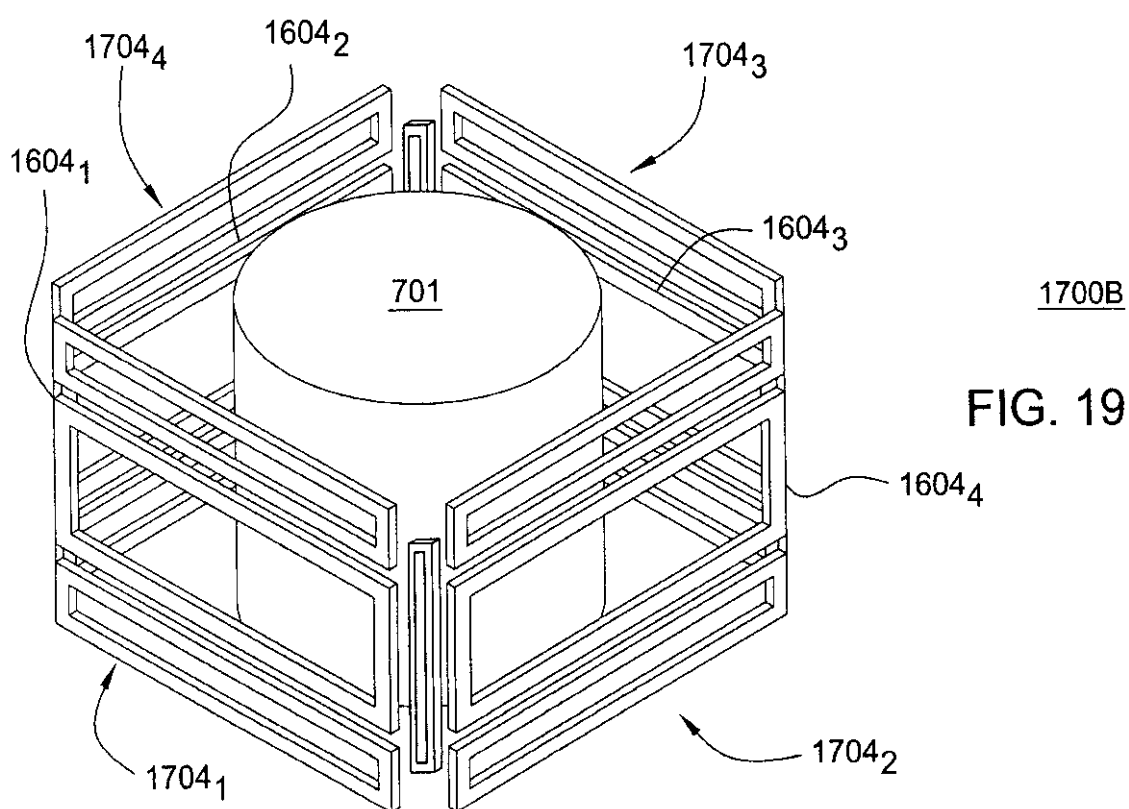


FIG. 19B

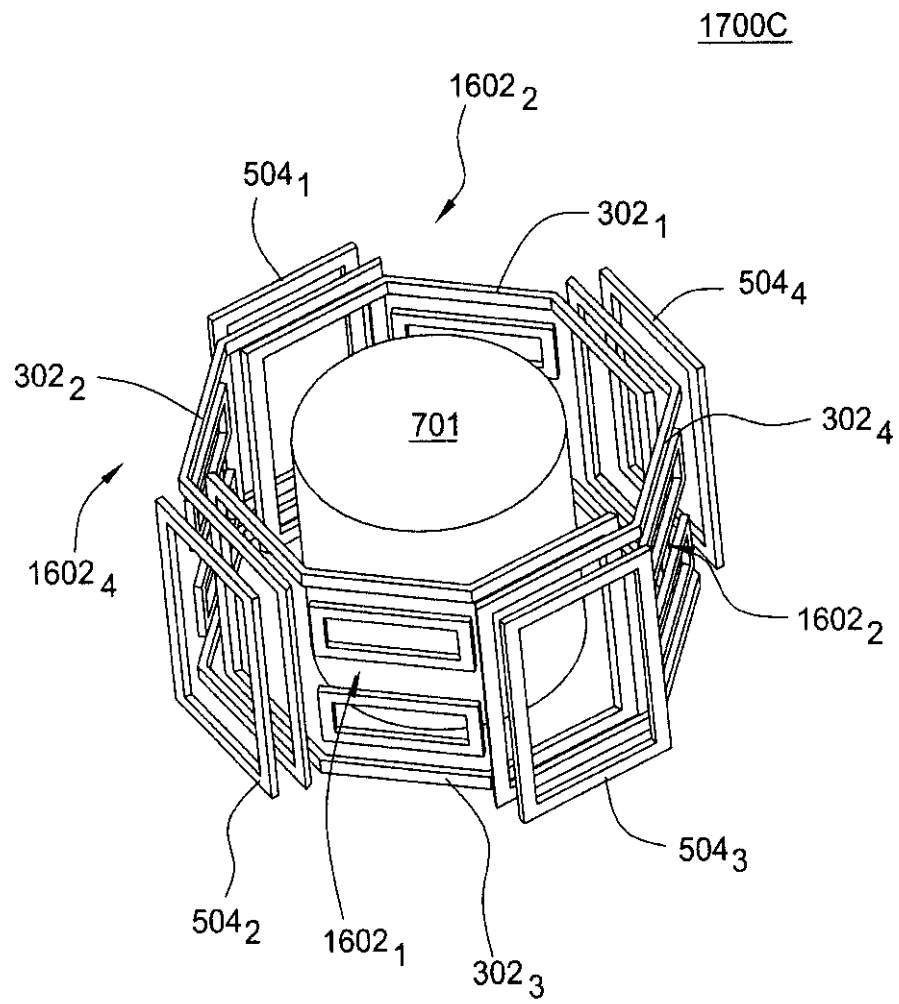


FIG. 19C

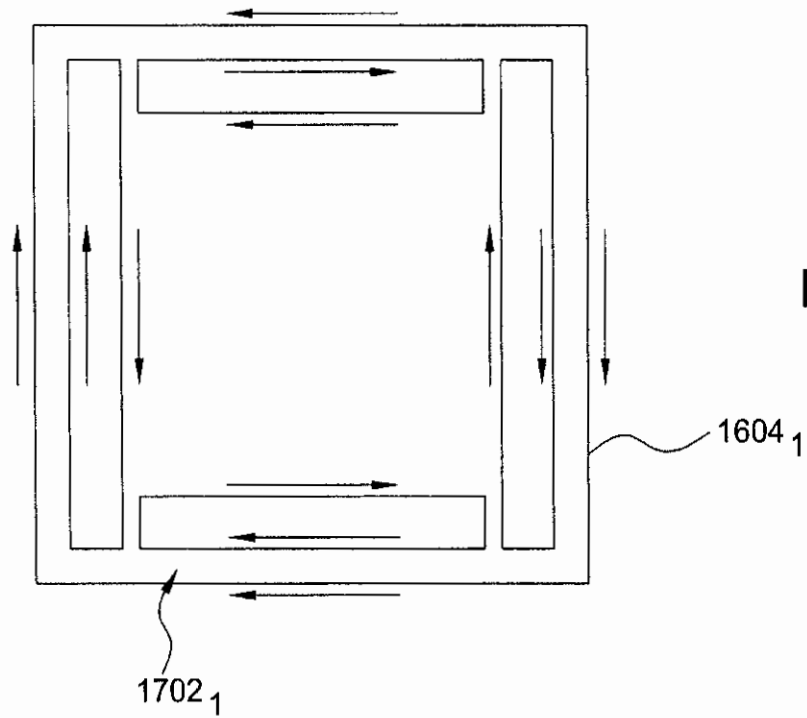


FIG. 20A

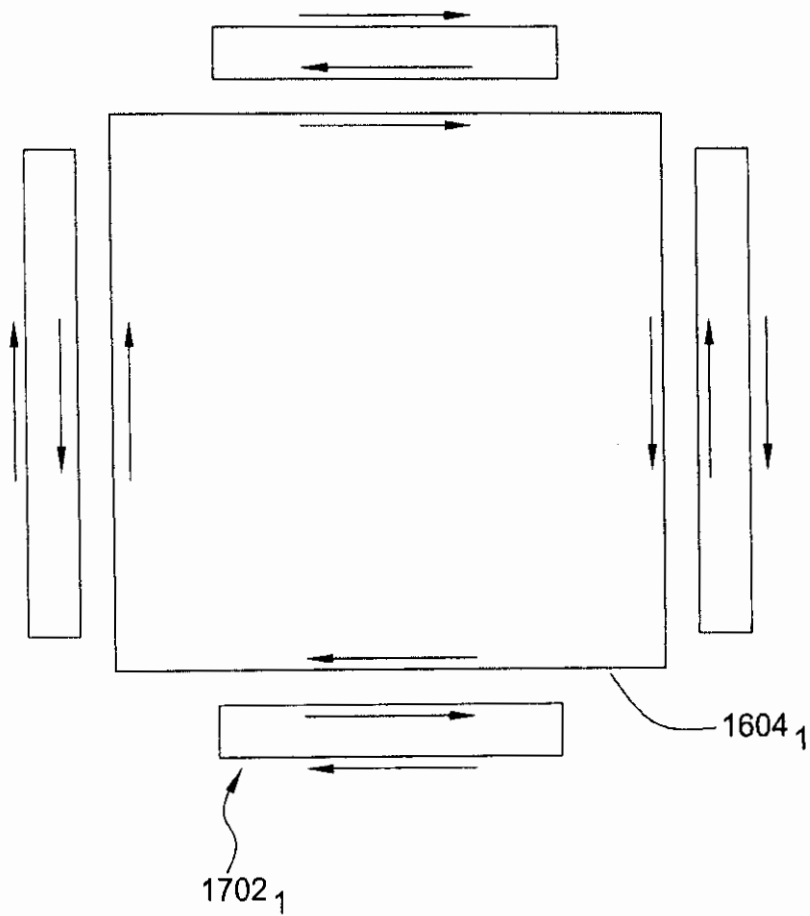


FIG. 20B

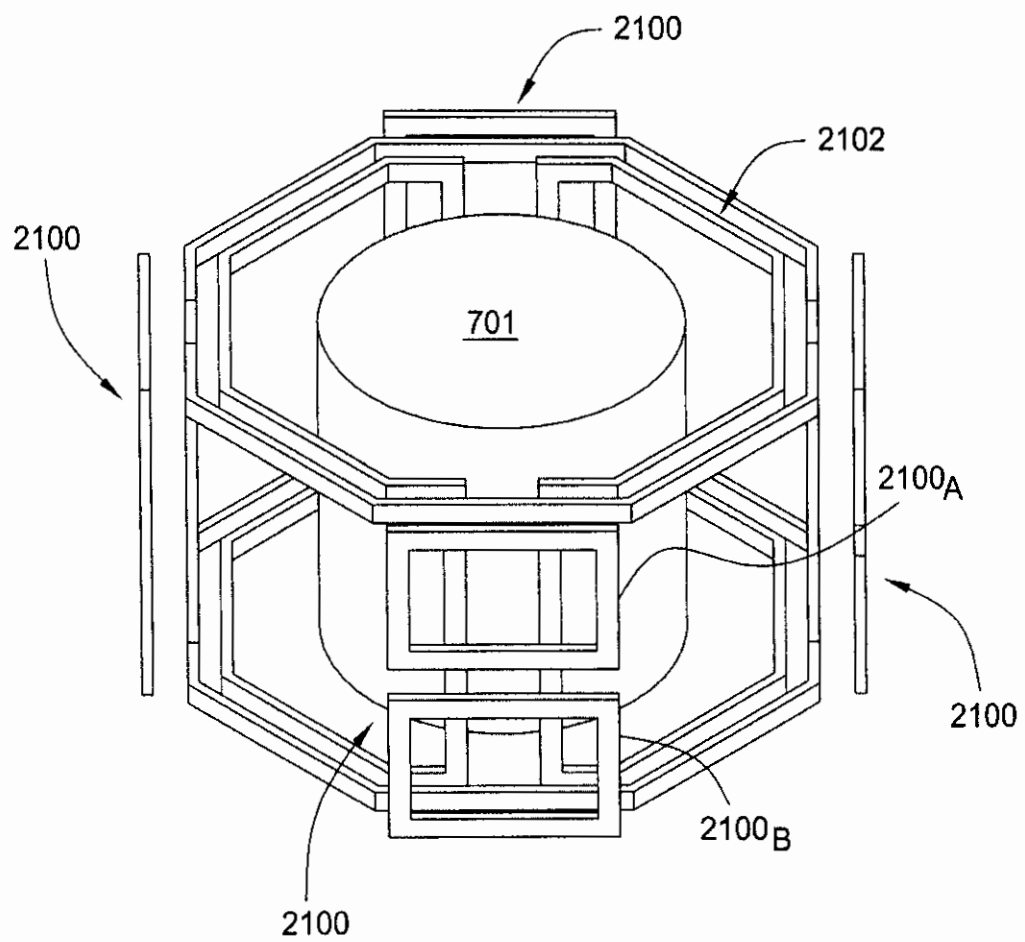
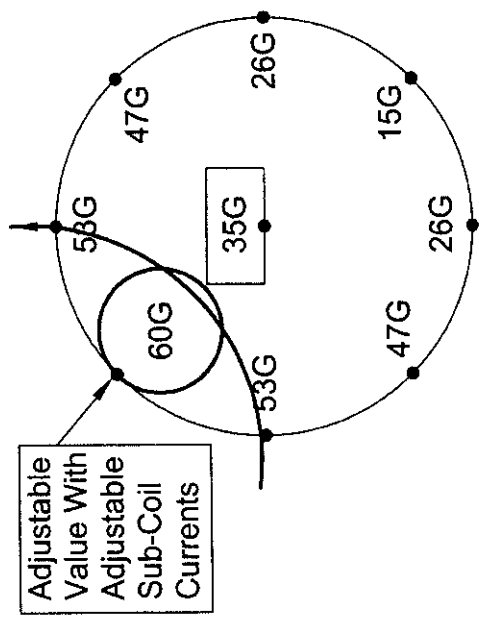
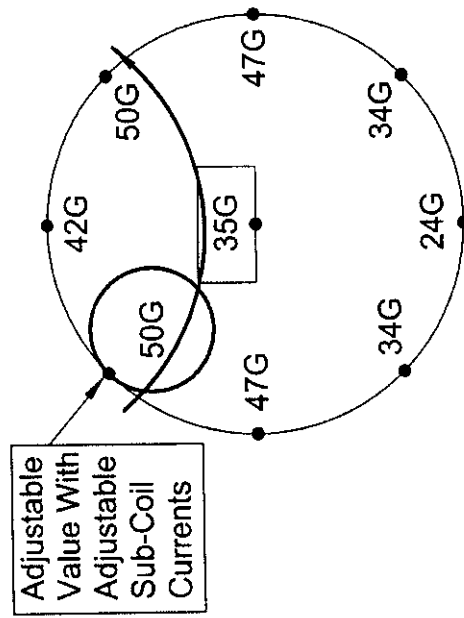
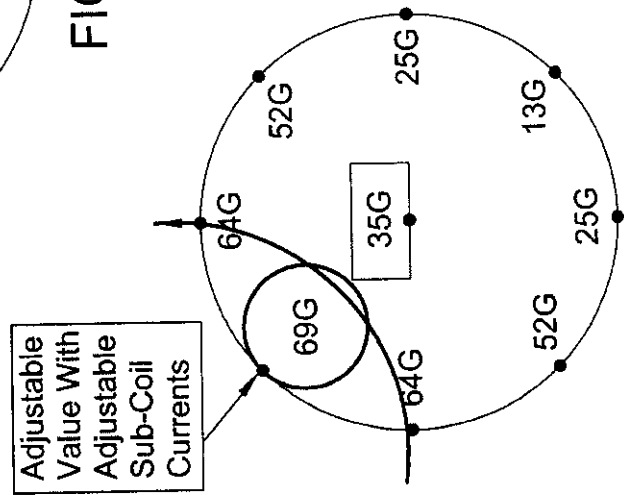
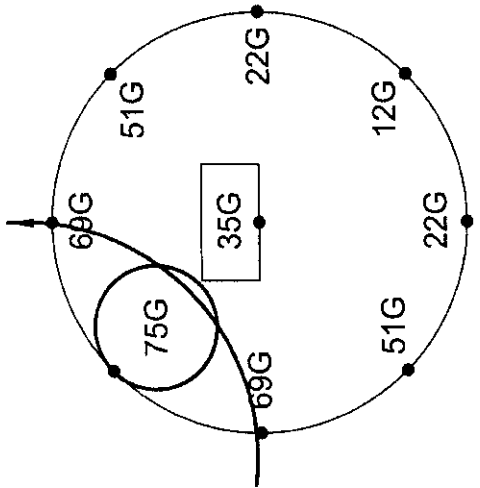
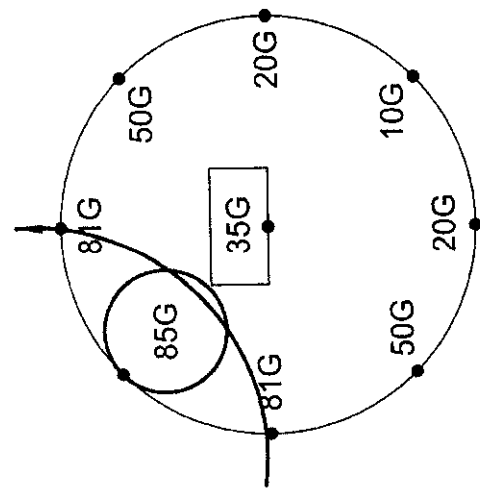


FIG. 21

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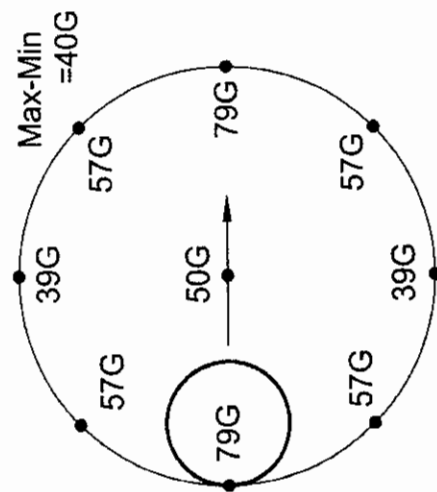


FIG. 22F

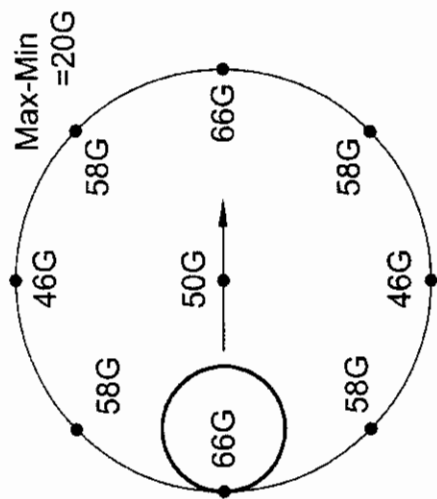


FIG. 22G

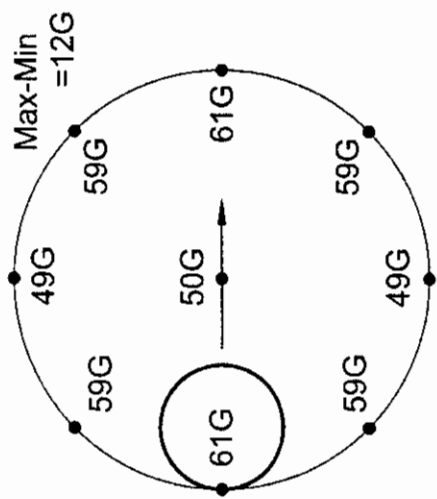


FIG. 22H

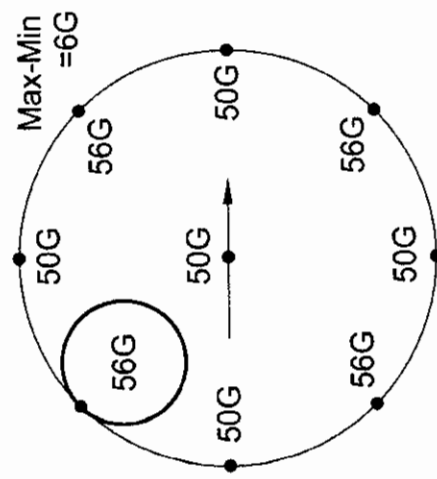


FIG. 22I

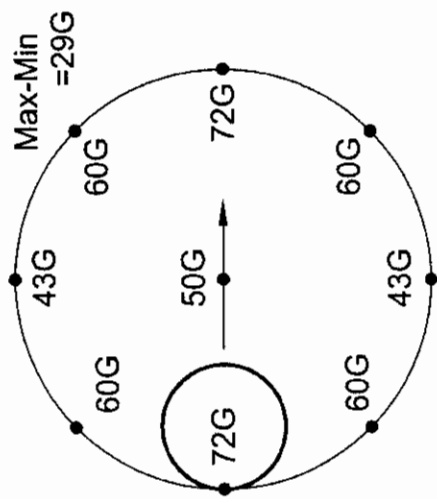


FIG. 22J

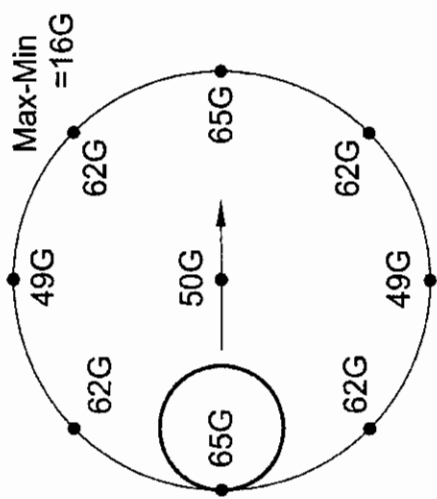


FIG. 22K

2300



	TIME	COIL #1	COIL #2	COIL #3	COIL #4
SHAPE 0 DEGREES	0.00 - 0.95 sec	+1	-1	-R	+R
TRANSITION 0 DEGREES	0.95 - 1.00 sec	+1	0	-1	0
SHAPE 90 DEGREES	1.00 - 1.95 sec	+R	+1	-1	-R
TRANSITION 90 DEGREES	1.95 - 2.00 sec	0	+1	0	-1
SHAPE 180 DEGREES	2.00 - 2.95 sec	-R	+R	+1	-1
TRANSITION 180 DEGREES	2.95 - 3.00 sec	-1	0	+1	0
SHAPE 270 DEGREES	3.00 - 3.95 sec	-1	-R	+R	+1
TRANSITION 270 DEGREES	3.95 - 4.00 sec	0	-1	0	+1

FIG. 23
(PRIOR ART)

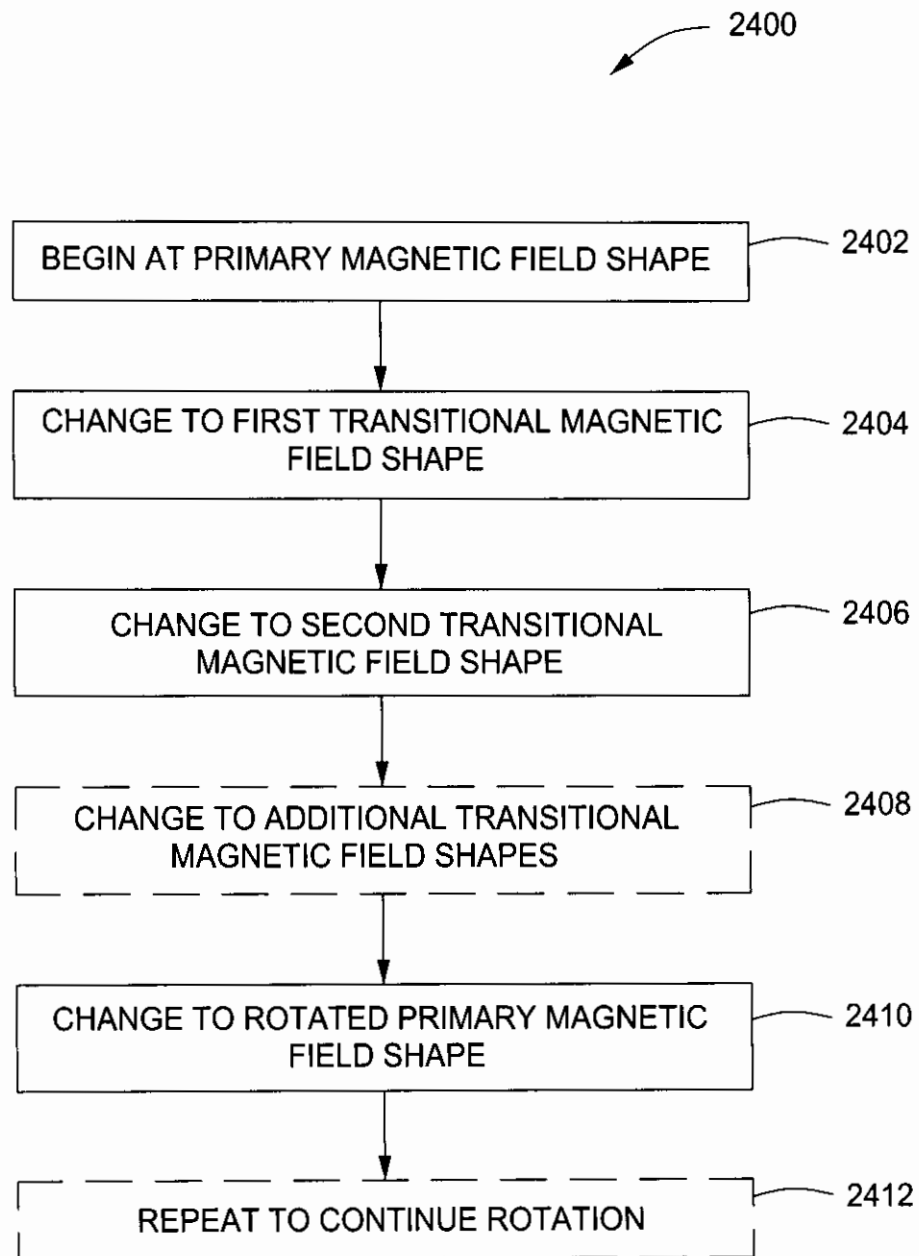


FIG. 24

2500

		TIME	COIL #1	COIL #2	COIL #3	COIL #4
1	SHAPE 0 DEGREES	0.00 - 0.90 sec	+1	-1	-R	+R
2	TRANSITION A, 0 DEGREES	0.90 - 0.95 sec	+(1+R)	-(0.5 * R)	-1	-(0.5 * R)
3	TRANSITION B, 0 DEGREES	0.95 - 1.00 sec	+1	+R	-(1+0.5*R)	-(0.5 * R)
4	SHAPE 90 DEGREES	1.00 - 1.90 sec	+R	+1	-1	-R
5	TRANSITION A, 90 DEGREES	1.90 - 1.95 sec	-(0.5 * R)	+(1+R)	-(0.5 * R)	-1
6	TRANSITION B, 90 DEGREES	1.95 - 2.00 sec	-(0.5 * R)	+1	+R	-(1+0.5*R)
7	SHAPE 180 DEGREES	2.00 - 2.90 sec	-R	+R	+1	-1
8	TRANSITION A, 180 DEGREES	2.90 - 2.95 sec	-1	-(0.5 * R)	+(1+R)	-(0.5 * R)
9	TRANSITION B, 180 DEGREES	2.95 - 3.00 sec	-(1+0.5*R)	-(0.5 * R)	+1	+R
10	SHAPE 270 DEGREES	3.00 - 3.90 sec	-1	-R	+R	+1
11	TRANSITION A, 270 DEGREES	3.90 - 3.95 sec	-(0.5 * R)	-1	-(0.5 * R)	+(1+R)
12	TRANSITION B, 270 DEGREES	3.95 - 4.00 sec	+R	-(1+0.5*R)	-(0.5 * R)	+1

FIG. 25

2600

		TIME	COIL #1	COIL #2	COIL #3	COIL #4
1	SHAPE 0 DEGREES	0.00 - 0.75 sec	+1	-1	-R	+R
2	TRANSITION A, 0 DEGREES	0.75 - 0.80 sec	+1(+0.5*R)	-0.5*(1+0.5*R)	-0.5*(1+R)	+0.25*R
3	TRANSITION B, 0 DEGREES	0.80 - 0.85 sec	+1(+R)	-0.5*R	-1	-0.5*R
4	TRANSITION C, 0 DEGREES	0.85 - 0.90 sec	+1(+0.5*R)	+0.25*R	-1(+0.25*R)	-0.5*R
5	TRANSITION D, 0 DEGREES	0.90 - 0.95 sec	+1	+R	-1(+0.5*R)	-0.5*R
6	TRANSITION E, 0 DEGREES	0.95 - 1.00 sec	+0.5*(1+R)	+0.5*(1+R)	-1(+0.25*R)	-0.75*R
7	SHAPE 90 DEGREES	1.00 - 1.75 sec	+R	+1	-1	-R
8	TRANSITION A, 90 DEGREES	1.75 - 1.80 sec	+0.25*R	+1(+0.5*R)	-0.5*(1+0.5*R)	-0.5*(1+R)
9	TRANSITION B, 90 DEGREES	1.80 - 1.85 sec	-0.5*R	+1(+R)	-0.5*R	-1
10	TRANSITION C, 90 DEGREES	1.85 - 1.90 sec	-0.5*R	+1(+0.5*R)	+0.25*R	-1(+0.25*R)
11	TRANSITION D, 90 DEGREES	1.90 - 1.95 sec	-0.5*R	+1	+R	-1(+0.5*R)
12	TRANSITION E, 90 DEGREES	1.95 - 2.00 sec	-0.75*R	+0.5*(1+R)	+0.5*(1+R)	-1(+0.25*R)
13	SHAPE 180 DEGREES	2.00 - 2.75 sec	-R	+R	+1	-1
14	TRANSITION A, 180 DEGREES	2.75 - 2.80 sec	-0.5*(1+R)	+0.25*R	+1(+0.5*R)	-0.5*(1+0.5*R)
15	TRANSITION B, 180 DEGREES	2.80 - 2.85 sec	-1	-0.5*R	+1(+R)	-0.5*R
16	TRANSITION C, 180 DEGREES	2.85 - 2.90 sec	-1(+0.25*R)	-0.5*R	+1(+0.5*R)	+0.25*R
17	TRANSITION D, 180 DEGREES	2.90 - 2.95 sec	-1(+0.5*R)	-0.5*R	+1	+R
18	TRANSITION E, 180 DEGREES	2.95 - 3.00 sec	-1(+0.25*R)	-0.75*R	+0.5*(1+R)	+0.5*(1+R)
19	SHAPE 270 DEGREES	3.00 - 3.75 sec	-1	-R	+R	+1
20	TRANSITION A, 270 DEGREES	3.75 - 3.80 sec	-0.5*(1+0.5*R)	-0.5*(1+R)	+0.25*R	+1(+0.5*R)
21	TRANSITION B, 270 DEGREES	3.80 - 3.85 sec	-0.5*R	-1	-0.5*R	+1(+R)
22	TRANSITION C, 270 DEGREES	3.85 - 3.90 sec	+0.25*R	-1(+0.25*R)	-0.5*R	+1(+0.5*R)
23	TRANSITION D, 270 DEGREES	3.90 - 3.95 sec	+R	-1(+0.5*R)	-0.5*R	+1
24	TRANSITION E, 270 DEGREES	3.95 - 3.00 sec	-0.5*(1+R)	-1(+0.25*R)	-0.75*R	+0.5*(1+R)

FIG. 26

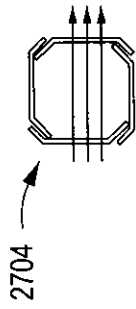
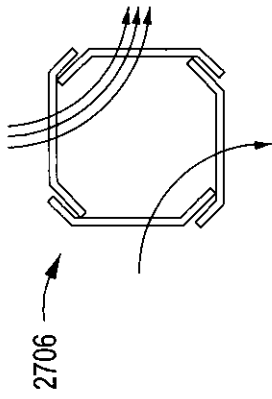


FIG. 27A
(PRIOR ART)

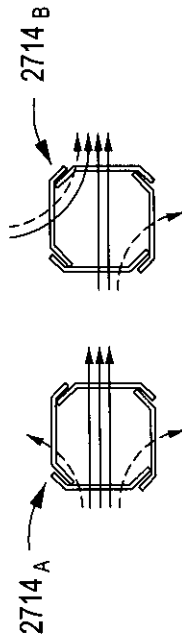
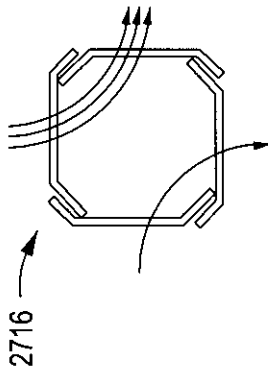


FIG. 27B

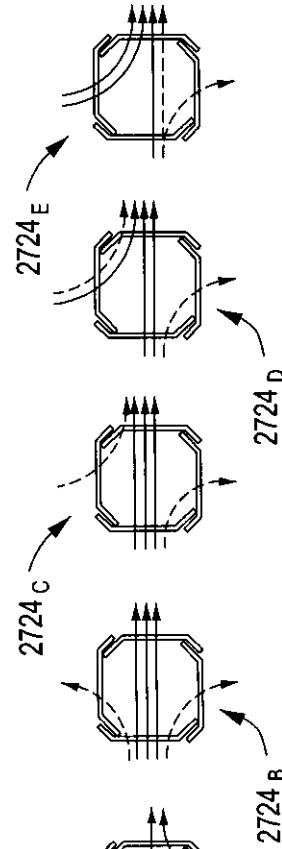
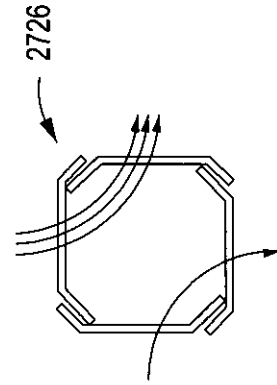
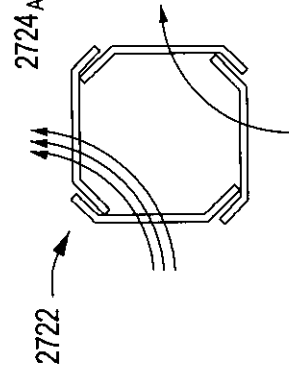
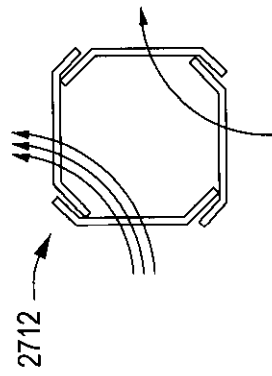
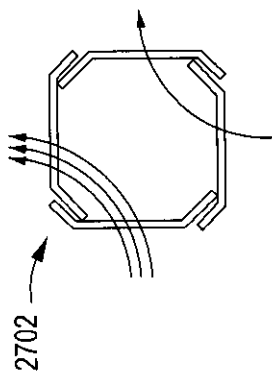
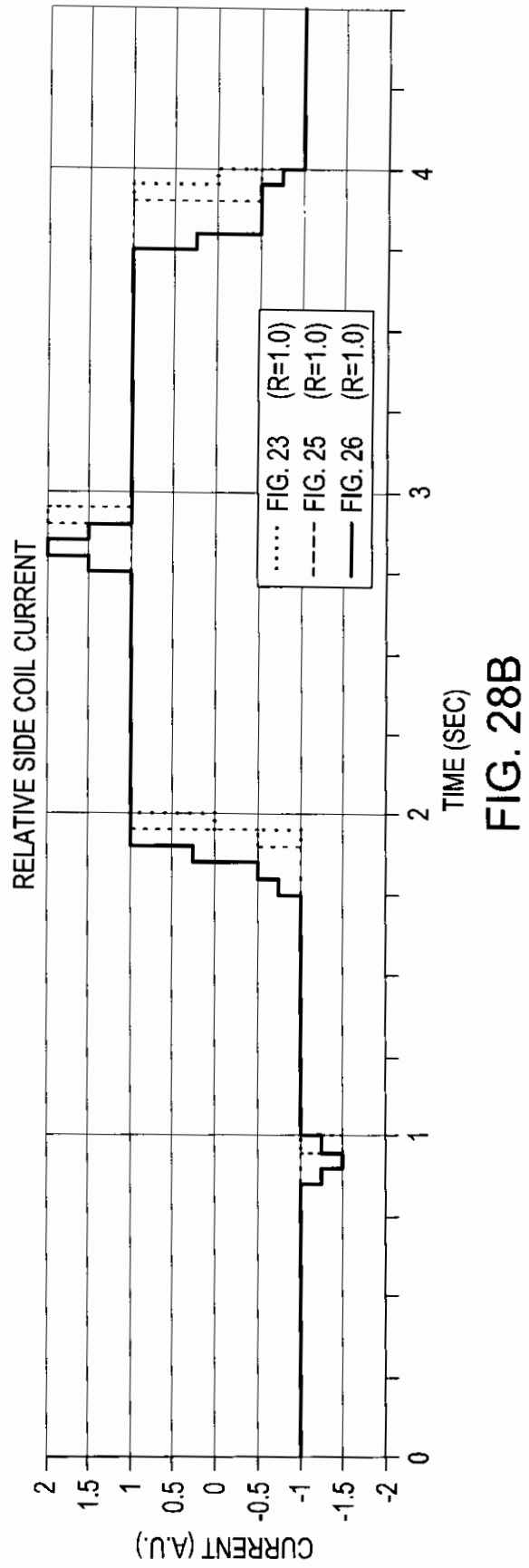
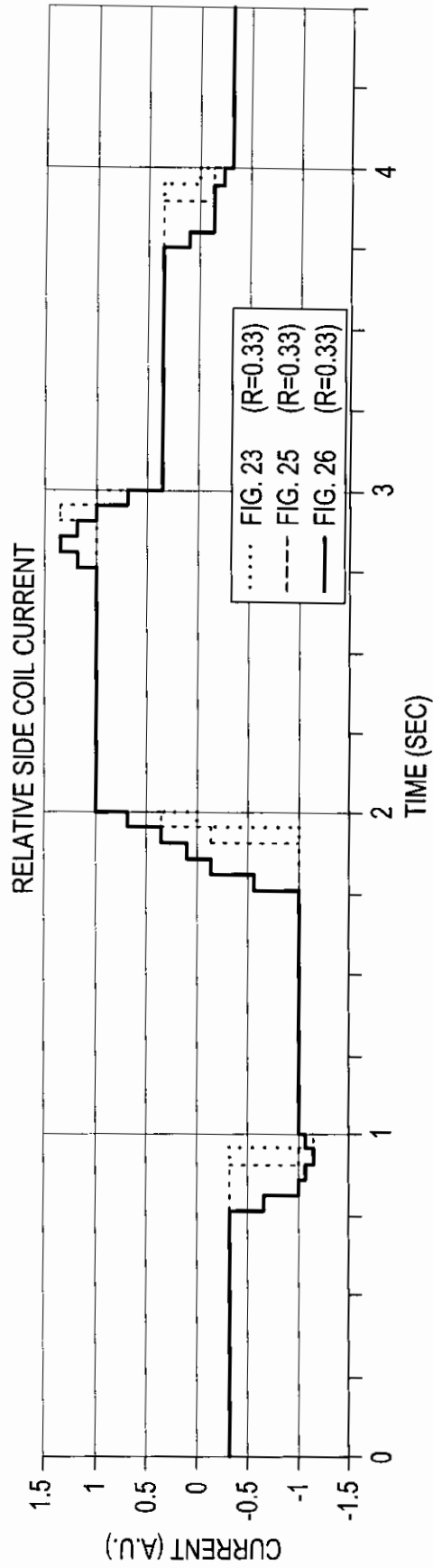


FIG. 27C





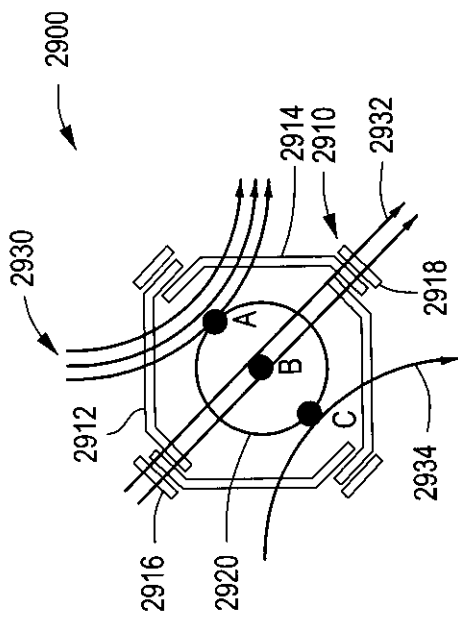


FIG. 29

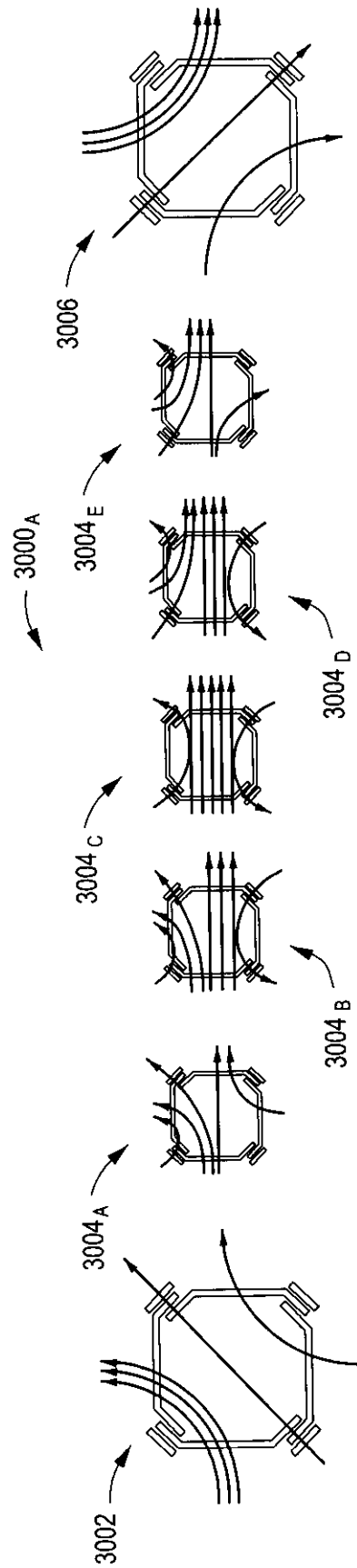


FIG. 30A

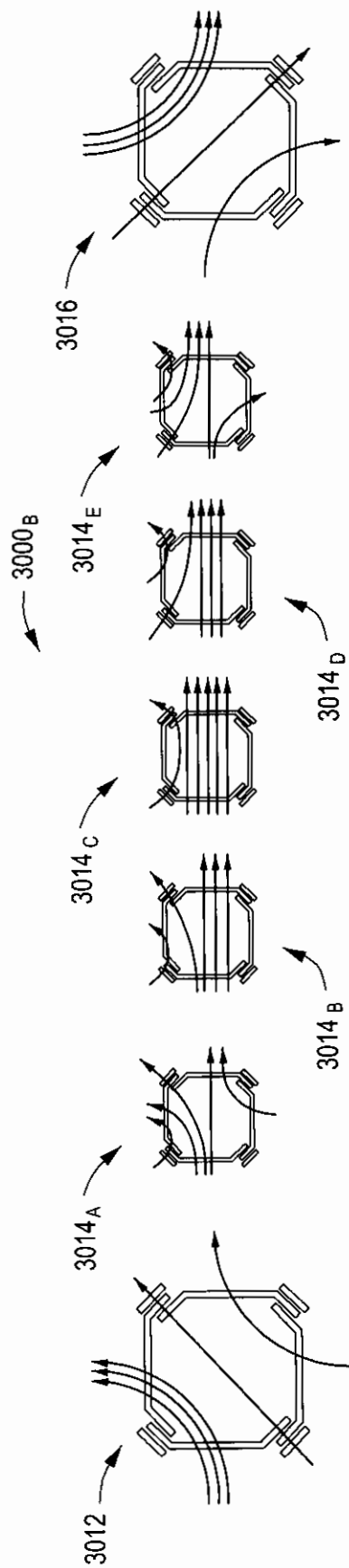


FIG. 30B

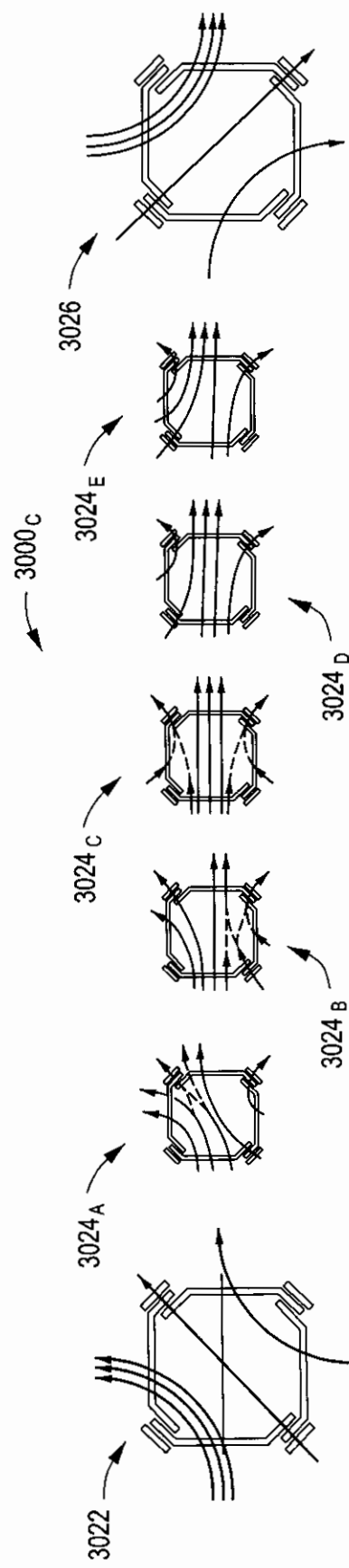
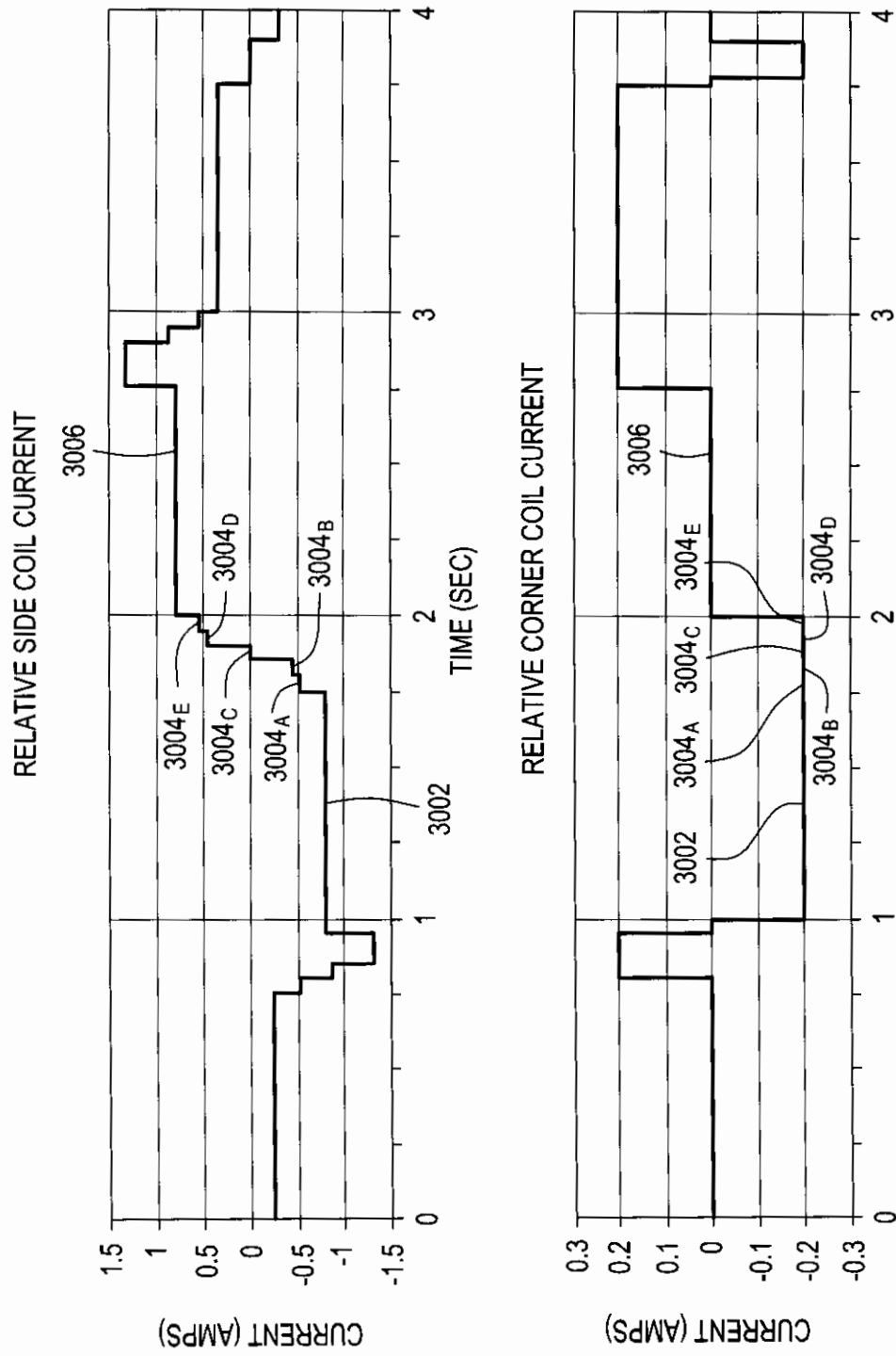


FIG. 30C



TIME (SEC)

FIG. 31A

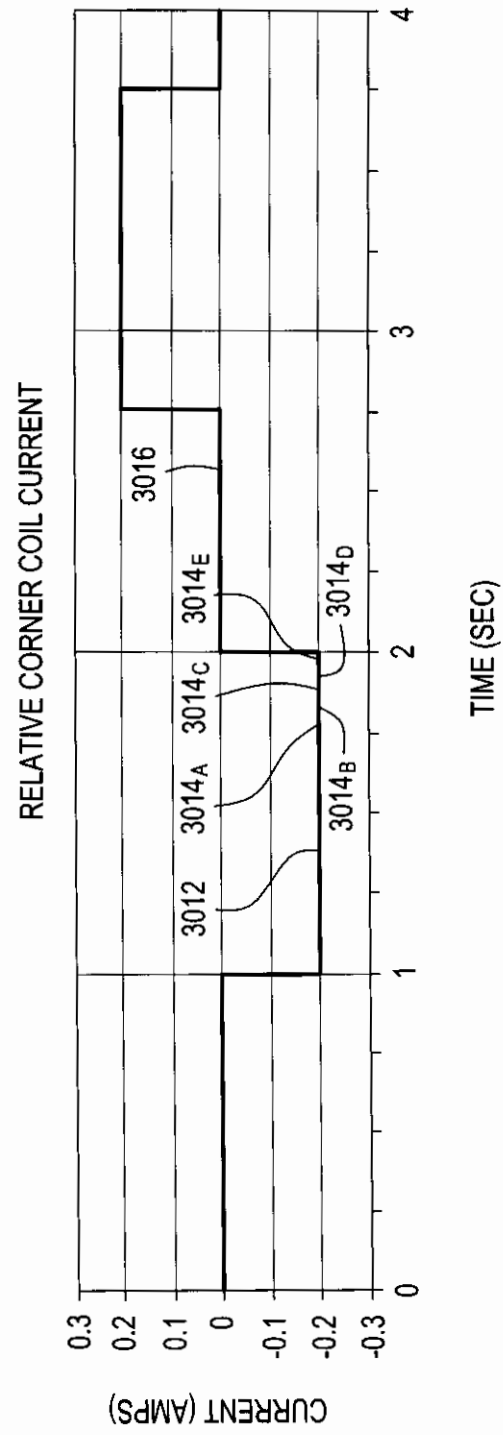
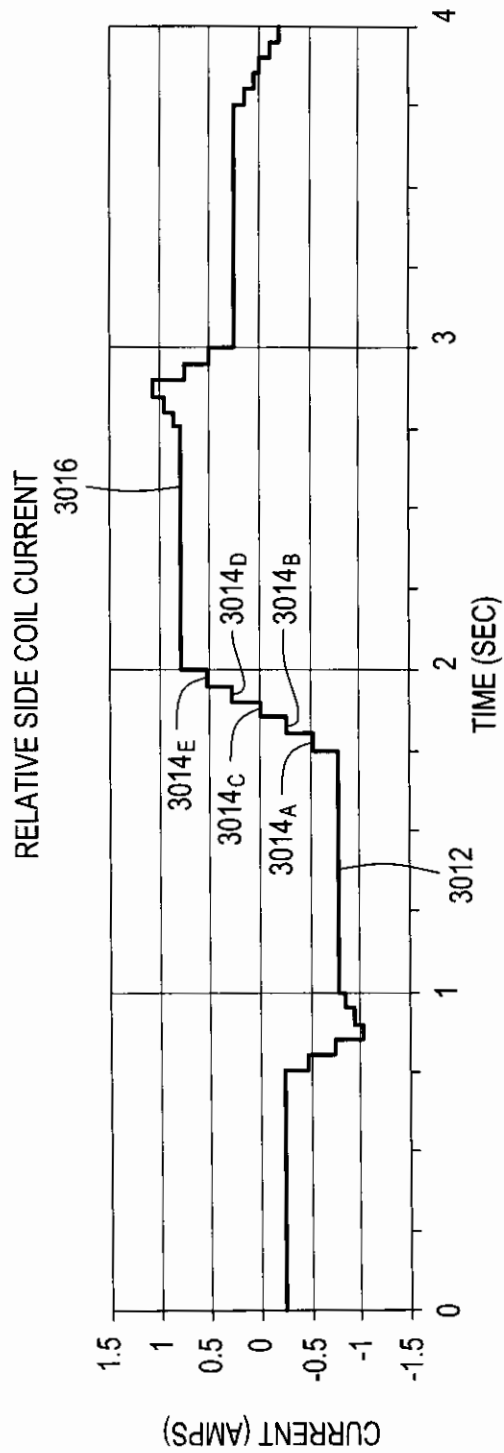
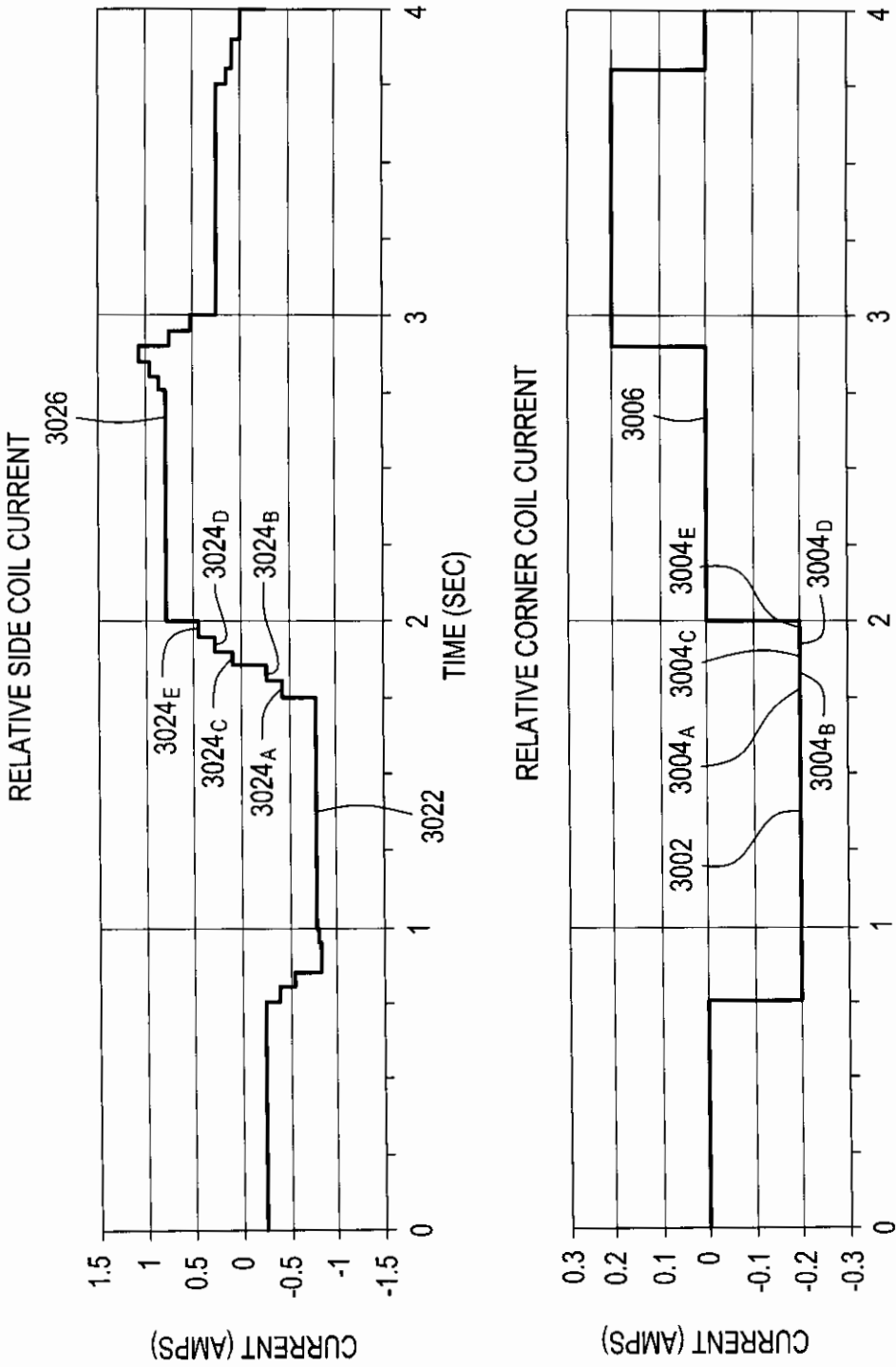


FIG. 31B



TIME (SEC)

FIG. 31C

3200

	TIME (SEC)	SCHEME V			SCHEME W			SCHEME X		
		SIDE COIL #1	CORNER COIL #1	SIDE COIL #1	SIDE COIL #1	CORNER COIL #1	SIDE COIL #1	SIDE COIL #1	CORNER COIL #1	CORNER COIL #1
1	SHAPE 0 DEGREES	-B	0	-B	0	0	-B	0	0	0
2	TRANSITION A ₀	-B -C	+C	-B -AD	0	0	-B+E(C-A)	-C	-C	-C
3	TRANSITION B ₀	-(A-C) -D(A-C)	+C	-B -A(1-D-E)	0	0	-B+2E(C-A)	-C	-C	-C
4	TRANSITION C ₀	-A(1+D)	+C	-A -B	0	0	-B+(C-A)	-C	-C	-C
5	TRANSITION D ₀	-A(1+D)	+C	-A -B(D+E)	0	0	-B+(C-A)+E(B-C)	-C	-C	-C
6	TRANSITION E ₀	-A	+C	-A -BD	0	0	-B+(C-A)+2E(B-C)	-C	-C	-C
7	SHAPE 90 DEGREES	-A	-C	-A	-C	-C	-A	-C	-C	-C
8	TRANSITION A ₉₀	-(A-C)	-C	-A(1-D)	-C	-C	(C-A) - E(C-A)	-C	-C	-C
9	TRANSITION B ₉₀	-C(1+D)	-C	-A(1-D-E)	-C	-C	(C-A) - 2E(C-A)	-C	-C	-C
10	TRANSITION C ₉₀	0	-C	0	-C	-C	+AD	-C	-C	-C
11	TRANSITION D ₉₀	+C(1+D)	-C	+A(1-D-E)	-C	-C	+AD+E(1-D)	-C	-C	-C
12	TRANSITION E ₉₀	+(A-C)	-C	+A(1-D)	-C	-C	+AD+2E(1-D)	-C	-C	-C
13	SHAPE 180 DEGREES	+A	0	+A	0	0	+A	0	0	0
14	TRANSITION A ₁₈₀	+A	+C	+A +B(D)	+C	+C	+A+E(B+C-2AD)	0	0	0
15	TRANSITION B ₁₈₀	+A(1+D)	+C	+A +B(D+E)	+C	+C	+A+2E(B+C-2AD)	0	0	0
16	TRANSITION C ₁₈₀	+A(1+D)	+C	+A +B	+C	+C	+A+(B+C-2AD)	0	0	0
17	TRANSITION D ₁₈₀	+(A-C) +D(A-C)	+C	+B +A(D+E)	+C	+C	(+B+A(1-D))-AE(1-D)	+C	+C	+C
18	TRANSITION E ₁₈₀	+B +C	+C	+B +A(D)	+C	+C	(+B+A(1-D))-2AE(1-D)	+C	+C	+C
19	SHAPE 270 DEGREES	+B	+C	+B	+C	+C	+B	+C	+C	+C
20	TRANSITION A ₂₇₀	+B	0	+B(1-D)	0	0	+B-E(B+C-2AD)	+C	+C	+C
21	TRANSITION B ₂₇₀	0	-C	+B(1-D-E)	0	0	+B-2E(B+C-2AD)	+C	+C	+C
22	TRANSITION C ₂₇₀	0	-C	0	0	0	+AD	0	0	0
23	TRANSITION D ₂₇₀	0	-C	-B(1-D-E)	0	0	+E(C-B)	0	0	0
24	TRANSITION E ₂₇₀	-B	0	-B(1-D)	0	0	+2E(C-B)	0	0	0

FIG. 32

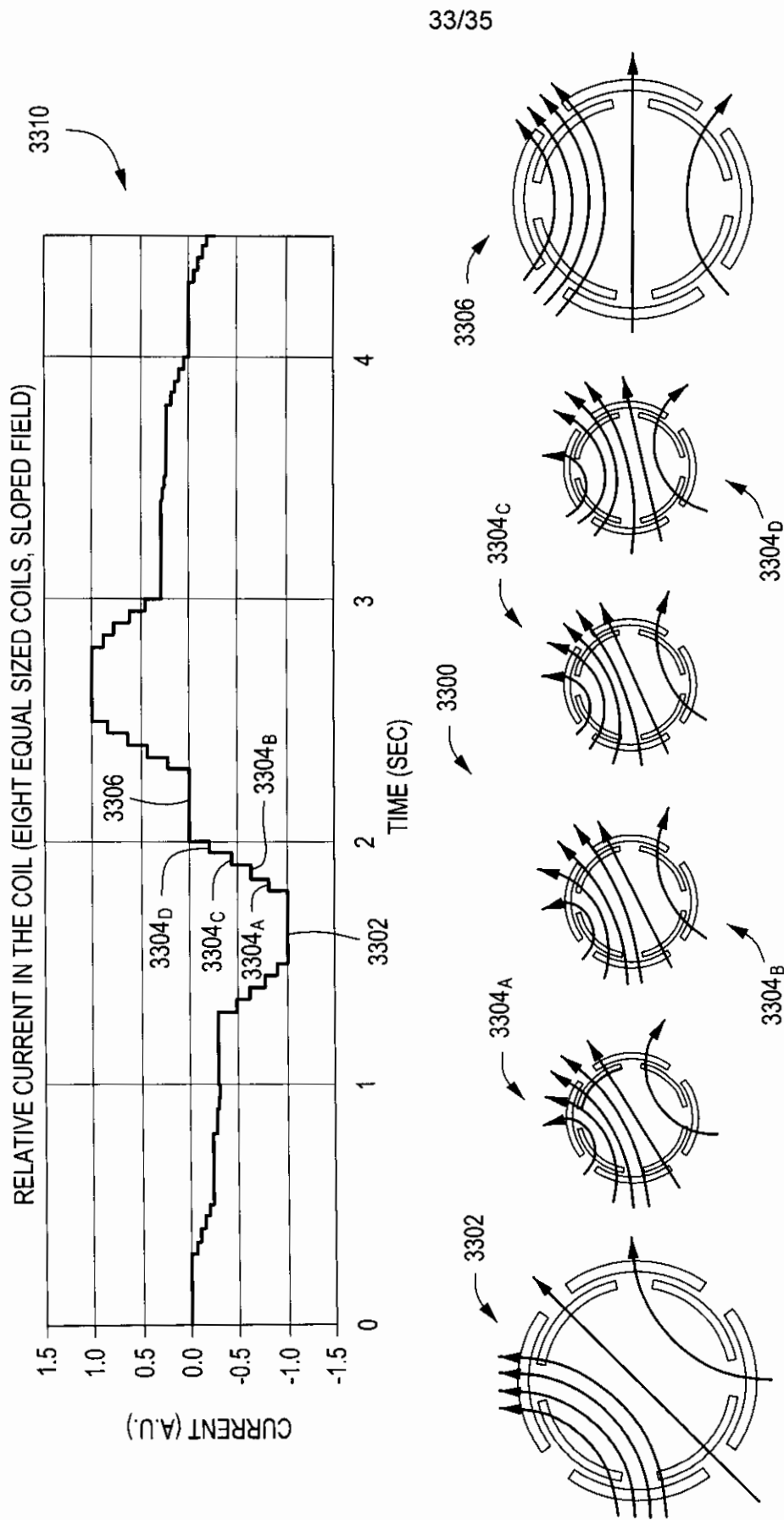


FIG. 33

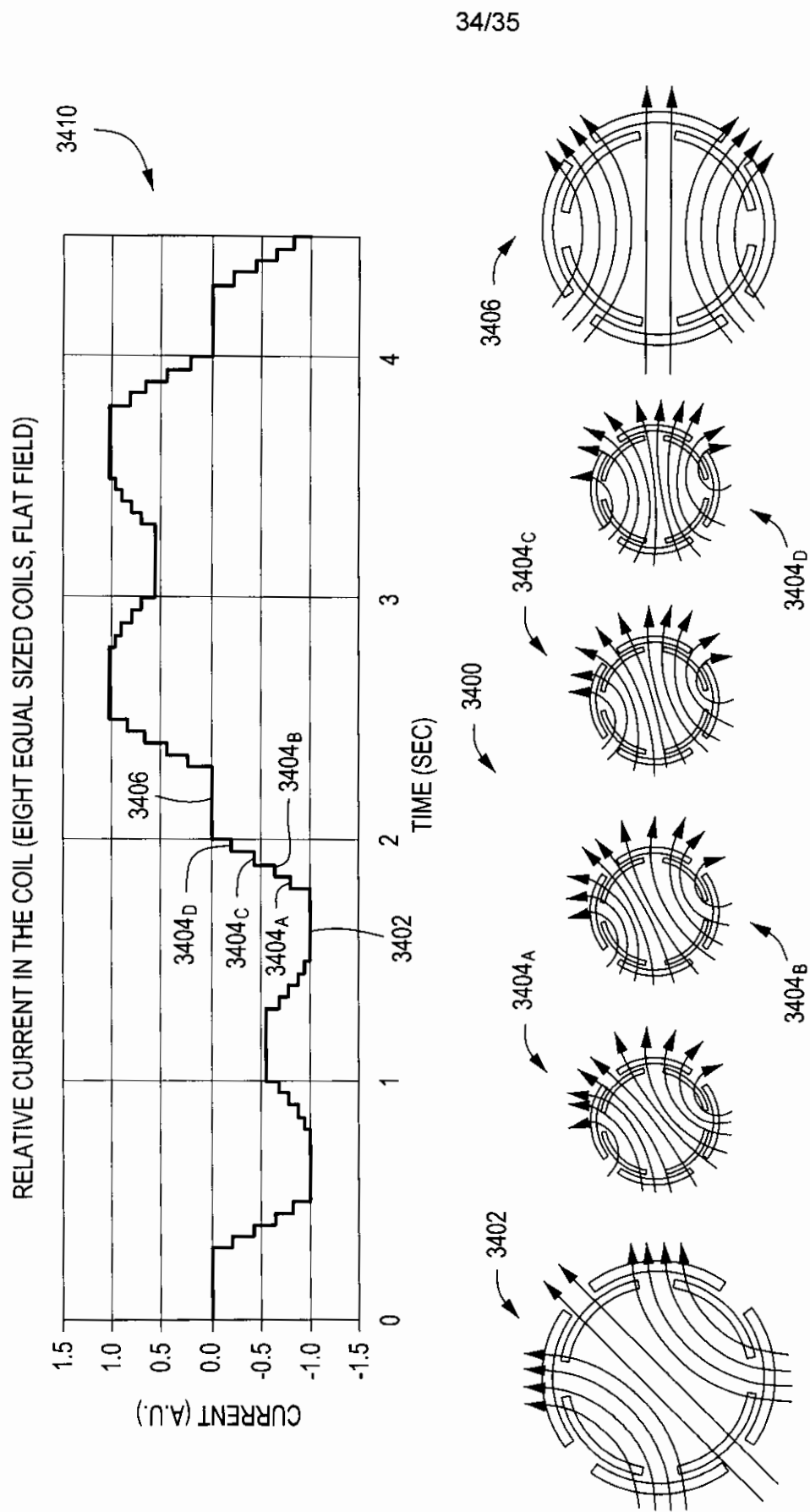


FIG. 34

		TIME (SEC)	SIDE COIL #1				TIME (SEC)	SIDE COIL #1				TIME (SEC)	SIDE COIL #1
1	SHAPE 0 DEGREES	0.00 - 0.30	0.0			21	SHAPE 180 DEGREES	2.00 - 2.30	0.0			2.00 - 2.30	0.0
2	TRANSITION A ₀	0.30 - 0.35	-0.2*B			22	TRANSITION A ₁₈₀	2.30 - 2.35	+0.2*A			2.30 - 2.35	+0.2*A
3	TRANSITION B ₀	0.35 - 0.40	-0.4*B			23	TRANSITION B ₁₈₀	3.35 - 3.40	+0.4*A			3.35 - 3.40	+0.4*A
4	TRANSITION C ₀	0.40 - 0.45	-0.6*B			24	TRANSITION C ₁₈₀	3.40 - 3.45	+0.6*A			3.40 - 3.45	+0.6*A
5	TRANSITION D ₀	0.45 - 0.50	-0.8*B			25	TRANSITION D ₁₈₀	3.45 - 3.50	+0.8*A			3.45 - 3.50	+0.8*A
6	SHAPE 45 DEGREES	0.50 - 0.80	-B			26	SHAPE 225 DEGREES	2.50 - 2.80	+A			2.50 - 2.80	+A
7	TRANSITION A ₄₅	0.80 - 0.85	-B - 0.2*(C-B)			27	TRANSITION A ₂₂₅	2.80 - 2.85	+A - 0.2*(A-C)			2.80 - 2.85	+A - 0.2*(A-C)
8	TRANSITION B ₄₅	0.85 - 0.90	-B - 0.4*(C-B)			28	TRANSITION B ₂₂₅	2.85 - 2.90	+A - 0.4*(A-C)			2.85 - 2.90	+A - 0.4*(A-C)
9	TRANSITION C ₄₅	0.90 - 0.95	-B - 0.6*(C-B)			29	TRANSITION C ₂₂₅	2.90 - 2.95	+A - 0.6*(A-C)			2.90 - 2.95	+A - 0.6*(A-C)
10	TRANSITION D ₄₅	0.95 - 1.00	-B - 0.8*(C-B)			30	TRANSITION D ₂₂₅	2.95 - 3.00	+A - 0.8*(A-C)			2.95 - 3.00	+A - 0.8*(A-C)
11	SHAPE 90 DEGREES	1.00 - 1.30	-C			31	SHAPE 270 DEGREES	3.00 - 3.30	+C			3.00 - 3.30	+C
12	TRANSITION A ₉₀	1.30 - 1.35	-C - 0.2*(A-C)			32	TRANSITION A ₂₇₀	3.30 - 3.35	+C - 0.2*(C-B)			3.30 - 3.35	+C - 0.2*(C-B)
13	TRANSITION B ₉₀	1.35 - 1.40	-C - 0.4*(A-C)			33	TRANSITION B ₂₇₀	3.35 - 3.40	+C - 0.4*(C-B)			3.35 - 3.40	+C - 0.4*(C-B)
14	TRANSITION C ₉₀	1.40 - 1.45	-C - 0.6*(A-C)			34	TRANSITION C ₂₇₀	3.40 - 3.45	+C - 0.6*(C-B)			3.40 - 3.45	+C - 0.6*(C-B)
15	TRANSITION D ₉₀	1.45 - 1.50	-C - 0.8*(A-C)			35	TRANSITION D ₂₇₀	3.45 - 3.50	+C - 0.8*(C-B)			3.45 - 3.50	+C - 0.8*(C-B)
16	SHAPE 135 DEGREES	1.50 - 1.80	-A			36	SHAPE 315 DEGREES	3.50 - 3.80	+B			3.50 - 3.80	+B
17	TRANSITION A ₁₃₅	1.80 - 1.85	-0.8*A			37	TRANSITION A ₃₁₅	3.80 - 3.85	+0.8*B			3.80 - 3.85	+0.8*B
18	TRANSITION B ₁₃₅	1.85 - 1.90	-0.6*A			38	TRANSITION B ₃₁₅	3.85 - 3.90	+0.6*B			3.85 - 3.90	+0.6*B
19	TRANSITION C ₁₃₅	1.90 - 1.95	-0.4*A			39	TRANSITION C ₃₁₅	3.90 - 3.95	+0.4*B			3.90 - 3.95	+0.4*B
20	TRANSITION D ₁₃₅	1.95 - 2.00	-0.2*A			40	TRANSITION D ₃₁₅	3.95 - 4.00	+0.2*B			3.95 - 4.00	+0.2*B

FIG. 35