

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷
A61M 1/10

(11)
(43)

2002 - 0008397
2002 01 30

(21)	10 - 2001 - 7013763
(22)	2001 10 26
	2001 10 26
(86)	PCT/US2000/09009
(86)	2000 04 06

(87)	WO 2000/64508
(87)	2000 11 02

(81)

가

가

가

가

가

가

AP ARIPO : 가

EA :

EP :

OA OAPI : 가

(30)	09/301,138	1999 04 28	(US)
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(71) ,
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3351 (:33025)

(72)	,	,	.	
	95746			7827
	,	,	.	
	95630			184

(74)

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(54)

가 (sealless) 가 , ,
 / , 가 , ,
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7

가 , ,
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(sealless) (Ventricular assist devices ; " VOD")
 가 .
 , 가 .

가 , 가 .
 (cellular) , ,
 , (clotting precursors) ,
 , (shear), , (denatured) , ,
 .

가 , ,
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45
 (compatible) , ,
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가 , ,
 /

(thrombosis) .

가 , ,
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가

가

/

(gap) 2 (radial) (radial)

(相補)

(radial) 가

가

가

가

(preload) 가

가

(nonintuitive) .
 1/2 3/4 lbs
 가 , ,
 - ,
 5,840,070 ,
 (spoke) ,
 가 ,
 / (journal)
 가 , 가
 / ,
 가 가 .
 , , , 가 , 2
 , 가 가가 .

- 1 ;
- 2 , ;
- 3 ;
- 3a 3 (3a) ;
- 4 3 ;
- 5 3 ;
- 5a 5 ;
- 5b 5a , ;
- 6 3 ;
- 7 ;
- 7a 7 (7a) ;
- 8 ;

8a 8 (8a) ;

9 ;

9a 9 (9a) ;

10 ;

10a 10 (10a) ;

11 ;

11a 11 (11a) ;

12 ;

12a 12 (12a) ;

13 ;

13a 13 (13a) ;

14 ;

15 ;

16 .

1998 11 24 5,840,070
가 . 5,840,070 ,

1 , (10) (12) (渦流室)(14)
 . (16) (14) (16) .

(10) 2 (18) (20)
(22) . (12) (cannular) (20)
(24) 가 (16) (anastomosis) 가
(22) . (10) (26) (28) (30) . (28)
(30) ,
(transcutaneous) .

3, 3a, 4, 5 6 , (32) (36) (34)
 . (32) (34) (36) .

(38) , (32) (34) (38) (12) (

42) .

3 6 , (46) 1 (44)

(14) (backiron) (48) (46) . 1 (44)

(48) (50) (52) .

(56) 2 (54) (14) . (56) (

14) (52) (58) (56) . 5, 5a 6

0) , (48) (58) (iron) (6

(56) (62) (60) (5a) . 5b ,

가 , (46) (48) ,

가 .

(44, 54) , (64) , (14)

(48) (58) . (44, 54) (46,

56) , (44, 54)가 가

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2 가 .

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, 3 3a , (66, 68) (70, 72)

. (66)가 5 ,

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, 가 ,

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, 3 3a ,

(66) , (68) -

(74) . - (74) 가

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,

(blade sector) (76, 78, 80)
(76) (78) (82) (76) (86) (78) (80) (84)
(76, 78, 80) (82, 84, 86) (edge)
가 가 가 가
가 가 가 가 가 가 가 가
가 가 가 가 가 가 가 가
(88)

(10) 가 7 7a (38)
(12) (40) (34) (42)
7a (36) (88)
(90) 0.006 - 0.020 (88) 0.0005 - 0.0015 (9
(34) (36) (92)
(92)

(10) 가 8 8a (36) (94)
(94) 0.010 가 7 7a
(10) 9 9a (32) (34)
(88) (36)
(96) (88) (96) 0.0005 - 0.0015
(10) 10 10a 가
(36) (ring) 9 9a
(88) (36) (96) 0.0005 - 0.0015
(36) (96) (88) (96)

(10) 가 11 11a 가
- (36) (36) (98)
(102) (100) 11 (98)

(100) (36) , , (36)
 36) (102) (104) 0.003 가 , 0.006 - 0.0
 20 가 . 0.0005 - 0.0015 가 (88)

11 11a 0.002 - 0.008 가 (36) (104)
 (102) ,

11 11a 가 12 12a , (88)
 (36) (,)

(10) 가 13 13a 가 , (36)
 2 (98) 2 (100) 2
 (36) (102) (104) 0.003
 0.0005 - 0.0015 가 (88)

가 ,
 , 가 (preload force)
 , 가 (zero)

14, 15 16 , (34)
 (36) (32) , (36) 4
 (106, 108, 110, 112) (106, 108, 110, 112) (114, 116, 118, 12
 0) 15 가 , (34) (122, 123, 126, 128)
 , (130)가 (34) (114, 116, 118, 120) (130)
 (34) 가 ,
 가

(36) (106, 108, 110, 1
 12) (132, 134, 136, 138) (132, 134, 136, 138)
 가 가 (132, 134, 136, 138) , (88)
 (88) (132, 134, 136,
 138) , (36) (shroud) (140)

가

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가

(57)

1.

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가

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2.

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0.0005 - 0.0015

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0.006 - 0.020

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0.0005 - 0.0015

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0.006 - 0.020

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0.010

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15.

13

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0.0005 - 0.0015

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16.

- 13 , 0.0005 - 0.0015 .
- 17.
- 13 , 가 .
- 18.
- 가 :
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- .
- 19.
- 18 , 0.0005 - 0.0015 .
- 20.
- 18 , 0.0005 - 0.0015 .
- 21.
- 18 , 가 .
- 22.
- 가 :
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- .
- 23.
- 22 , 0.003 .

24.

22 , 0.006 - 0.020 .

25.

22 , 0.0005 - 0.0015 .

26.

22 , 가
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27.

가 :

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28.

27 , 0.002 - 0.008
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29.

27 , 0.0005 - 0.0015
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30.

27 , 가
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31.

가 :

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32.

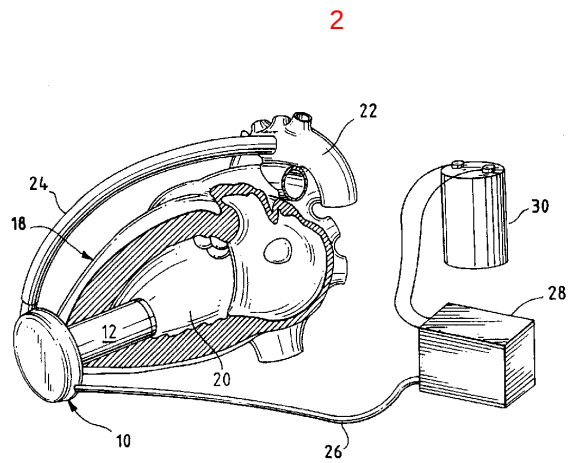
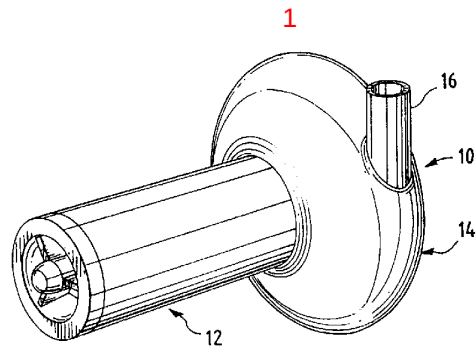
31 , 0.010

33.

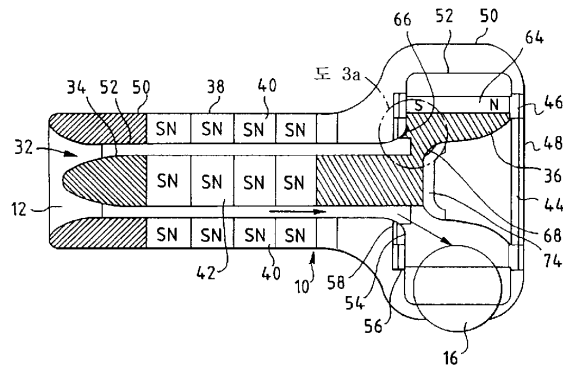
31 , 0.0005 - 0.0015

34.

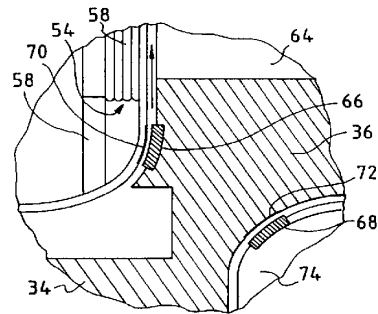
31 , 가



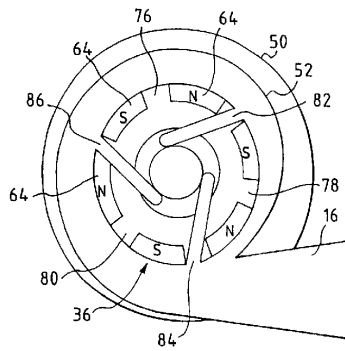
3



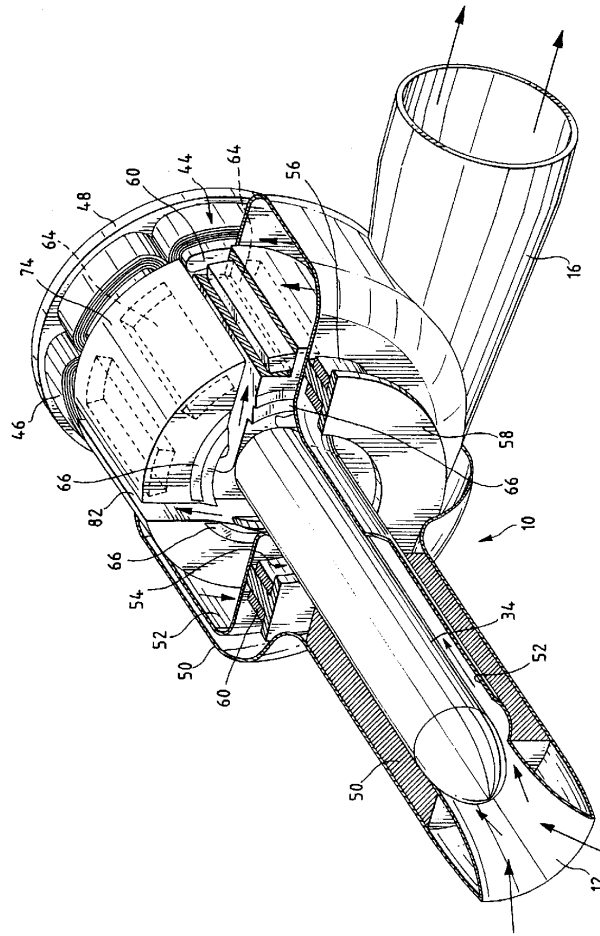
3a



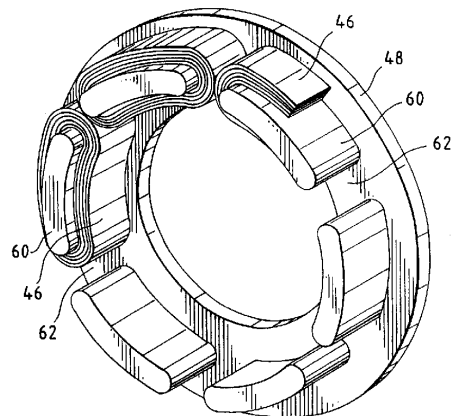
4



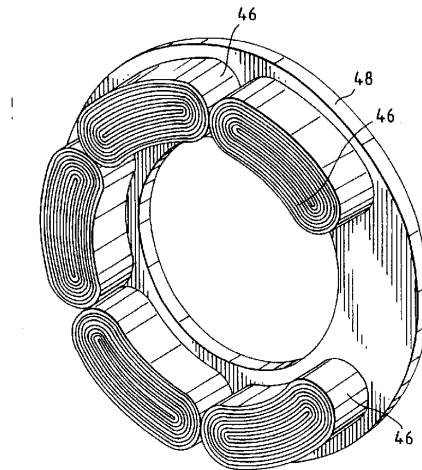
5



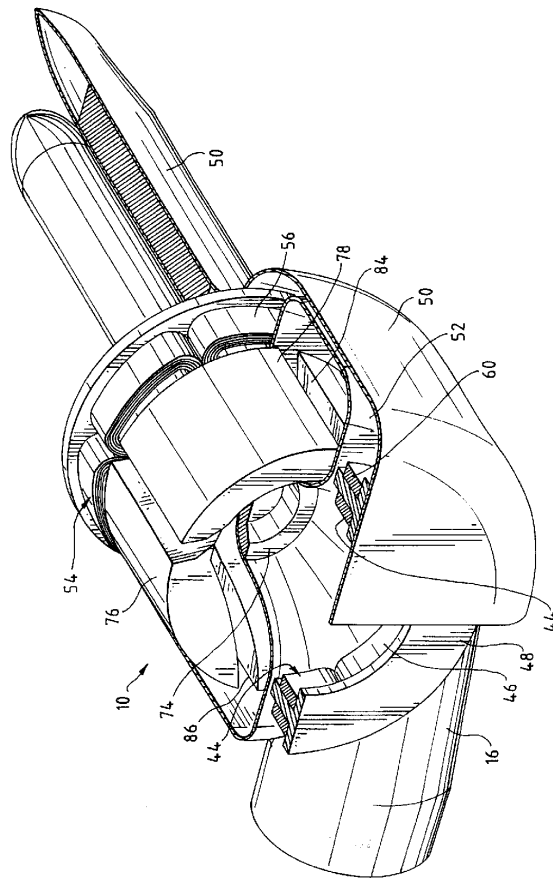
5a



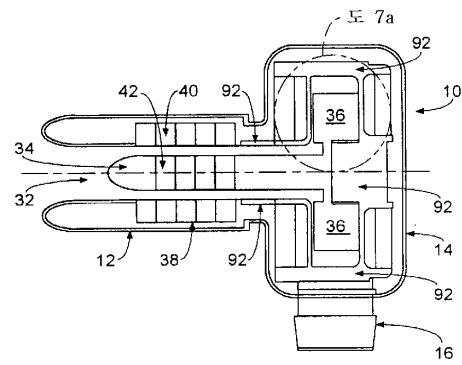
5b



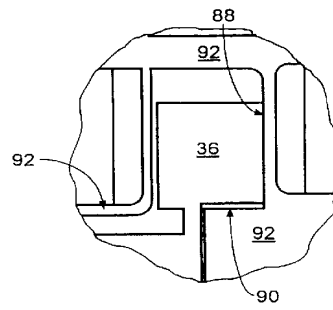
6



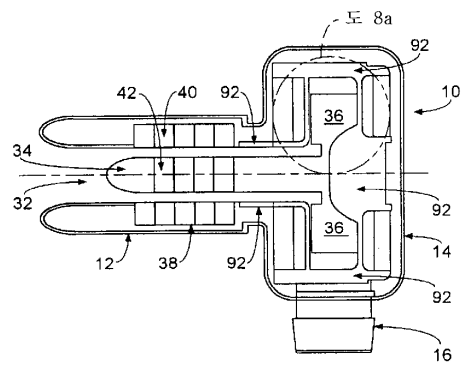
7



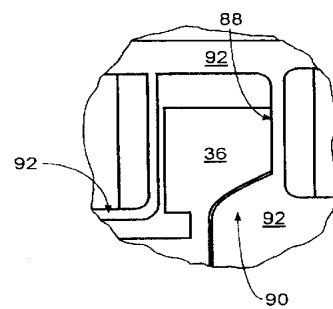
7a



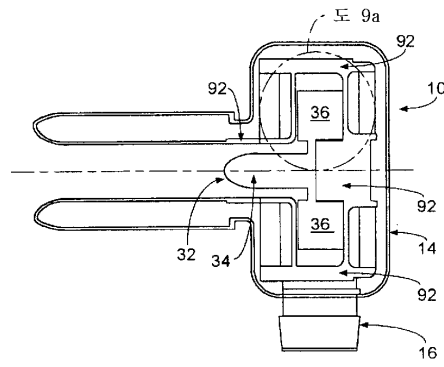
8



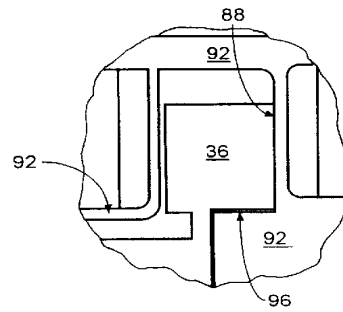
8a



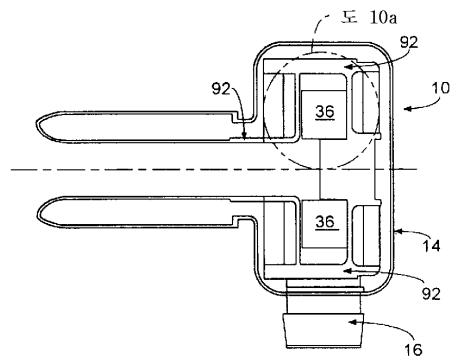
9



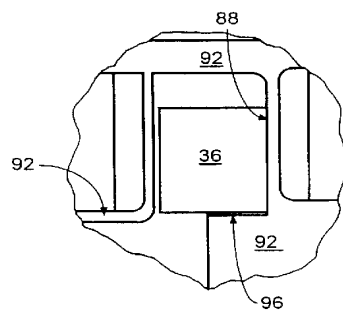
9a



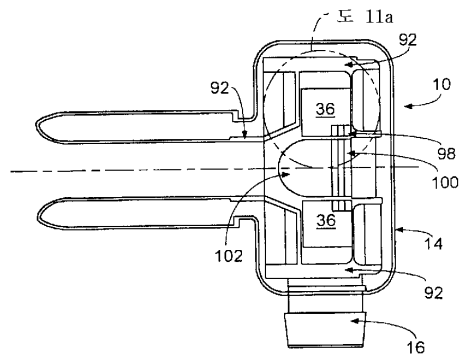
10



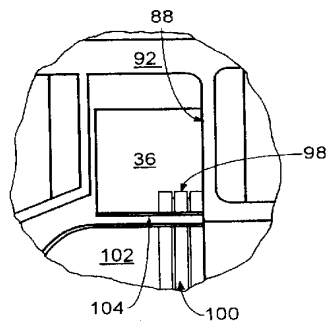
10a



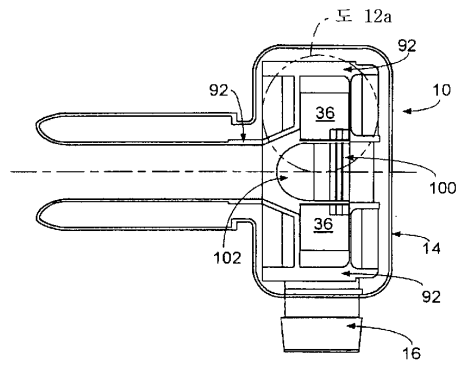
11



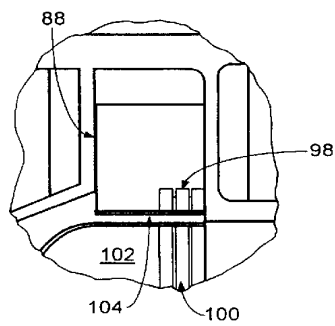
11a



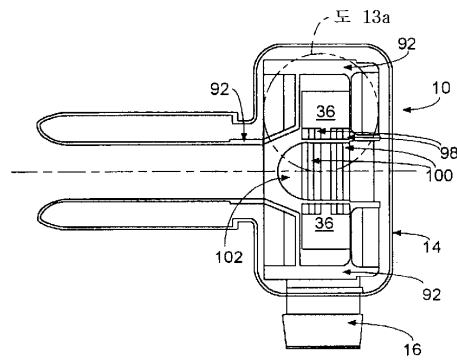
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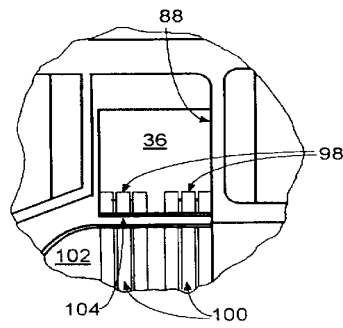
12a



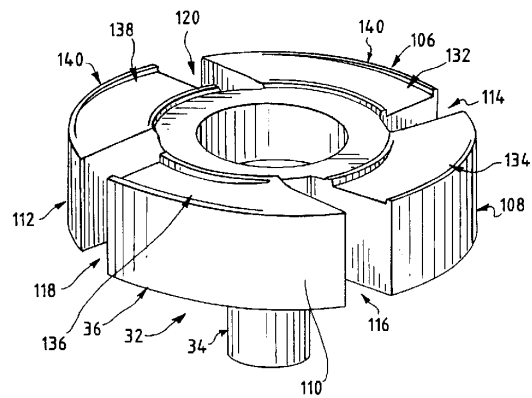
13



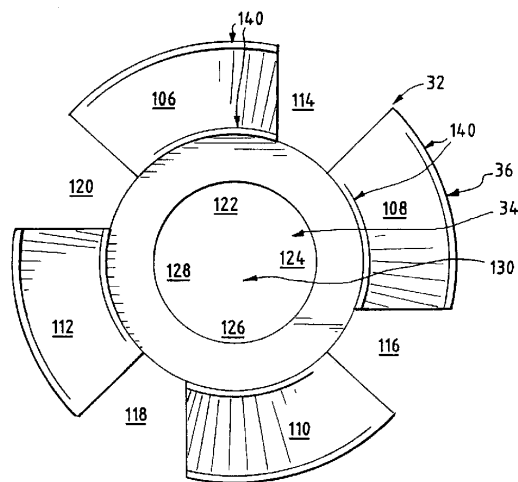
13a



14



15



16

