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(12) (A)

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(87)

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60/373,658 2002 04 19 (US)

(71) , . ( 60061) 1033

(72) 60022 390

60516 1201

(74)

:

(54)

/

가

가

2,080 , 2001 10 19 2002 4 19 2002 4 15 가 60/373,658 60/330,092 , 2002 4 15 60/37 10/122,151 ,

( , ) ( , )

(abnormality)

가 가 가 가 가 가

가

( , ) ( , ) 가 5,301,685 , 5,471,994 , 6,296,764 , 6,309,362

가 가 가 가 가 가 가 가 가 가

( 가 , , ) 가 , . 가

가 , . 가 , . 가

가 , , , , , .

/ . LBP 'LBP( )' , , /

2 , 가 , 2002 3 12 , /  
10/095,297 2002 9 12 10/241,753

가

가 가

, LBP , LBP 가 LBP  
가 가 ,

LBP , 가 ,

가 LBP , 가  
가 가

. 8 가 LBP  
( )

, 30 .) LBP . ( )  
, , 1 가 , LBP ( , , 가 ,

collet) . ( 가 ) . 1 ' ( ( )

가 . , 가 가 2 , . 2 가 , 가

가 (frit), , 2 가 가 가

( ) 가 가 가 ( , / ) ,

echanism) 가 (pick and place m 가



13 / , LBP .

14 / .

15 / .

15a 14 15a-15a .

16 / (gripper) .

17 / .

18 17 (18) .

19 17 .

20 .

21 .

21a LBP .

21b .

22 .

23 .

24 .

25 .

26 .

27 LBP .

28 27 28-28 , .

29 LBP .

30 29 30-30 .

31 29 .

32 1 .

33 LBP 1 .

34 1 .

35 1 .

36 .

37 LBP .

38 (pusher) .

39

40

41

42

43 LBP

44

45 43 45-45

46

47

47a 47

48

49 48

50 LBP

51

52 LBP

53 52

54

55

56 LBP

57

) , , (

1, 2a, 2b , (10) (20), (30), (40) . (40)

(22) (20) , (21) , 가 ABS , 가 [ (EASTAR) DN004 (Eastman Kodak Co.) ] (21) (24) ,

, (24) LBP

가 LBP (25) ( , V )가

(26; rib) (21) (26) (27) (30)  
 (40) ( 10 ). (20) (28) , 1.5  
 (30) (29) ,

(30) (31) , ABS EASTAR( ) DN004가 (30)  
 , (20) (29) (33)  
 가 (31) (knurling) , 4 (32) , (33)  
 , 가 (34) 1 , (34) (31) (21)  
 가

(34) 5° (35) (35)  
 , (34) (40) (34) (35)  
 (34) (36) (36) (35)  
 , ( 2- ) (21)

1, 3, 5 , (40) , (42)  
 , (41) ,  
 (44) (43) , (45) ( )  
 (40) (41) (47) (46)  
 . (47) , (48) (46)  
 (F) 가  
 ABS EASTAR® DN004

(47) (32) (40) 가 , ,  
 (35) ( 1 ). , ( ) ,  
 ) (20) (30)  
 (35, 37) 가 (47) (35) (35)  
 0.31 mm 가 (47) (35)  
 , (35) 가 , (40)가  
 (30) (20)

(30) 가 ( 10 ) , (31) (32)  
 , 가 (32) (36) 가 가 (41)  
 가 , (36) (32) (32)  
 (35) (40) (35) . (32)  
 (35)가 ,

(30) 가 2.27 13.6 kg(5 30 lbs) ,  
 5.44 kg(12 lbs)

(30) (40) (26) (27) 10 ,  
 ( ) (46) , (26)가  
 LBP , 가 가  
 , 가 ,  
 가 가



PAP , , / ,  
 가 , , ,  
 . (43) (44) (43) (2  
 0) (22) (23) (10a) .  
 (40)가 (20) (26) (23a) (23a)  
 , , (23a)가 (23a)가 2.67 mm(0.105 )  
 , 1.80 mm(0.071 ) 가 , 0.432 mm(0.017 )  
 .  
 6 8 (F) 3 6 (40)  
 ) (46) (F) (46)  
 6 8 (F) (200), (202), (205)  
 8 (205) (202) (200) (207) (200) (202)  
 94 (205) , 5,301,685 5,471,9  
 (F) (205), (202), (200)  
 (202) (200) (205) (205)가 (200)  
 , (200) (209) (208) (200)  
 (205)가 (205) (208) (208)  
 (205) . ABS 가 가  
 (202) 가 가  
 8 (200) (210)  
 (211a) (211) (211)  
 (212) (212) (202) (seat)  
 (211a) ( ) 가 (212) (213)  
 (211) (202) 가  
 (202) (205)가 (202) (211) 가 , ( )  
 202) (202) (202) (200)  
 (205) (202) (205) (200) ( )  
 202) ,  
 (202) (200) (205) (213) (200)  
 (215) (214) , 6 (208)  
 (214) 가 7a  
 (F) ( )  
 . LBP

LBP

8 , (210) (204) 가 , 가  
 (200) (210) (216)  
 20) (216) (204) (218), (210) (219), (211) (2  
 (207) (216) (207) (221) (205) (202)  
 (207) (221) (204) (207)

(216) (217) (217)  
 (218) (217) (212) (217)  
 (213) (217) (212) (212) (217)  
 05) 가 (202) 가 가 (217)  
 (205) (202)  
 (200)

(205) 가 (20)  
 2) 가 가 가  
 가 0.406 mm(0.0016 ) 3.63 kg(8 lbs)  
 가 50 μm 70 μm  
 ( 5 μm 8 μm ) (205) 가 가  
 (202) 가 ( , 50 μm 70 μm )  
 가 /

가 7b  
 2  
 5,471,994 5,301,685 4  
 12 2  
 5,137,031  
 2

6 (40) (46) (47) (46)가 (F)  
 (205) 가 (F) (46) (F)  
 (211) (F)가 (46) (205) (41) (41)  
 (F)가 (46) (M) (41) (M) (41S)  
 (M) (205) (41) (41S)  
 가 가 (205)  
 (205) 가 가

2 (M) 가 , (46) 가  
(M) 가 , (205) (41) (41S) 가  
(G) 가 (G) 가 2 (G)  
0.102 mm(0.004 )

3 6 , (G) , (46) (41) (46)  
가 (M) 가 (48a) , (48a) (49) (46) 23.4 mm (46)  
, 10° 36 (48a) . 0.150 mm , 0.63 mm  
(R) 41) , 50% ( )  
가 가  
(M) (I) (205) (M) (O)  
9 , (41S) (R<sub>1</sub>, R<sub>x</sub>, R<sub>y</sub>, ..., R<sub>2</sub>) (205)  
). 가 (I) 가 (M) (H  
1, H<sub>x</sub>, H<sub>y</sub>, ..., H<sub>2</sub>)가 (205) 가 (O)  
) , 9 (I) (H<sub>1</sub>  
(2 R<sub>1</sub>) (O) , 2 R<sub>1</sub> H<sub>1</sub> (I)  
2 R<sub>2</sub> H<sub>2</sub>

2 R<sub>1</sub> H<sub>1</sub> = 2 R<sub>2</sub> H<sub>2</sub>  
R<sub>1</sub> H<sub>1</sub> = R<sub>2</sub> H<sub>2</sub>

R<sub>x</sub> R<sub>y</sub> , , H<sub>x</sub> H<sub>y</sub> (I) (O)  
(41S) (H<sub>1</sub>, ..., H<sub>x</sub>, ..., H<sub>y</sub>, ..., H<sub>2</sub>)가 (41S)  
) (41S) 가 ( )  
0.152 mm(0.006 ) (H<sub>2</sub>)가 , (R<sub>1</sub>) 0.152 R<sub>2</sub> / H<sub>1</sub> mm(  
0.006R<sub>2</sub> / H<sub>1</sub> ) , 가 (205)

(41S) (O) (I) 가  
mm<sup>2</sup> , R<sub>1</sub> H<sub>1</sub> R<sub>2</sub> H<sub>2</sub> . R<sub>1</sub> = 1.24, H<sub>1</sub> = 1.32, R<sub>2</sub> = 10.00, H<sub>2</sub> = G = 0.15. 3.27  
50%(1.64 mm<sup>2</sup>)  
3.00 mm<sup>2</sup> .  
가 ( mm ). R<sub>1</sub> = 0.040, H<sub>1</sub> = 0.060, R<sub>2</sub> = 0.400, H<sub>2</sub> = 0.006. 3.09 mm<sup>2</sup> (0.0048 in<sup>2</sup>)  
(M) 가  
( )

LBP

11 57 LBP . LBP ,  
 . LBP  
 ( 6; 7a, 9) .

11 , LBP (230;  
 ), (400), 1 (500), (600), (700),  
 (800) . 가  
 . LBP

(900) . LBP (24  
 0) . (30  
 0) . 11a LBP .  
 가 가 .

12 LBP (260) , ( 가 ) 가 (262)  
 . (264) ,  
 ( 가 ) LCD 가 (240) (300) 가 .  
 ( ) ( ) 25 . 가

LBP ' 가' (260) (300) 가 , (600)  
 , ( , ) .

11 , (240) (242, 244; sprocket) ( ) ( )  
 248) (242) (246) . 11 1 30 가 ( )  
 30 가 , LBP 30 가 ,  
 (246) (250)  
 ( ) . LBP  
 , LBP

Z Y (250) 가 가 가 29,  
 33, 37, 43 . 가 가 가  
 (246)  
 (247, 12 ) 가 PTFE7  
 (248) .  
 가  
 ( )

(246) . ,  
 'D' , ( 2a 2b ) 가 ,  
 'D' . ,

.D ( 가 , (25; 2a ) 가 (25)  
 ( ( , V ) (peg) 가 . 가  
 /  
 12, 13, 14 (300) (304)  
 (310) (Y- ) (308) (306)  
 (304) (10) 3 (312) U (316)  
 (306) (jaw) (314) 가 .  
 15 (320) (30)  
 (318)  
 17 20 (10) (320) , 13 15 ( )  
 (330) ( 12 ).  
 (330)가  
 (330) (10) 가 41  
 (332) (332)  
 (333)  
 16 , 8 가 , 3 9 2 , 4 ( 8 )  
 36 ° 가 18 ° (304)  
 가  
 (304) (246)  
 (332) ( 19 ) (25)  
 (334) (334) (332)  
 (335) 19  
 (334) 가 (334)  
 ) (330) (330) (334)  
 (246) (304)  
 (330) (335) , (302) ( )  
 ) (338) (336) 가 ( 20 )  
 ), (338) (339, 19 )  
 (330) 가 (302) (340)  
 (340) (342)  
 ) (343)  
 14, 15, 15a (350) (350) (352, 354)  
 (350) (304) (262) (266)

62) (356) (358) (363) 가 (340) 14 (340)가 (350) (356) (360, 3)

(350) , 8 (365) (364) (365) (366) (350) ( ) (364) (372) (350)

) (378, 380) (372) (364) (374) (376) (364)

) 가 (382, 15 ) (382)

(342) 15 (330)

(342) (365) ( ) 15a (330-1)

. 1/8 (364) (330-2)

(302)

가 ( ) (304)

(374) 가 (304) (332)

(356) 가 (340) (312)

(332) LBP

, LBP 41 8 . 41

. 8 , LBP , 41 320 LBP

(330) 가 ,

가

(sheet) (330) (330) (332) 가 가 ( )

LBP (102) (DMS)

21 LBP . LBP DMS

(ethernet)

DMS

(ID) , , (I



(1) ID ( ) (2)

LBP ID ( ) (3) ( ) LBP ( )

LBP (106) DMS LBP (108) DMS LBP 가

, DMS , LBP (110)

BP 가 DMS . LBP L

, DMS ID ID , , 24 DMS

가 . DMS ID ID , ,

50 rpm 가 500 rpm ( 3,000 rpm ) , 1 5

120 5 ( ) 8 ( )

LBP ( , 가 DMS ) 가

가 100가 . ( ID)가

- 1 , L
- 2 , R
- 3
- 4
- 5
- 6
- 7 /
- 8 /
- 9 /
- 10 ( )
- 11 PAP
- 12 /
- 13 , L
- 14 , R
- 15 , L
- 16 , R



17

18

19

20 /

21 가

22 가

23

24

가 가 ( 8 가 8  
 ). ( DMS 가 DMS 가 LBP  
 ( DMS ) 가 DMS 가  
 ( ) 가  
 (230) LBP , DMS  
 , DMS (300) (246) (330)  
 , ( ) 가 가 (246)  
 (330) 가 , DMS  
 22 DMS (270) (270) (274)  
 (274) (276), BIOS (272; CPU) (278), DMS (271) (27)  
 3) , (275P) (270) (275M) , (280)  
 (280) , 가 (MAN) , (LAN) (WAN)  
 0) , USB, (Firewire) (270) (277) (28)  
 , LIS)가 (280)  
 LBP (279a; DMS  
 (coverslipper)) LBP

(PLC) 가

가 가

LBP

26 31

, LBP

(30)

(40)

(30)가

(26)

(400)

26

(246)

(10)

(30)

(402)

27 28

(402)

(402)가

(

30)

(404)

가

(406)

(4

08)가

(30)

가

(40)가

(30)

( 28)

(26)

(20)

(402)

29

(30)

(410)

(408)

(30)

11

(410)

( )

가

가

(408)

13.6 kg(30 lbs)

가

L-

(415)

(412)

(413)

(412)가

가

(402)

13.6 N · m(10 lb-ft)

(418)

(416)

(414)

(420)

(422)가

(402)

(424)

가

(424)

(414)

가

C-

(426)

C-

(426)

(402)

Z-

(428)

(430)

(430)

(30)가

(402)가

(428)

(402)

(432)

(433),

(434),

(436, 438)

가

가

(408)

(408)

가

가

가

가

가

(35, 37)

가

가

(246)

/

(20)

(20)

246)

(20)

/

(

가

(1 )

가 ,

가

가

가

(40)

1

(500)

(rpm

/

32  
6

35

, 1

(500)

6

가

(502)

(503)

(506)

가

(504)

(503)

가 . C-

(510)

(502)

가

C-

(510)

(514)

(508)

(502)

(518)

Z-

(520)

(522, 524)

(516)

(504)

(528)

가

(526)

(504)

(530)

( ) (502)

가

가

(526)가

(504)

(40)

(47)

(47)

(502)

(M)

33

34

(514)

(40)

(526)

(36

)  
가

500 rpm

DC

3,000 rpm

(518)

5

90

)

(41)

(526)

(slinger  
가

(522)

(40)가

(502)

(47)

(600)

(F; 5 )가

(40)

(M)

(5 μm),

가

(8 μm),

가

36

40

37

40

(610)

(611)

(616)

(614)

가

(612)

(620)

(618)

(622)

(618)

(

614) (624) .

(628) 8 (626) (628)가 (618) (

626) (634) (F)가 (632) (636) (630) (632) , (

F) , (F)가 (636)가 (636)가 (632) (636)가 (632) (

39 (612) , 1 (500)

(700) , (250)

가 . (612) (640)

(640) (646) ( )

Z- (644) (642) (624) (F) ( )

(650) (650) 가 ( , ) 2 (651) .

( )

54 가 가 (630) 432 가

.45 (wrapper tab)

가 .

(640) 38 ( ) , (612)

(650)가 (646) (640) (630) (616)

가 가 , 가 가 (40) (M) 가

(646) 가 (640) (640) 가

(612) 8 (626) (300)

가 가 ,

41 (F) , (700) (40) (702) .

500 rpm ) 1 (40) ( ) 5 ,

(F) (20) (750) (43) (Maxon) 24 (DC) ( ) (46) .

(F) 가 , 가

6 가 (47) (F) .

(704) (47) , (47) O- (760)

가 (706) (200) (200) O- (762, 764) (750)

(202) . O- (766) , (46)

42 , , (702)가 (706)

4) (40) 가 (706) (F) (752) O- (762, 764) , (70

가 (702) (750) (F)



가 1 (high) 가 1 , 1  
 가 1 ( 1 2 ) 1 1.5 ml 가 1.5 ml 가 2  
 120%) ( ) 가 ( )  
 (702)  
 가 가 1 (774)  
 47a 1 (774a) (F) 가  
 (775) (704) ( ) (774b) (706) (720)  
 (706; (773) ) 가  
 가 가 (flag) DMS 가 2  
 (770)  
 48 가 가 (776)  
 가 (770)  
 (770) (780)가 2- (V-3) (782)  
 OH( , 24 ) 3- , LFRX 0500300B( Lee LF , 2- LFVA 245011  
 (770) (784) , 2- (V-4)  
 49 . 2- (V-2)  
 (774)  
 (770)  
 (770) . 10 kHz 가 가  
 가 10X 가  
 0.1 ml 5.0 ml , 1.0 2.0 ml  
 ( (750)) 가 , 3 (F)  
 (246)  
 가

(43) ( ) , (20) 가  
가

120% 80% , 5% 가 60%

: 1,000 RPM , 30 , 8 μm , 60%

: 1,000 RPM , 20 , 5 μm , 70%

: 3,000 RPM , 120 , 5 μm , 80%

가

가

가 , 1.36 kg(3 ) 3 가 185 (365 )

가

가

가

가

(closure)가

50 52 (800) (802)  
(814, 816) (812) (818, 820) (810) (8)  
22) (818, 820) (826) (824)가

(828) (810) (830)  
(822) (828)

(832) 가 (814)  
(802) (804) 가

51 (834) . L (836)가 (810)  
(838) 가 (840)

(836) (842)  
(842) (802) (845) (844)

(850) (810) (852) (852) 가  
(854) , (854) (856)

) (852) (858) 51  
(860) (854) (856) (852)  
(854) ( ) (20)

56) , (822) (844) (8)  
51 (862) 가

(838) (860) (852)

3 , (860) (852) (854) (20) . ( )

30) 가 (3)

( 51 ) (870) (870)  
, 51 ('FF')

(860) 가 ( )  
 , (810) . ,  
 (870) (20) (870)  
 (870) ( ) .  
 ( ) (872) (870) ( ) ,  
 , 가  
 , 가 40,000  
 , 가 ,  
 LBP 25 mm x 75 mm x 1 mm 1 x 3 x 0.040 30- 40  
 - ( ) . 52  
 55 LBP (C) , ,  
 ( ) 40- 5,690,892 , ,  
 , 가 DMS 가  
 , 가  
 , (902), (904), (906), (908),  
 (910) . (906) (909) . (912)  
 가 (904) ( ) .  
 (916; ridge) 가 , 가  
 ABS 가  
 , (918) , 41  
 , ( ) ) 가 가 53  
 , ( ) 가 가 (920; ledge) ,  
 . 가 가 가 (922)  
 가 가 가  
 (924; ramp) 가 (918)  
 (904) (910) [ (922) ] (918)  
 . ,  
 가 가 (926)  
 ( ) (923)  
 ,  
 가  
 54 , (904) 가  
 (927) (936; ) (928)



5; (904) (928) 40 (929) 40 (92)

가 가 가

ching) (930; 11 ) LBP (600) (700) (lat  
.10 가 LBP  
11 (932)

(C) (928) 가 (936) ( )  
가 (940) /  
(938) (940) (930)  
가 ( ) (932) ( )  
936) 1 ( ) 가  
(Omron self-contained shutter type)  
가

11, 56, 57 X- 가 ( )  
Y- AM 5000-1  
(900) 5,690,892  
( ) Y- (962) (966,  
967) (964) (970) (968)  
(972) ( ) (976) ) (974) 56  
(978)

(962)가 (978) 가 (980)  
( 57 'T' ) Y- ('P') ( 56  
) (982)  
(702) (F) 가 (721) ('A')

(24V, 20 μℓ) ( 2 / ) 12 μℓ (984) , Lee LPL X050AA  
가 가 가 가  
0.712 mm(0.030 ) 가  
가 가

가 가 (940)

LBP 가 가  
. LBP

DNA, 가 40

DMS

LIS

LBP 8

가

가

LBP

160,000

LBP

DNA

21

DMS

DNA

DMS

/MDI

5,963,368

6,091,842

6,148,096

LBP

DMS

( /

/

)

가

가

가

가

가

(57)

1.

/

가

가

2.

1

가

가



16 ,

.

**18.**

1 ,

**19.**

18 ,

**20.**

1 , 가

.

**21.**

20 ,

**22.**

21 ,

.

**23.**

22 ,

**24.**

1 , 가

**25.**

24 ,

**26.**

25 ,

**27.**

1 3 , 가 , 가 , 가

가 가 가 , 가

가

**28.**

27 ,

가

**29.**

28 ,

가 가 ,

**30.**

29 ,

**31.**

29 30 ,

32.  
3 ,

33.  
32 ,

34.  
33 ,

35.  
34 ,

36.

37.  
36 ,

38. 가 ,

39.  
38 ,

40.  
39 ,

41.  
36 ,

42.  
41 ,

43.  
36 ,

44.  
43 ,

45. 가

46.  
45 ,

46 47. ,  
.

47 48. ,

36 49. ,

가

50.

,

가

가

50 51. ,

,

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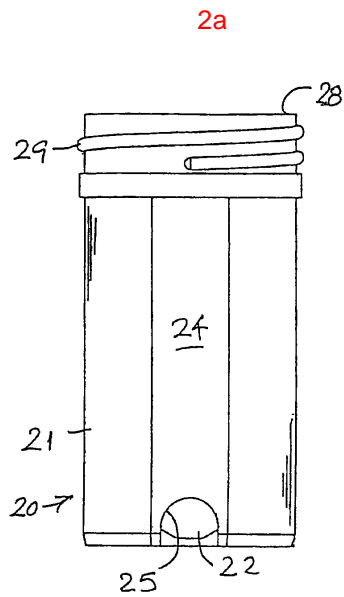
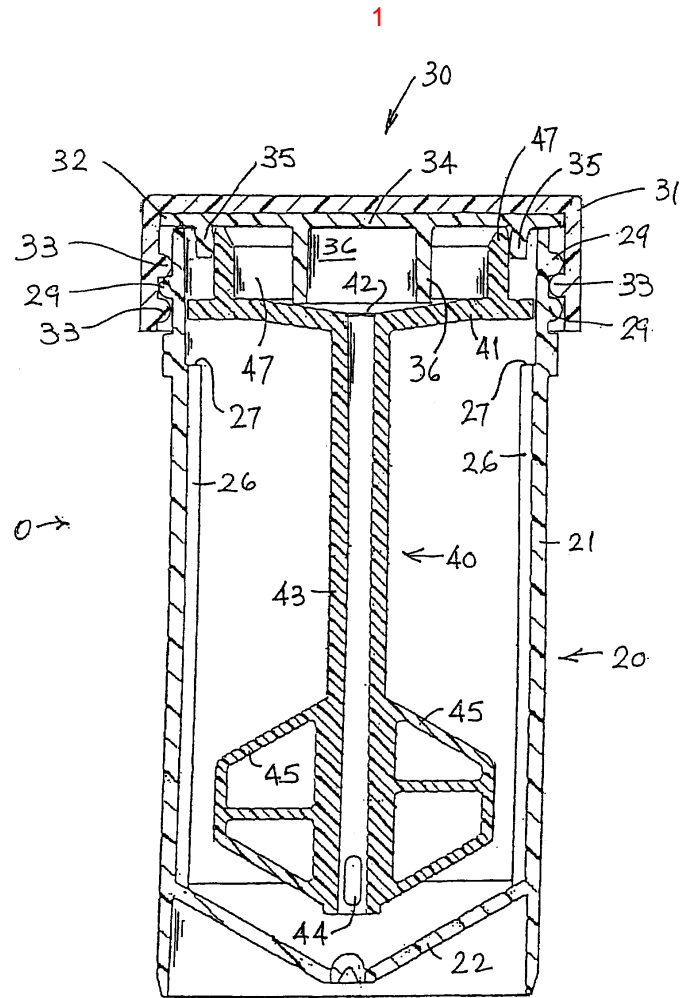
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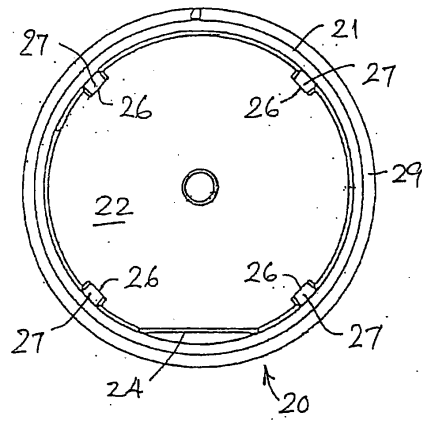
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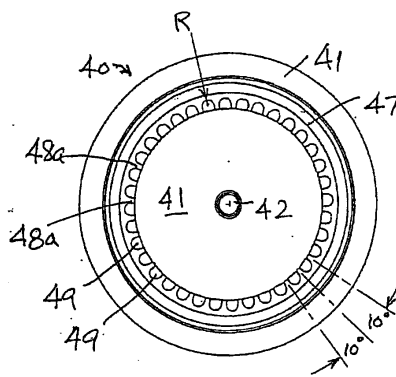
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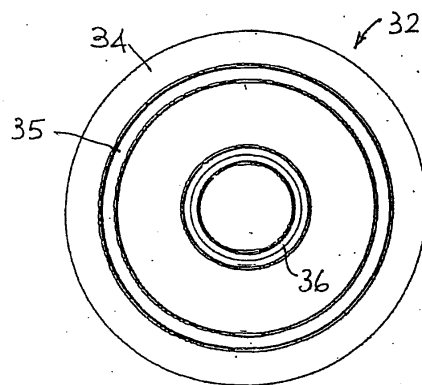
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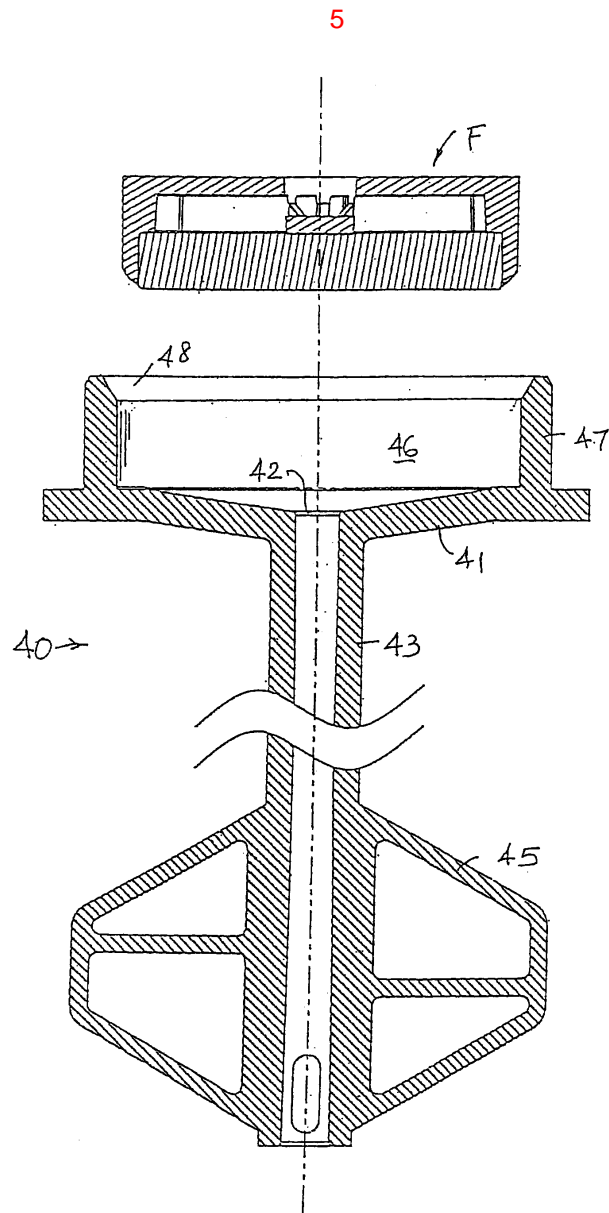
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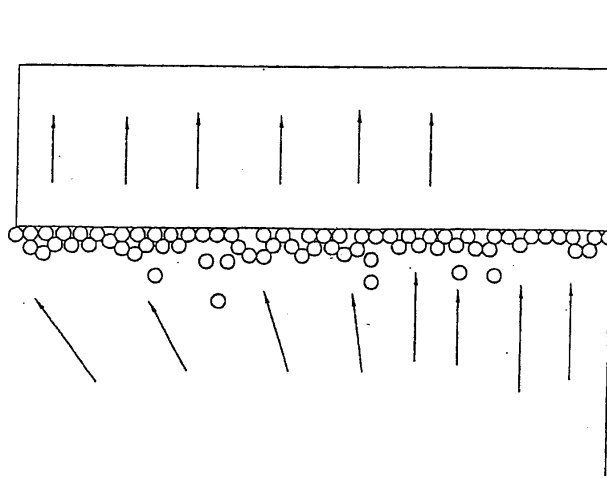




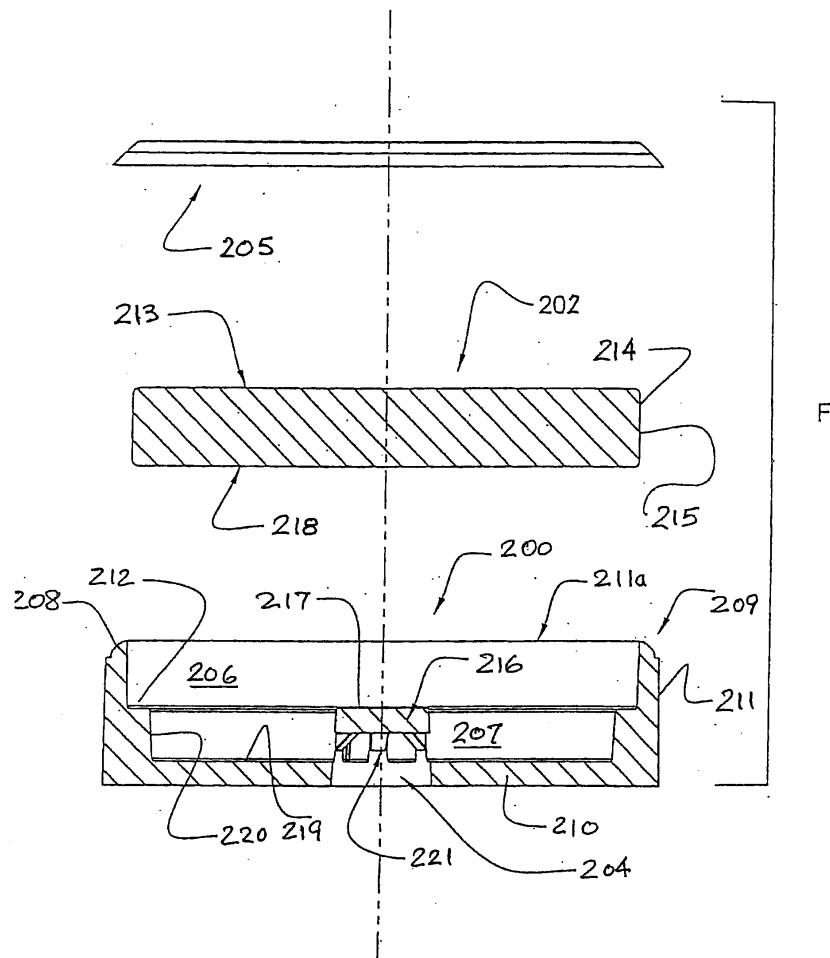


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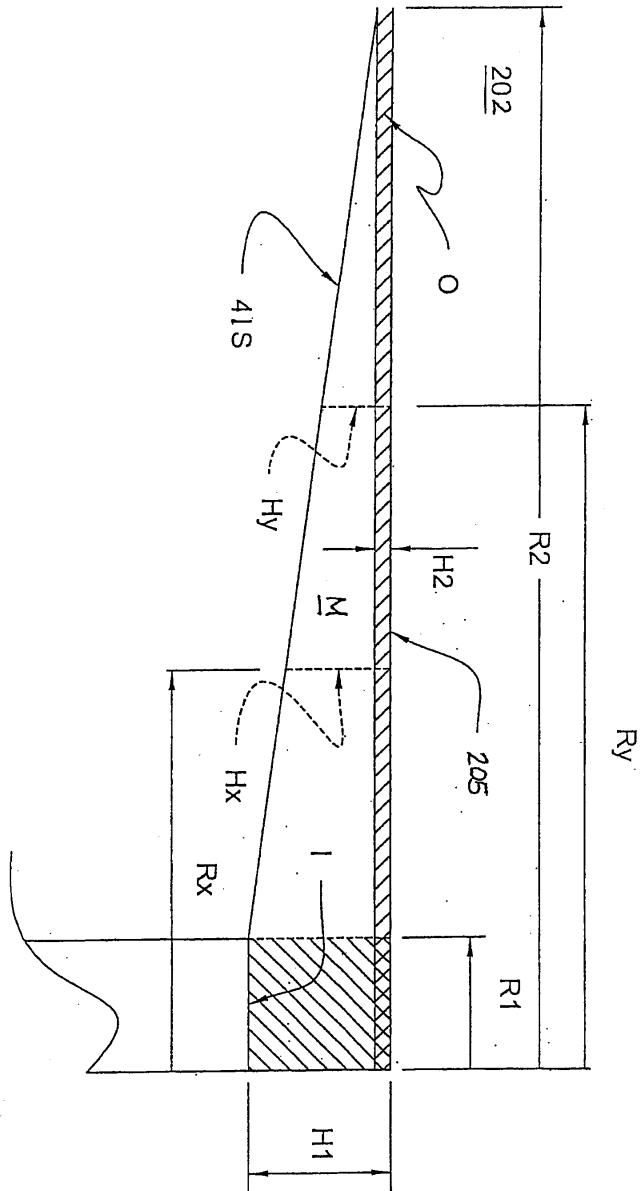
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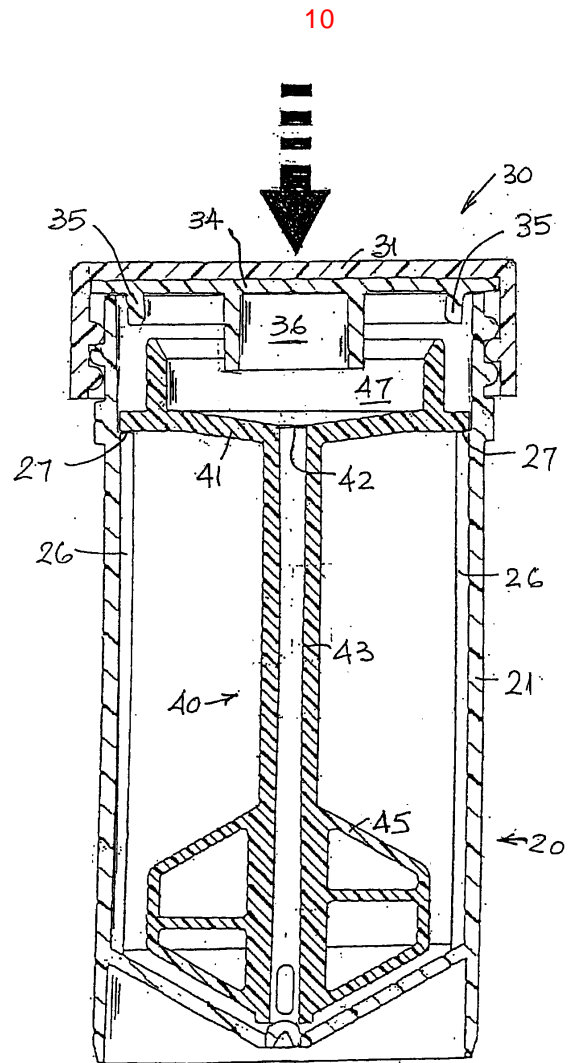


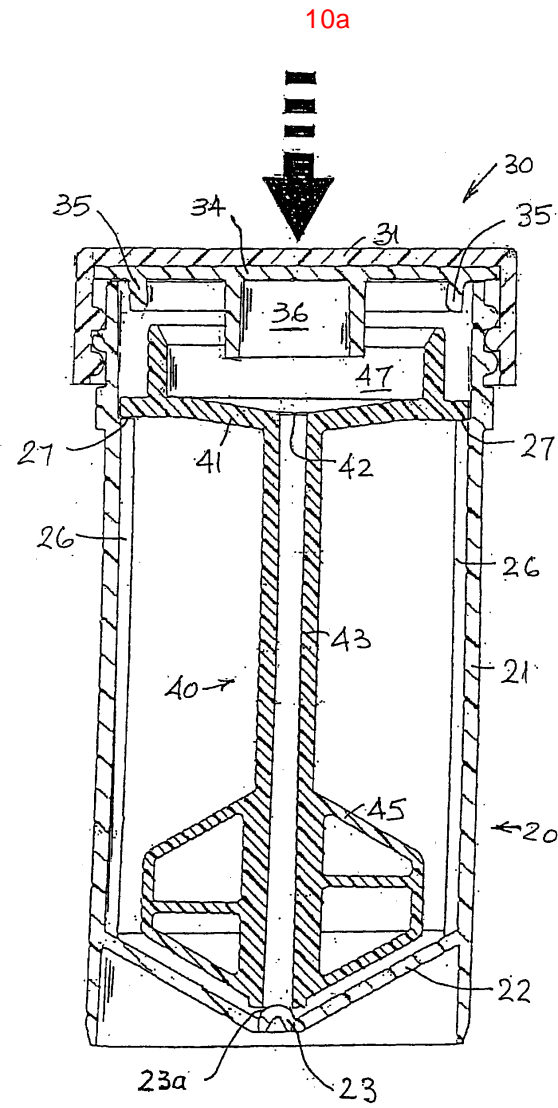
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9

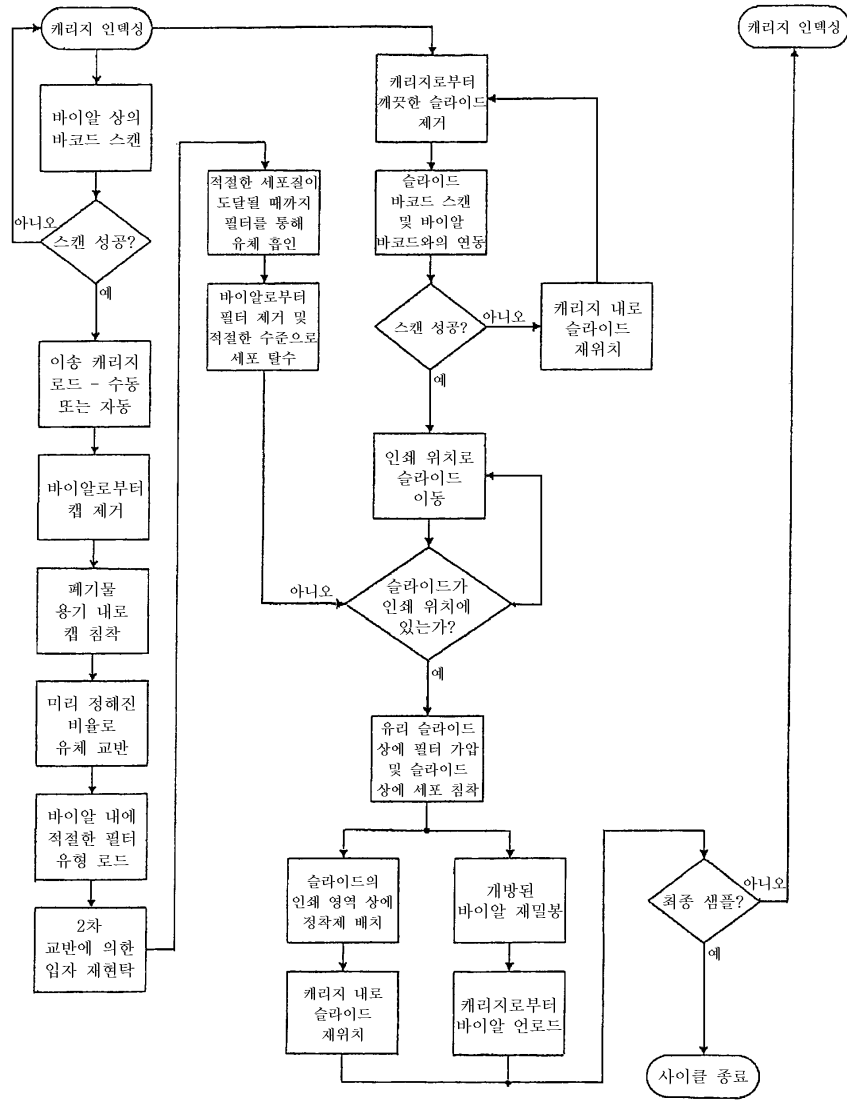




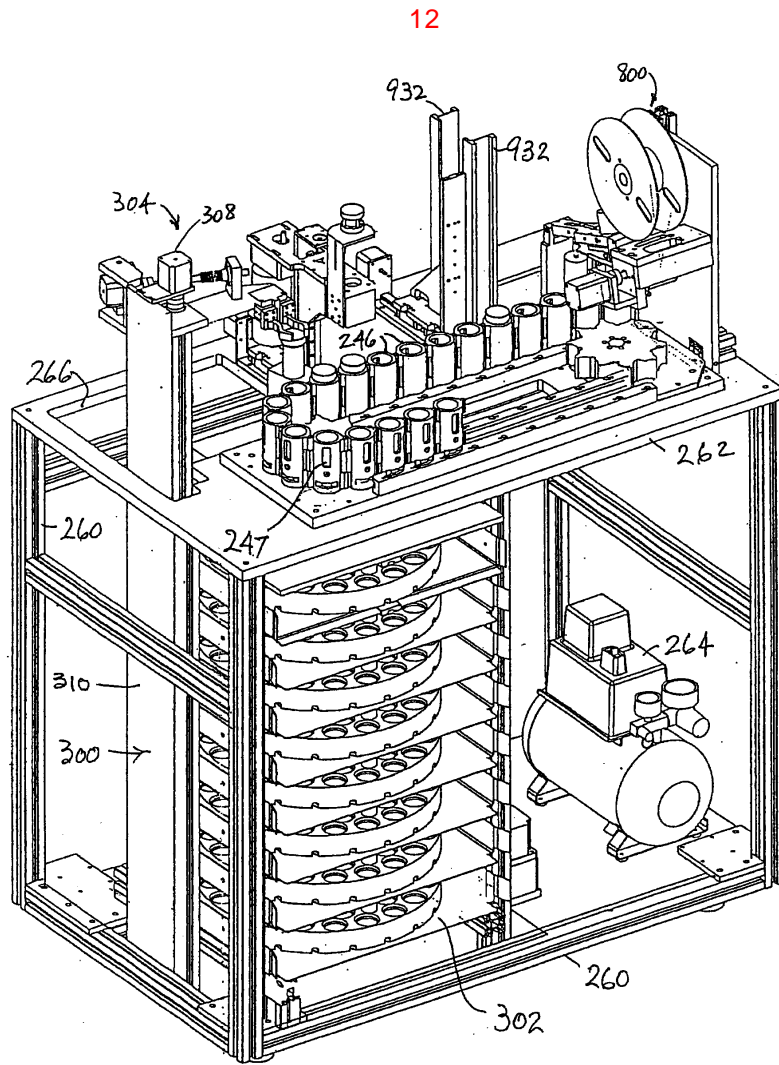




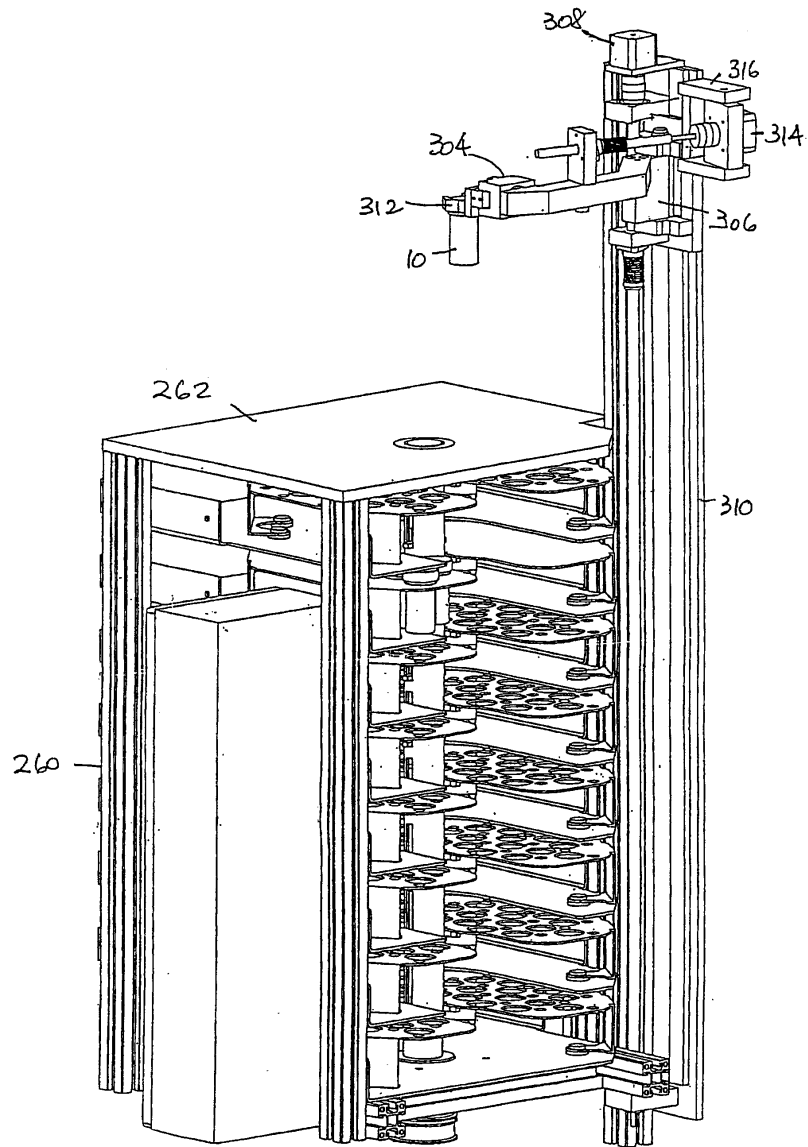
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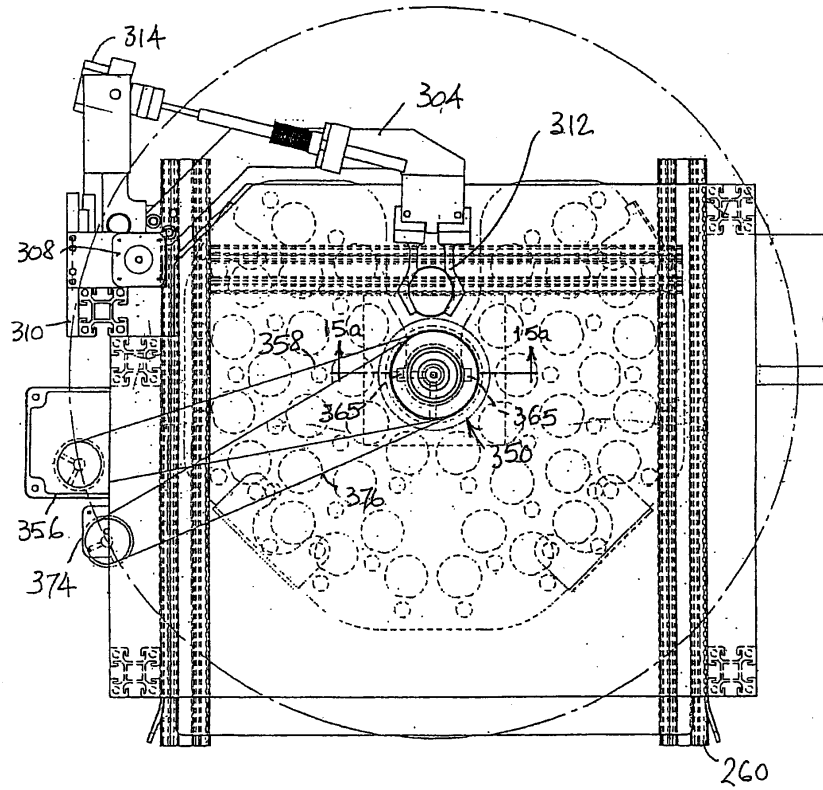




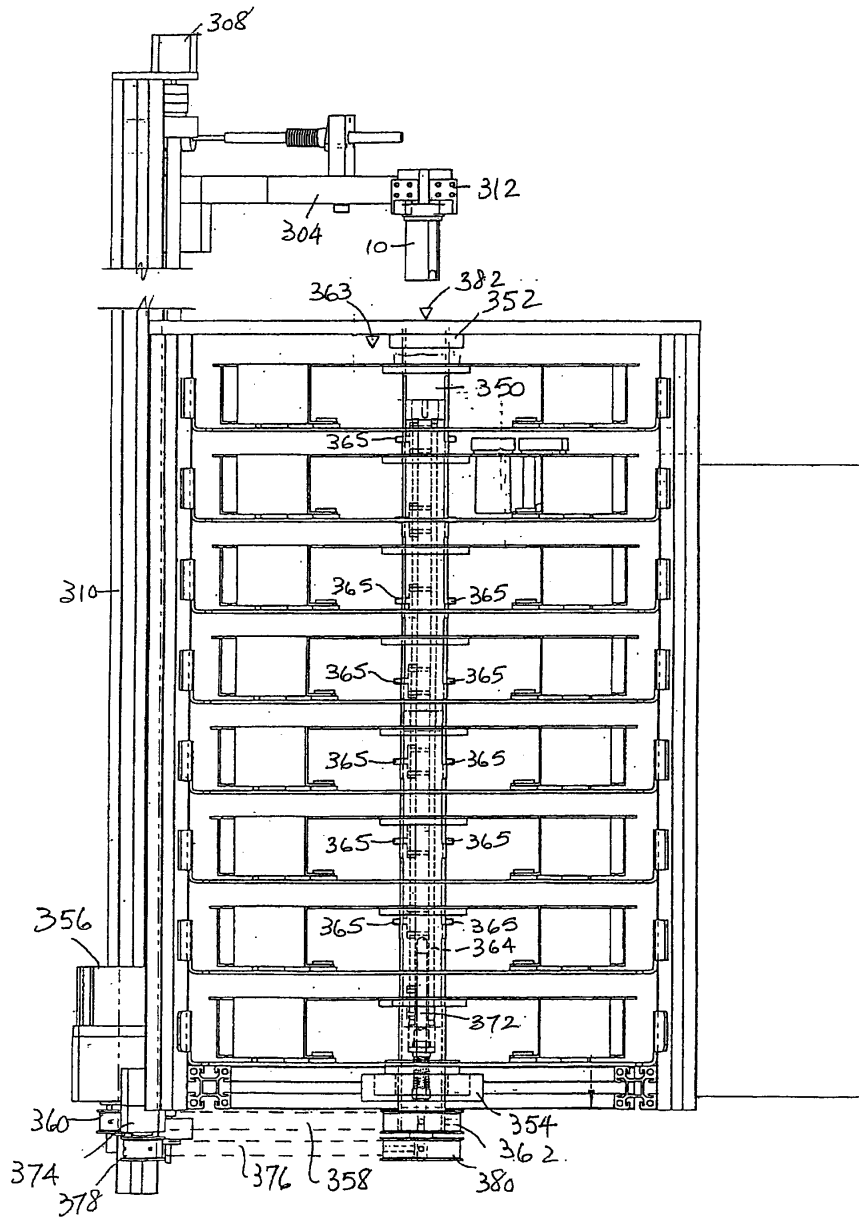
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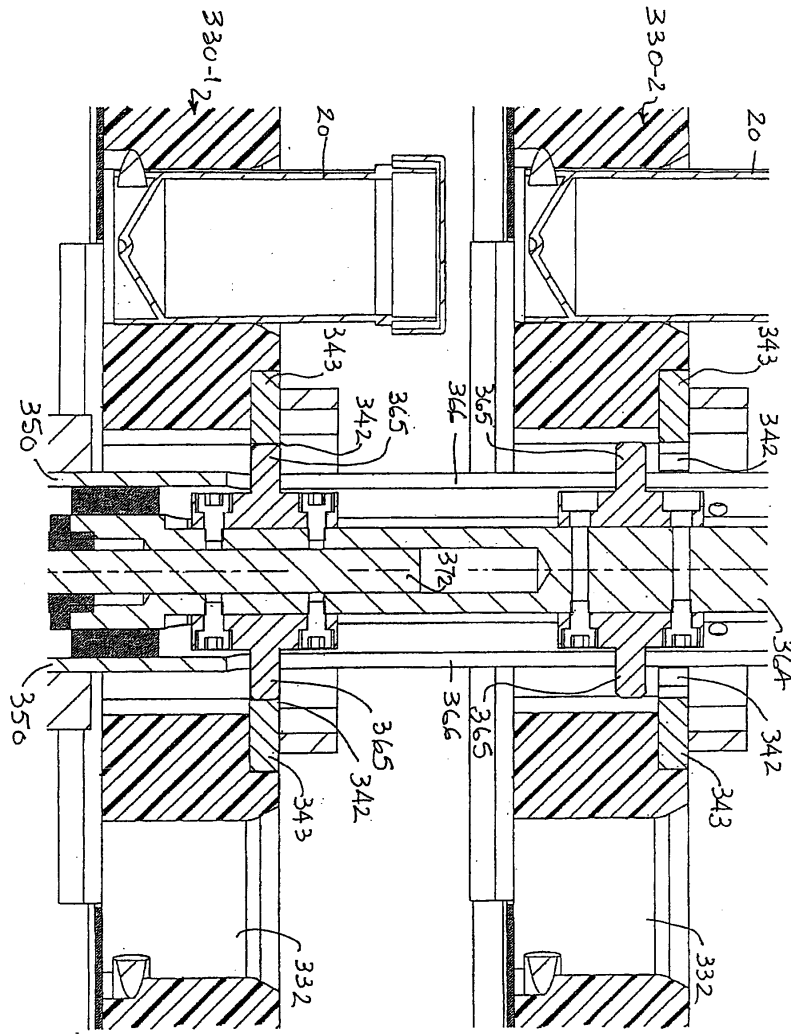
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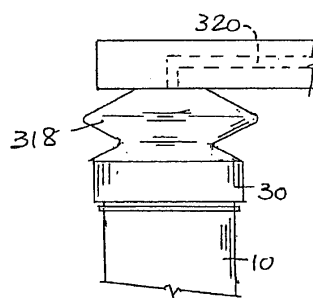
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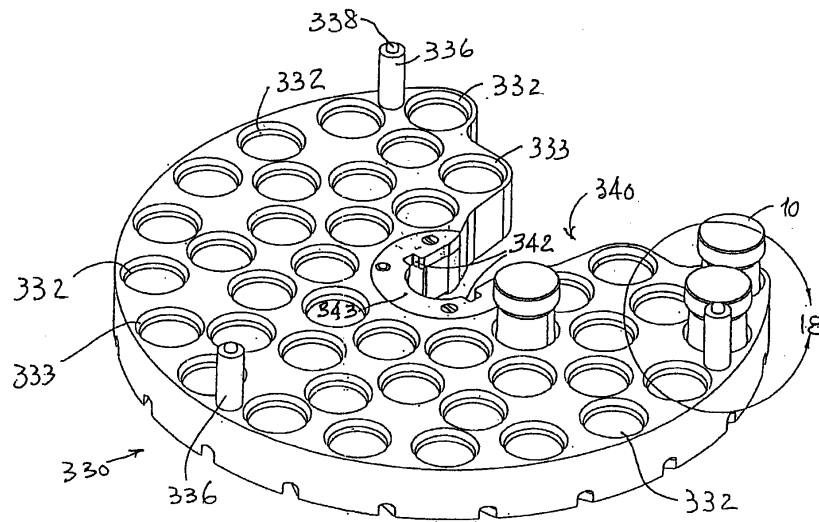
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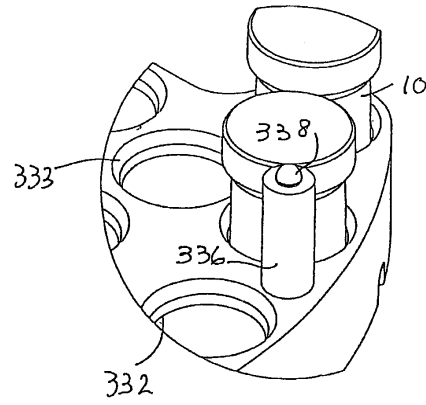
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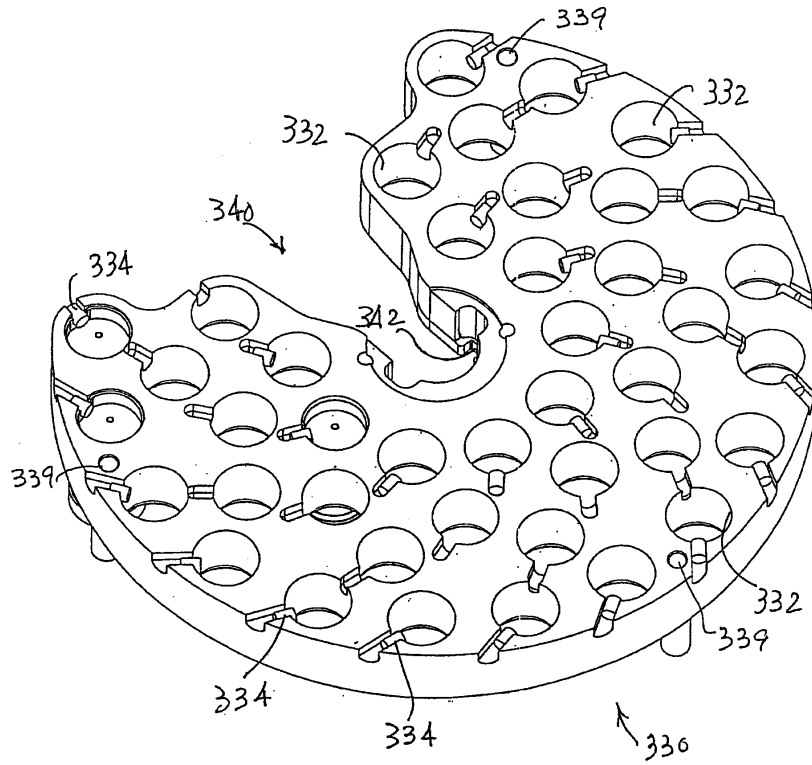
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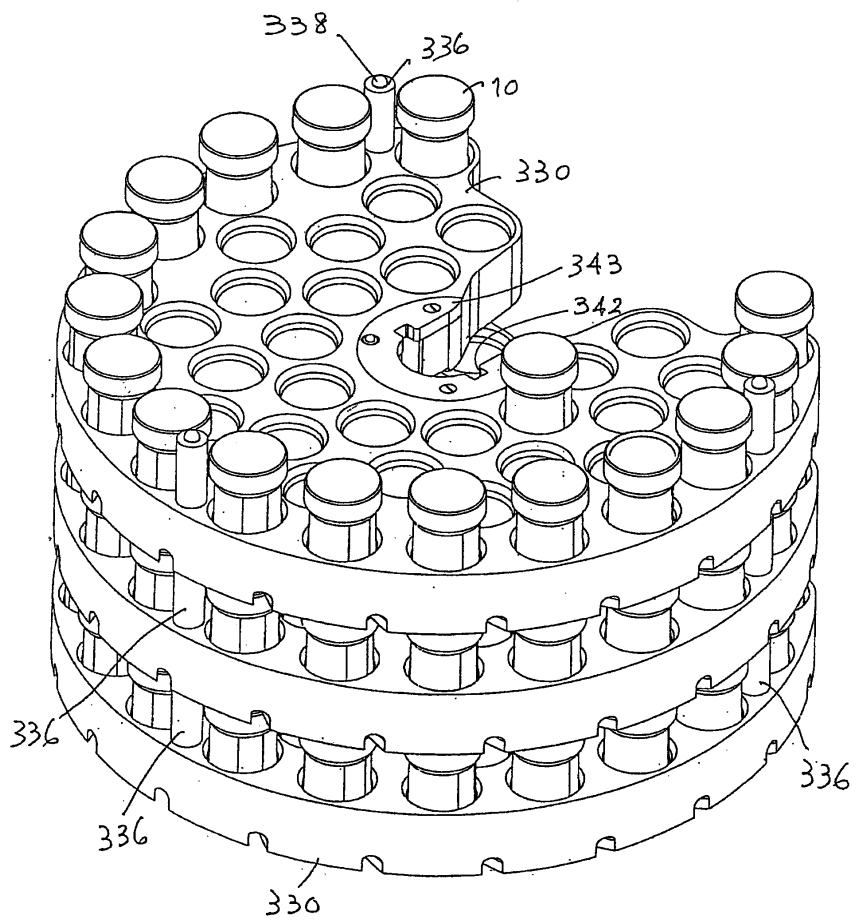
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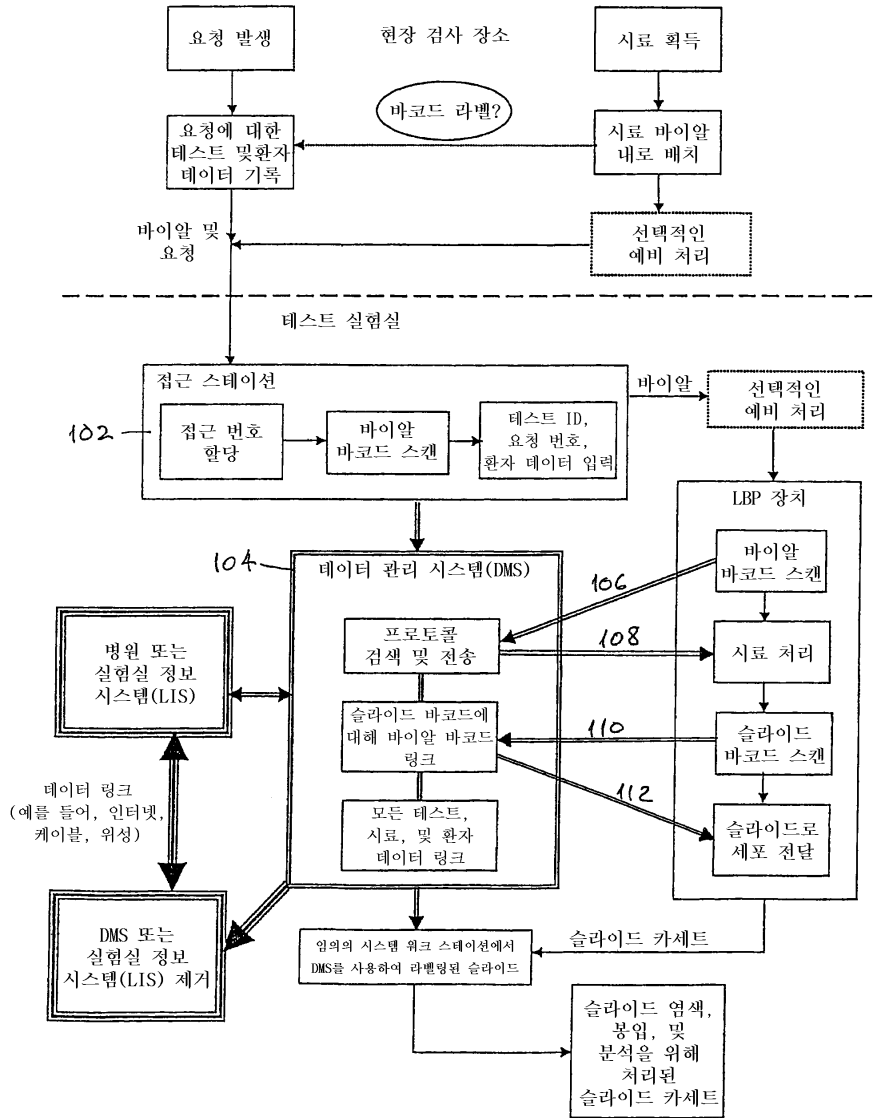


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20



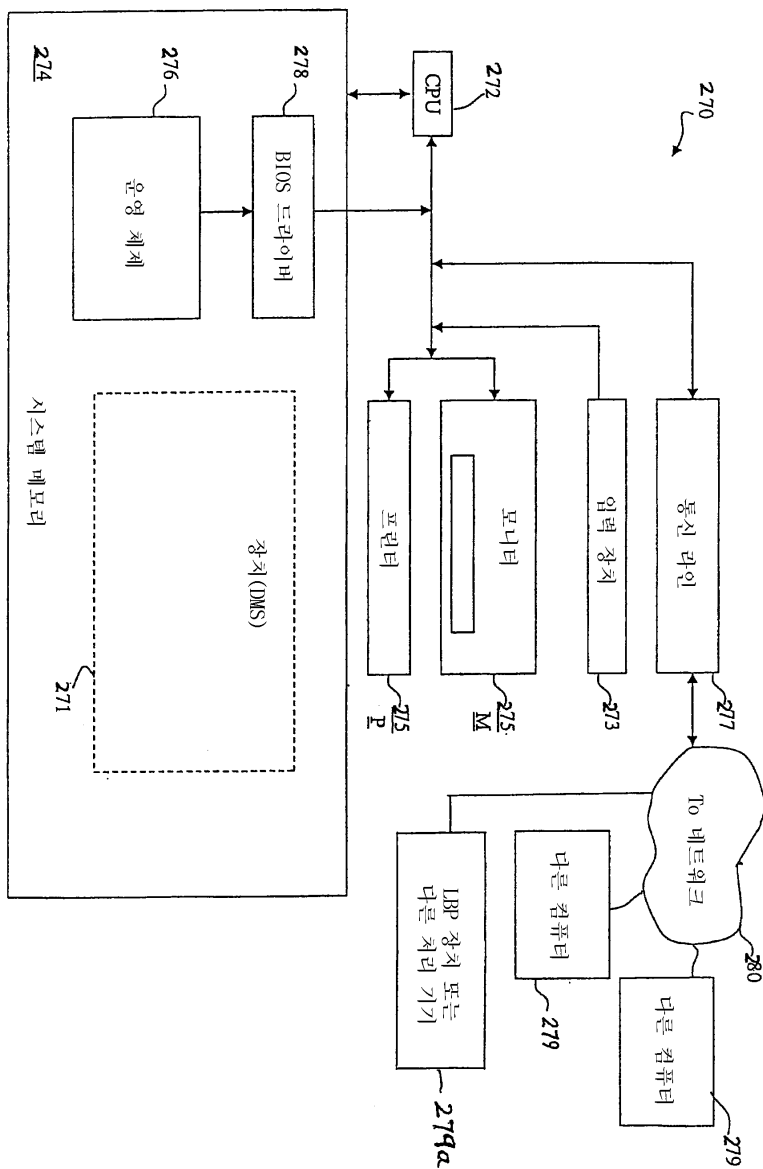








22



23

Savant Data Management System SPECIMEN ACCESSIONING

9/25/2001 18:37:05 STAFF ID ADMIN

Specimen  
 Lab Accession No: 12345 Monogen Vial No: 000000076 Requisition No: 01-BV567  
 Total Slides: 2 Date Collected: 9/13/1999 Date Received: 9/13/1999  
 LMP: / /  
 Test: 1 - GYN

Client ID: CL200 CL200's name: [ ]  
 Physician ID: 8820 BROWNLEE, LAWRENCE, M.D. [ ] [ ]  
 Comments: [ ] Reject Reason: [ ]

Patient  
 ID: 778JJ800 Alternate ID: [ ] SS#: [ ] Sex: [ ]  
 Name: [ ]  
 Last: JONES Suffix: [ ] Birth Date: 9/13/1999  
 First: Melissa Title: [ ] Age: [ ]  
 Middle: [ ] High Risk:

Address: [ ]  
 City: [ ] State: [ ] Zip Code: [ ]  
 Country: [ ] Home Phone: [ ] Work Phone: [ ]  
 Physician ID: 1029 TAUB, MORRIS, M.D. [ ] Clinical Information: [ ]

Save Clear Quit

24

SLIDE CROSS REFERENCE

9/25/2001 18:34:37 Monogen Slide No: 25000056 STAFF ID ADMIN

Specimen  
 Lab Accession No: 12345 Monogen Vial No: 000000076 Requisition No: 01-BV567  
 Total Slides: 2 Date Collected: 9/13/1999 Date Received: 9/13/1999  
 Slide ID: 25000115 25000056 LMP: / /  
 Test: 1 - GYN

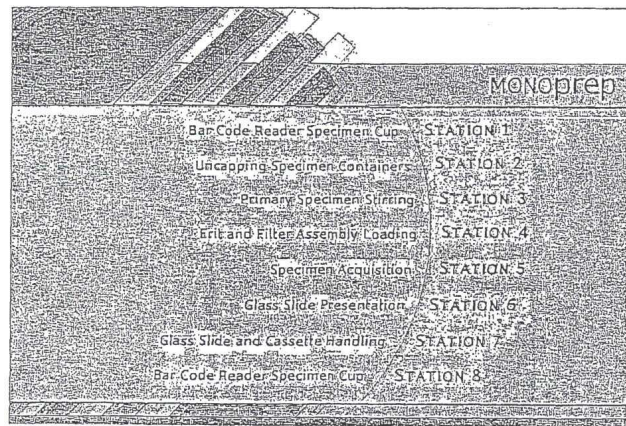
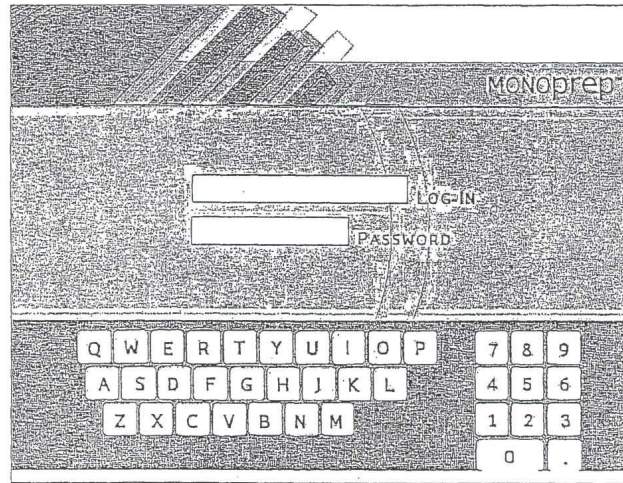
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 Physician ID: 8820 BROWNLEE, LAWRENCE, M.D. [ ] [ ]  
 Comments: [ ] Reject Reason: [ ]

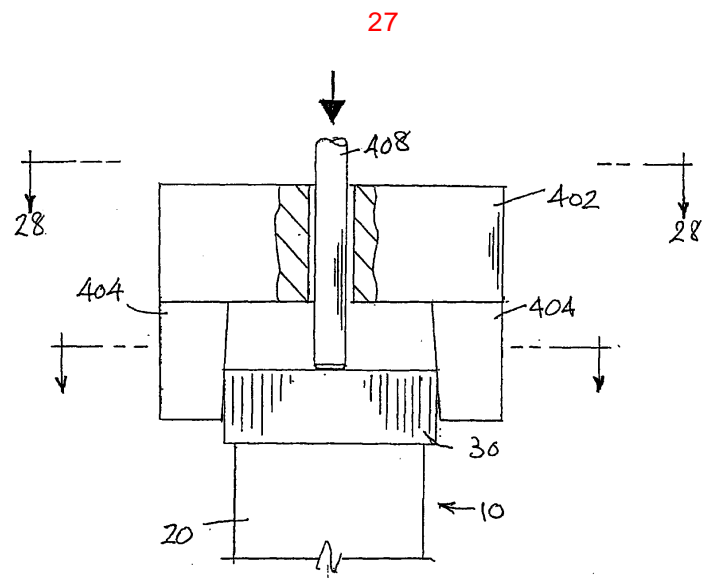
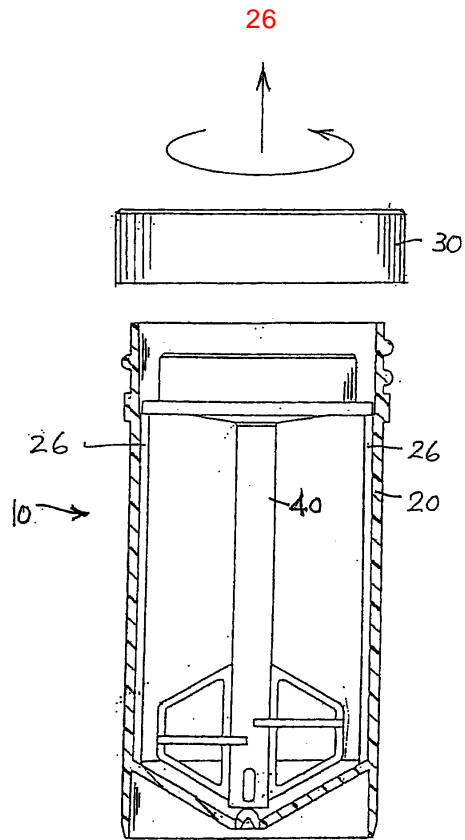
Patient  
 ID: 778JJ800 Alternate ID: [ ] SS#: [ ] Sex: [ ]  
 Name: [ ]  
 Last: JONES Suffix: [ ] Birth Date: 9/13/1999  
 First: Melissa Title: [ ] Age: [ ]  
 Middle: [ ] High Risk:

Address: [ ]  
 City: [ ] State: [ ] Zip Code: [ ]  
 Country: [ ] Home Phone: [ ] Work Phone: [ ]  
 Physician ID: 1029 TAUB, MORRIS, M.D. [ ] Clinical Information: [ ]

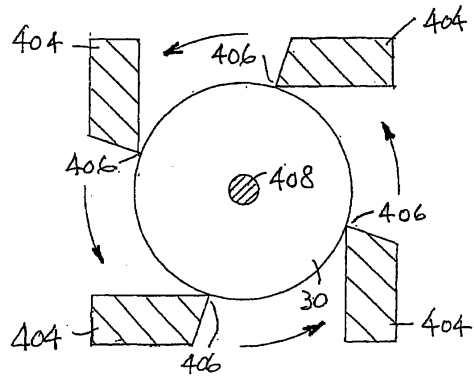
Clear Quit



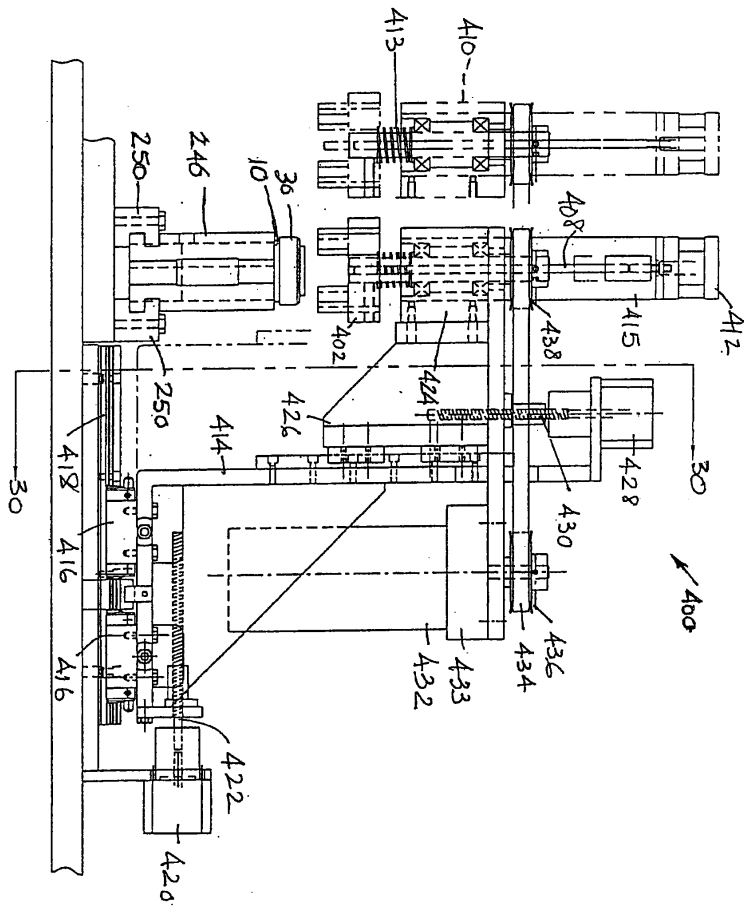




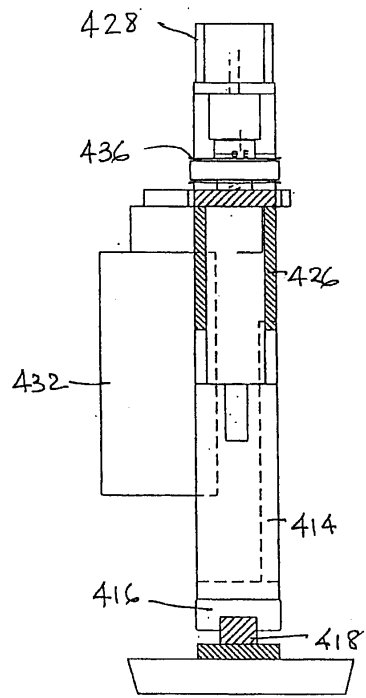
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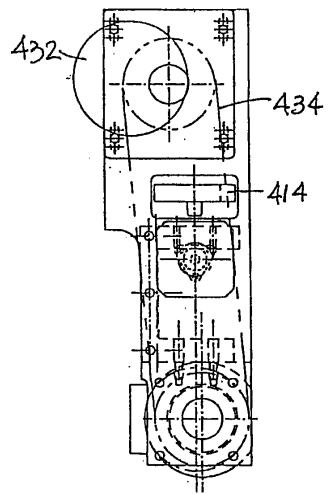
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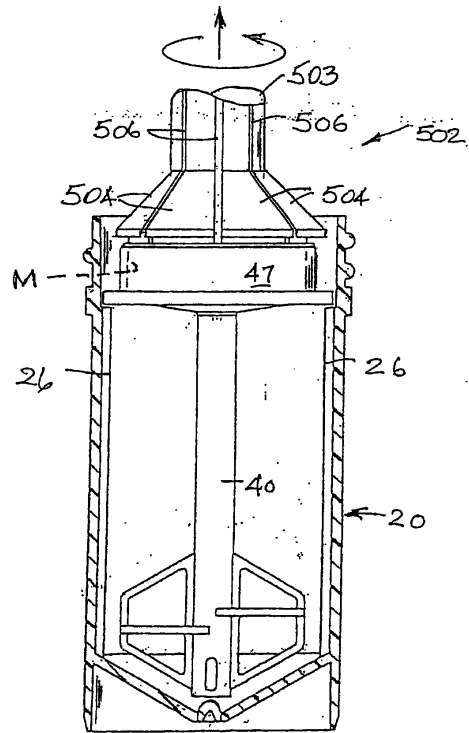


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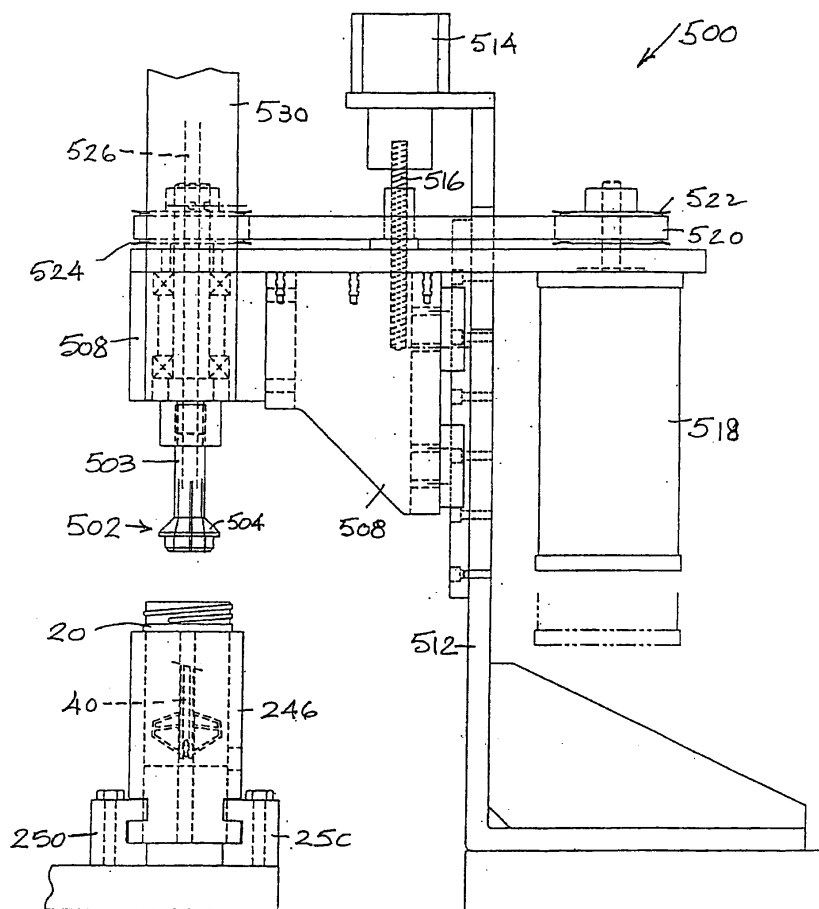




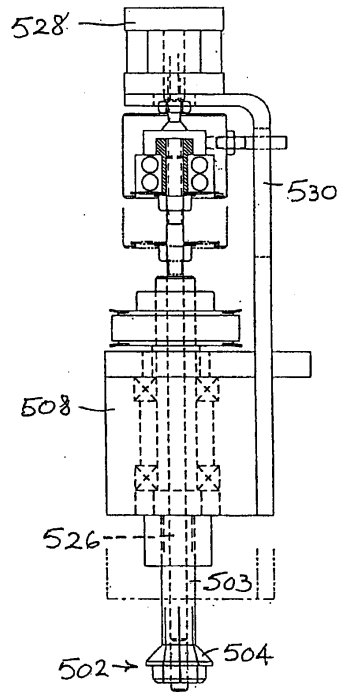
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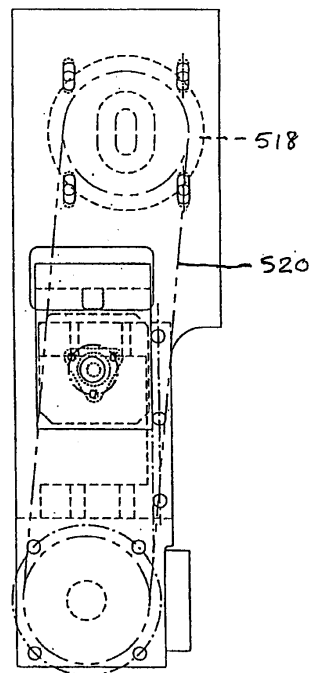
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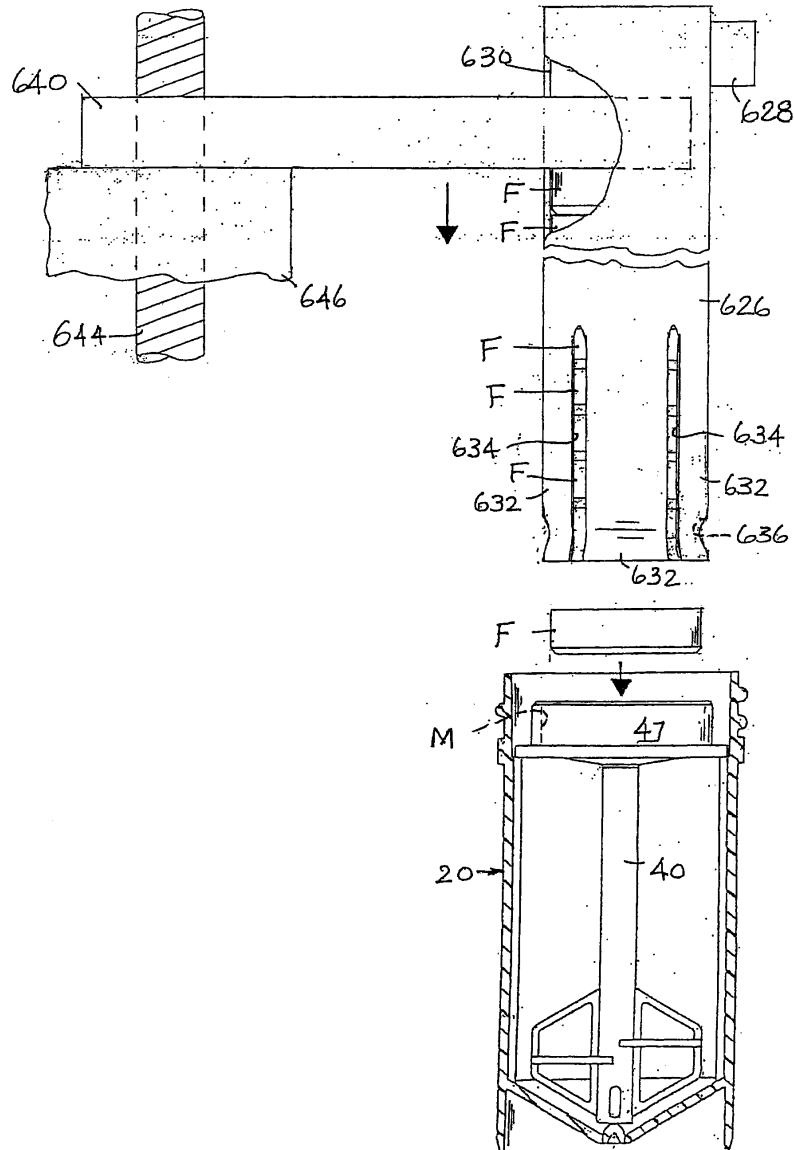


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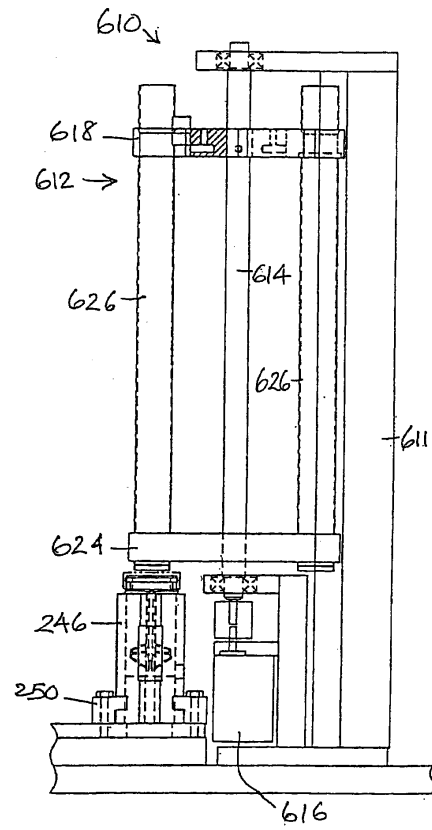


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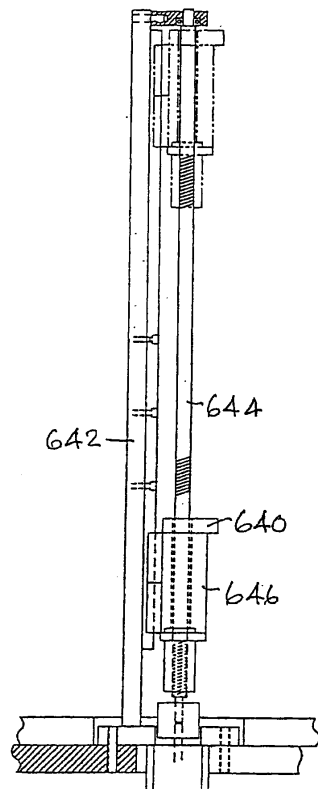




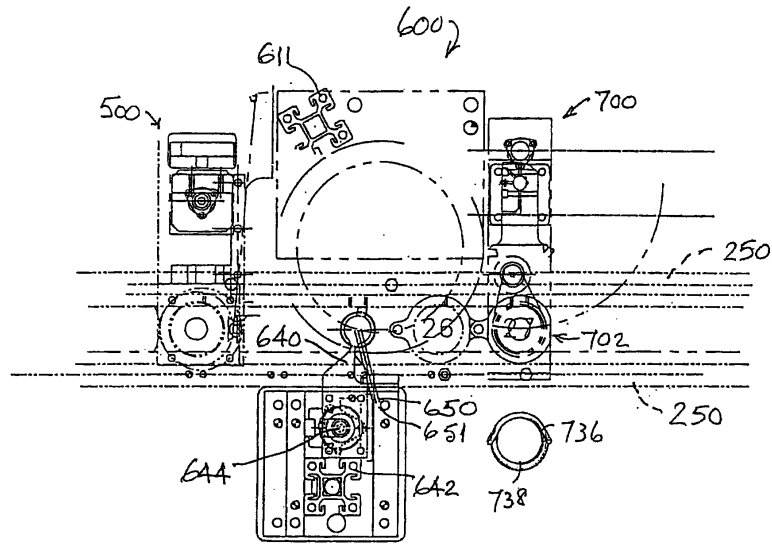
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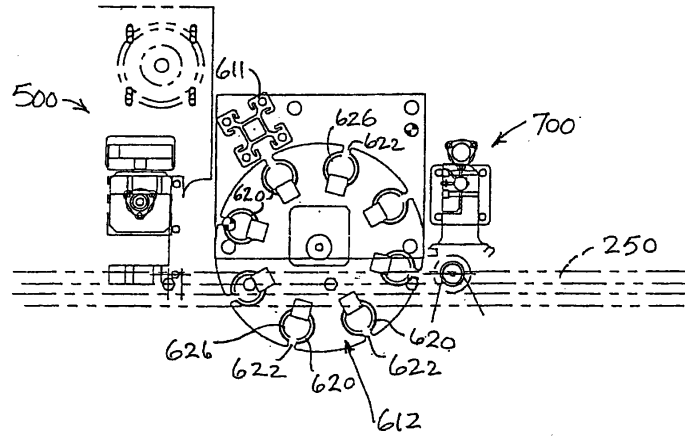
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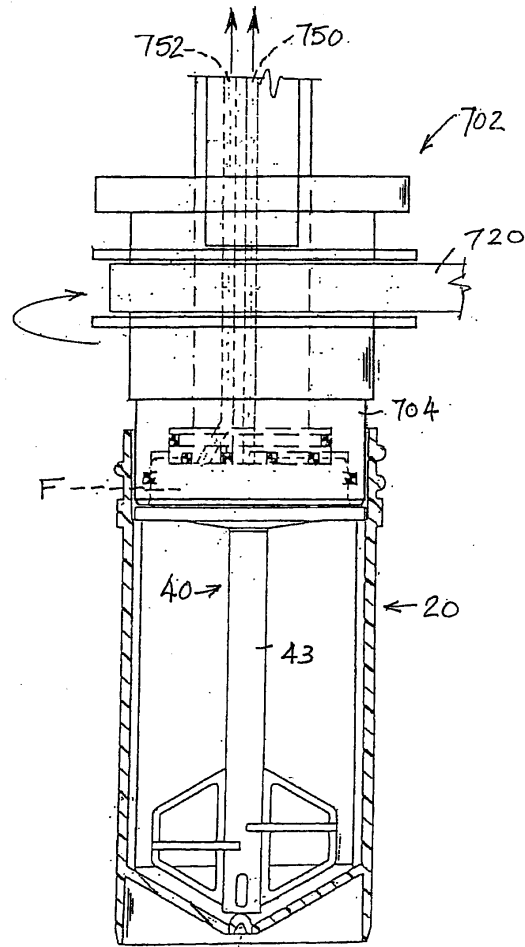
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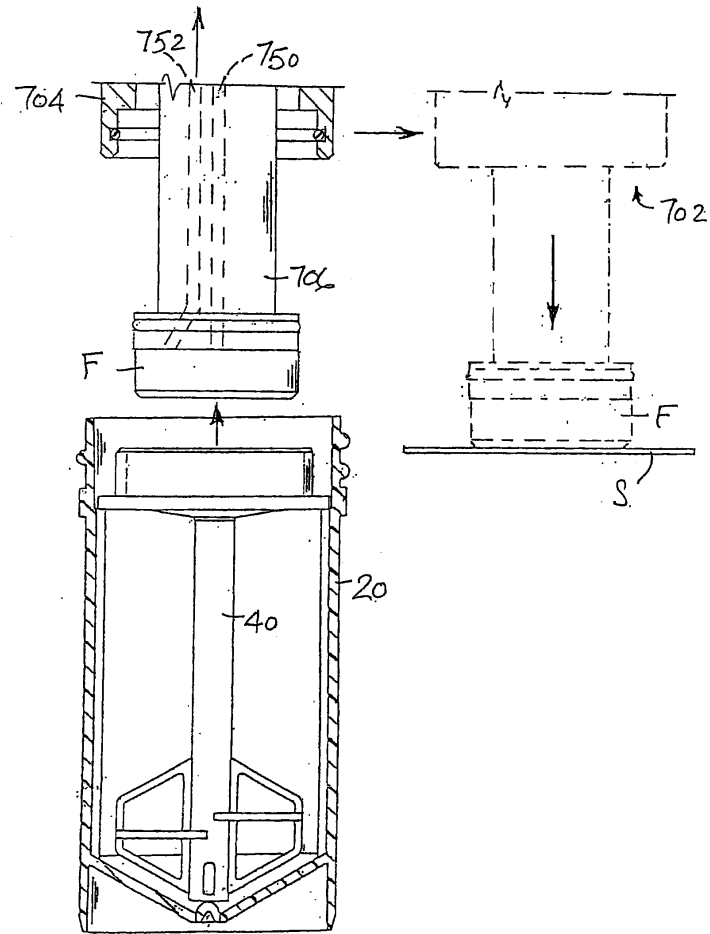
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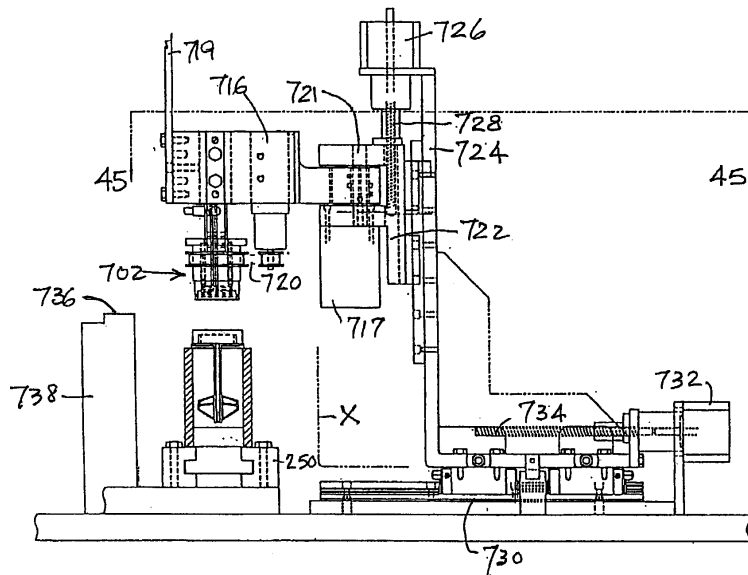
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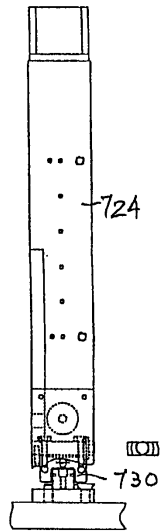
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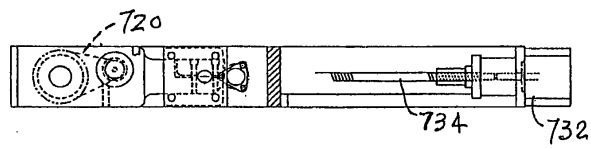
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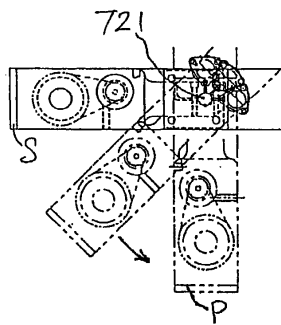
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45



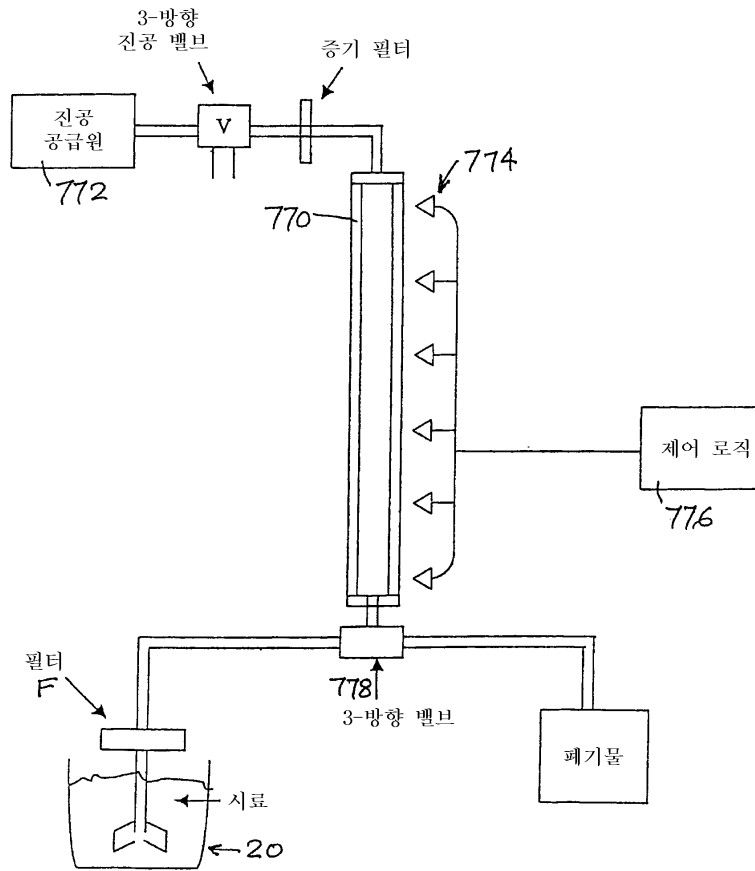
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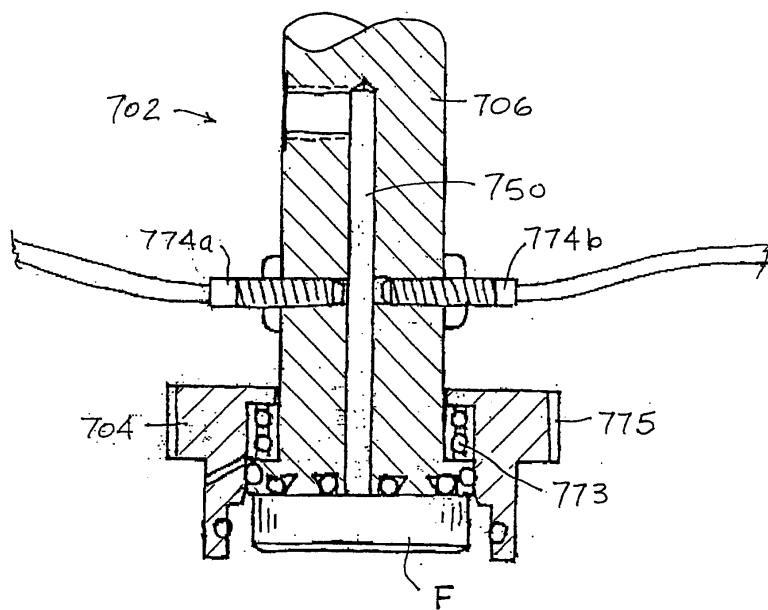


47

버블 유량계

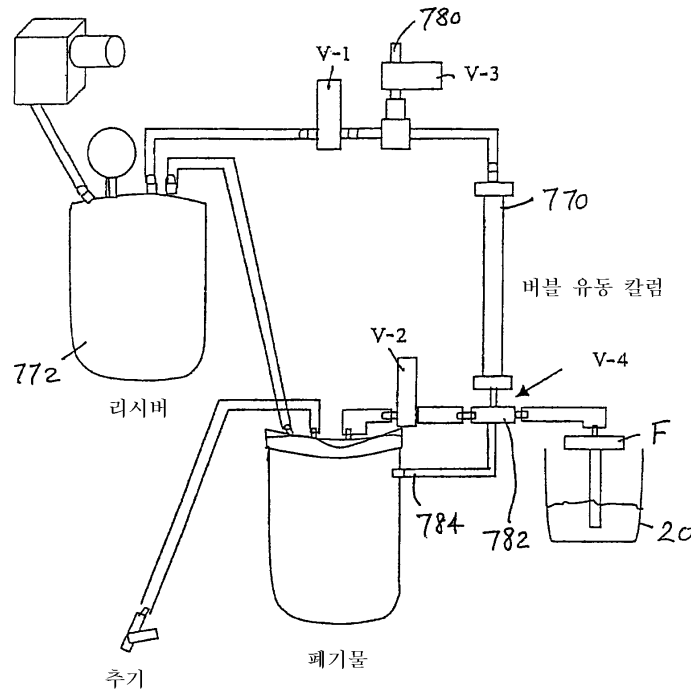


47a



48

진공 펌프



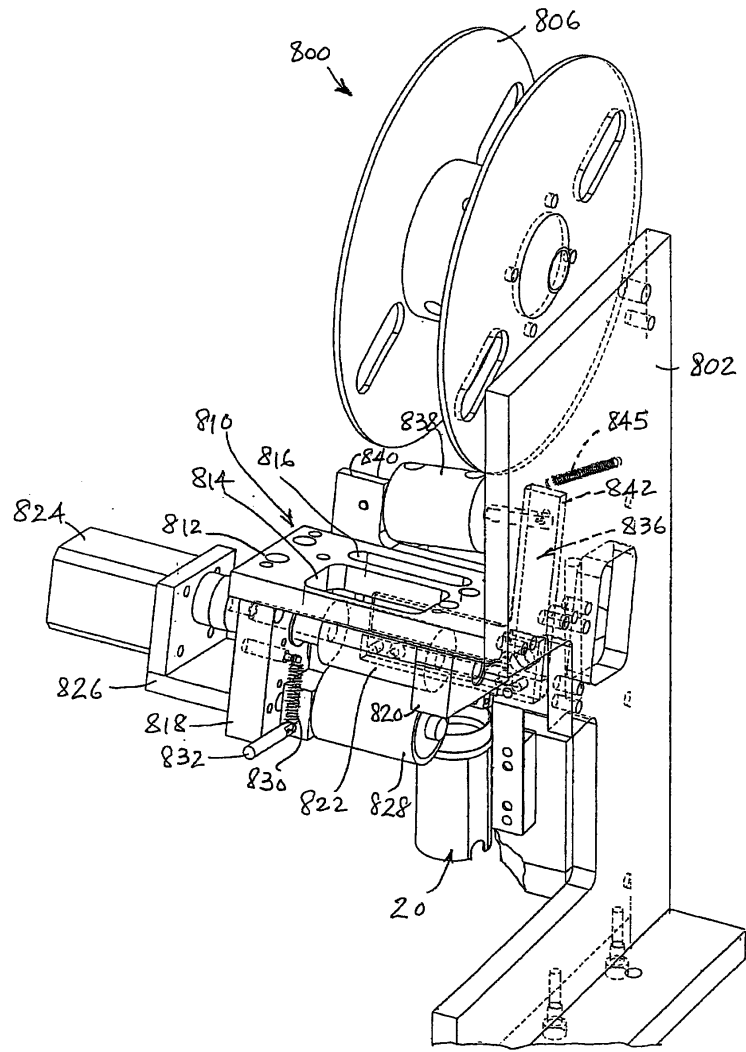
49

유동 센서 작동

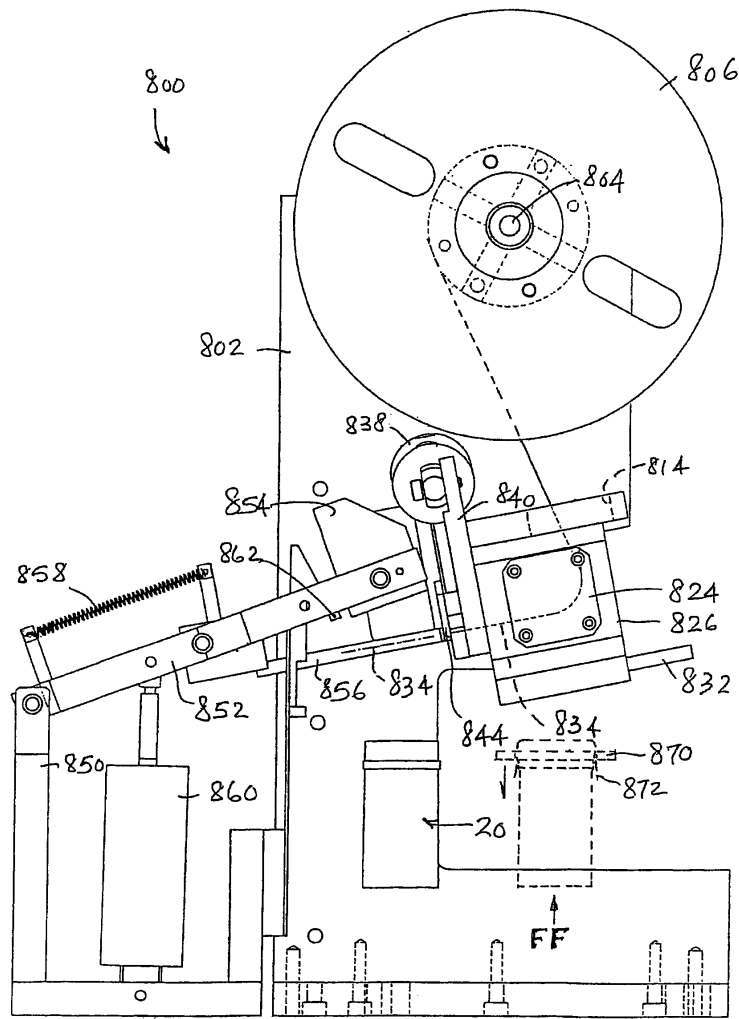
작동 시퀀스

	V-1	V-2	V-3	V-4
#1				
측정된 당김력	ON	OFF	OFF	OFF
#2				
다짐 인쇄	OFF	ON	OFF	OFF
#3				
추기	OFF	OFF	ON	ON

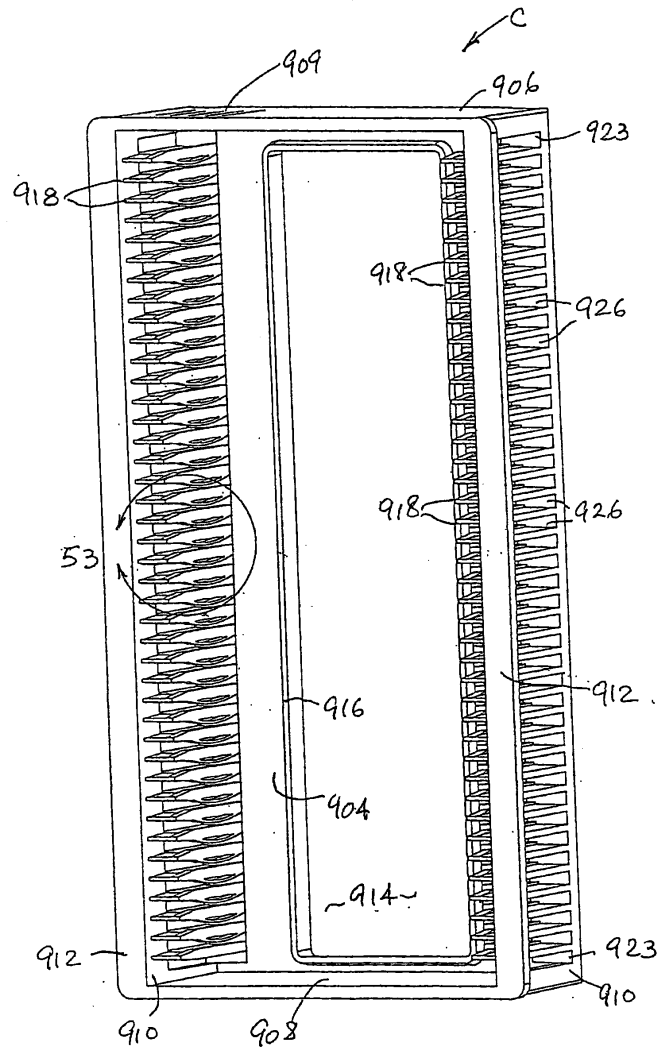
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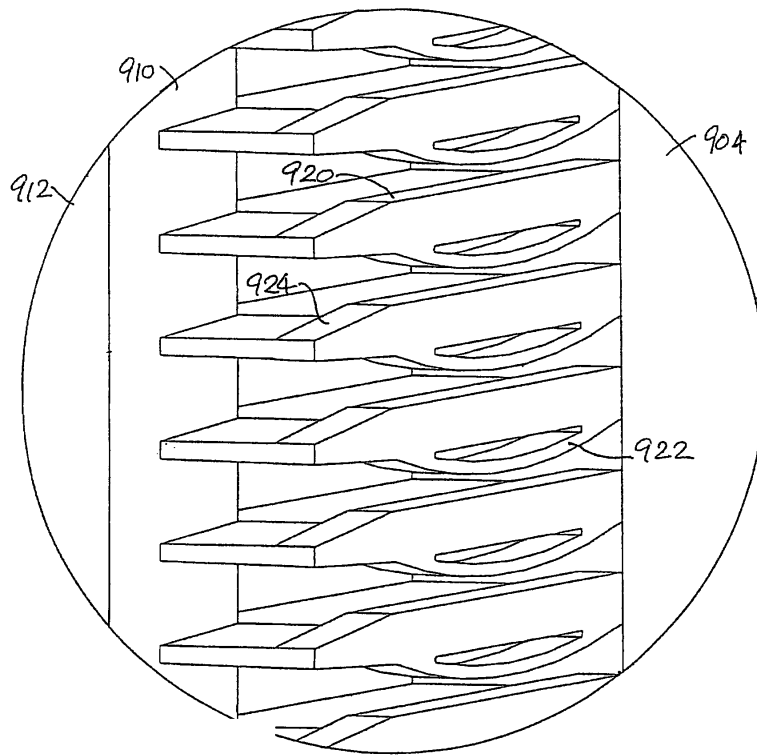
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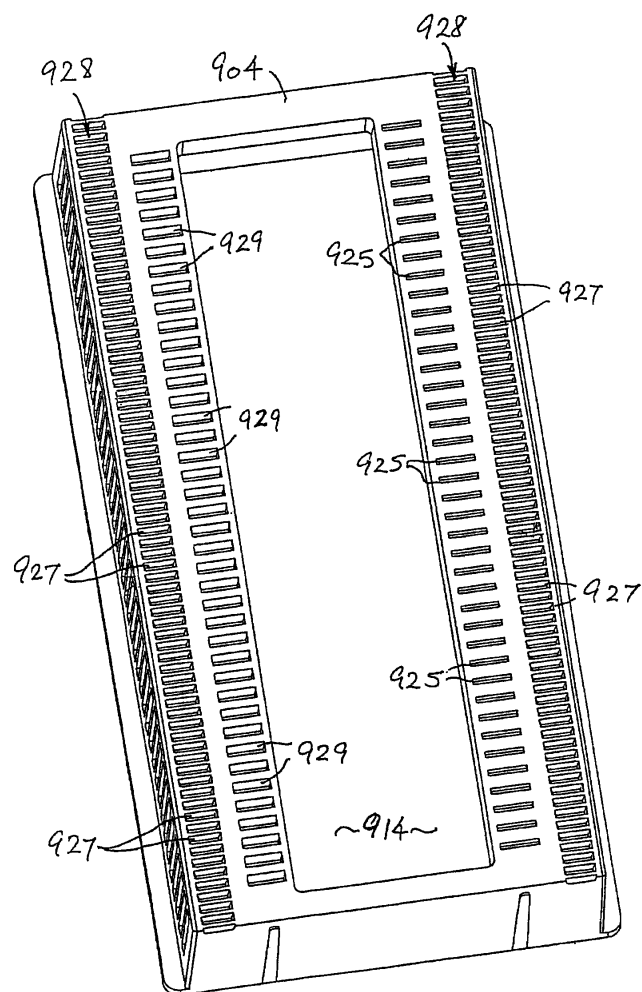
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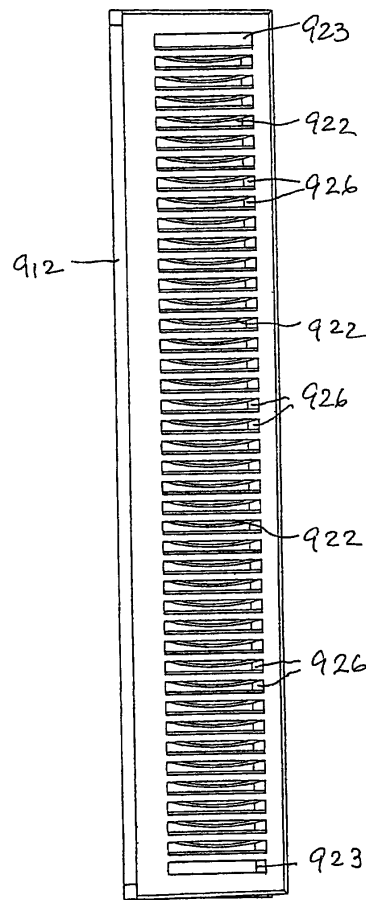
53



54



55



56

