FIG. 1

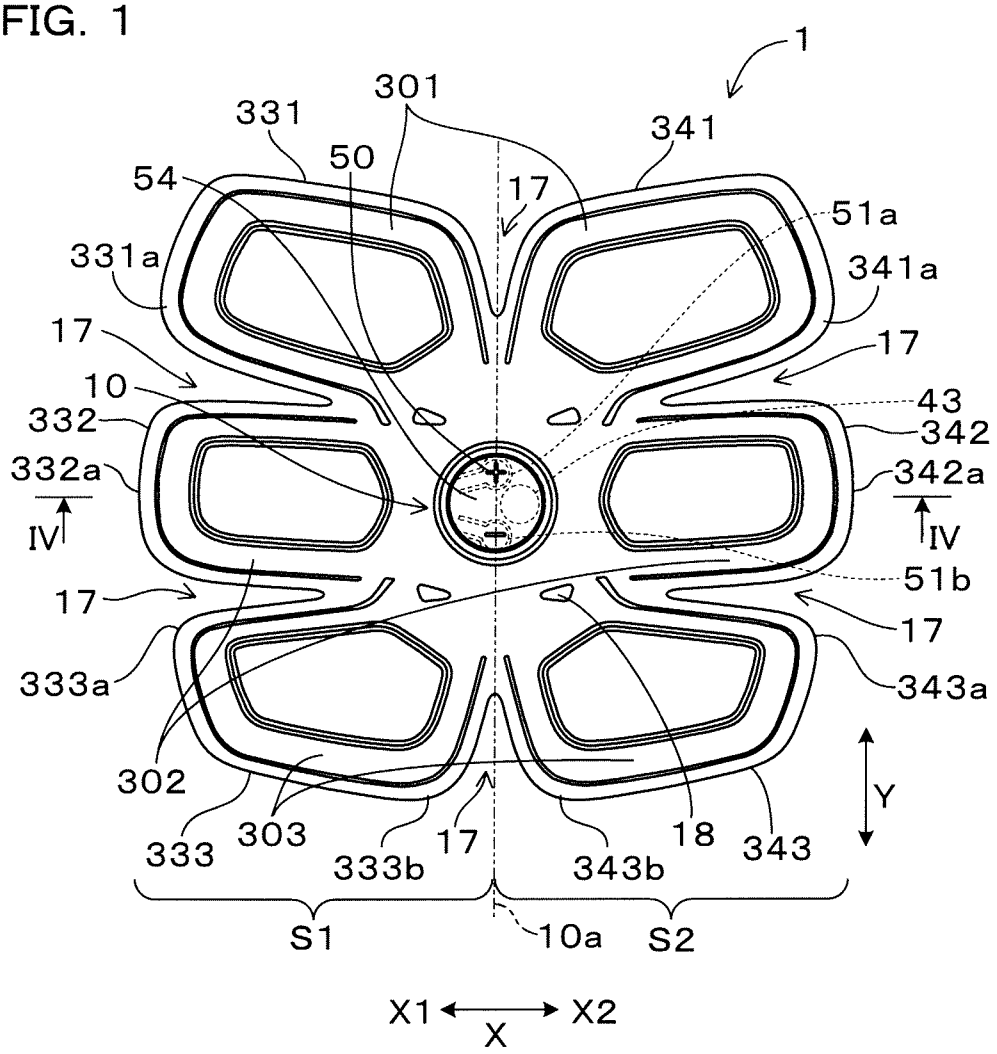

1
301
331
341
50
54
17
51a
331a
341a
17
17
10
43
332
342
332a
342a
IV
IV
51b
17
17
333a
343a
302
Y
333
303
333b
17
343b
18
343
S1
10a
S2
X1
X2
X

FIG. 2

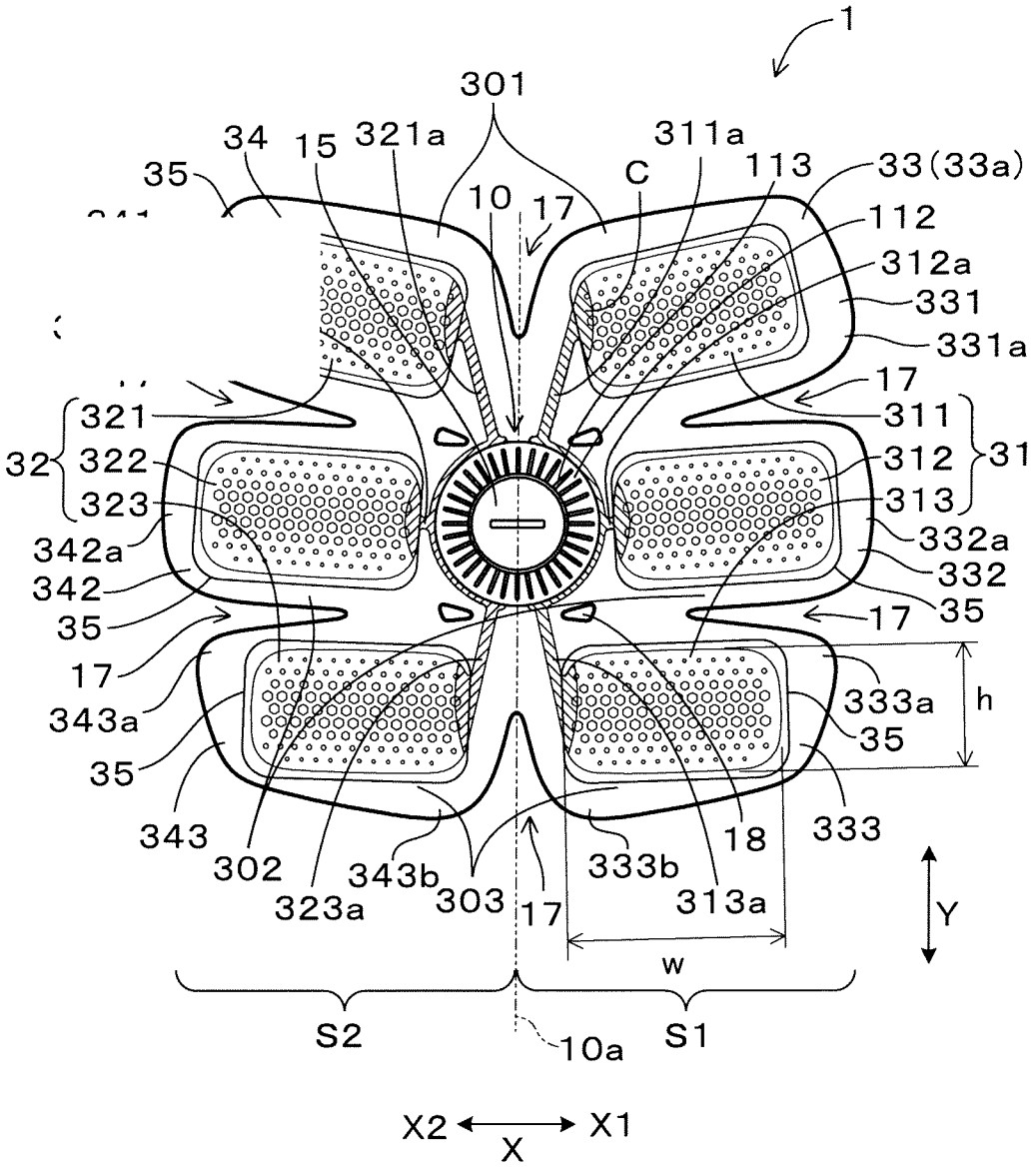

1
301
34
15
321a
311a
35
C
113
33(33a)
10
17
112
312a
331
331a
17
321
311
32
322
312
31
323
313
342a
332a
342
332
35
17
35
17
333a
h
343a
35
35
343
302
323a
343b
303
17
333b
18
313a
333
Y
w
S2
10a
S1
X2
X1
X

FIG. 3

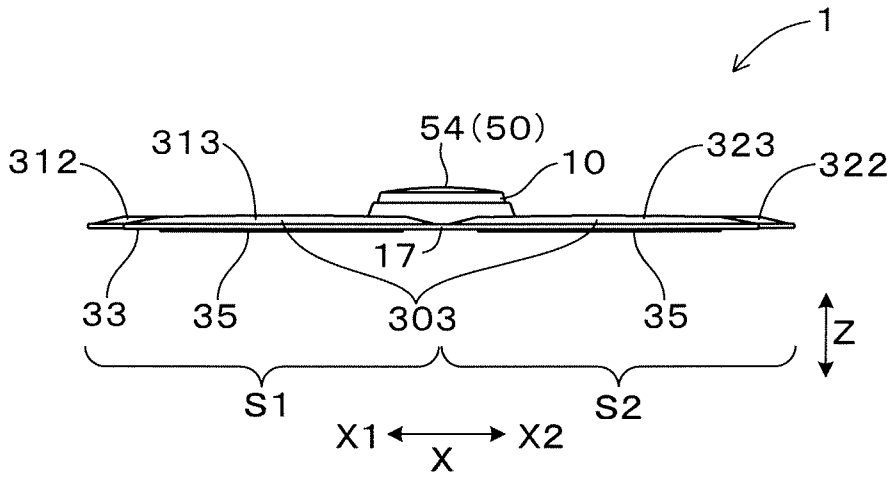

1
54(50)
312
313
10
323
322
17
33
35
303
35
Z
S1
S2
X1
X2
X

FIG. 4

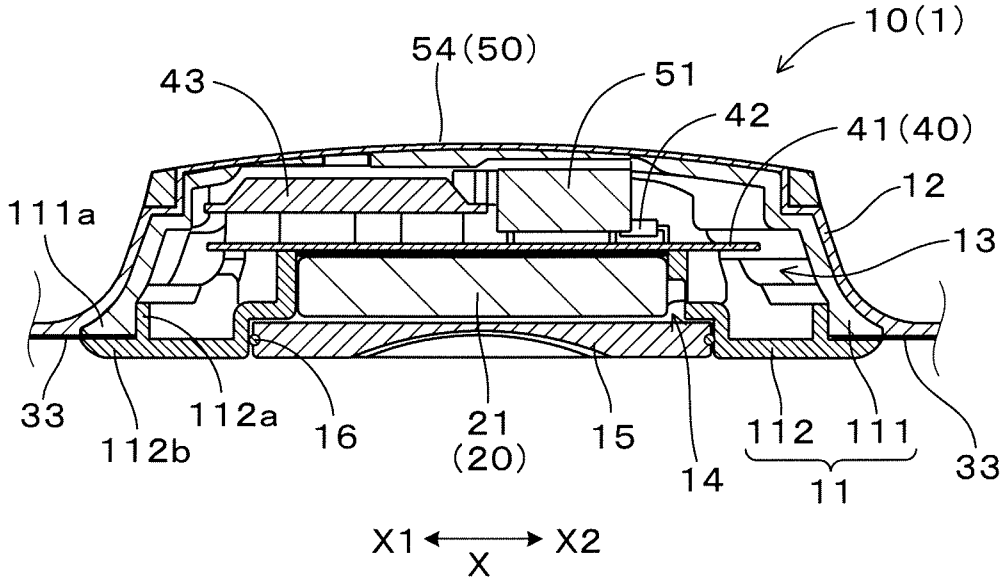

10(1)
54(50)
43
51
42
41(40)
12
111a
13
33
112b
112a
16
21
(20)
15
14
112
111
11
33
X1
X2
X

FIG. 5

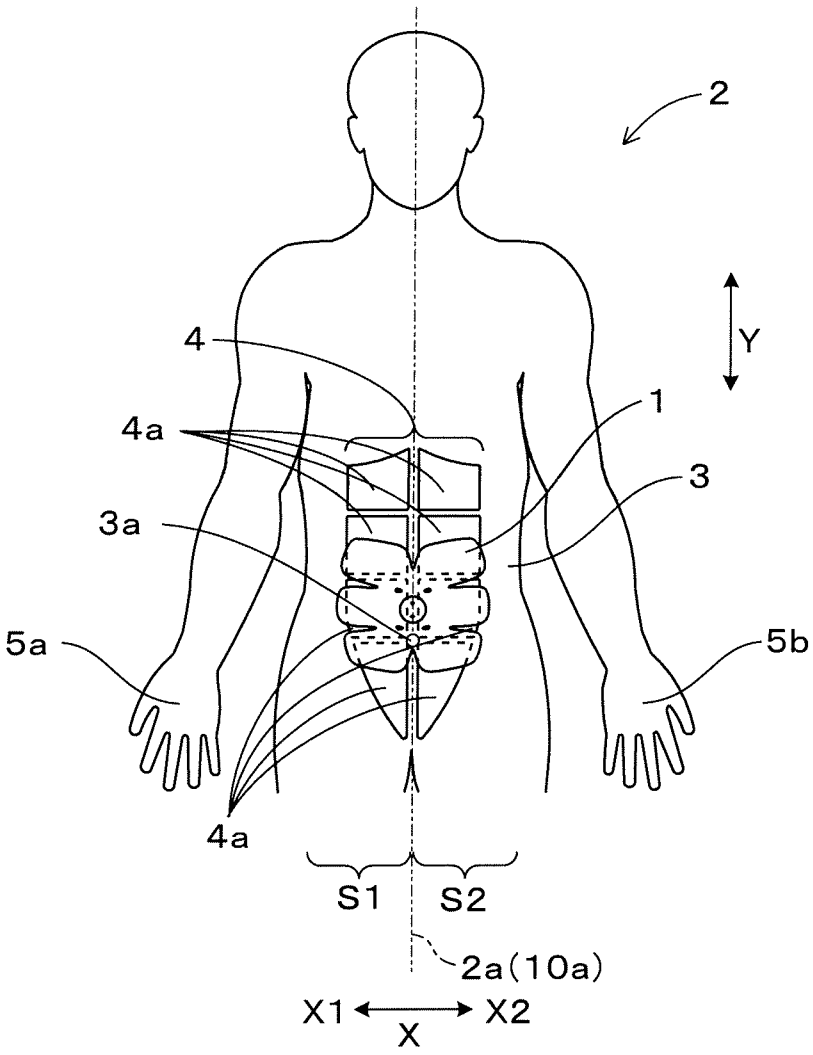


FIG. 6

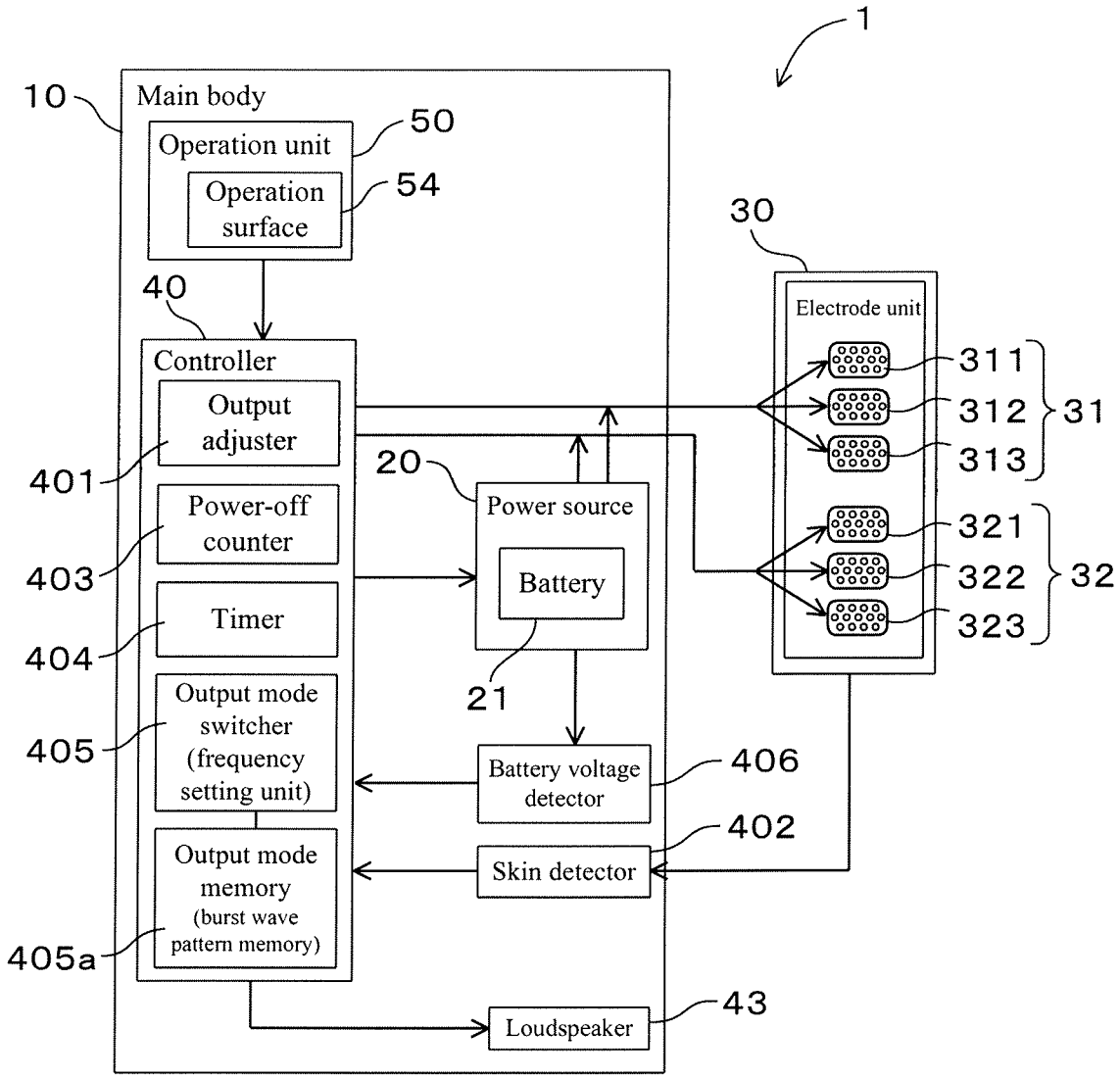
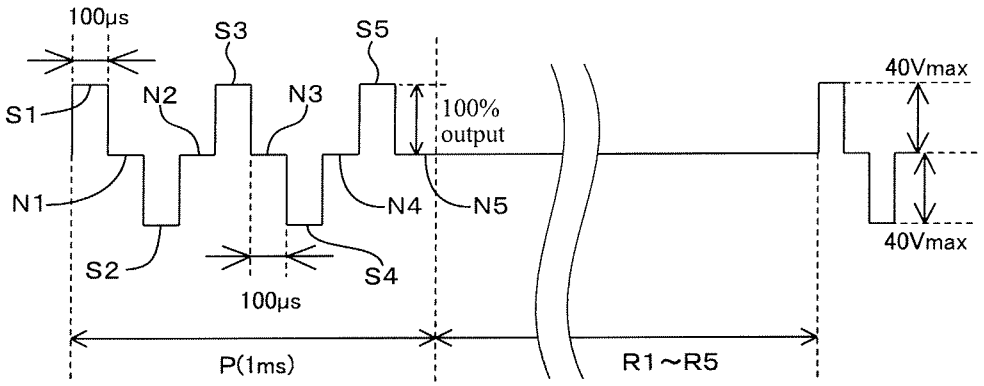

1
10
Main body
Operation unit
50
Operation surface
54
40
Controller
Output adjuster
401
Power-off counter
403
Timer
404
Output mode switcher (frequency setting unit)
405
Output mode memory (burst wave pattern memory)
405a
20
Power source
Battery
21
Battery voltage detector
406
Skin detector
402
Loudspeaker
43
30
Electrode unit
311
312
313
31
321
322
323
32

FIG. 7

Basic waveforms B1 to B5



Basic waveform B1 (2 Hz, 500 ms) = P (1 ms) + R1 (499 ms)
Basic waveform B2 (4 Hz, 250 ms) = P (1 ms) + R2 (249 ms)
Basic waveform B3 (8 Hz, 125 ms) = P (1 ms) + R3 (124 ms)
Basic waveform B4 (16 Hz, 62.5 ms) = P (1 ms) + R4 (61.5 ms)
Basic waveform B5 (20 Hz, 50 ms) = P (1 ms) + R5 (49 ms)

FIG. 8(a)

First burst wave (2 Hz)

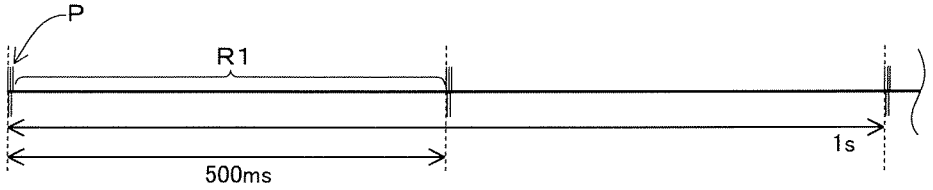


FIG. 8(b)

Second burst wave (4 Hz)

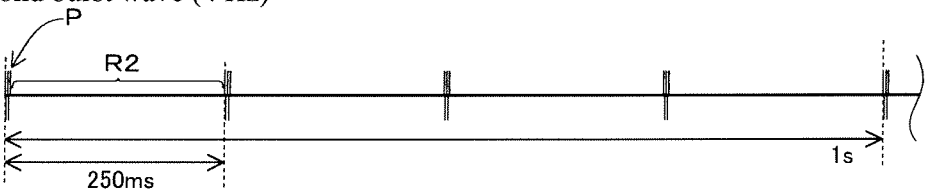


FIG. 8(c)

Third burst wave (8 Hz)

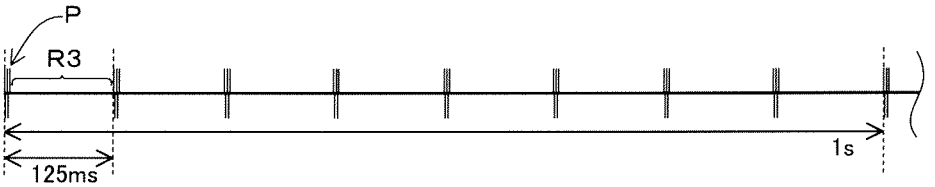


FIG. 8(d)

Fourth burst wave (16 Hz)

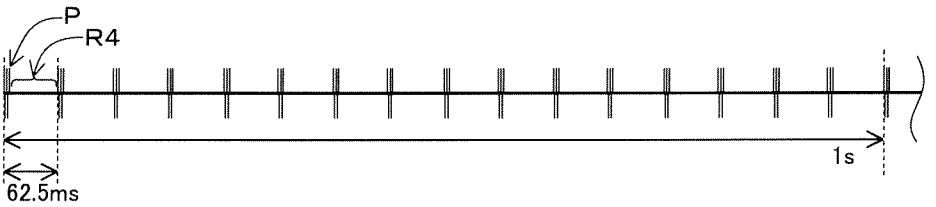


FIG. 8(e)

Fifth burst wave (20 Hz)

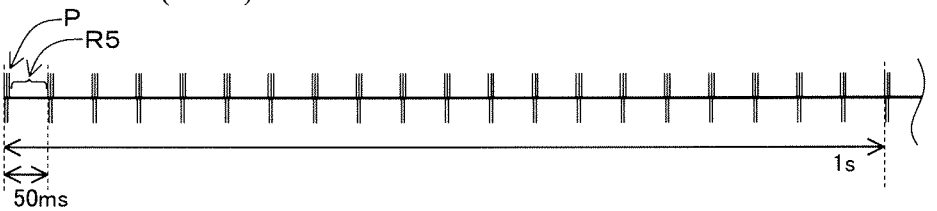


FIG. 9

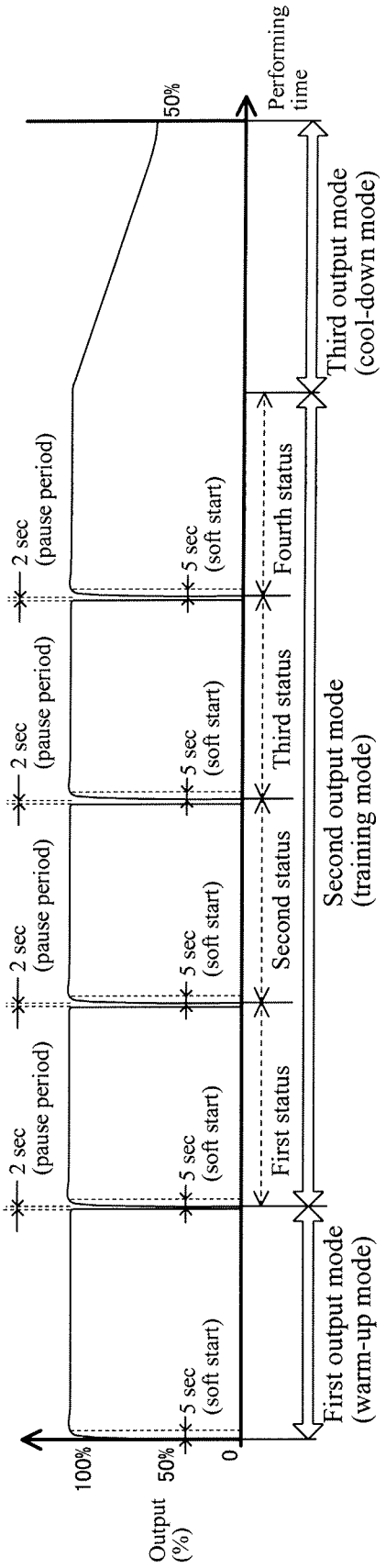

Output (%)
100%
50%
0
Performing time
50%
First output mode (warm-up mode)
Second output mode (training mode)
Third output mode (cool-down mode)
First status
Second status
Third status
Fourth status
5 sec (soft start)
2 sec (pause period)

FIG. 10

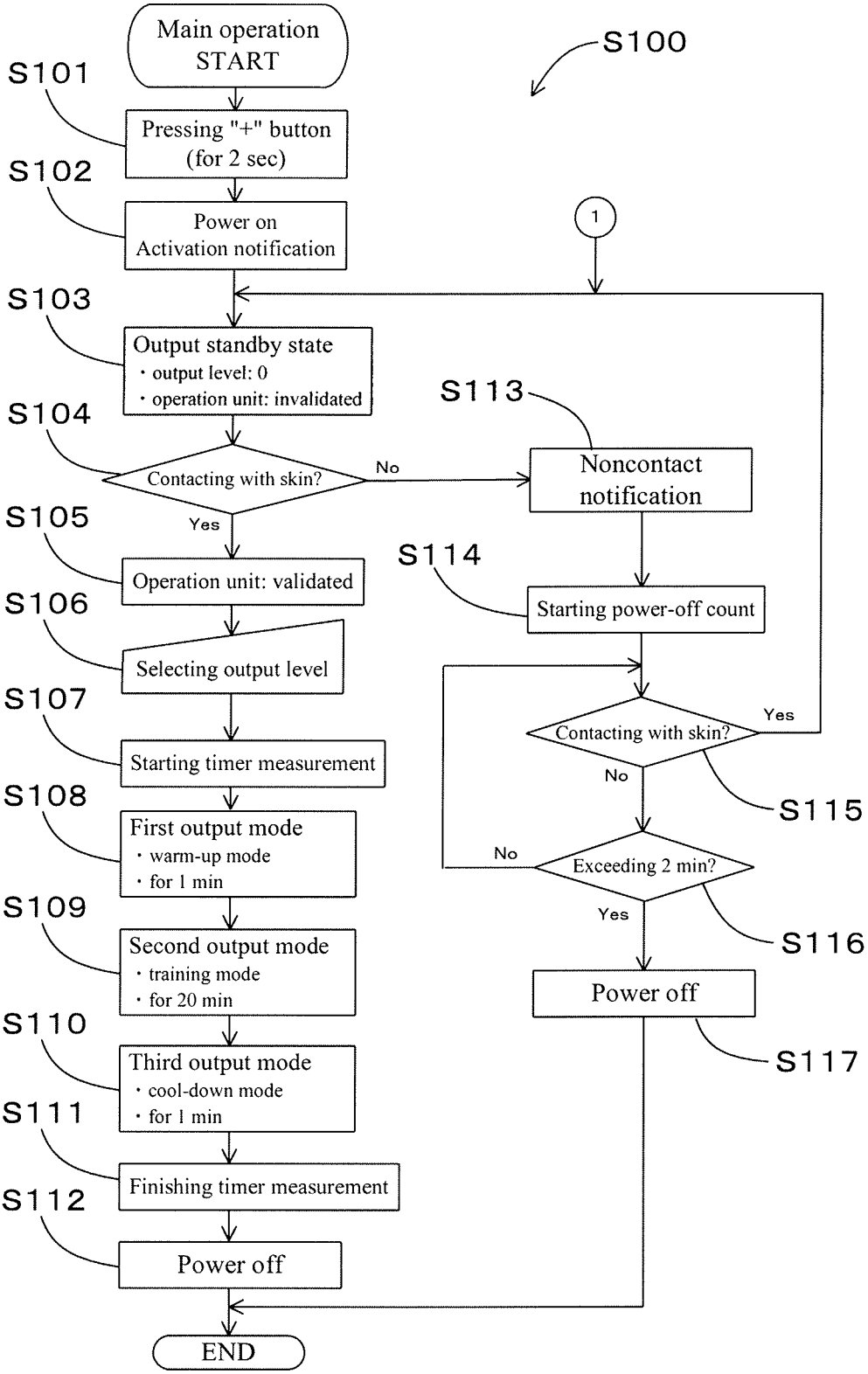

Main operation START
S100
S101
Pressing "+" button (for 2 sec)
S102
Power on Activation notification
1
S103
Output standby state
・output level: 0
・operation unit: invalidated
S104
Contacting with skin?
No
S113
Noncontact notification
Yes
S105
Operation unit: validated
S114
Starting power-off count
S106
Selecting output level
S107
Starting timer measurement
Yes
Contacting with skin?
No
S115
S108
First output mode
・warm-up mode
・for 1 min
No
Exceeding 2 min?
Yes
S116
S109
Second output mode
・training mode
・for 20 min
Power off
S117
S110
Third output mode
・cool-down mode
・for 1 min
S111
Finishing timer measurement
S112
Power off
END

FIG. 11

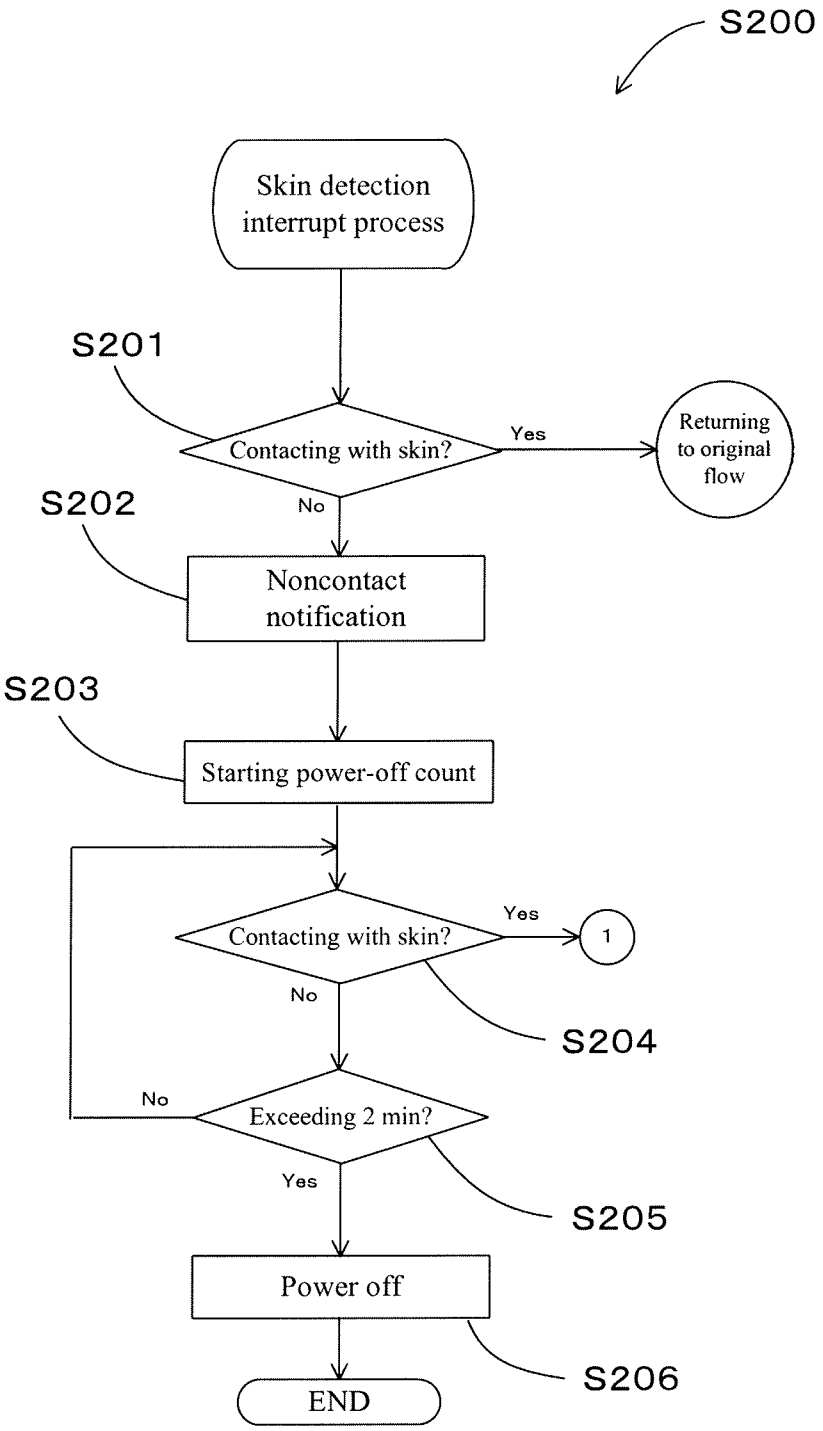

S200
Skin detection interrupt process
S201
Contacting with skin?
Yes
Returning to original flow
No
S202
Noncontact notification
S203
Starting power-off count
Contacting with skin?
Yes
1
No
S204
No
Exceeding 2 min?
Yes
S205
Power off
S206
END

FIG. 12

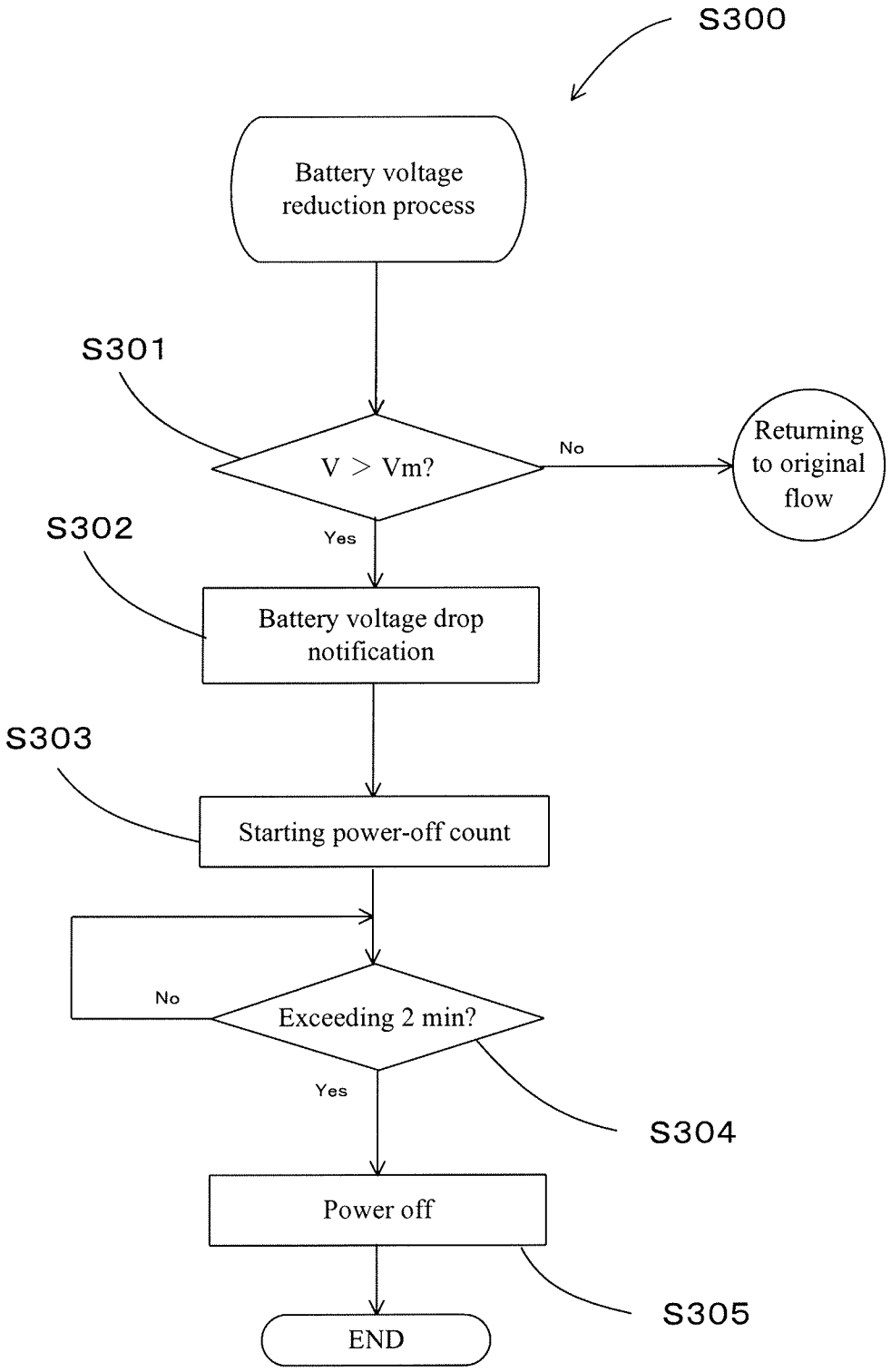

S300
Battery voltage reduction process
S301
V > Vm?
No
Returning to original flow
Yes
S302
Battery voltage drop notification
S303
Starting power-off count
No
Exceeding 2 min?
Yes
S304
Power off
S305
END

FIG. 13

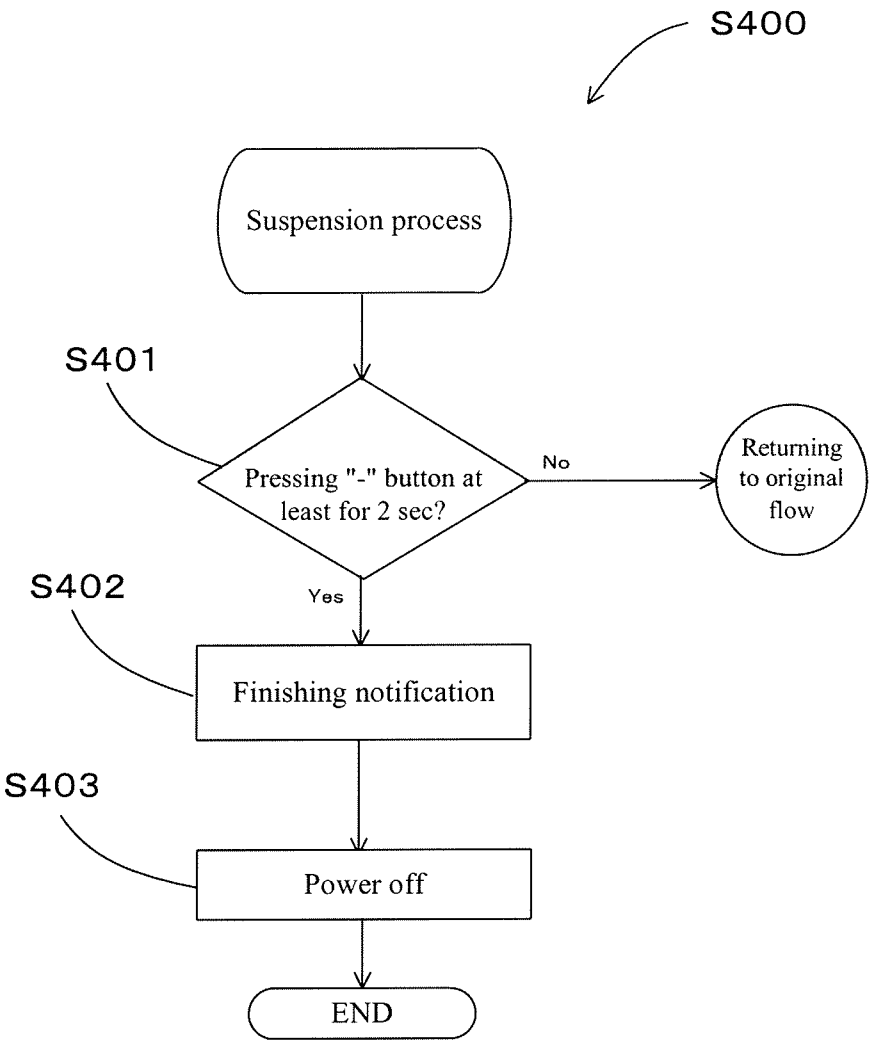

S400
Suspension process
S401
Pressing "-" button at least for 2 sec?
No
Returning to original flow
Yes
S402
Finishing notification
S403
Power off
END

FIG. 14

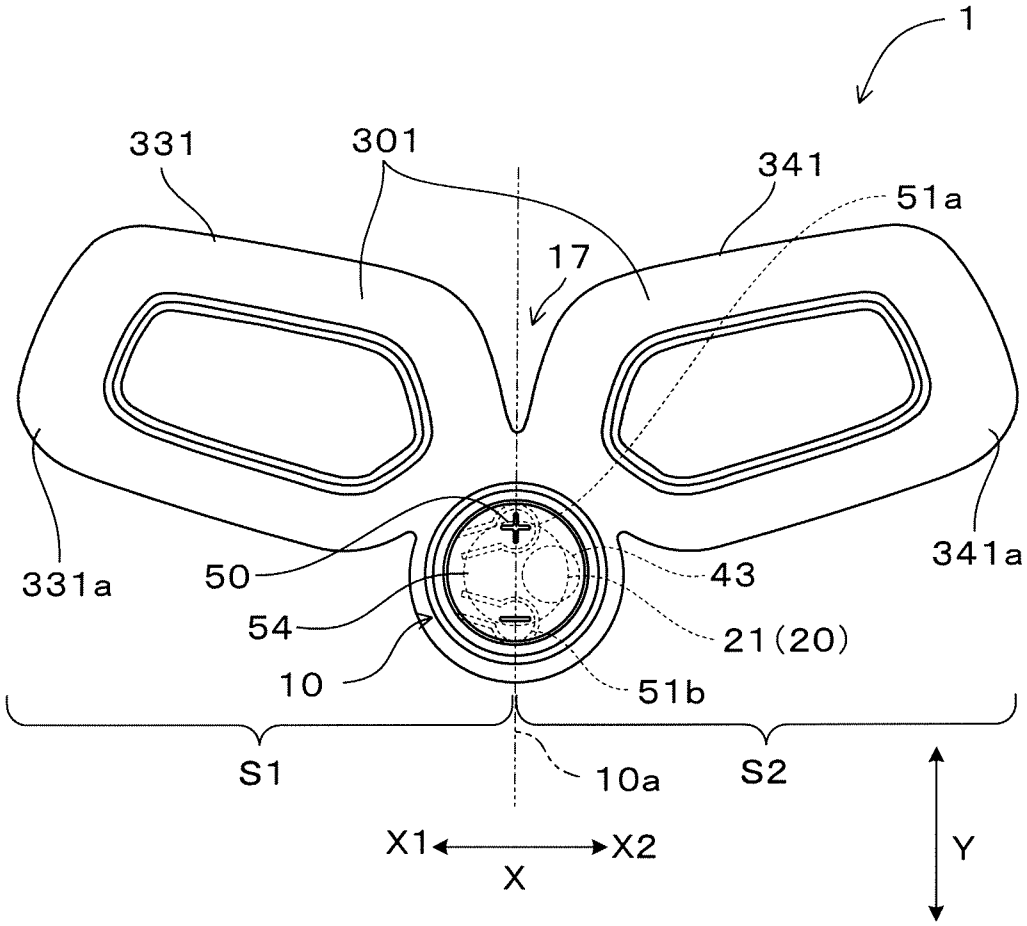

1
331
301
341
51a
17
331a
50
43
341a
54
21(20)
10
51b
S1
10a
S2
X1
X2
X
Y

FIG. 15

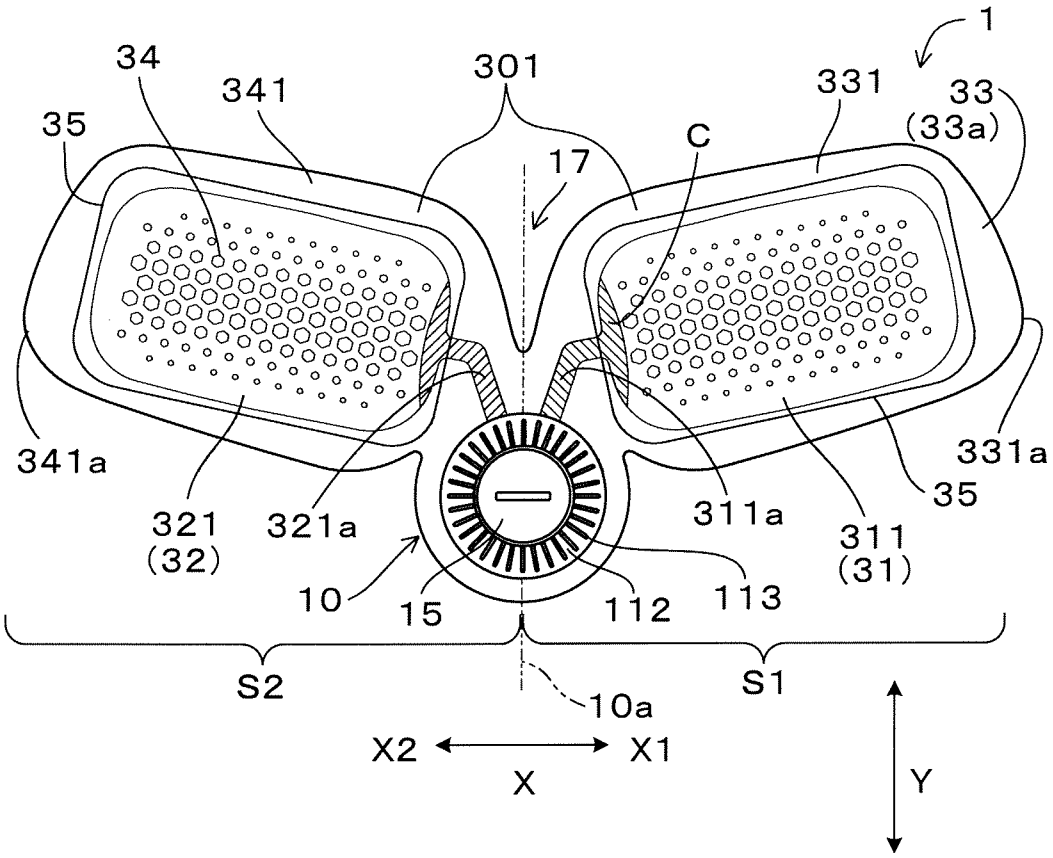
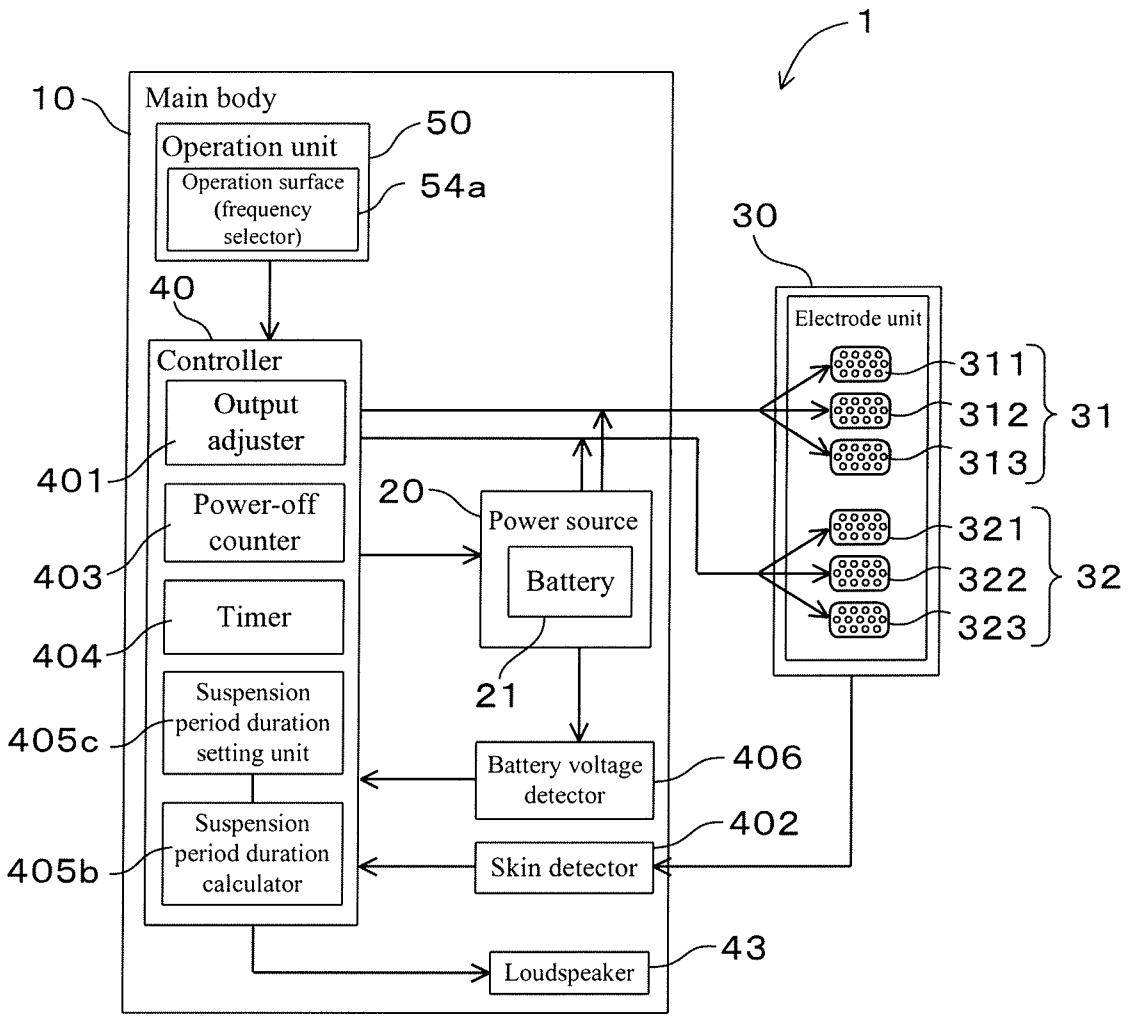

1
34
341
301
331
33
(33a)
35
C
17
341a
331a
321
(32)
321a
311a
35
311
(31)
10
15
112
113
S2
S1
10a
X2
X1
X
Y

FIG. 16


1
10
Main body
Operation unit
50
Operation surface (frequency selector)
54a
30
40
Electrode unit
Controller
311
312
313
31
Output adjuster
401
Power-off counter
403
Timer
404
20
Power source
Battery
21
321
322
323
32
Suspension period duration setting unit
405c
Battery voltage detector
406
Suspension period duration calculator
405b
Skin detector
402
Loudspeaker
43