

2004 09 30
10-0449842
2004 09 13

[illegible]

49408 6414

49301	2990
49417	1700
94947	.6
49505	.1054

(74)

:

(54)

system) (20) (22) . WTS (20) UV (point-of-use) (24) 2 (WTS: water treatment
 (92) (26)가 1 (74) (90) (24)가
 2 1 2 (26) 2 가 (24) (bulb) (26),
 (24) (22) (84) (24) (444)
 가 (24)가 (80)
 (82) (24)
 (400) 가 (24)가 가 (82, 402
) V 가 (250) (250) (24) () U
 (250)

5

, , , ,

1 WTS
 2 WTS
 3 WTS
 4 가 가 WTS

5 WTS
6a 6e , 6c 6E 6b 6C-6C , 6c 6D
7a 7f , , 7c 7D-7D ,
8a 8c ,
9a 9c , 9b 9C-9C
10a 10e , ,
11a 11c ,
12a 12c ,
13a 13c 2 , 13b 13C-13C
14
15a 15b
16
17
18
19
20a 20b
21a 21b
22 UV
23a 23d UV , UV ,
24 23b 23d UV
25a 25f , , , ,
26a 26c ,
27a 27f , , ,
28a 28d , , 28b 28C-28C , 28b
28D-28D
29a 29c , 29b 29C-29C
30a 30c ,
31a 31d , , 13b 31D-31D
32a 32c ,
33a 33c ,
34a 34e , ,
35a 35b
36a 36d , 36b 36C-36C
37 WTS 3 37-37
38 2 38-38
39 40 39-39
40 39 40-40
41 39 41-41
42 39 42-42
43 39 43-43

< >

20 :
22 :
24 :
26 :
90 :
92 :
96 :
100 :
102 :

35 U.S.C. § 199 (e) , 1999 6 21 가
60/140,090 , 1999 6 21 가
60/140,159 ,
가
가
(WTS:Water Treatment System) 가
UV
WTS 가 , UV 가 가 WTS
UV 가 WTS
WTS
가
WTS UV
UV
UV
WTS WTS 가 WTS
가 WTS
가 WTS
WTS
WTS 가
가 WTS
UV WTS UV
가 UV
S WTS
WTS
WTS
WTS
2 , UV 2 , 1 2
2 가 2
가
가

가 , 가 . 가 UV
 , 2 . 가
 , 가 가
 가 , 가 가
 , 가 가
 , 가 가
 , UV 가 UV 가 가 가
 UV 가 가 가
 가 , 가 가 ,
 가 UV ,
 (RFID: radio frequency identification) ,
 RFID
 가
 가 WTS
 1 2 WTS
 , 1 UV WTS 2
 WTS , UV UV
 가 가 가 가
 가 WTS WTS UV UV
 가 UV UV 가 WTS
 , UV UV 가가 가 가 가
 UV UV , UV 가
 가

(WTS) (20) 1 (22), (24) 2 3 WTS
 (20) WTS (20) 가 가 (26) (26)
 (22) (24)가 (22) (26) (22) (24)
 (22) (26) (24) WTS (20)
 1 3 (22) (bayonet) (32), (34), (36) (40)
 (42)가 (36) (42) WTS (20)

2 WTS (20) 3
 (44) (34) 4 (40)가 (26)
 (24)가 (22)
 5 , WTS (20) (22) 3
 (52), (54), (56), (62, 64)
 (32) (60) (66)가 (50)
 (32), (36) (42), (34) (40) (40)
 (68) (40) (70) (70) WTS (2
 0) (70) (66)
 WTS (20) 가
 (24) (72), 2 (74), (76), (78),
 (80), UV (82), (26)
 (90), (92), (94), (96) (98)
 WTS (20)
 A.
 6a 6e (26) (88), (96),
 (100), (102), (92), (94), (104)
 (98) (98) (96)
 가 (88) (106) (108) (110)
 (90) (88) (90)
 (110) (90)
 (112) (112) (92)
 (66)
 6c 6d (112) (88) (96) (104)
 (92) (104)
 (88) (94) (92)
 (92) (94)
 (100) (92) (96) 가 (92) (102)
 (92) (88) (108) 가 (114)
 6d (106) (116) (116) 4 (116)
 (120)가 (114) (90) (108)
 122) (124, 126) 6e (136)
 (132, 134) (130), (90) 4 (140)
 (108) (92) (102) 가 (144)
 (96) (142) (144) (146)가 6c 6d
 (148) (146) (92) (146)가 . EMA
 (92) 7a 7f (92) (150),
 (152) (154) (154) (160)가 (102)
 156) . 3 (162) (160) (164)가 (152)
 (24)() (166)
 6d (150) (104) , (174) (172) ,
 (100) 3 (176) (170)
 7a 7d , 3 (178) L (180)
 (26)가 (50) (26)가 (22)
 (178) (186) (186)
 (186) (112) (184) (22)
 (66) (150)
 (94) (192) (94) (94) 6c 6d (9
 2) (152) (92) (94) (150)
) (92)

(26) (94) (150) (92)
 (152) (94) (152) (102)
 (100) (174) (176) (104) (92) (150) (108) (104)
 (164) (162) (102) (162) (94) (26) (88) (150) (104)
 (170) (102) (92) (152) (26) (108) (104)
 140) (88) (88) (92) (94) (96) (148) (150) (15
 0) (88) (EMA WELD) (96) (146) EMA (112) (12)
 (184) 가 (20) 6c 6d (26)
 WTS (172) (100) (174) (25) (172)
 가 (100) (174) (88) (106) (90)
 (92) (150) (90) (90) (92) (136)
 가 (154) (102) (164) (26)가 (22) (26)
) 가 (26) (102) (164) (26)가 (26)
 (24) (24) (102) (164) (26)
 (26)
 B.
 8a 8c (24) (24) (72), 2 (74),
 (76), (78), (80), UV (82), O- (84),
 (86)
 9a 9c (72) (72) (200), O- (202),
 (204) (206) (200) (210) (212) (214) (21
 14) (212) (222) (220) (224) (228)
 (206) (210) (226) (232) (212)
 0) (230) L (24) (58) 가
 212) (232) WTS (20) (234) (230) 가 (24) 가
 O- (202) (24)가 (22) (24) (72)
 (206) UV (204) 37 38 O- (202) (72) (58)
 (76)
 (76) 10a (244) 10b 10e (246)가
 (240) O- (250) (252) (242) (250) (24
 (242) (250) (66) UV (250) (66)
 (76) (252) (24) WTS (20)
 가 WTS (20) WTS (20)
 O- (240) 11a 11c (260) O- (244)
 (286) 2 (74) (260) (264)가 8 (268)가 (240)
) (200) (224) (240) (274) (240)
 240) (242) (240) (240) (72)(9a)
 11c (214) (276) (282) (280) (276) 2
 (284, 286)가 T (284, 286)
 (74) (242) 12a 12c (290) O- (244)
 (240) (260) (290) (292) (80)

) (8a). 6 (294) UV (82)
 (8a). (296) (250) (252)
 (15b). (296) 4 (300)
 (300) (252) (296) (240)
 (302, 304) (306) (296) , 4
 (310) (306) (246) (290)
 (312) (240) (76) .
 O- (10a).
 2 (74) 13a (74) (326) (320) .
 (326) 55 (320) (322) (320)
 (324) (330)가 (324) (322) 2
 (74) (76)(8a) (240) (266)(11a
 11c)
 (250) 14 (250) (342)
 (340) (340) (344) (346) (342)
 (344) (346) (296)
 (252) 15a 15b (252) (350) (352)
 (352) (354)가 (354) (252) (242)
 (296) 4 (302)(12a 12c) (350)
 (360) (24) UV UV (252)
 (362) (252) 가 UV (364) UV
 (82) (24)가 (36) UV
 (252) (24)
 16 (78) (78) (366), (36
 8), O- (370) O- (372) (366) (368) 17 18
 (368) (376) (26)가 (24) (26) (102)
 O- (370) (382) (380)가 (386)
 (374) (384) (384)
)가 (374) (388)가 (366) (368) (384)
 (392)가 O- (372) (24) (390) (394) (368)
 O- (78) (384) (80) 가
 19 (24) (392) (400)
 (405) (86) 20a 20b (400)
 (408) (410) (407)가 가 , (400) (408) (
 410) (400) (400) (416) (400)
 (412, 414)가 (416) (24)가 (400)
 78) (420) O- (370) (424)가 (424)
 (400) (422) (422) (200) (406)
 (76) (400)
 (200) (400)
 (426) (402) (402) (430)
 21a 21b 가 (432) (434) (436) (434)
 (432) 90 ° () (432) , (43)
 6) (430) (438) 가() UV (80)
 22 , UV (82) (440)
 (440) , (436) , (4
 438) (430) (436) UV
 40) (402) 가 , (402) (80)
 (82) (402) 1 (402) (440)
 (440) (80) , 가 (402) 3
 (80) 40% 가

(402) UV (402) (facet) (440)

(402) (80)

23a UV (82) UV (82) 가 가 2 (440) (446)

(442)가 2 (440) (444) (446)

가 2 (446) UV (82) (448) (446) (24) (Ne-Ar)

가 2 (74) UV 99.5 : 0.5 가 99 : 1 (Hg)

(440) UV (82) 가 (440)

가 UV 가

WTS (20) UV 가

WTS (444) (442) (444)

가

Hg가 254 UV UV 가 (24)

(80) UV (82) (80) O- (84) WTS

(20) UV (82)가 , O- (84) (440) (24)가

(440) O- (84) (440) O- (84) O- (84) (444)

(444) (82) (444)

23b 23d 3가 UV (82) UV (82) Hg가

가 O- (84) (440) 23b 23c , UV (82) 가

(448) , 23d , UV (82) UV (84) O- (82) 2 , t

1 t 2 (t 2) UV (82)가 (t 2) 1.0 가

24 , 가

UV 가 0.84 가 UV (84) O- (84)

가 / 가 UV 0.56 (84)가 (24)가 AI

가 가 , O- (84)

(252) (252) 1% 가

, V826 60-3170 UV 25

(Uniform Color of Holland) 가

4 nm (252) 가 , UV (7

2) WTS (20) 가 가 (252) , UV (252) (24)가

(252) UV (252) 가 (252)

(24) (364) (360) (352)

(252) (362) (360) (362) (444) (3)

64) 가 UV (82) (444)

25f 가 , (252) 25c
 , (360) (364) (262)
 (360) (402) (24)
 UV 가 UV 가 가 , (252)
 (252) (252)
 25f 가 (362) (252) UV
 (252) (24)
 , (362) 가 (82)
 (look up table) (362)
 UV 가 UV 가 UV
 가 UV 가 가
 가 UV 가
 (24) (252) 가
 UV 가 (82)가 UV , (362) 가
 가 (24) (76) 10a
 , O- (244) (240) (242) (250) (296)
 (252) (296) (240)
 (242)가 8a , 2 (74) (322) (330)가
 (76) (240) (266) (366) (368)
 (78)가 16 O- (372)
 UV (82) (440)가 (240) (270, 272) (76)
) 가 (294) (80) (440) (80)가 (206) O- (244)
 가 (82) , O- (84) UV
 (78)가 (80) O- (372) (80)
 , 가 (400) (404) (402) (432) (402)가 (40)
 0) UV (82), (80), (86) (76, 78) 가 (86)
 , (86) , 2 (86) , (408) (410) (407)
 C.
 26a 26c (60) (60) (32),
 (588) (62, 64), 4 (582), (584), (586) C-
 C- (588) (62, 64) (590), (592), O- (594), (596) (598)
 (32)가 26c (602) (606) (604)
 . 3 (610) (50) (32) 4 (614) (66)
 (34, 36) (612) , (602) (606) , 4 (616) (66)
 . 2 (620) (58) (626) (66)
 622, 624) C- (62, 64) (632, 634)가 WTS (20)
 (66)가 27a 27f (66) (648),
 (650), (652), 1 (656), (654), (660), (flow hall effect)
 (662), VFD(664), (666) (668) (676) (672) (32)
 672), (662)가 (674) (676) (674, 676) (50) (56)
 (610)가 가 (648) (22) (616)
 가 (654) (674) (676) (674) (252) 가
 (112, 250) (668) (40) (70) (22)
 (650)

28a 28d (58), (704), (706),
 (710) (712) (58) (714); (722) (714)
 (716, 720); (724) 28b (726) (24)
 (714) L (728) (716, 720) (730, 7
 (232) (730, 732) (24)가 (56)
 32)가 (252) (296) (716) (734) (712)
 (24)가 (56) (252) (734) (7
 12) (712) 41 (676) (740)가 (736
) (738)가 (736) (714) (742)
 (704, 710) (738) 4 (742) (742)
) (704, 710) (704) 가 (740)
 (24)가 (58) (704) (24) (200) (206)
 가 (706) (64)
 (24)가 (58) (206) 가 (24)
 (704, 710) (706)
 (706)가 (663)
 , WTS (20) (714) (750)가
 (32) (620) (744) (60)
 (50) (724) (50) 29a 29c (54
 37 (62) (26) (172) (760), (762),
) (764), (766), (768) O- (770) (760)
 (760) O- (775) (762) (772, 774) (776) 가 (766) (7
 64) (762) (26)가 WTS (26)가 (20) (50) (764) 가
 (54) (26) (768) (766) (50)
 (780)가 (768) (766)
 (768) 30a 30c (50) 3 31a 31d (56)가
 (804) (50) (50) (80) (806)
 (80) (650) (80) (810)가
 L 30b 30c (50) (26) (180) 3
 (813)가 (812) (26) (178) (26)가 (50) 3
 (812) (178) (52) (50) 가
 (812) (814)가 (56)
 (56) (22) (50) 3
 (816) 3 (610) (610) (81
 6) (817) (50) 31d 37 (818)
 (818) (822) (824) (820) (818)
 54) (762) (764) (822) (766) (768)
 가 (814) (726)가 (726) (56)
 (724) (730)가 (42) (36)가 (36)
 36) 32a 32c , 33a 33c (852) U (850)
 (42) (850) (854)가 (856)
 (850) (860)가 (852) (852)
 (862)가 (42) (854)
 (34)가 35a 35e (34) (902) (904)
 (36) (904) (860) 가 (906)가 (906) 가
 (910)가

가 (34) 가 (34) (914) (24) (44) (902) 35a 35b (40), (68) (70) 36a 36d (40) (948) (40) (940), (942), (944) (946) (950) (950) (932) (668) (68) (70) (668) (40)가 WTS (20) (22) (50) () (52) (50) (726) (704, 706) (58) (734) (706) (58) (734) (712) (830) (814) (54)가 (50) (818) O- (770) (760) (768) 29a 29c 37 (760) (820) (818) (820) (818) (824) (58) (810) (42) 62) (766) (764) (780) (818) (818) (748) (50) (34)가 (66)가 (650) (36) (36) (62, 64) (32) (748) (60) VFD (60)가 (66) (62, 64) (744) (748) (760) (772) (5) (8) (736) (610) 40 41 (748) (32) (620) (61) 0) 3 (850) (610) (816) 가 (748) (816) (817) 3 (34, 36) 가 (610) (40) (22) 가 (232) (24) (58) L (726) (26) (180) L (812) (24) (26)가 (26) (2) (40) (68) (70) (68) (20) (40) (26) (34, 36) WTS (20) 가 37 가 (34) 가 (62) 가 (54) (50) (54) (172) (100) (174) (106) (96) (90) (92) (90) (108) (136) (1) 08) (92) (154) (26) (24) (376) (102) (2) 6) (92) (164) (388) (24) (160) (80) (656) UV (78) (82) UV (24) (82) UV (252) (252) (712) 가 (676) (112, 250) (65) 4) 38 (402) UV (76) UV (82) UV (76) (80) (264) (72) 가

(206) (704) (72) (228)
 (662) WTS (

20) (706) WTS (20)

(60)

가

UV 2

가

가 2

2

1

가 2

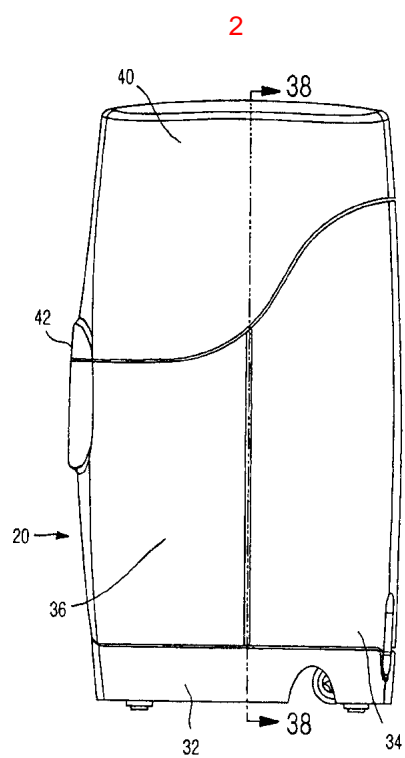
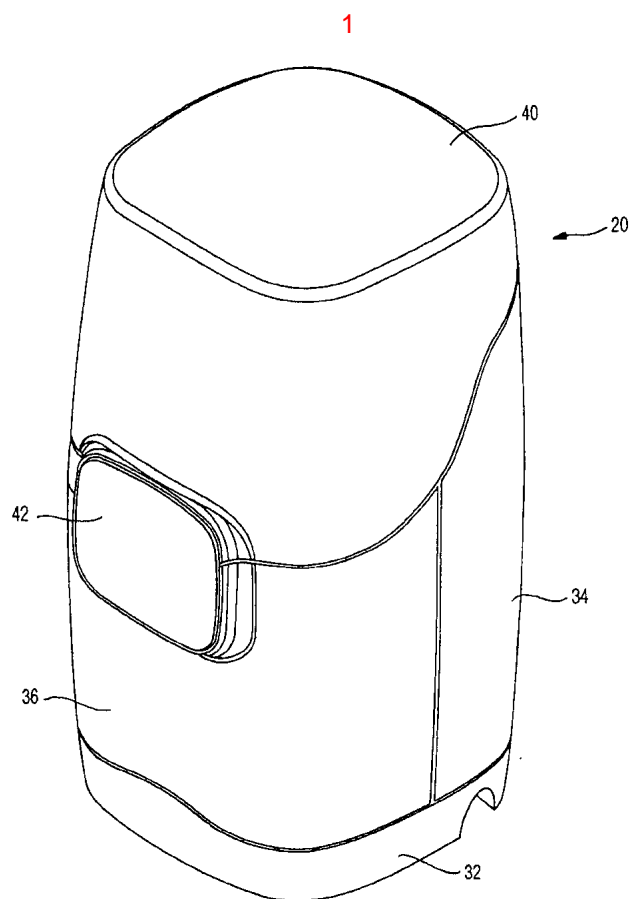
가

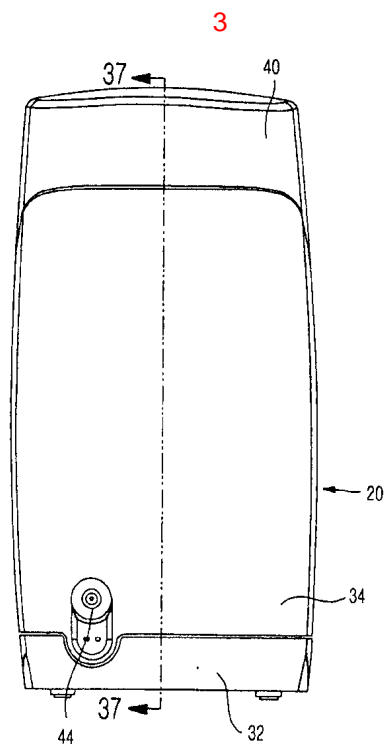
가

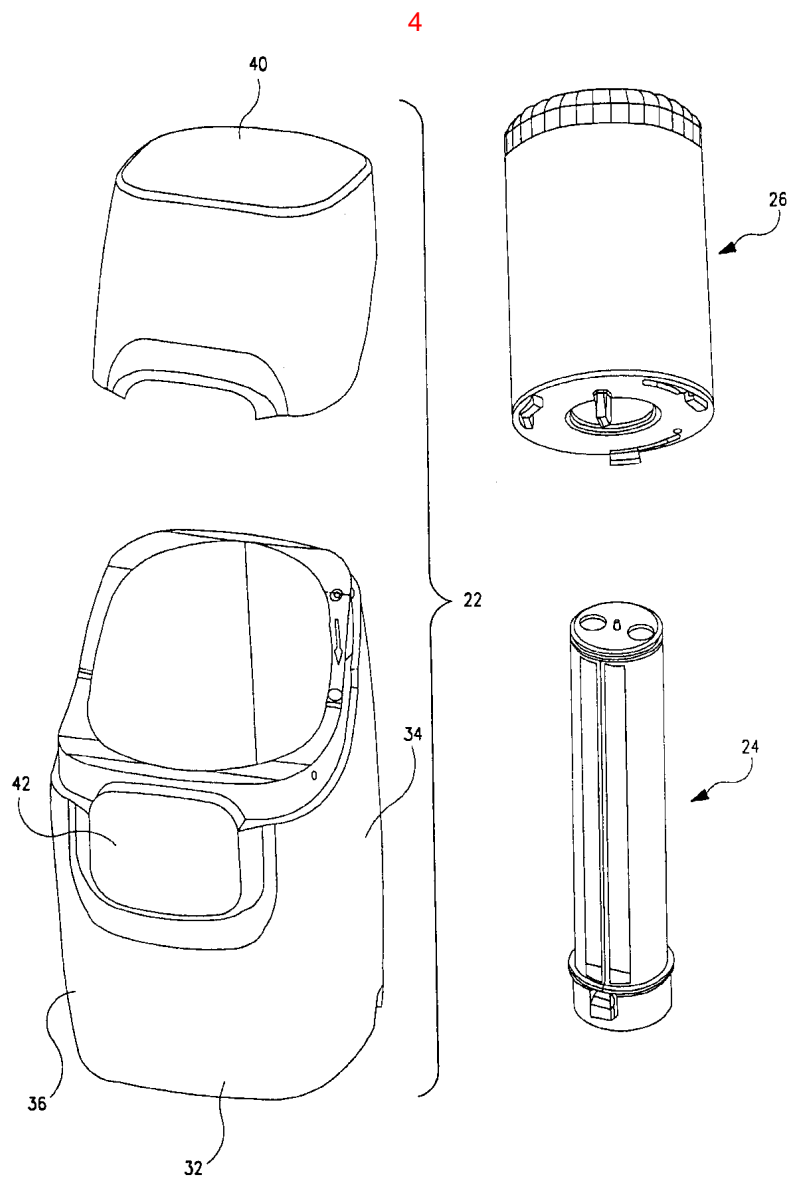
(57)

1. (20) , (22) , UV 가 (24)
 (682) 가 UV 가 (82) , UV 가 (24)
 (252) (86)
2. (682) 가 (24) (82) UV
 (252) 가 (82) UV
3. (252) 가
4. (252)
5. (82) 1 2 (444)가 1 2 , 1 2
 (440) , (252) (82) 1 (444)
 1 (364) , (440) 2 (350) 가 ,
 가 (682) 가 (360) UV (
6. (82) (252) (364) 1 2 (444)가
7. 2 (360) (82)
8. (252) 가 (682) (362) 가 , (252)
9. (24) (82) (24)
 (402)
10. (252)

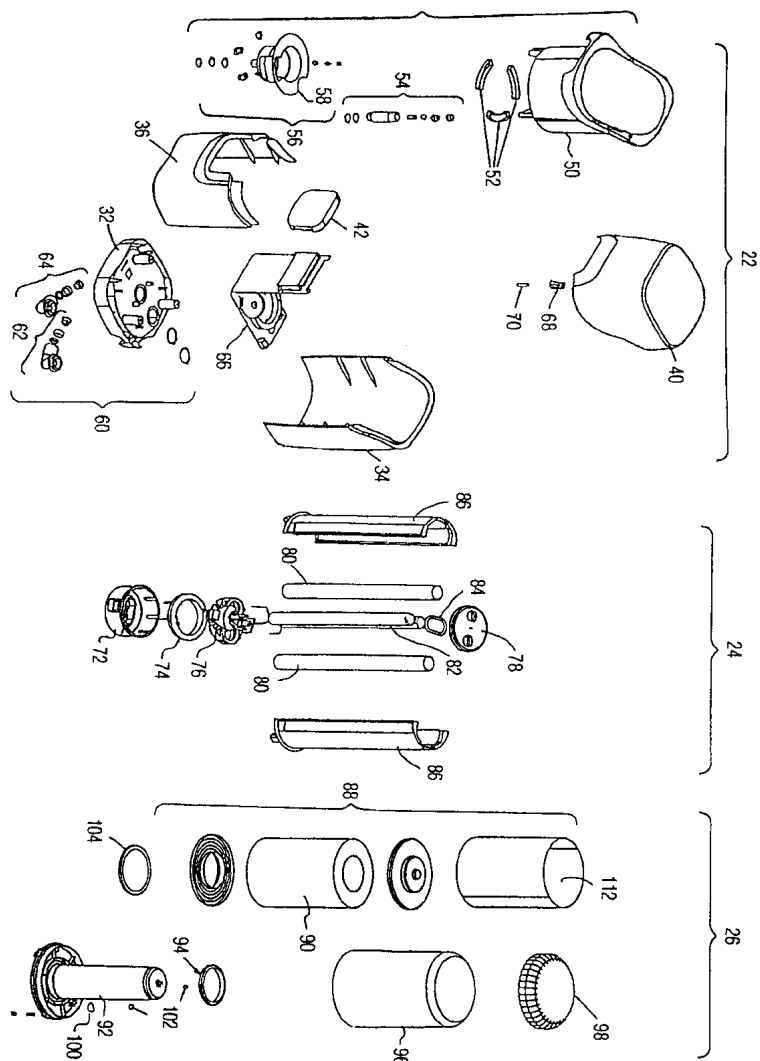
11.
1 , .
12.
1 , 2 (360) (402)
.
13.
(82) UV , (82)
(444) 1 2 ,
, 가 , (360), (364) (362) , (360)
(362) (252)
(82) (360)
UV 가 (82)
1 2 가 (444) (364) (252)
가 (252) (362) (360)
(82) UV 가 ,
(252) (362)
14.
13 , (364) (362)
.
15.
14 , .
16.
15 , (24) UV (362) 가
.
17.
16 , (360) (82) .
18.
16 , (364) (440) .



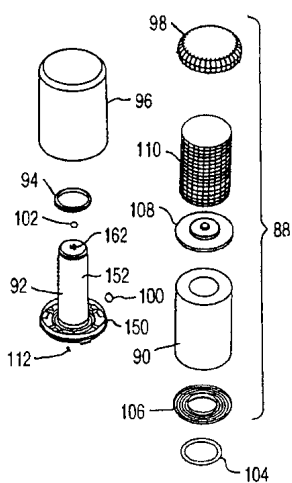




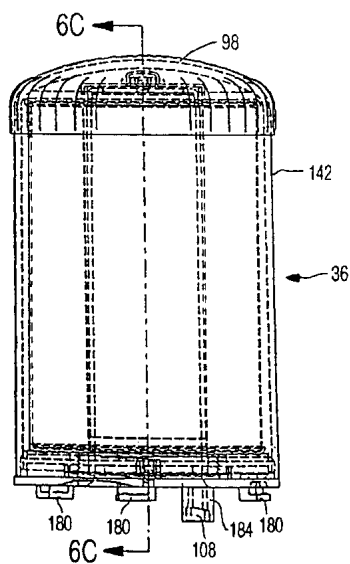
5



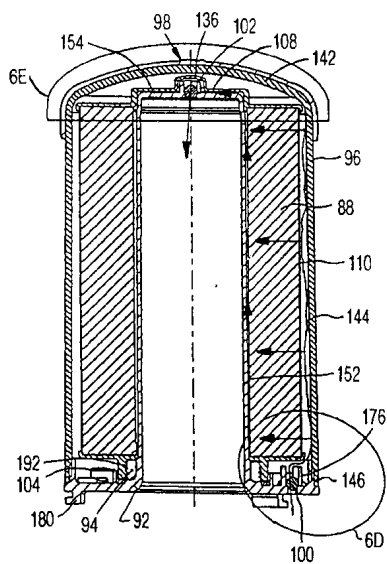
6a



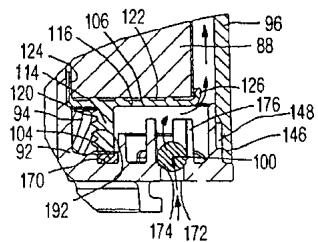
6b



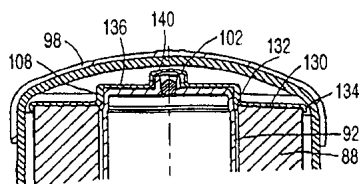
6c



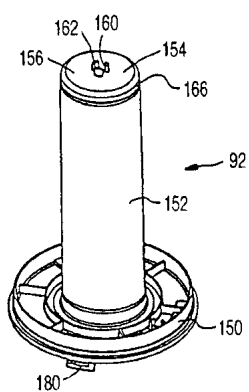
6d



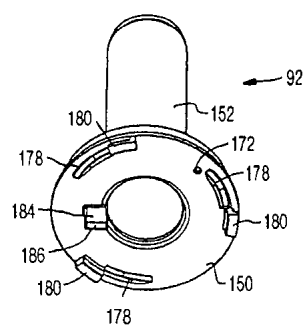
6e



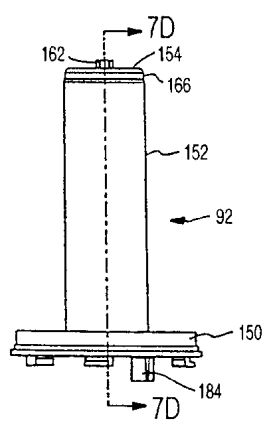
7a



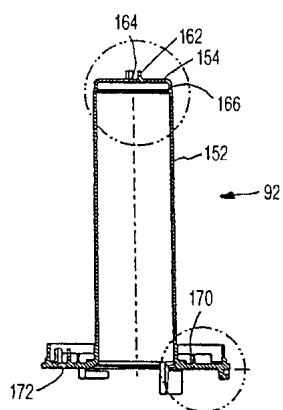
7b



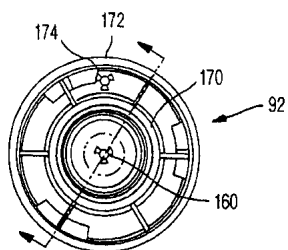
7c



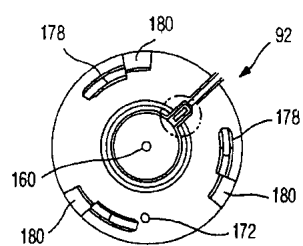
7d



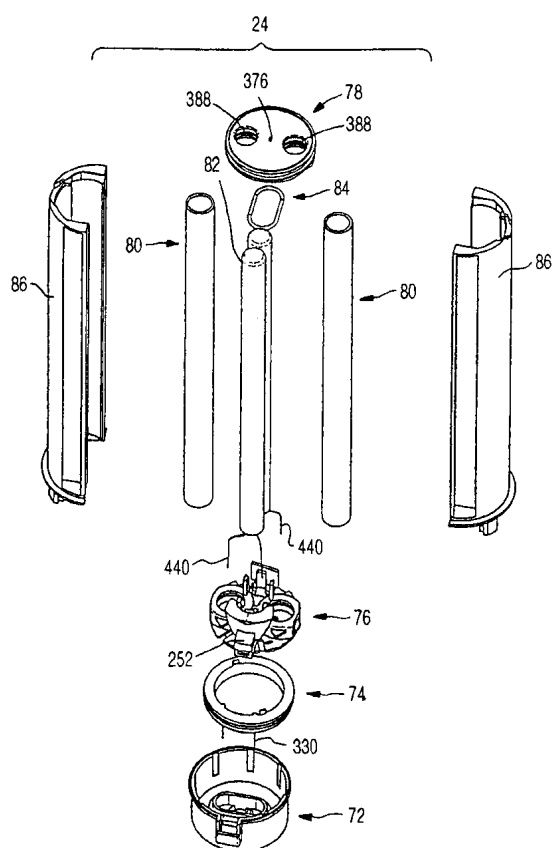
7e

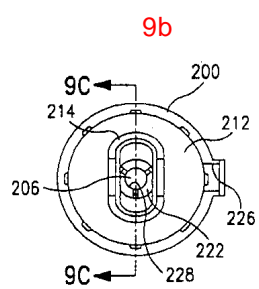
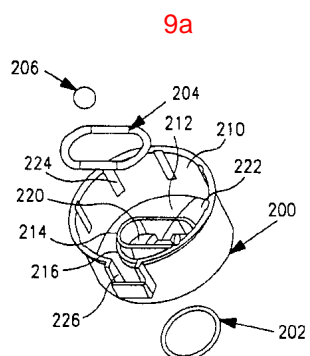
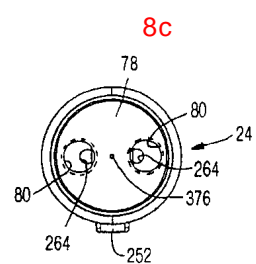
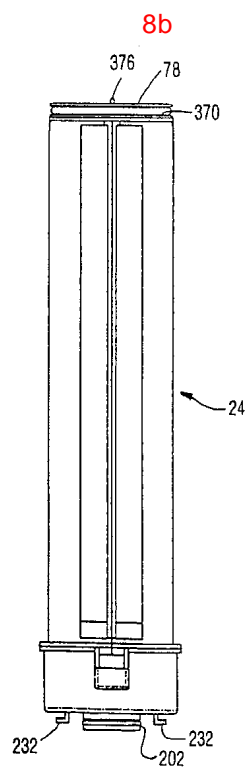


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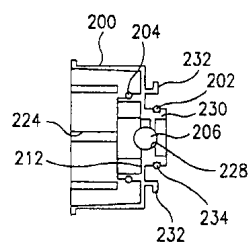


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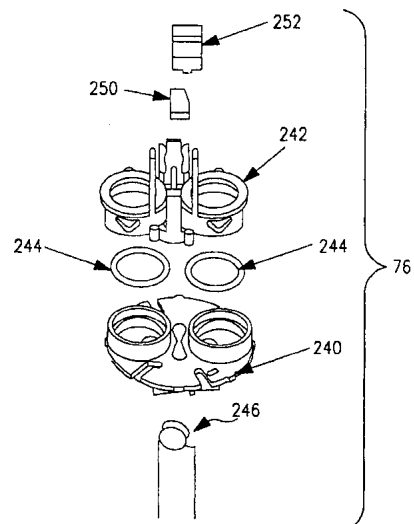




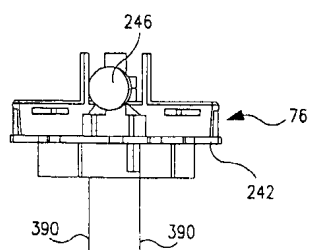
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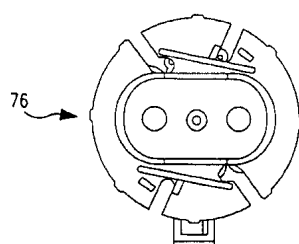
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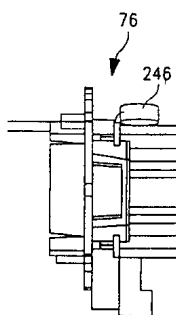
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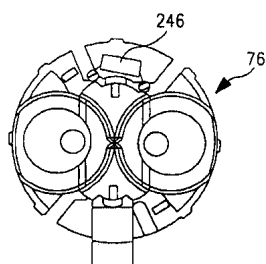
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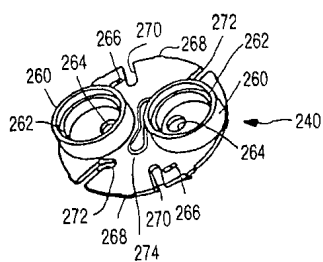
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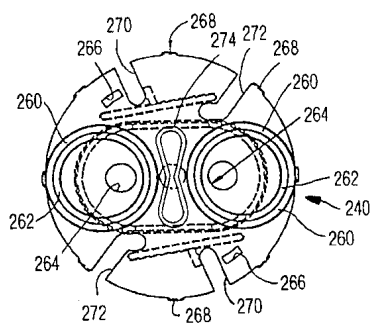
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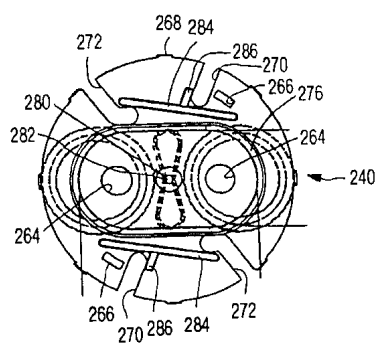
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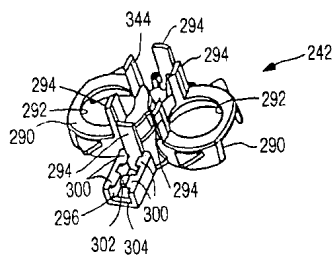
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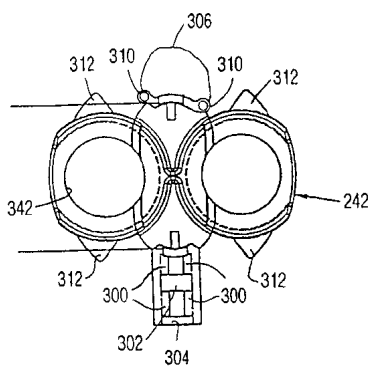
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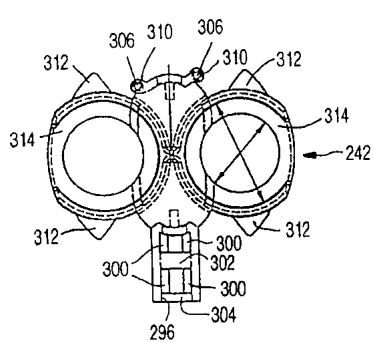
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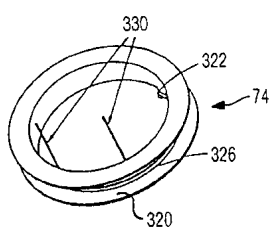
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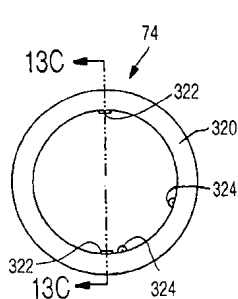
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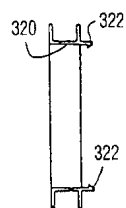
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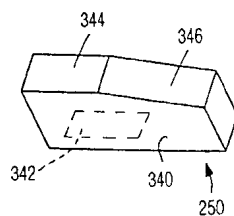
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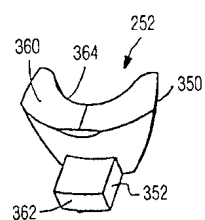
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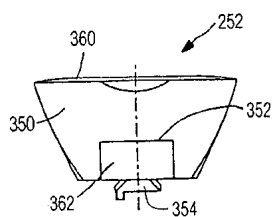
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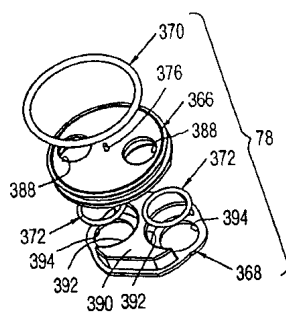
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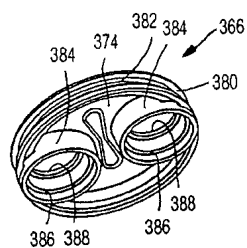
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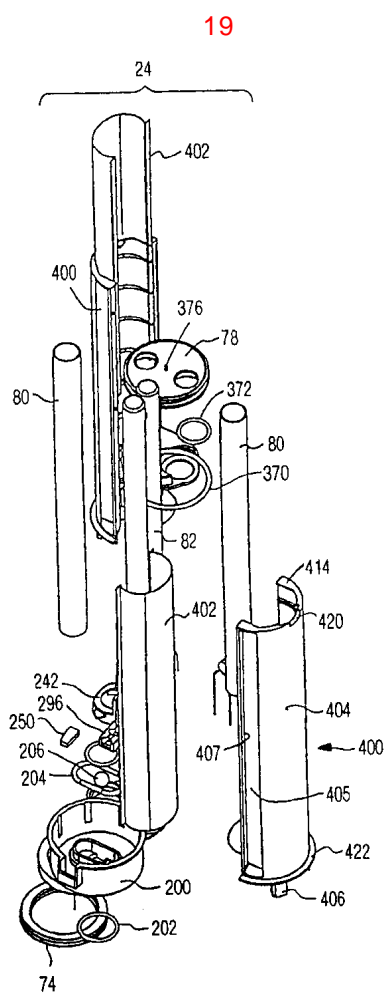
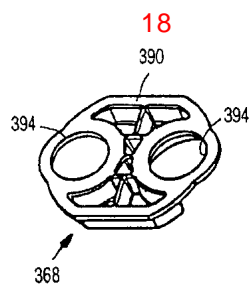


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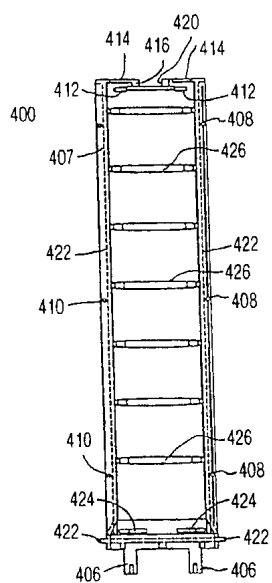


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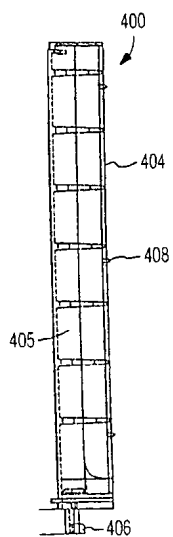




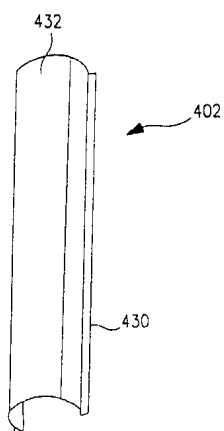
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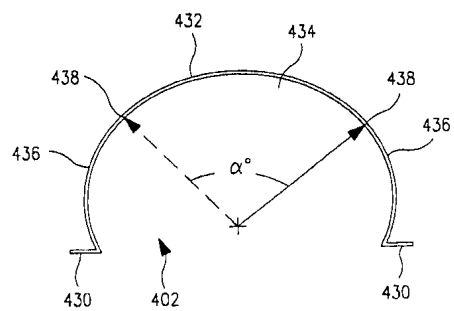
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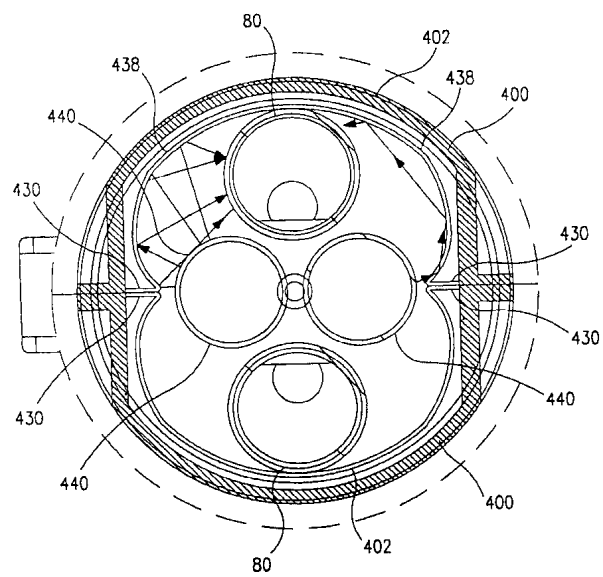
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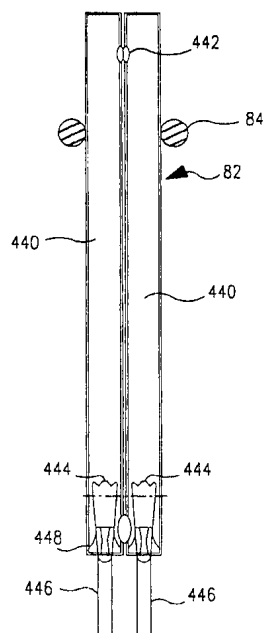
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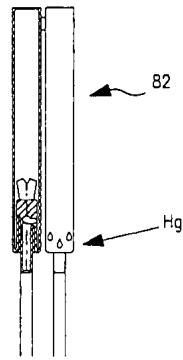
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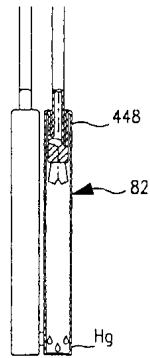
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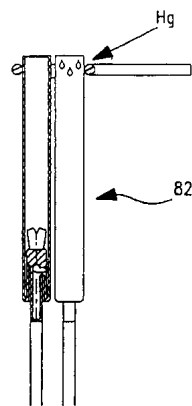
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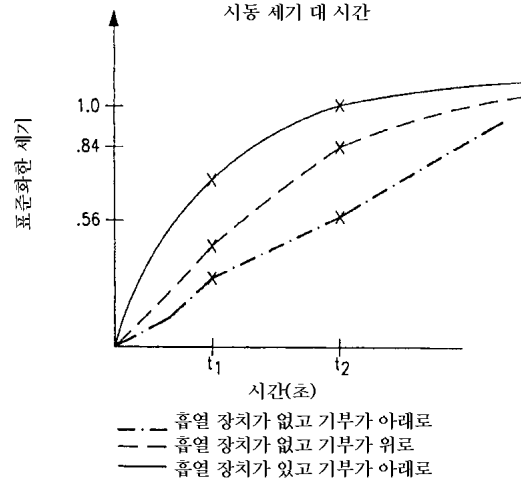


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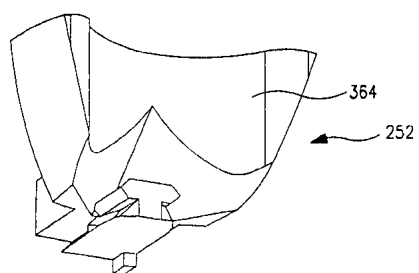


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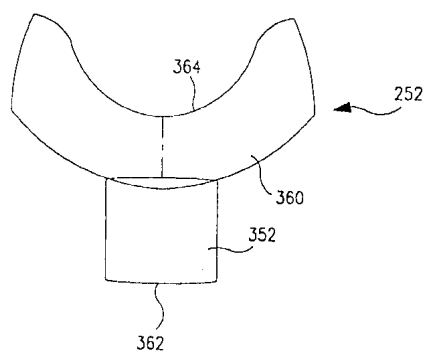
시동 세기 대 시간



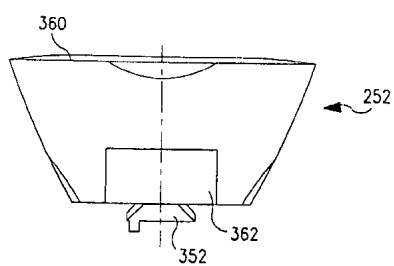
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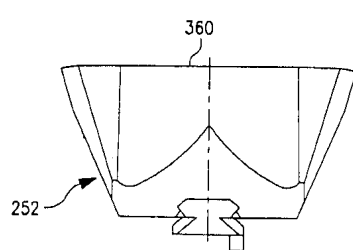
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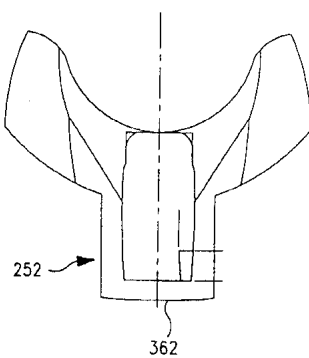
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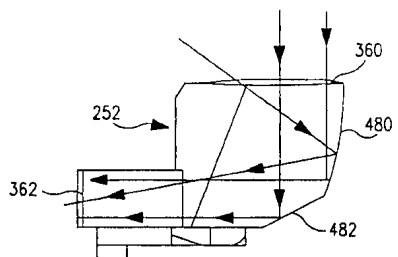
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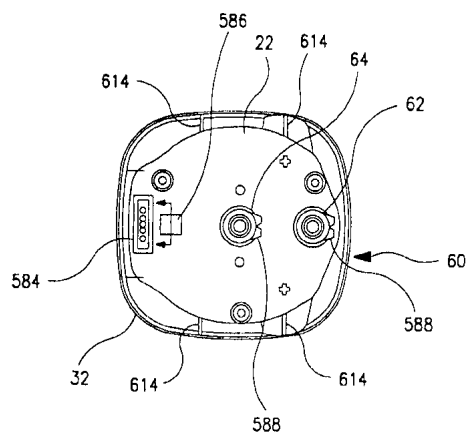
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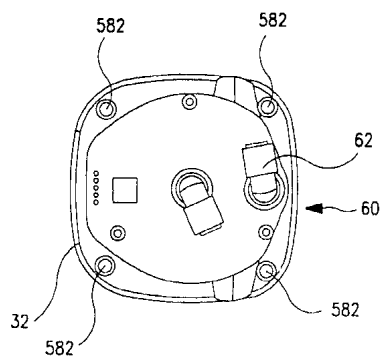
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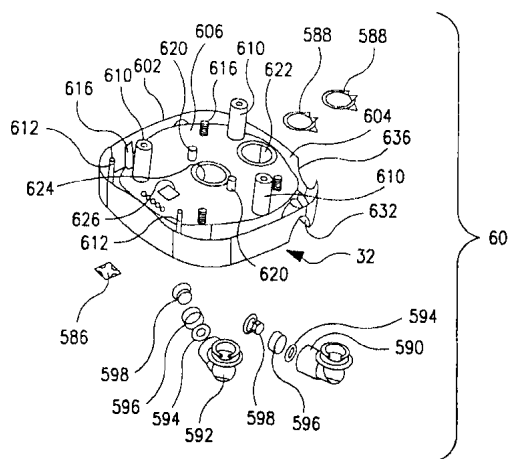
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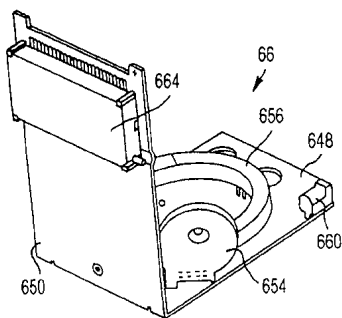
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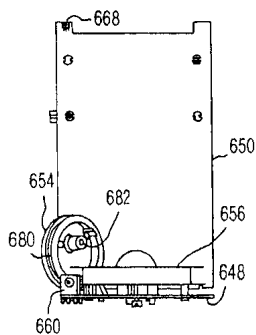
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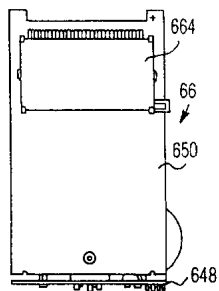
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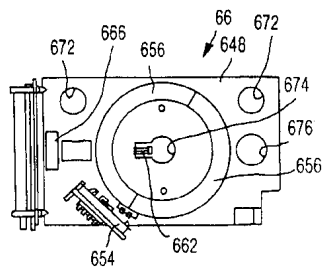
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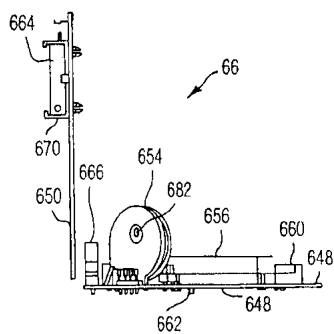
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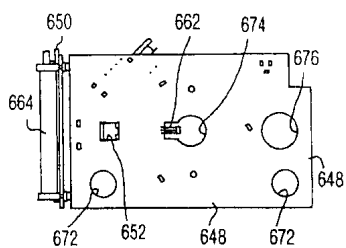
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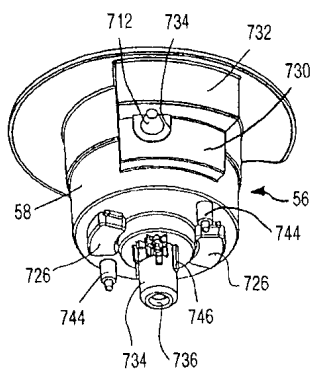
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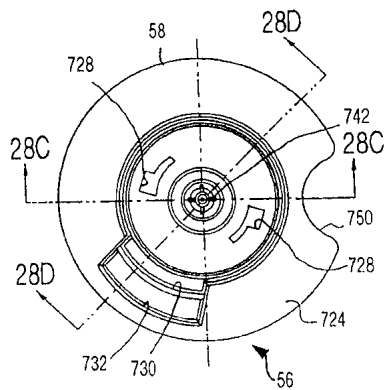
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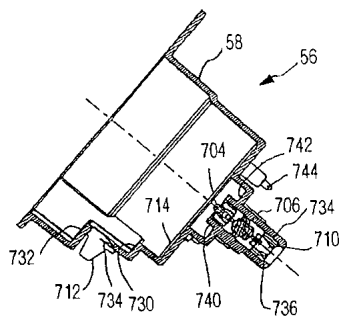
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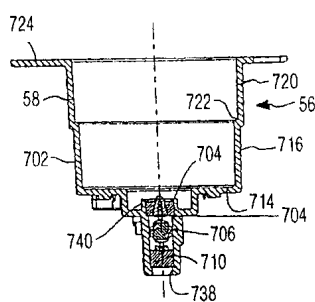
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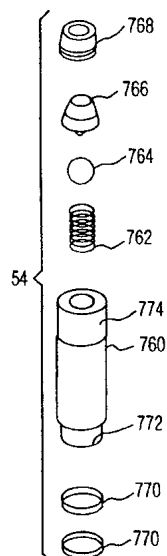
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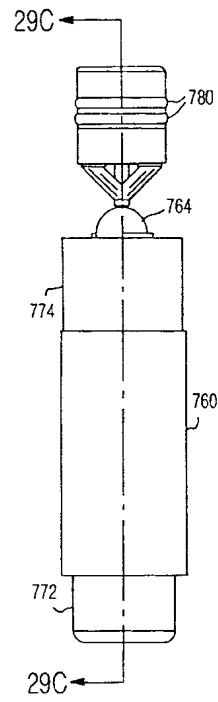
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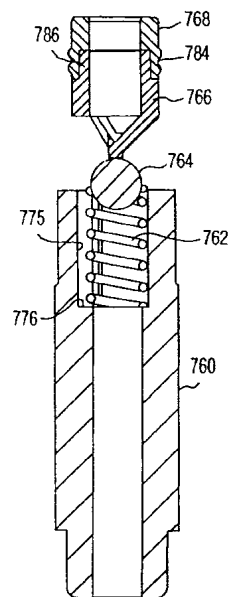
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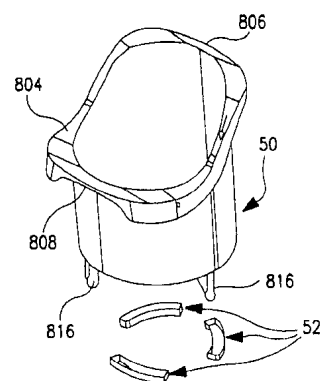
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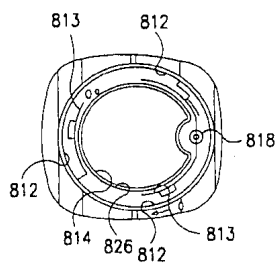
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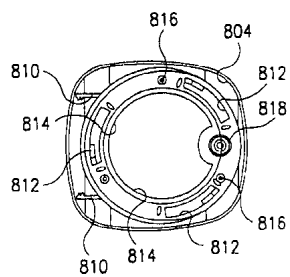
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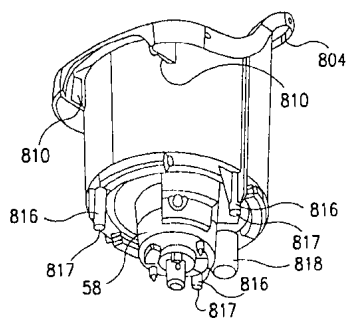
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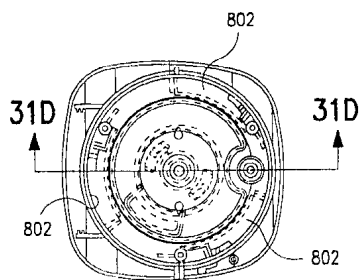
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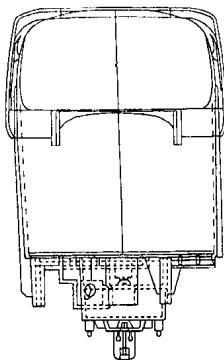
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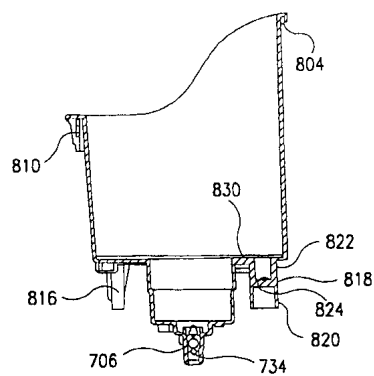
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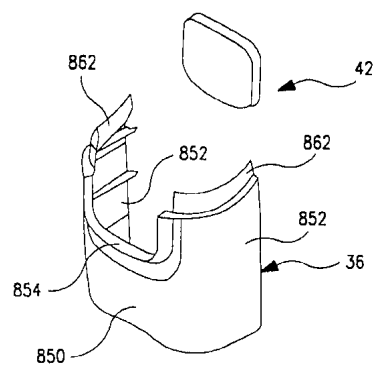
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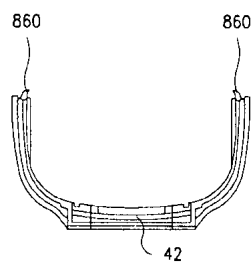
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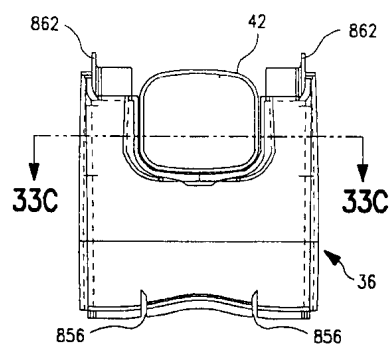
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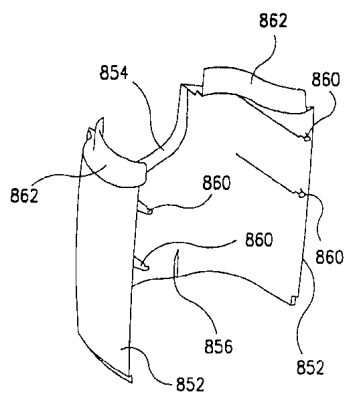
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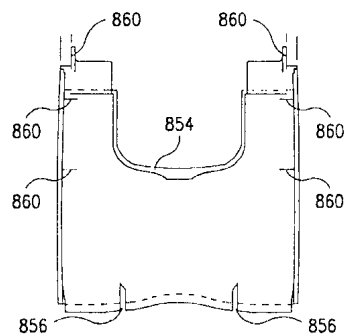
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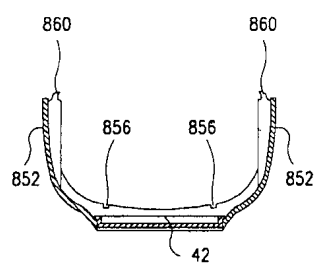
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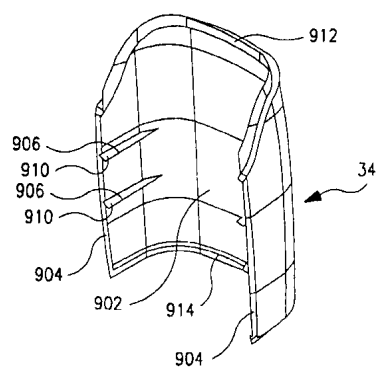
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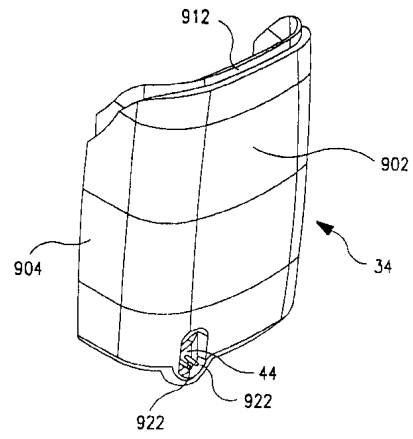
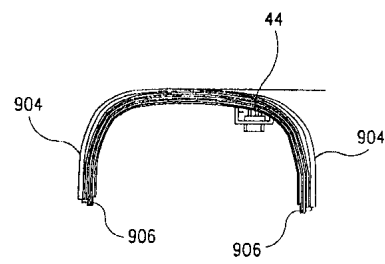
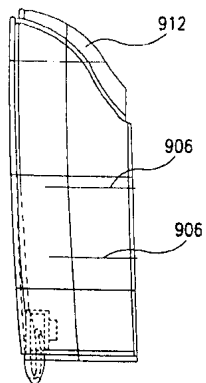
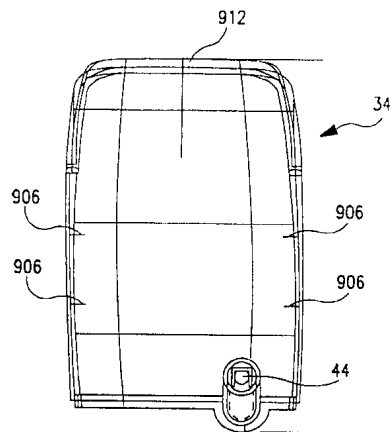


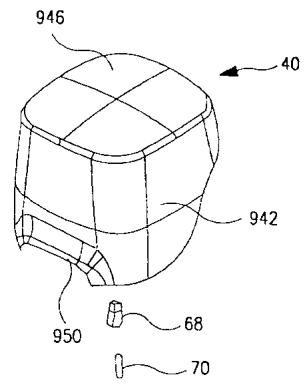
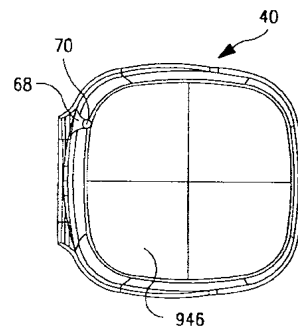
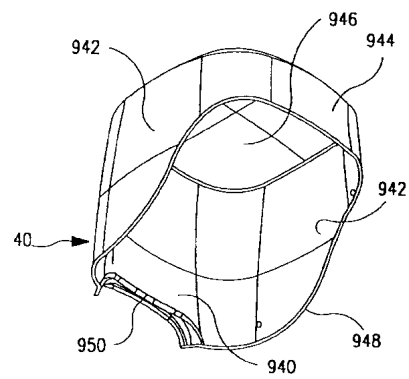
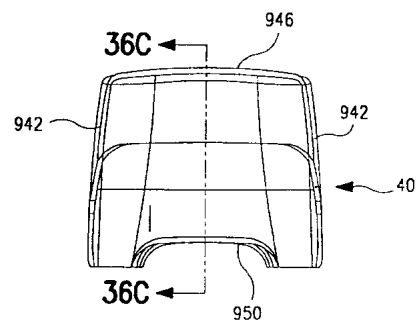
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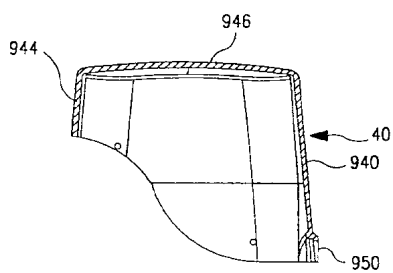
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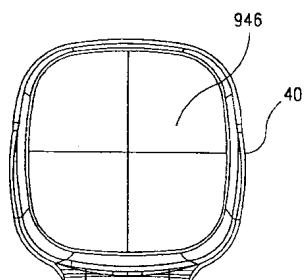
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35a**35b****36a****36b**

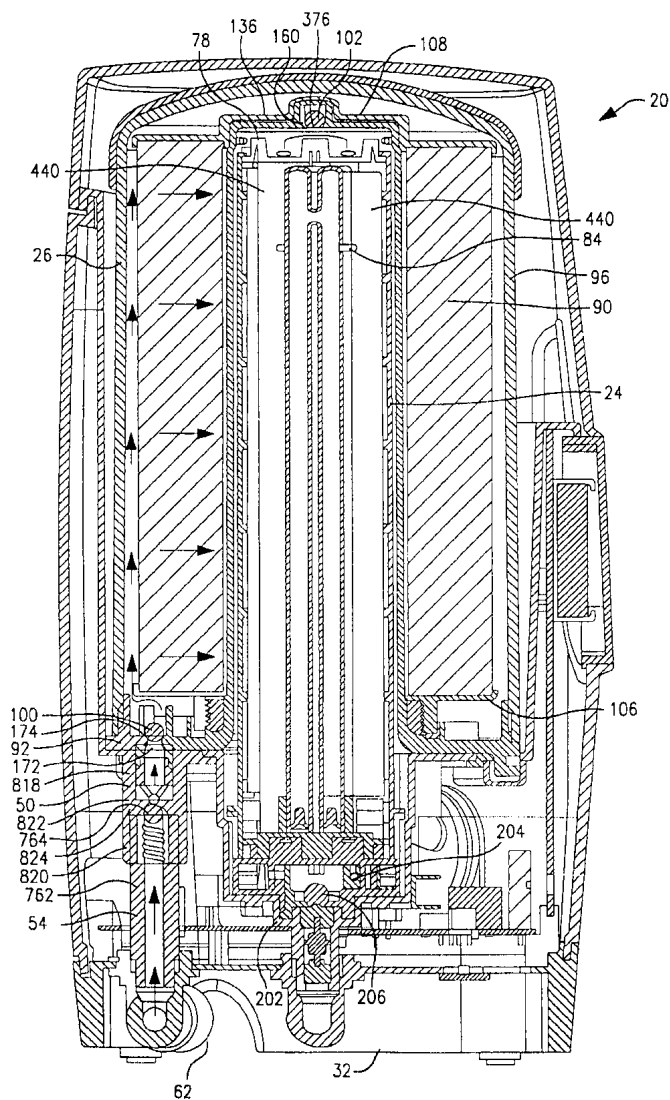
36c

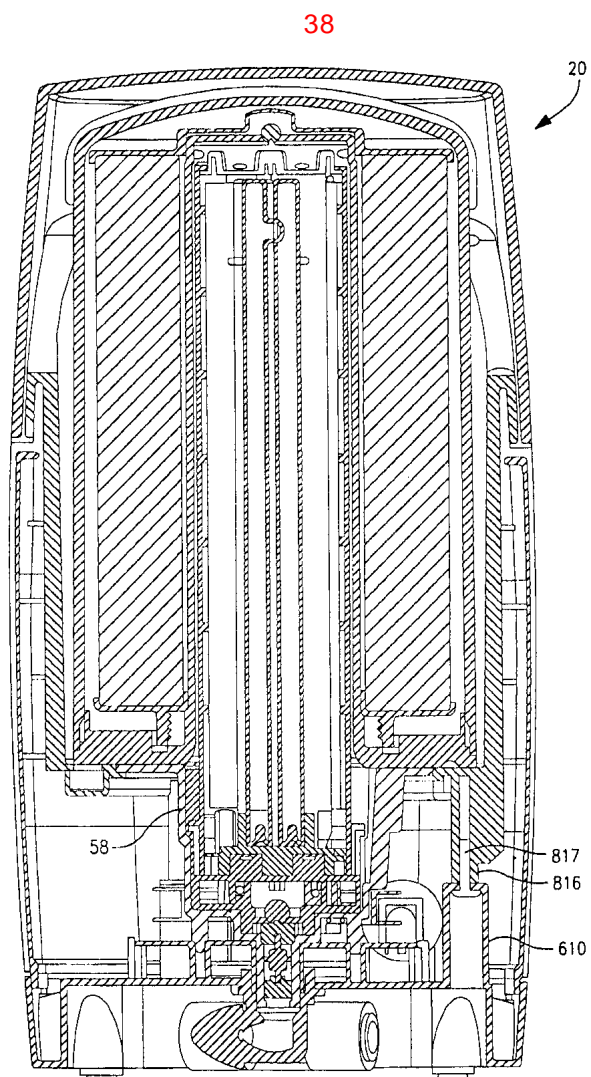


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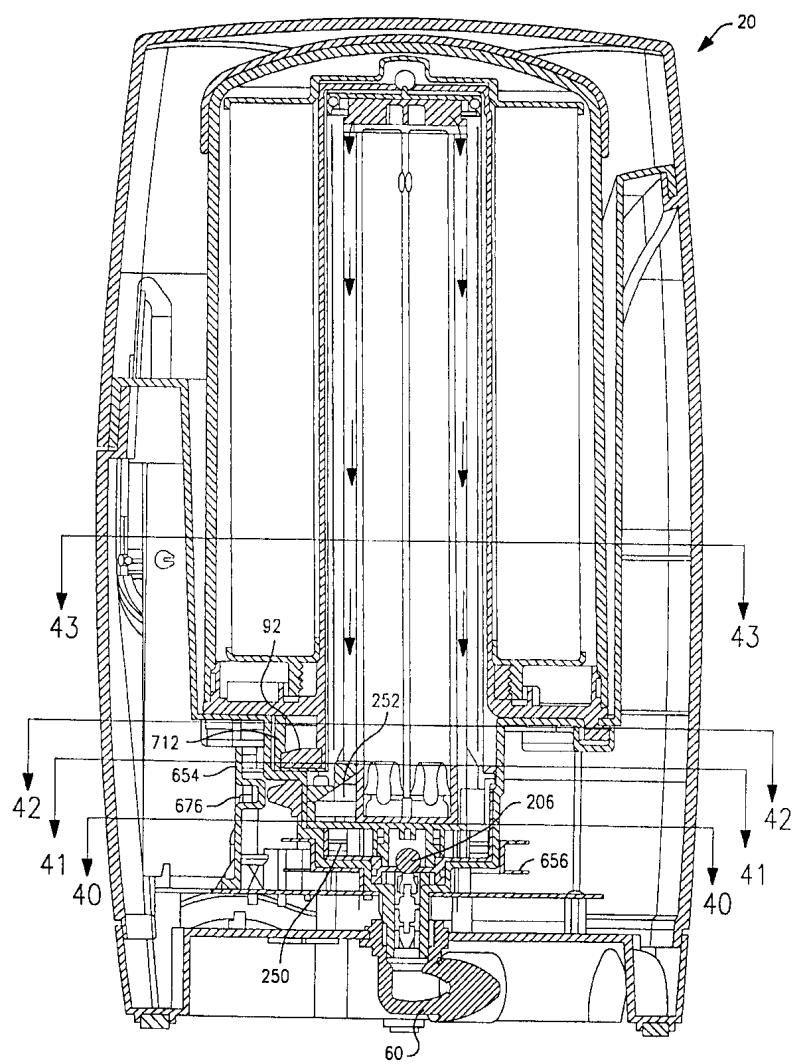


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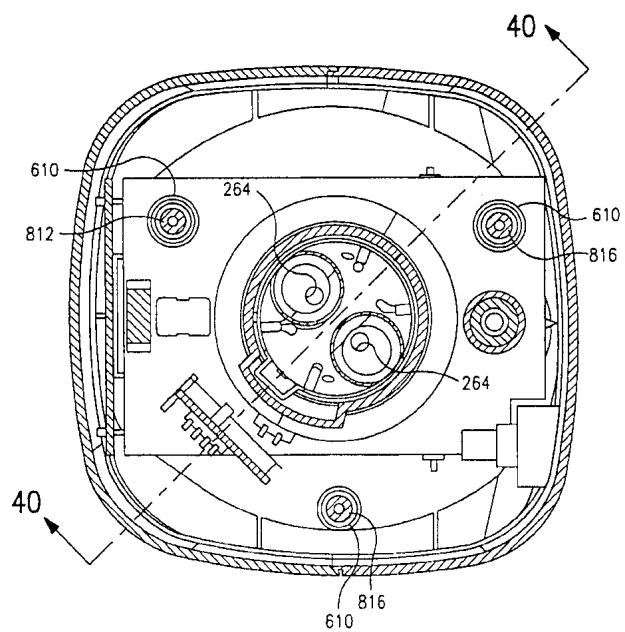




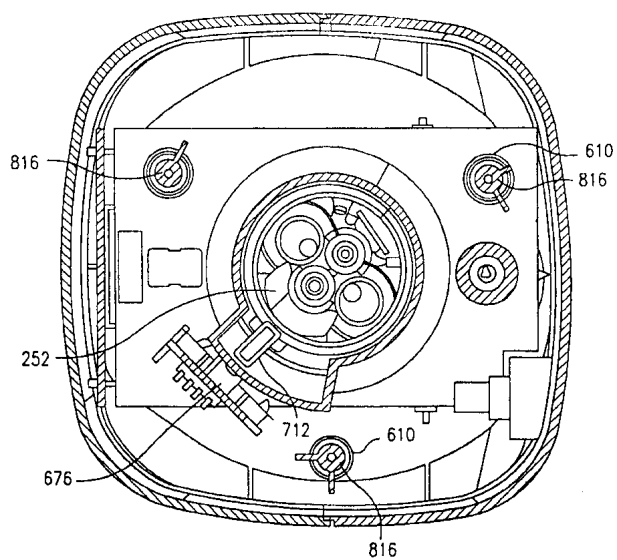
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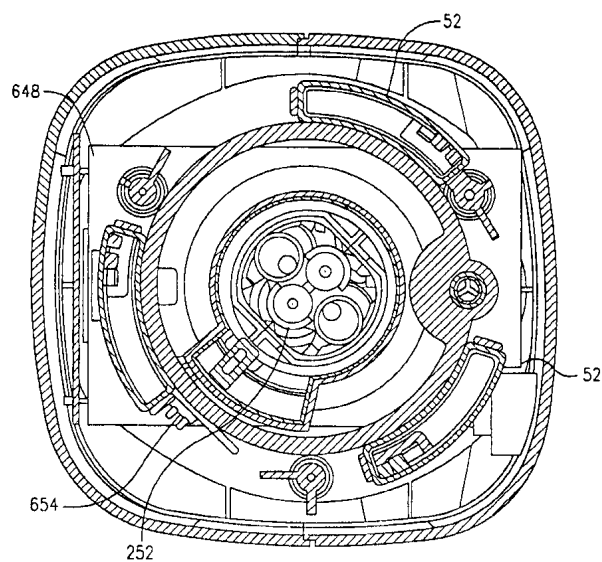
40



41



42



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