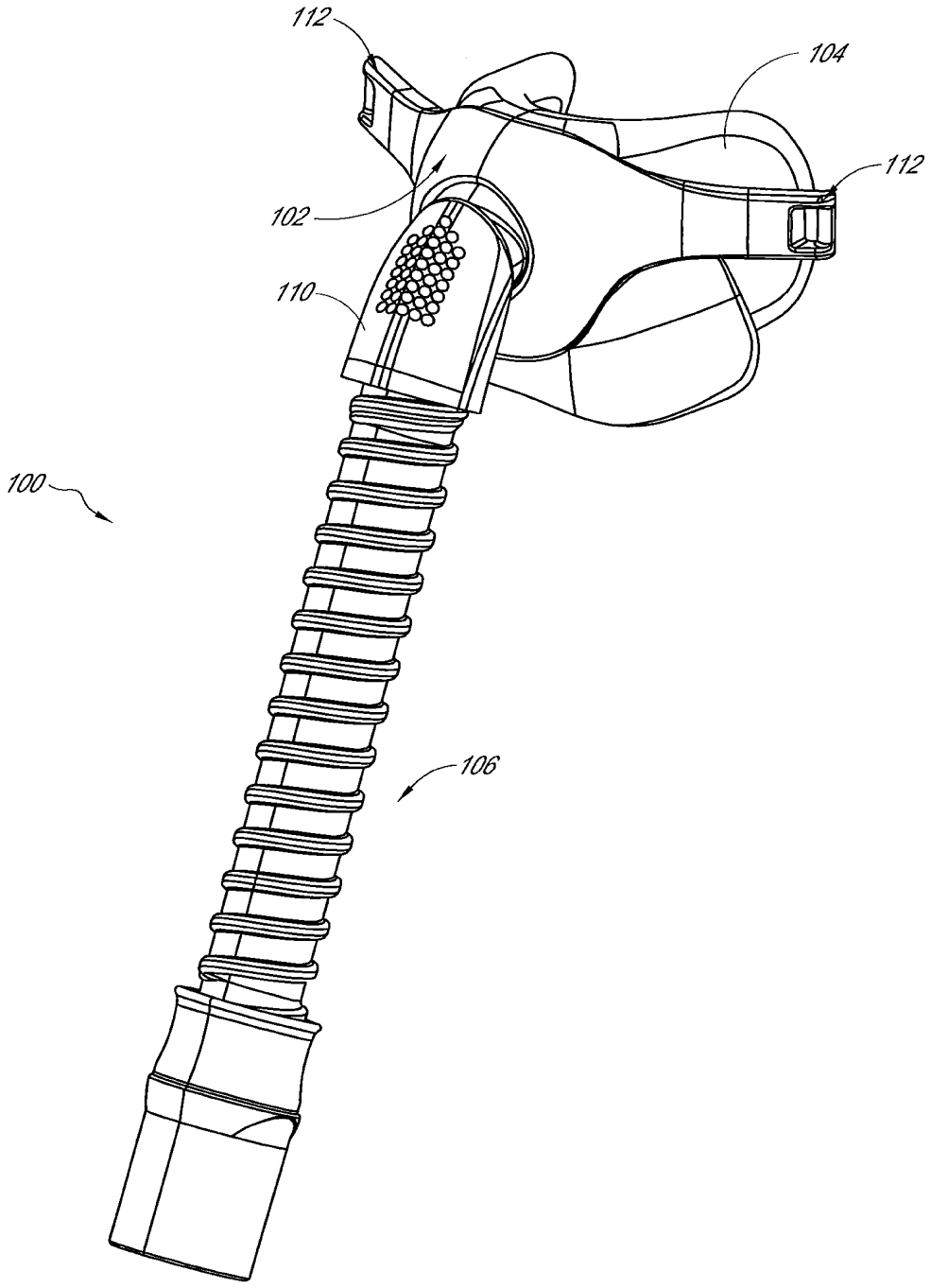


FIG. 1

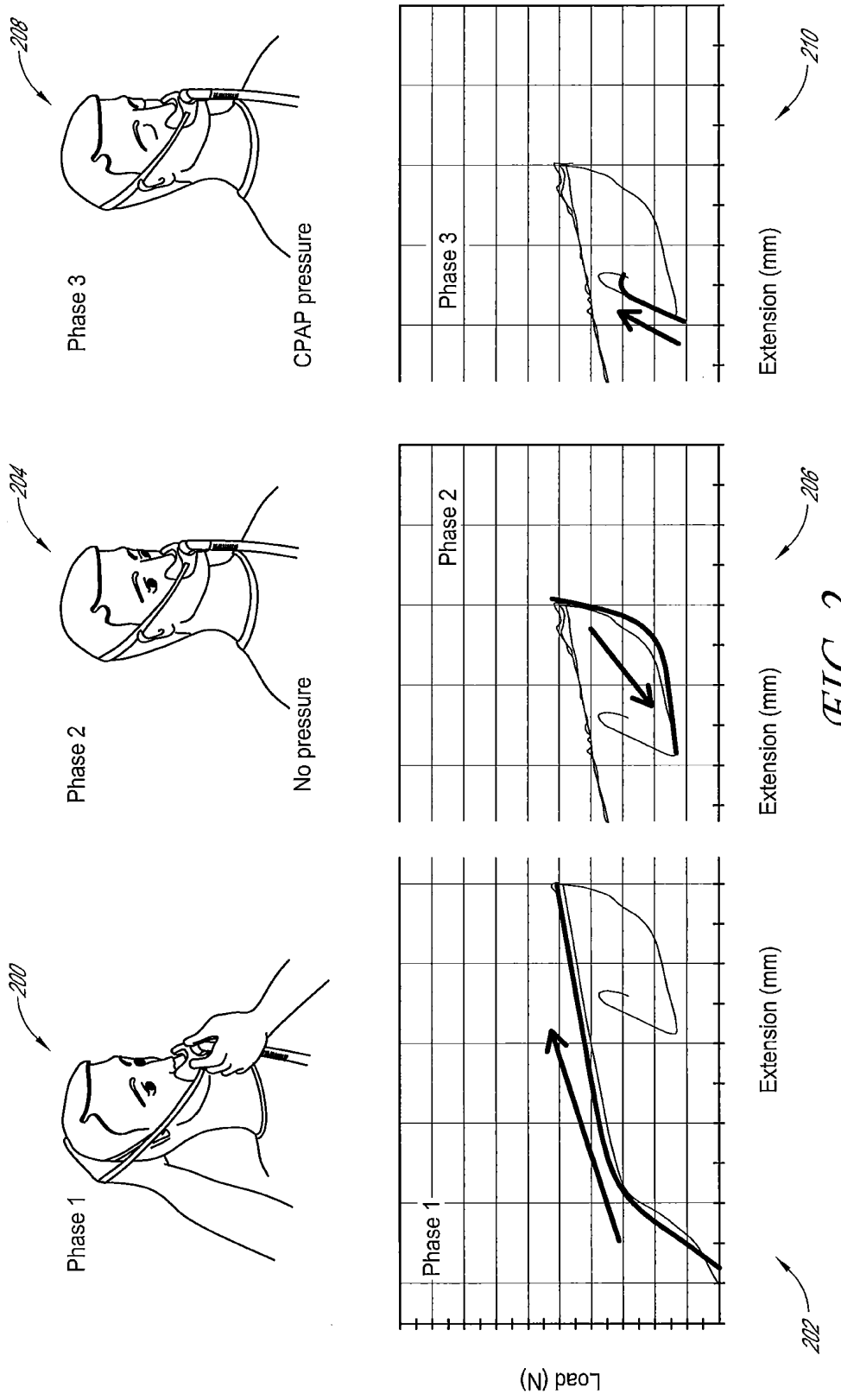

200
Phase 1
202
Load (N)
Extension (mm)
204
Phase 2
No pressure
206
Phase 2
Extension (mm)
208
Phase 3
CPAP pressure
210
Phase 3
Extension (mm)

FIG. 2

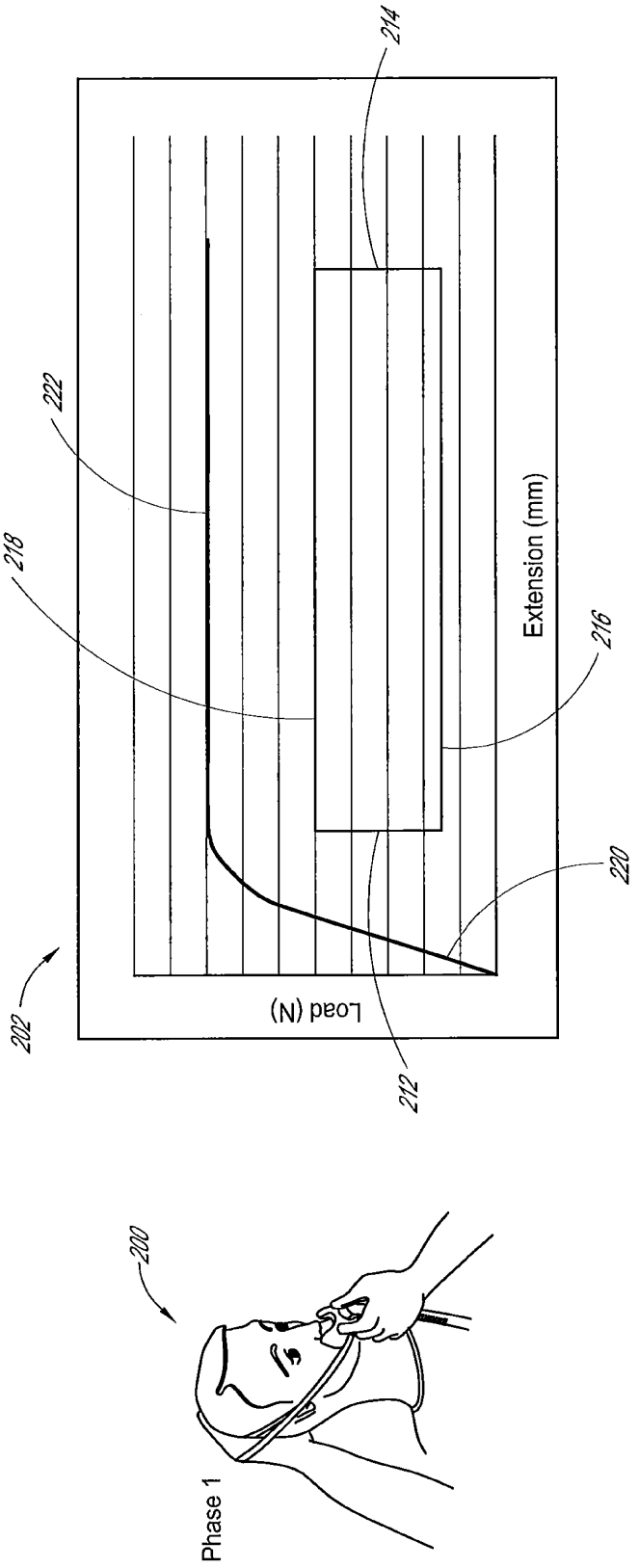


FIG. 3

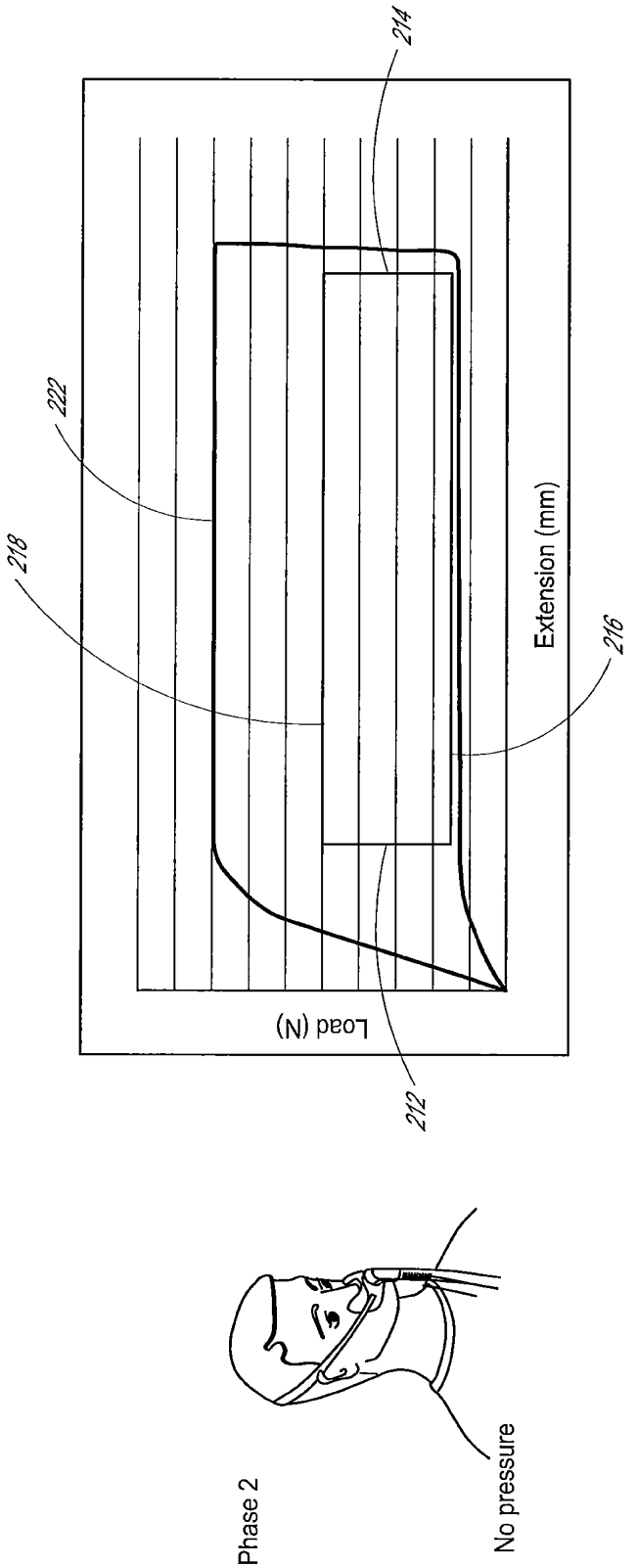


FIG. 4

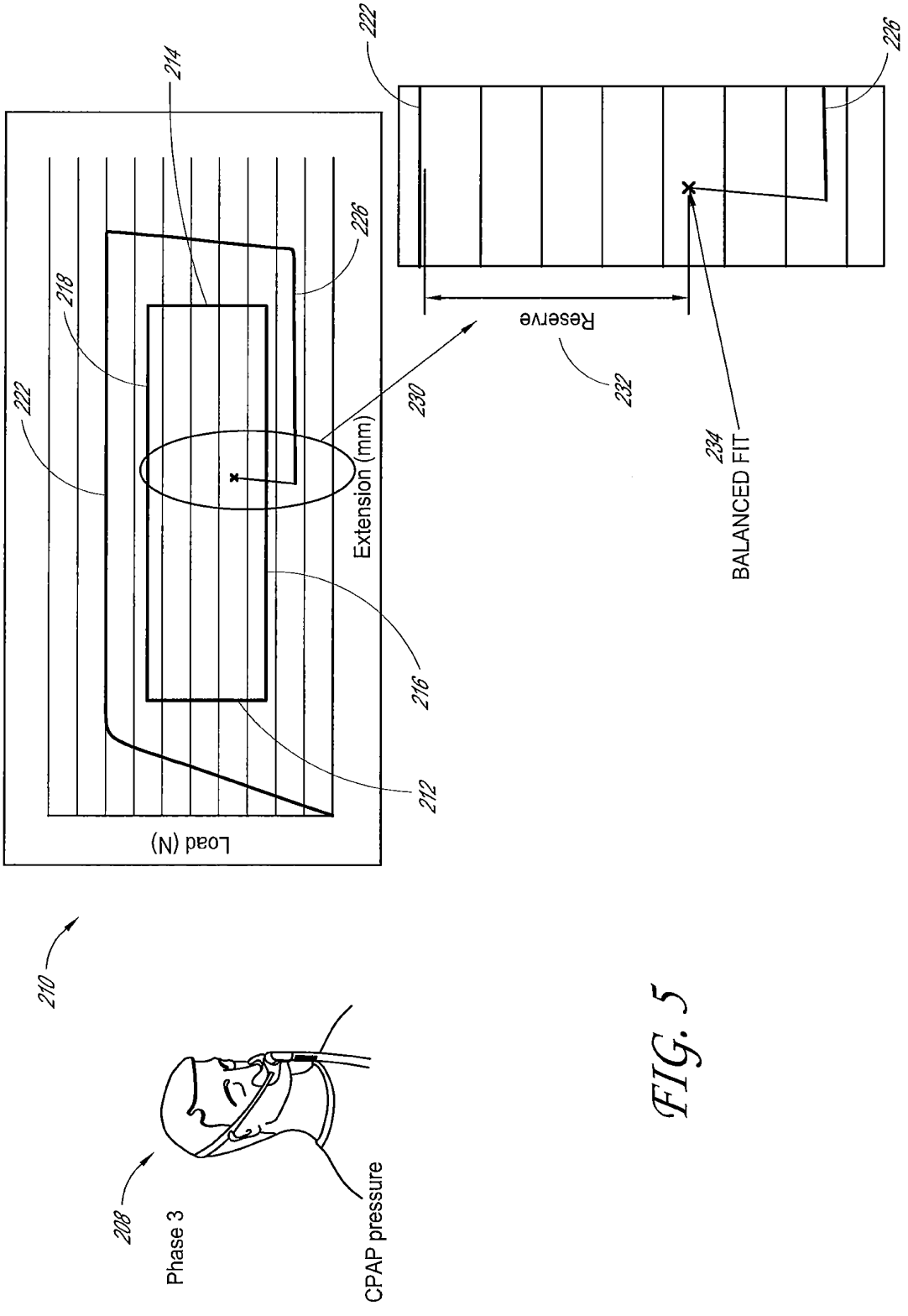

210
208
Phase 3
CPAP pressure
Load (N)
Extension (mm)
214
218
222
226
212
216
230
222
226
Reserve
232
234
BALANCED FIT

FIG. 5

FIG. 6

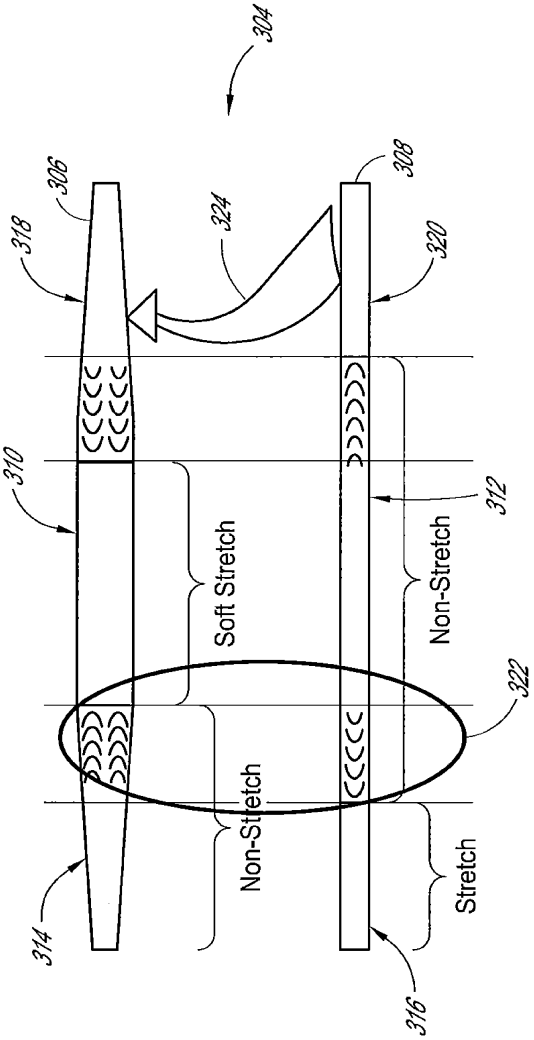

304
306
308
318
324
320
310
312
Soft Stretch
Non-Stretch
322
Non-Stretch
Stretch
314
316

FIG. 7A

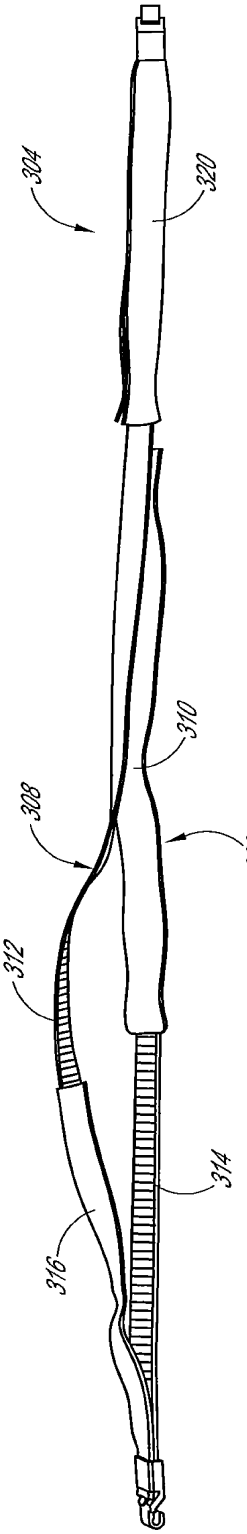

304
320
310
308
306
312
314
316

FIG. 7B

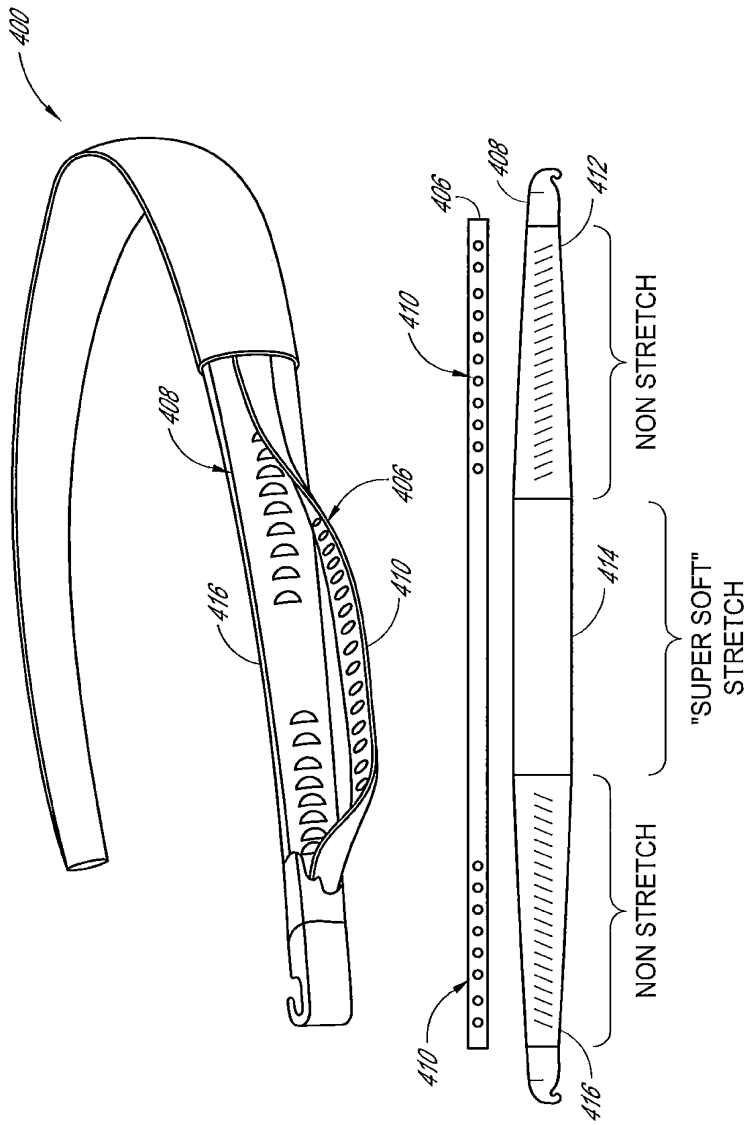

400
408
406
410
416
406
408
412
410
NON STRETCH
414
"SUPER SOFT"
STRETCH
NON STRETCH
410
416

FIG. 8

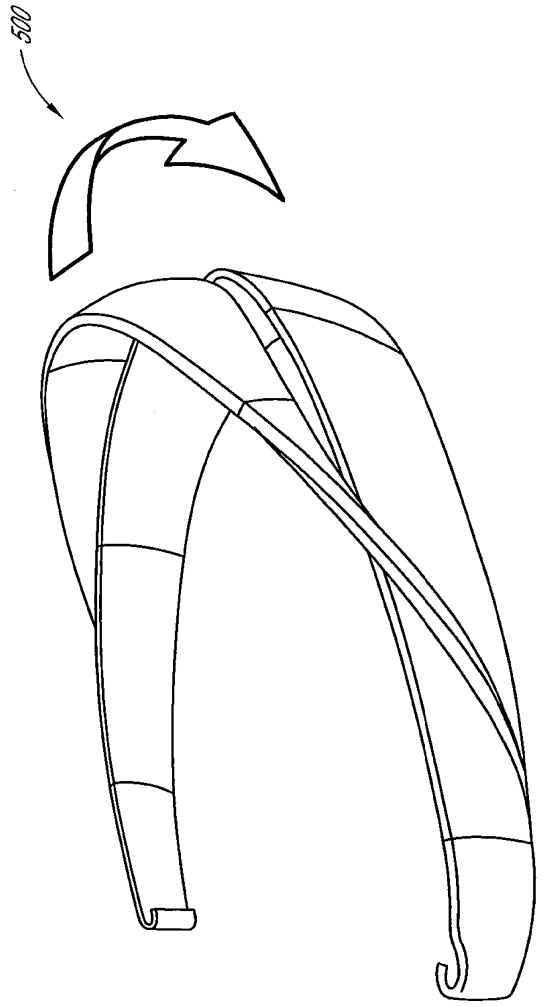


FIG. 9

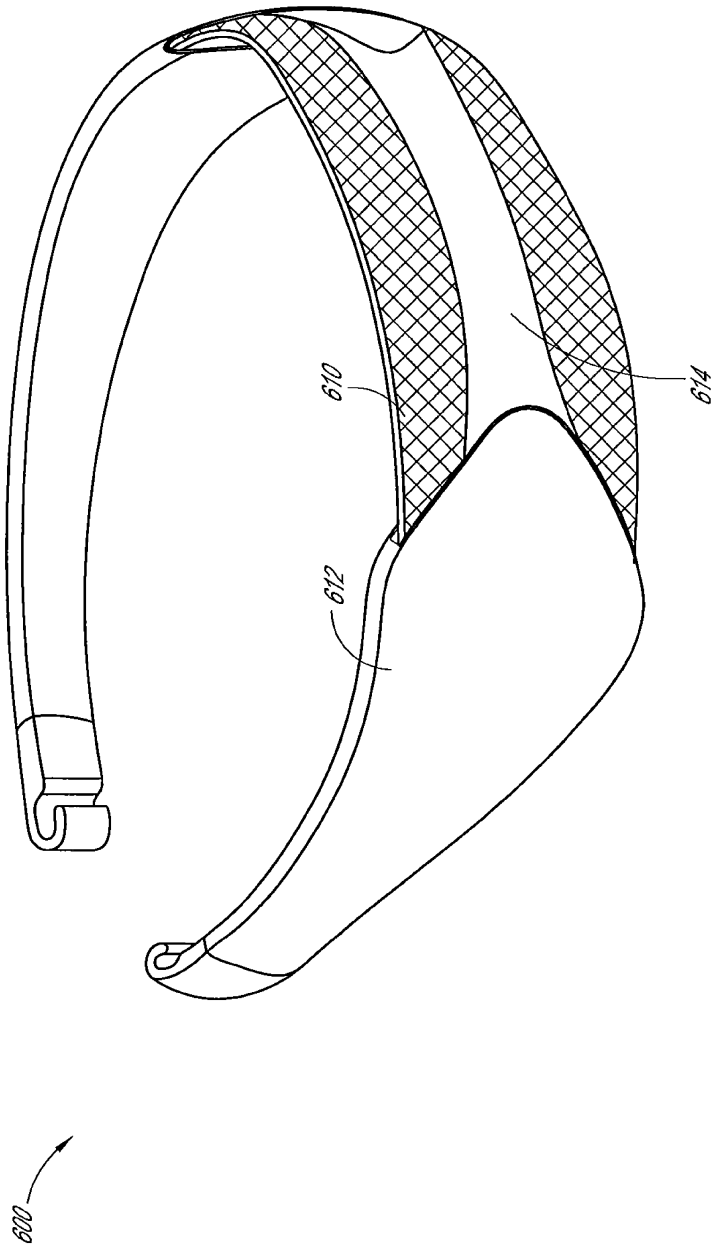


FIG. 10

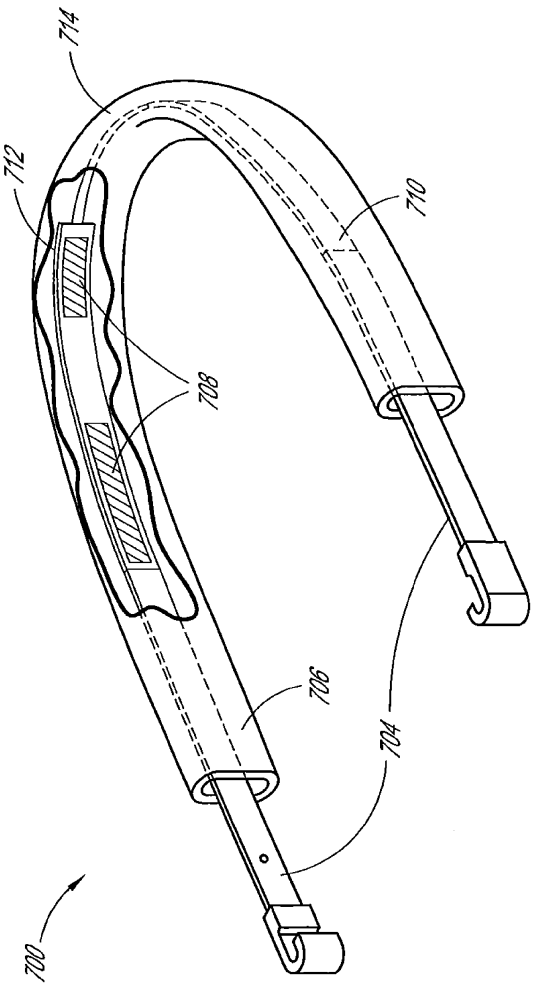


FIG. 11A

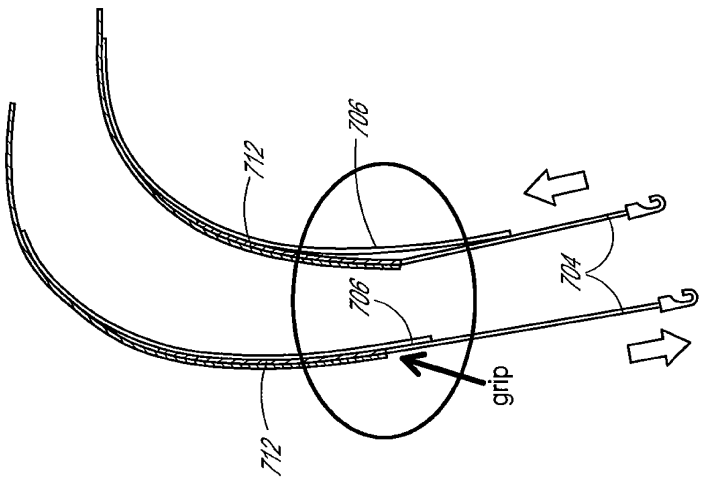


FIG. 11B

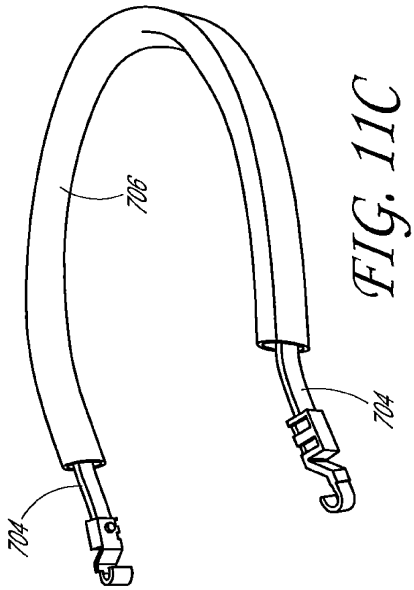


FIG. 11C

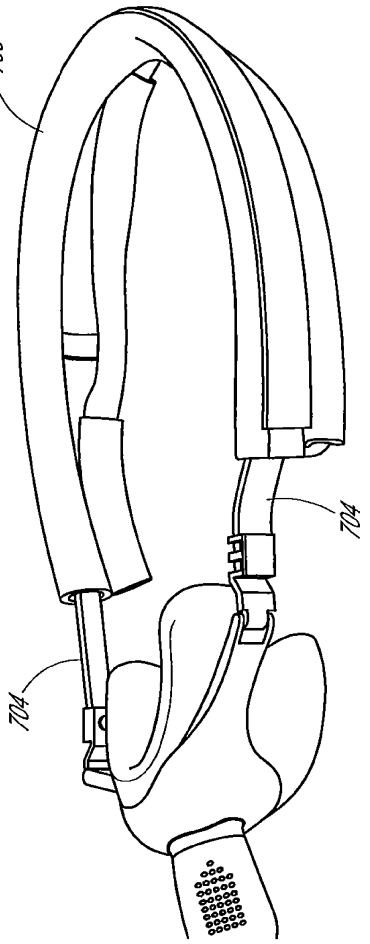


FIG. 11D

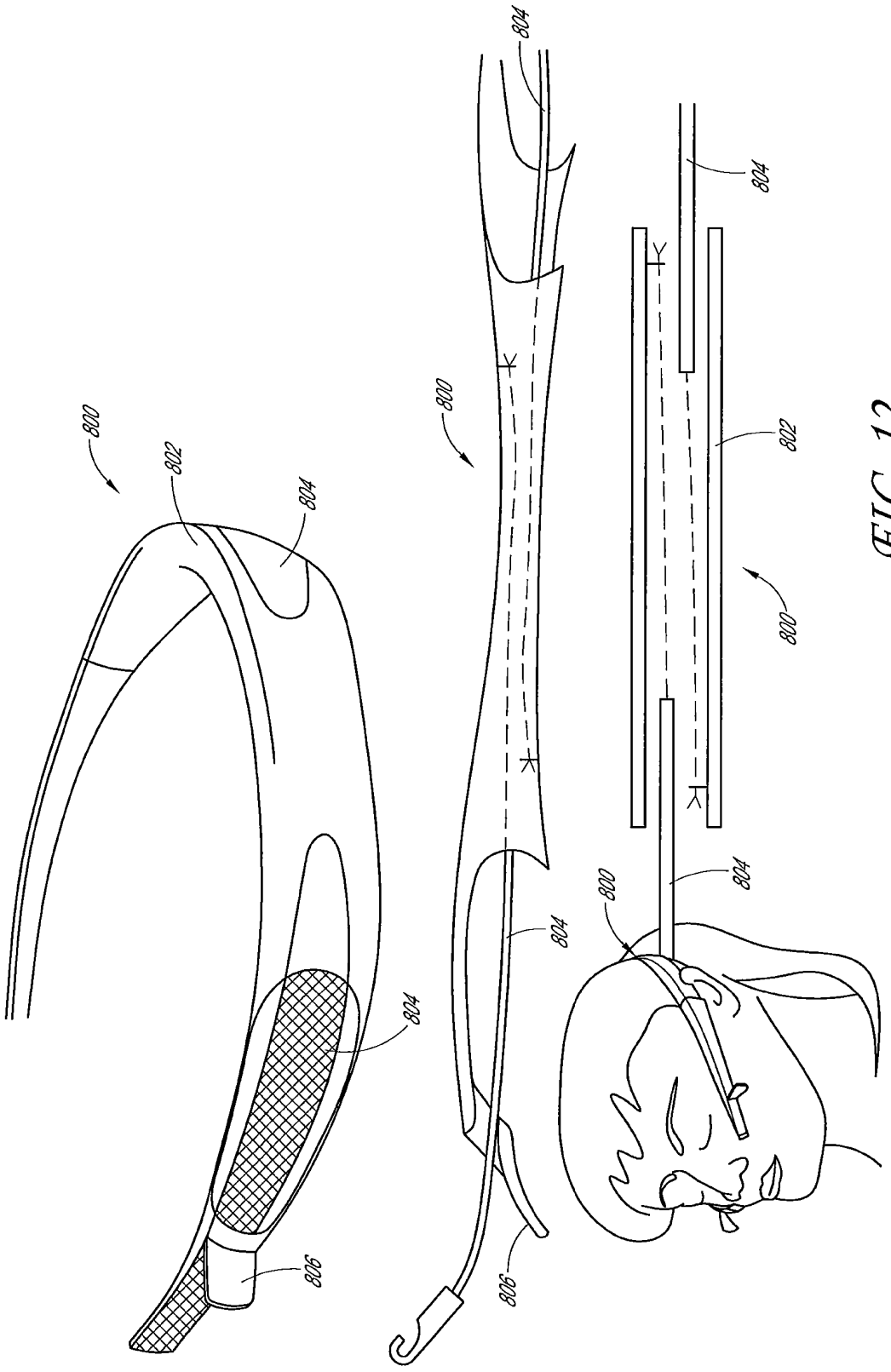


FIG. 12

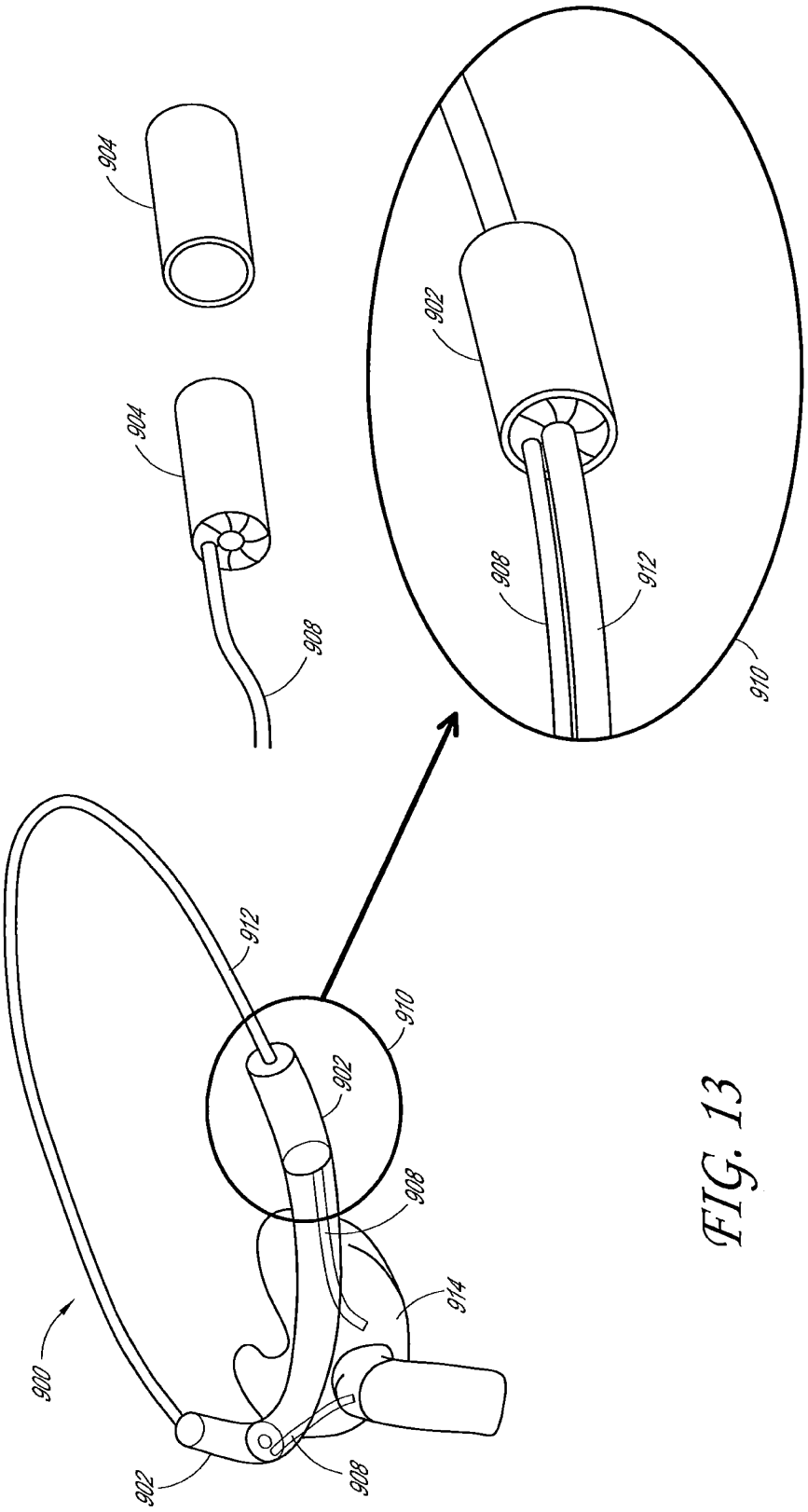


FIG. 13

FIG. 14

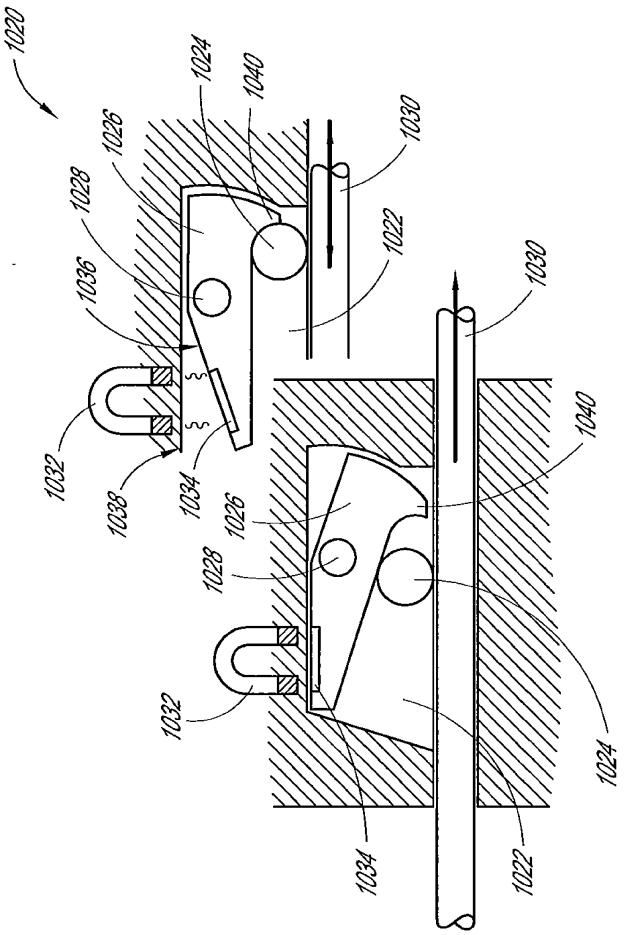


FIG. 15B

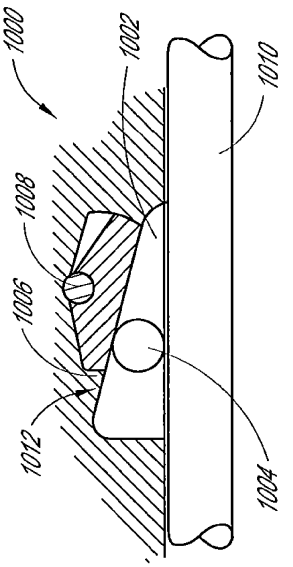


FIG. 15A

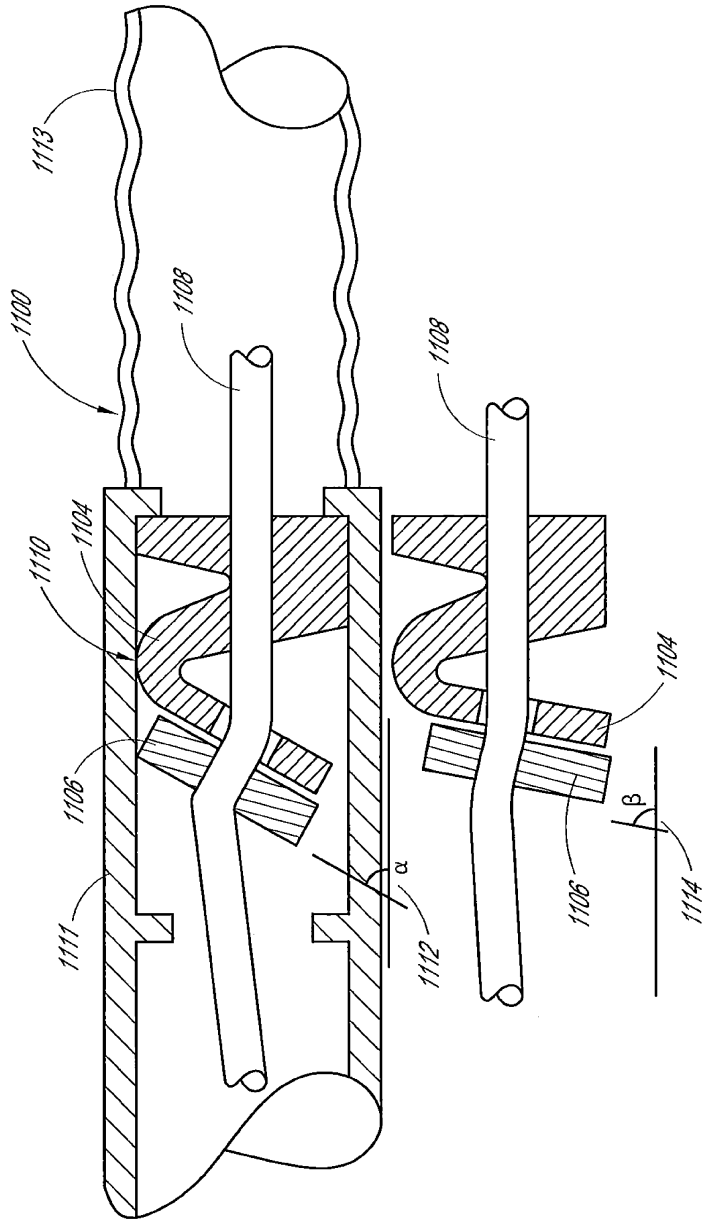

1113
1100
1108
1108
1104
1110
1104
1106
1106
1111
α
1112
β
1114

FIG. 16

FIG. 17

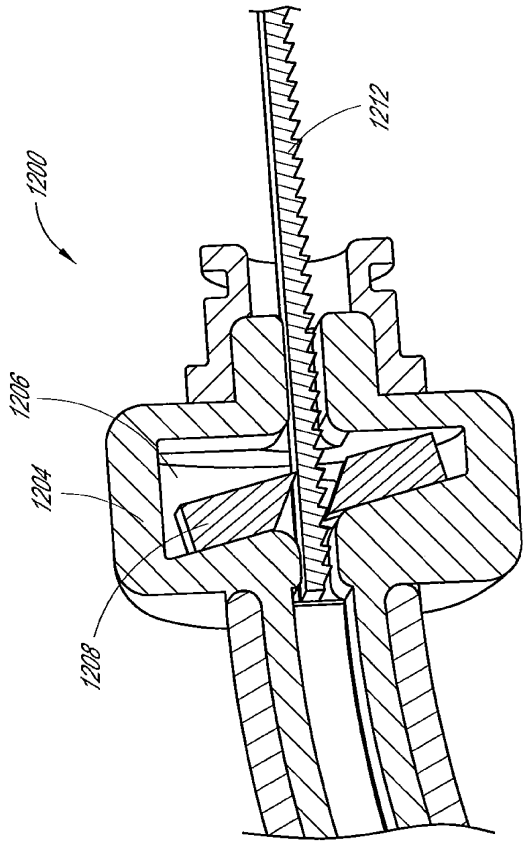


FIG. 18B

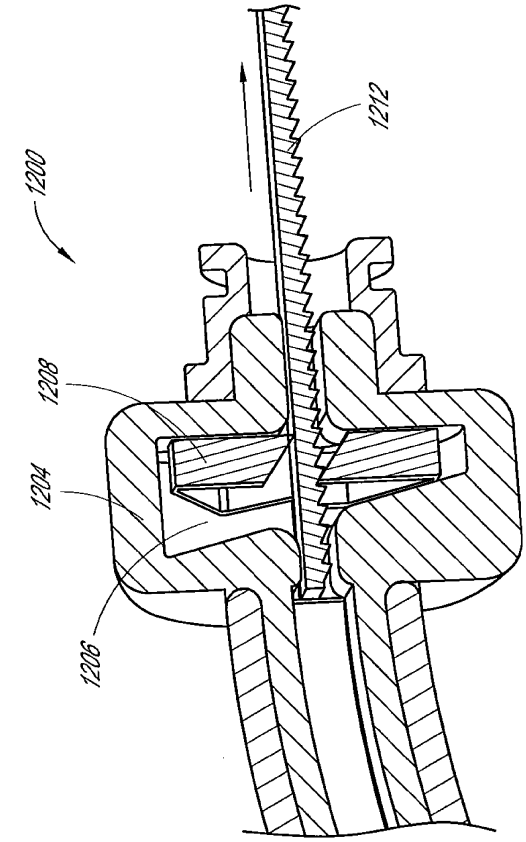


FIG. 18A

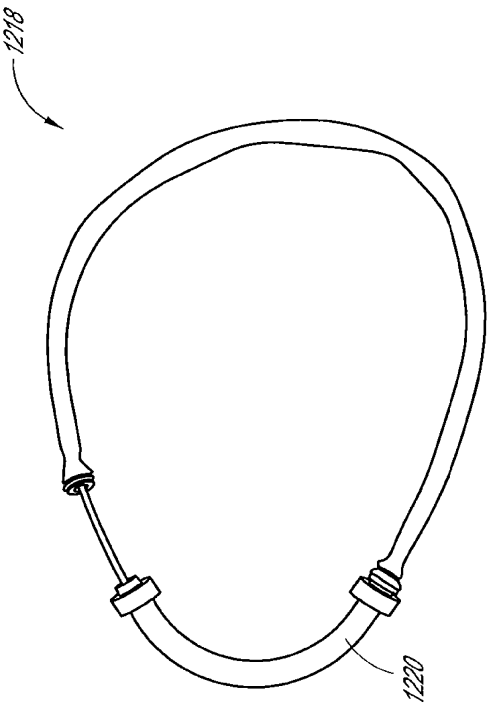


FIG. 19B

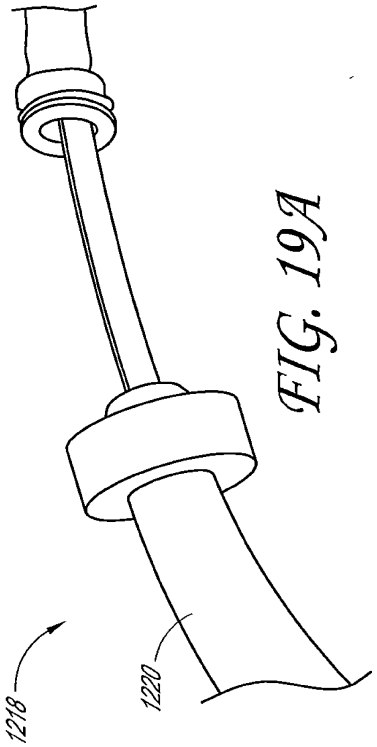


FIG. 19A

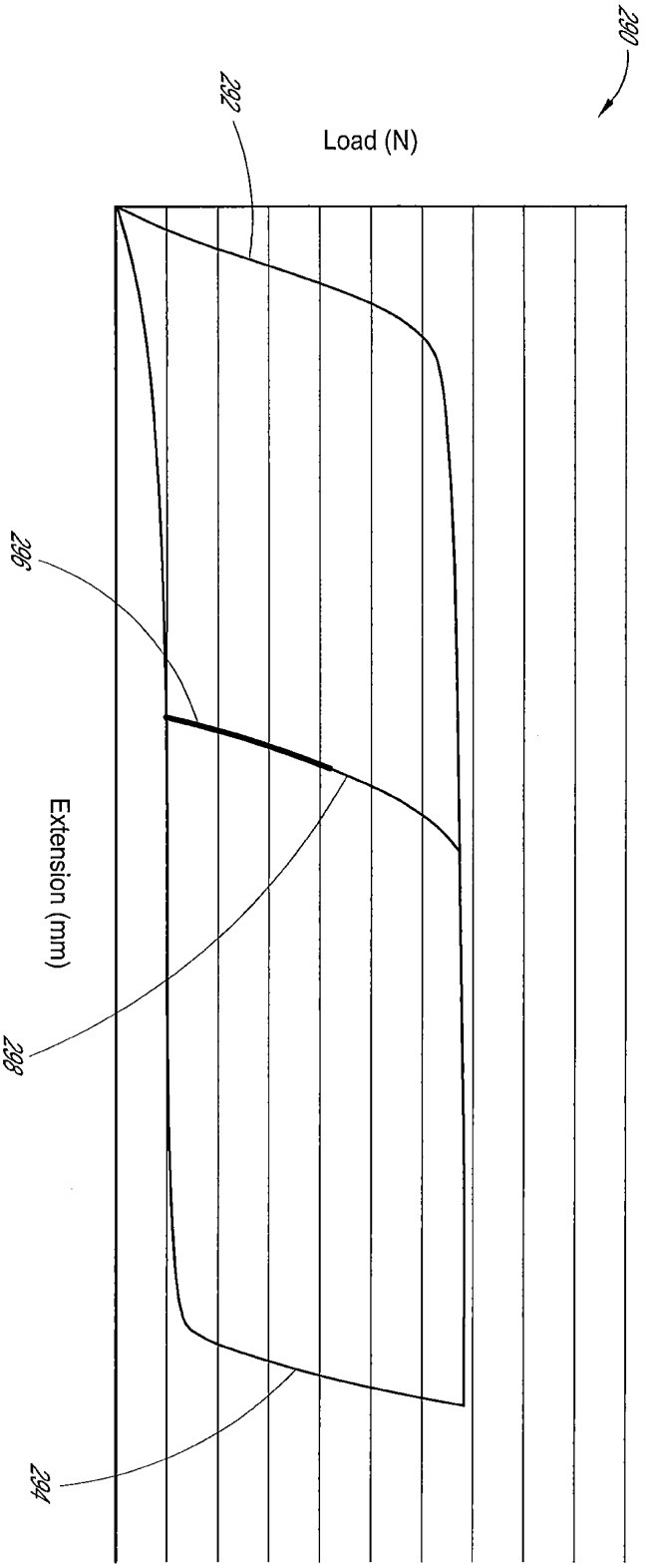


FIG. 20

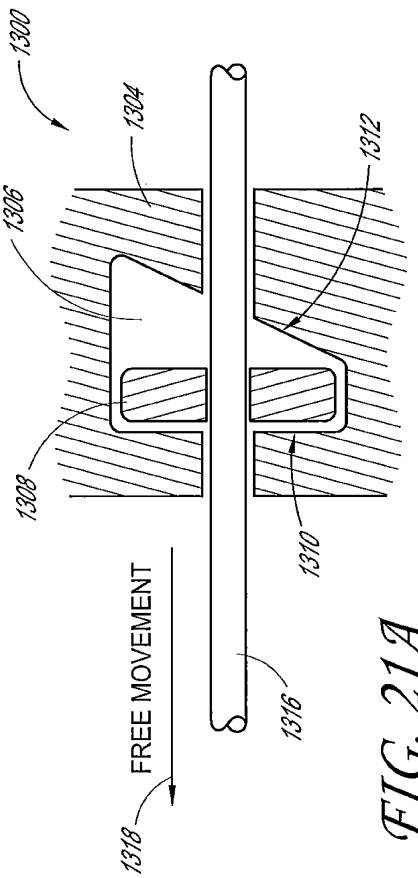


FIG. 21A

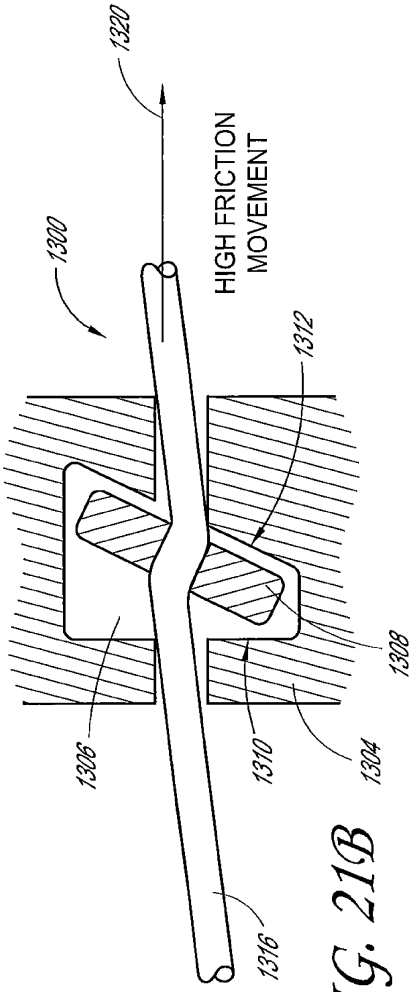


FIG. 21B

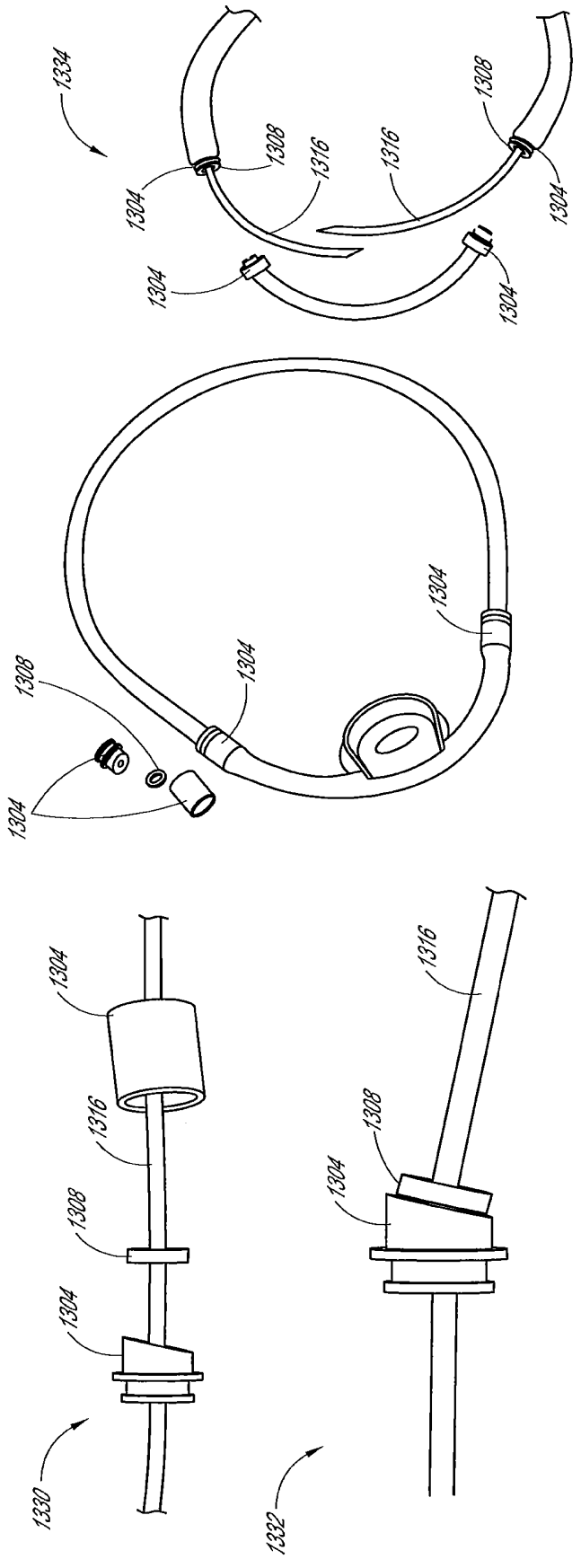

1334
1304
1308
1316
1316
1308
1304
1304
1304
1308
1304
1304
1304
1316
1308
1304
1330
1332

FIG. 22

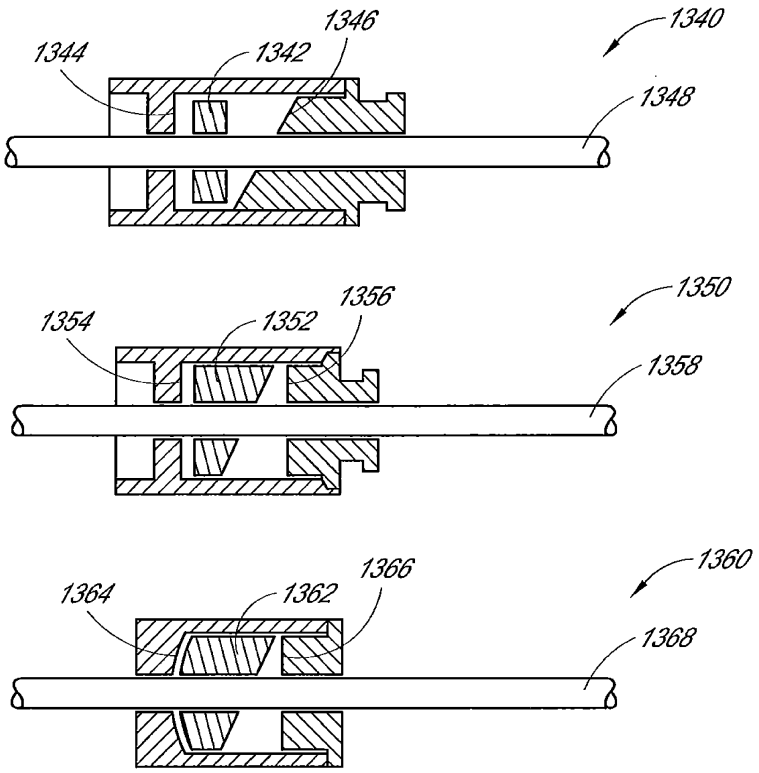

1340
1346
1344
1342
1348
1350
1356
1354
1352
1358
1360
1366
1364
1362
1368

FIG. 23

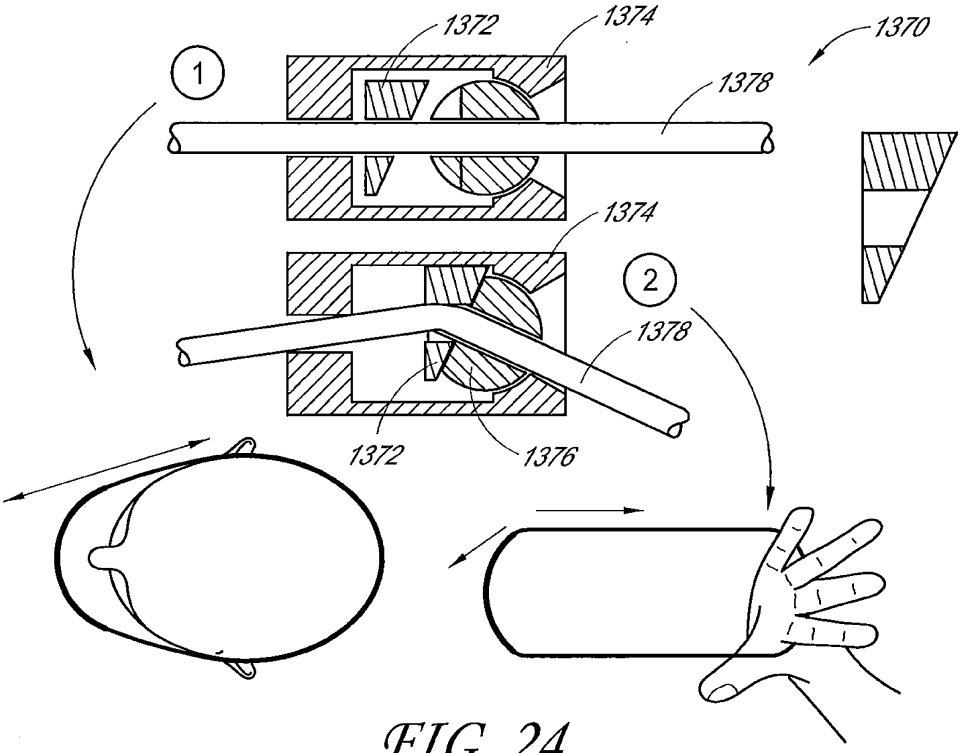

1370
1372
1374
1378
1
2
1374
1378
1372
1376

FIG. 24

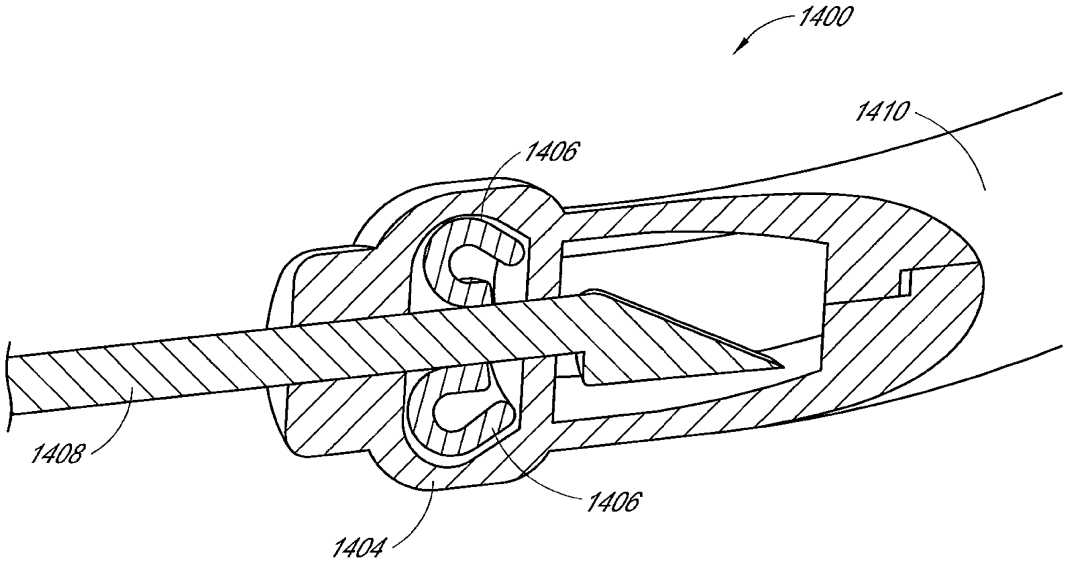


FIG. 25A

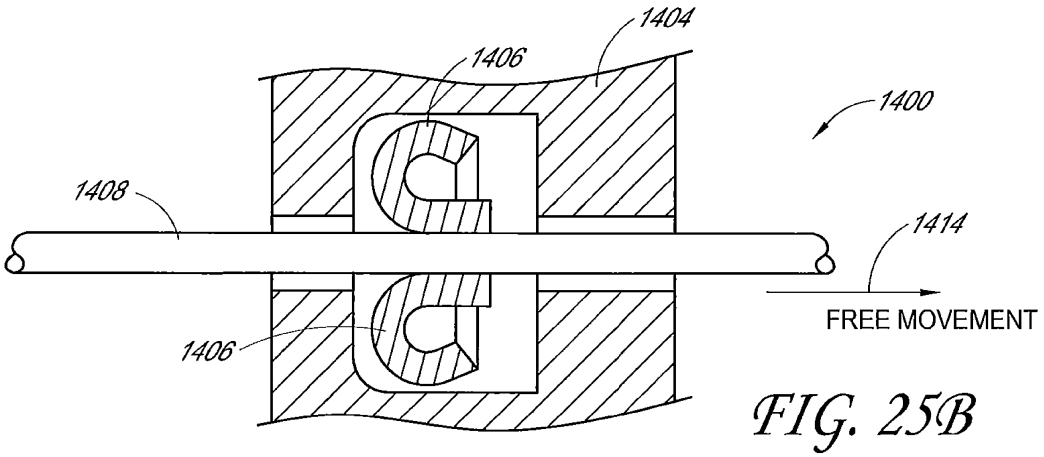


FIG. 25B

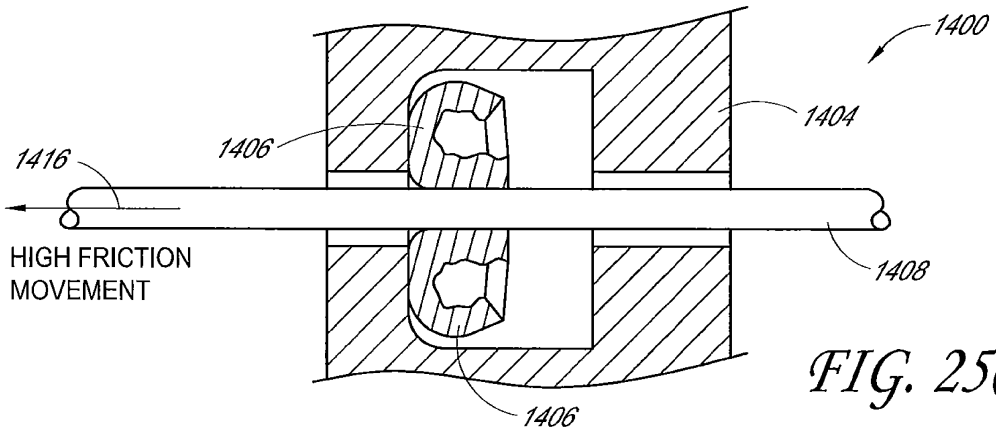


FIG. 25C

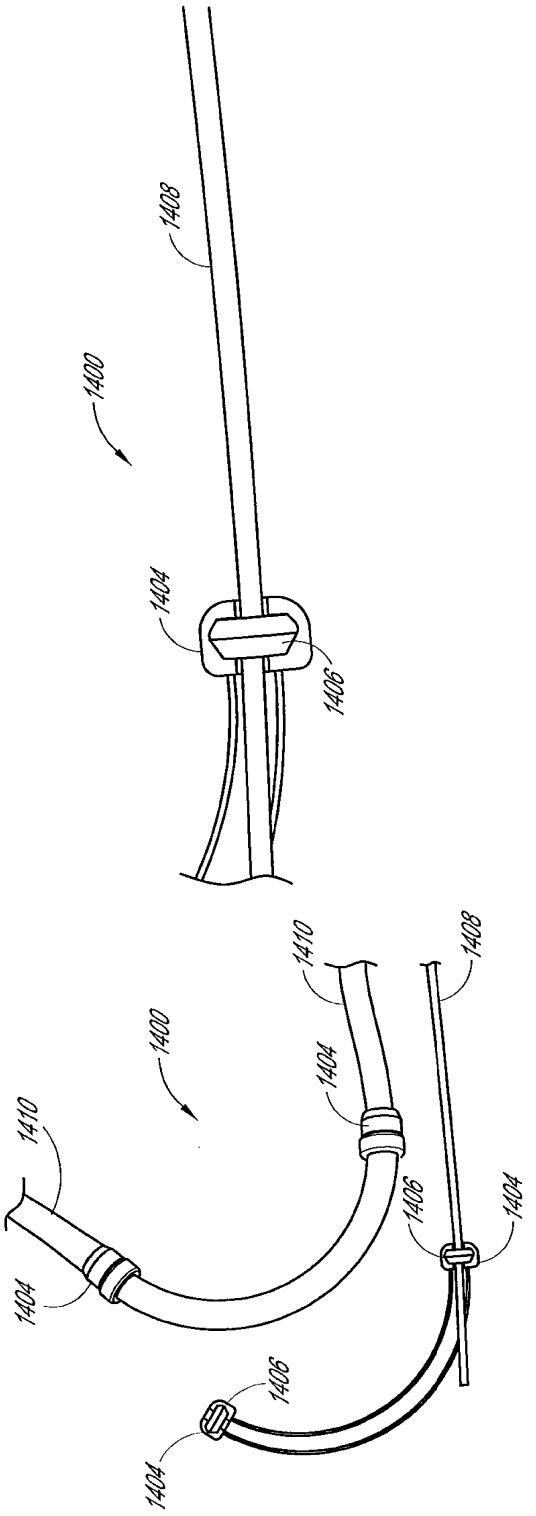


FIG. 26B

FIG. 26A

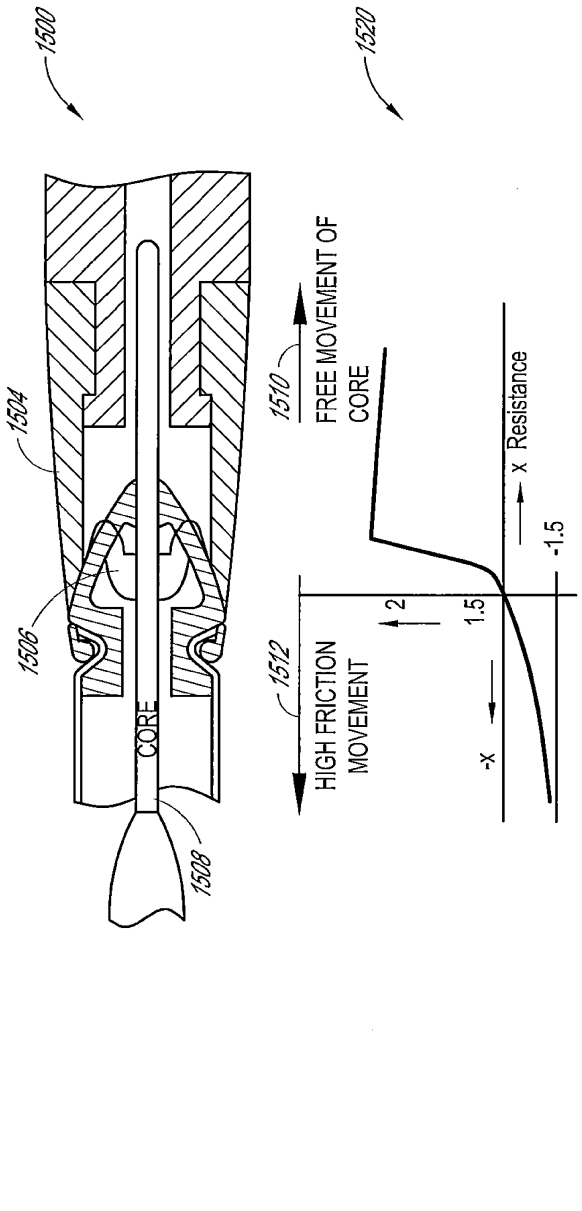


FIG. 27A

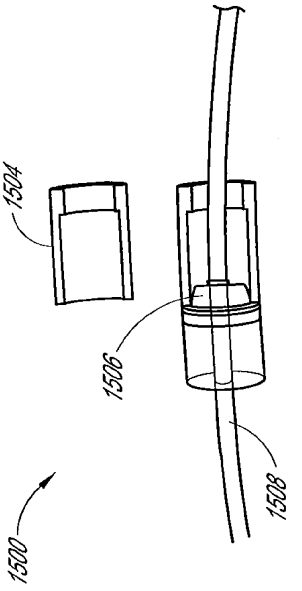


FIG. 27C

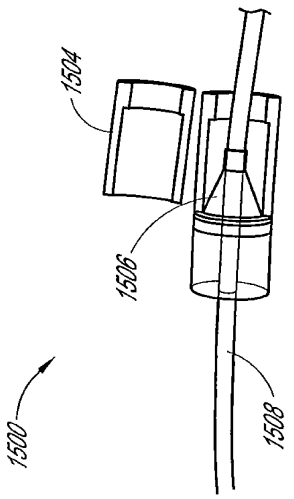


FIG. 27B

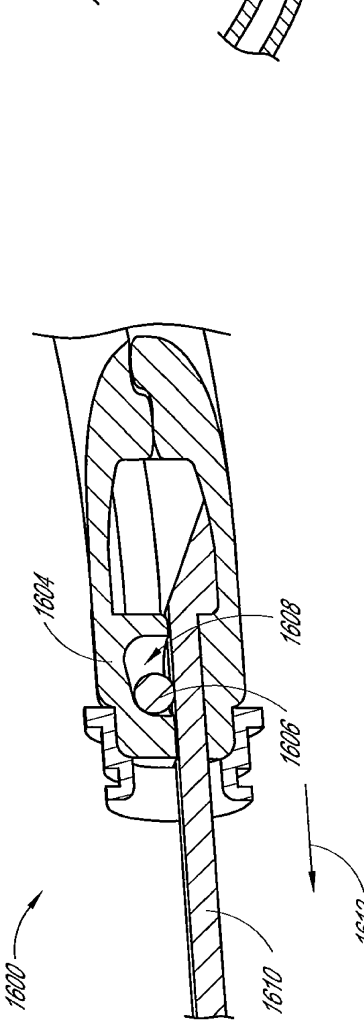


FIG. 28A

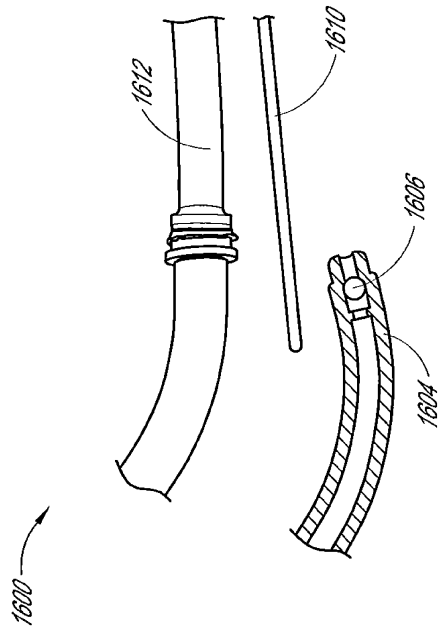


FIG. 28B

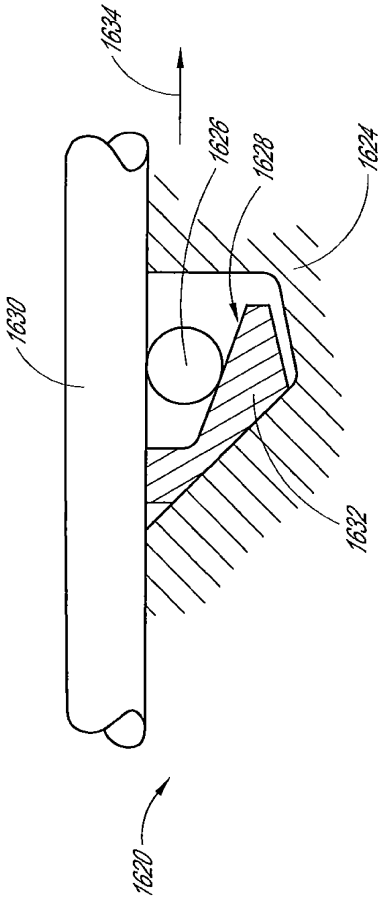


FIG. 28C

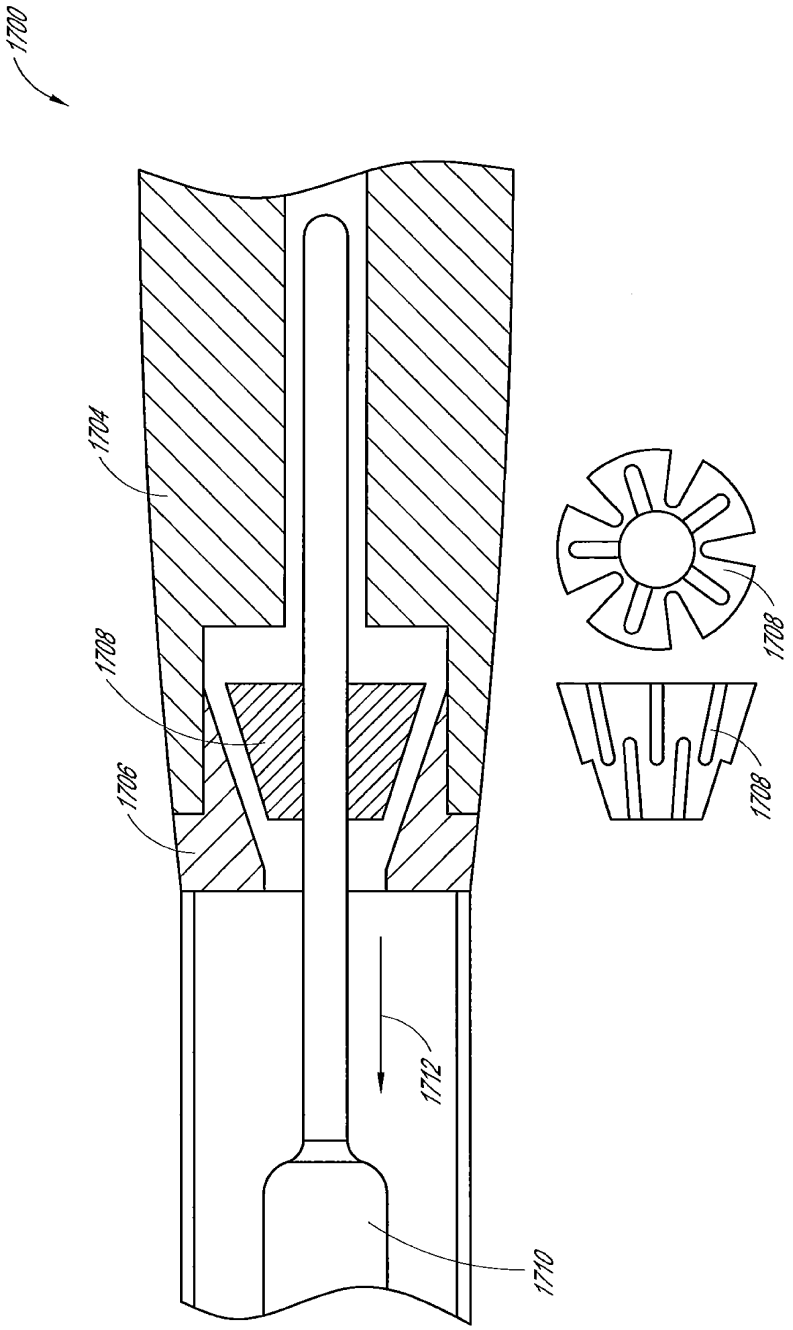


FIG. 29

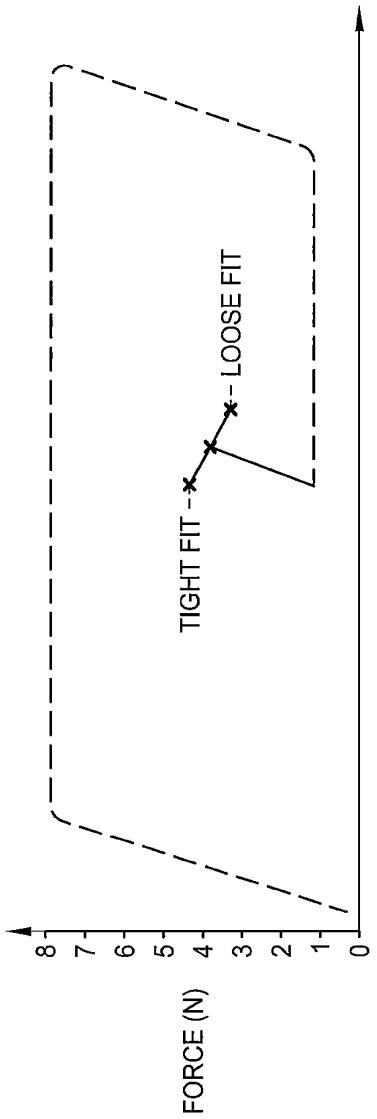


FIG. 30

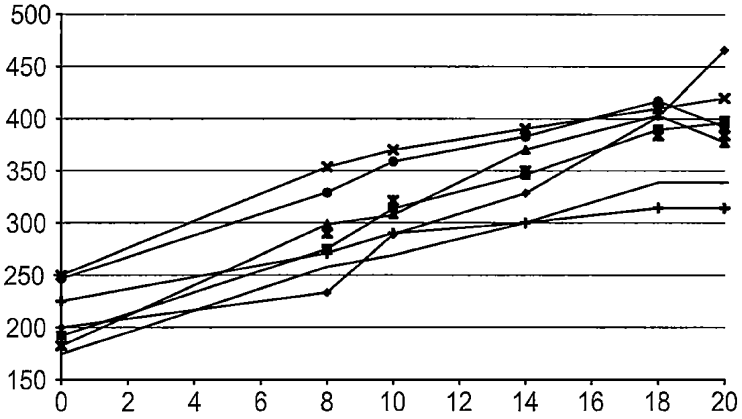


FIG. 31A

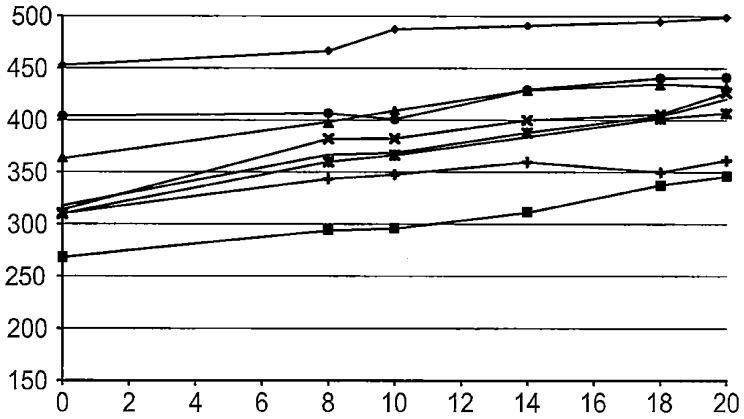


FIG. 31B

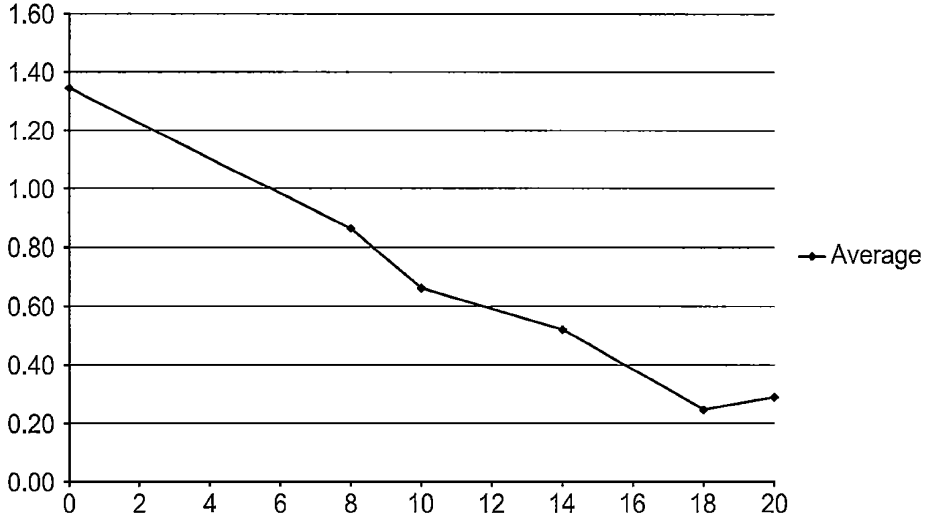


FIG. 31C

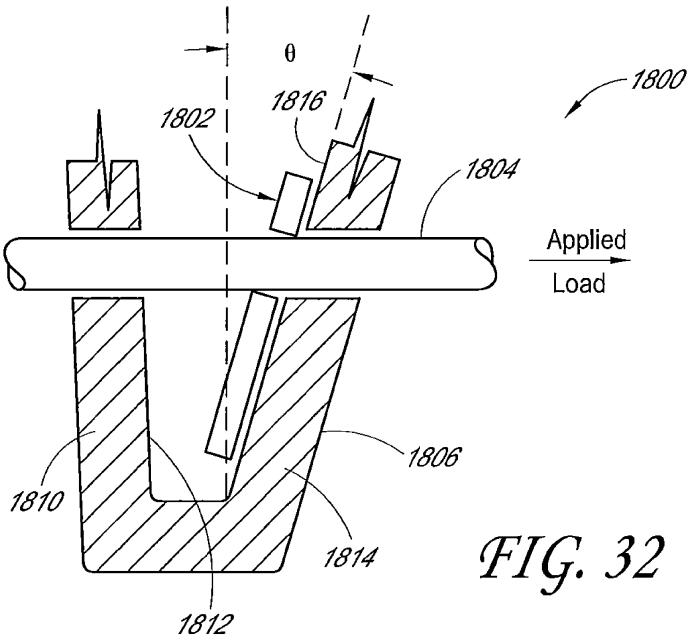

θ
1800
1816
1802
1804
Applied
Load
1806
1810
1814
1812

FIG. 32

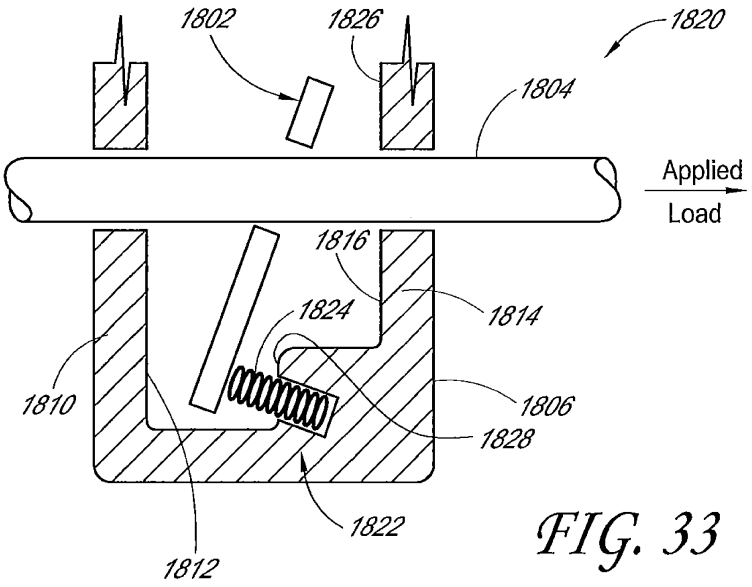

1802
1826
1820
1804
Applied
Load
1816
1824
1814
1810
1806
1828
1822
1812

FIG. 33

Slip Force vs. Lock angle
Max Slip Force (N)
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Lock angle (°)

FIG. 34

Release Force
1
2
3
4
Load [N]
0
2
4
6
8
10
12
Extension [mm]
0
10
20
30
40
50
60

FIG. 35

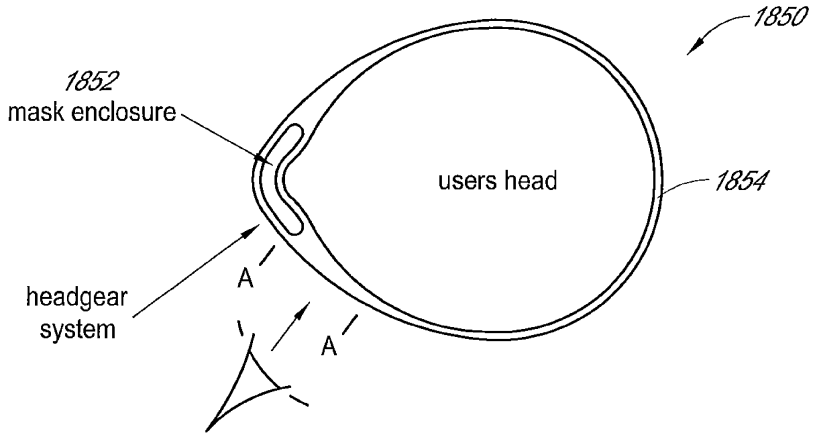

1850
1852
mask enclosure
users head
1854
headgear
system
A
A

FIG. 36

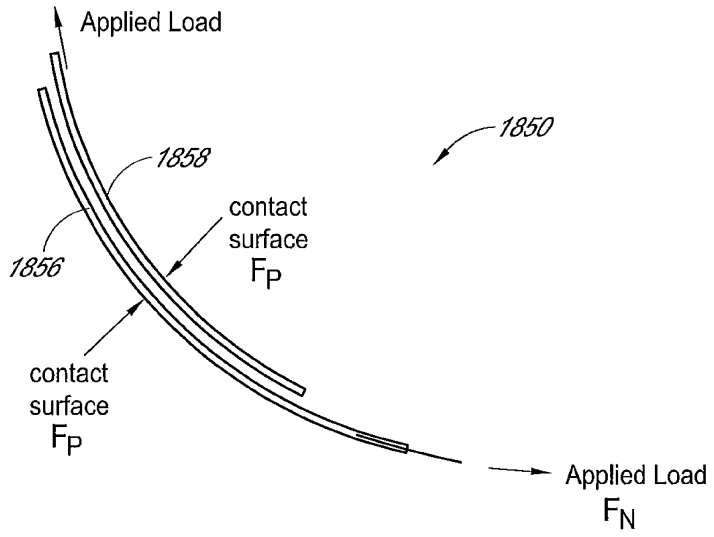

Applied Load
1850
1858
contact
surface
F_P
1856
contact
surface
F_P
Applied Load
F_N

FIG. 37

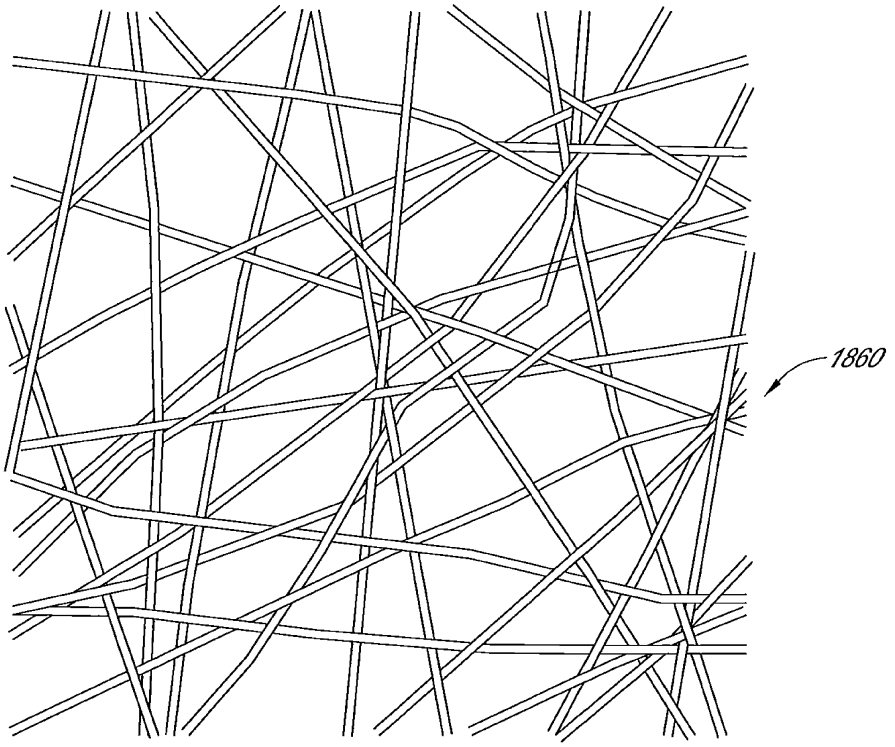


FIG. 38

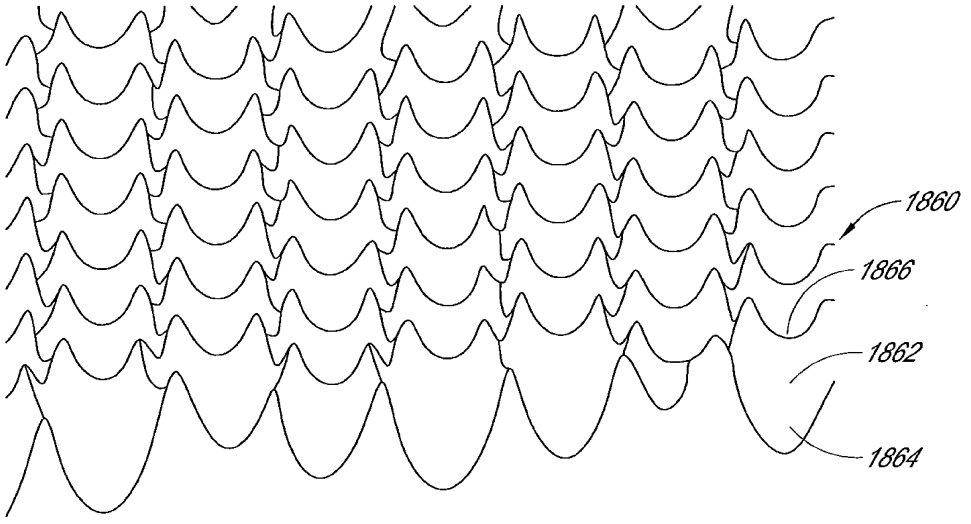


FIG. 39

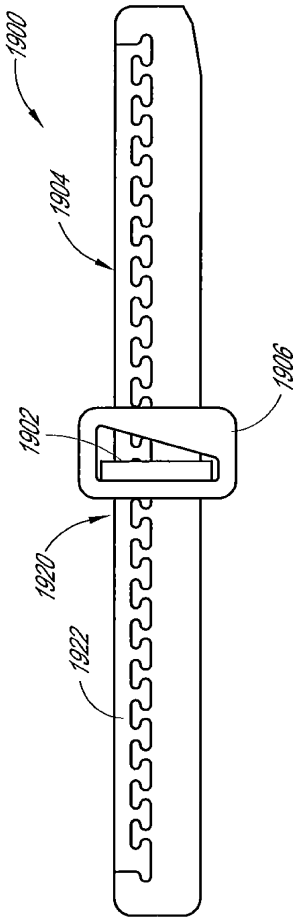


FIG. 40

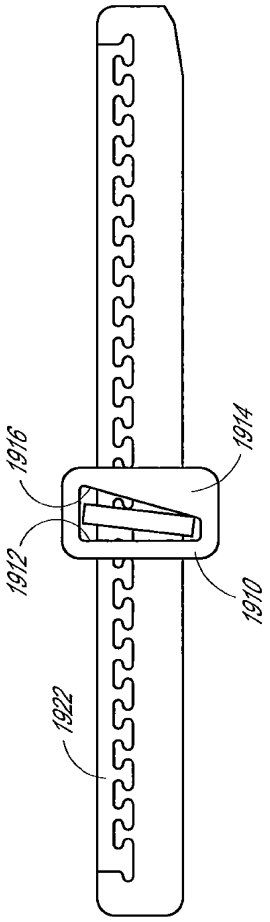


FIG. 41

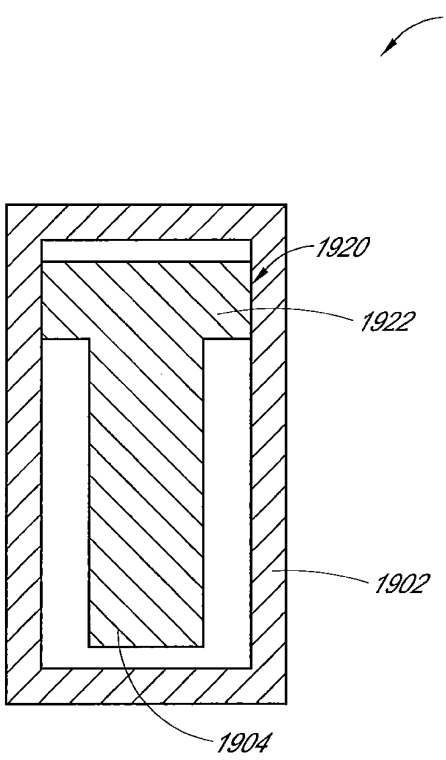


FIG. 42

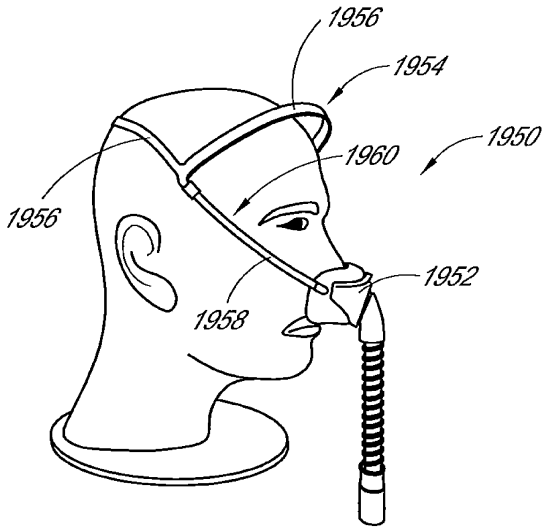


FIG. 43

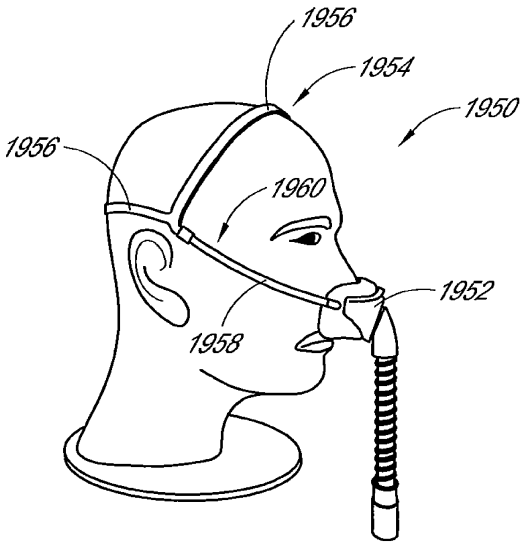


FIG. 44

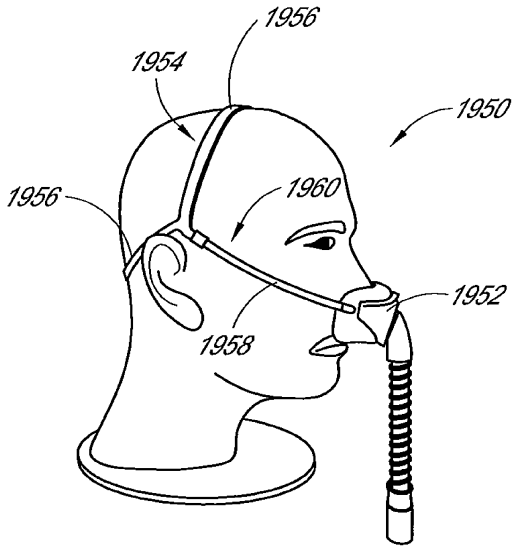


FIG. 45

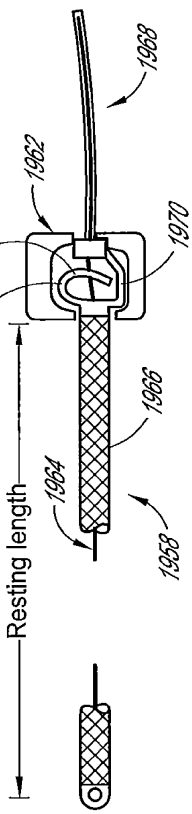


FIG. 46

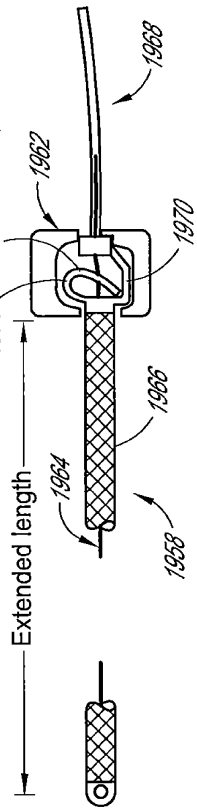


FIG. 47

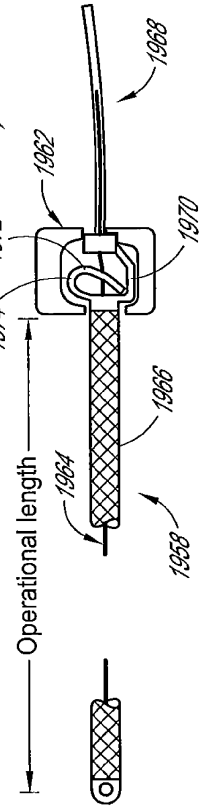


FIG. 48

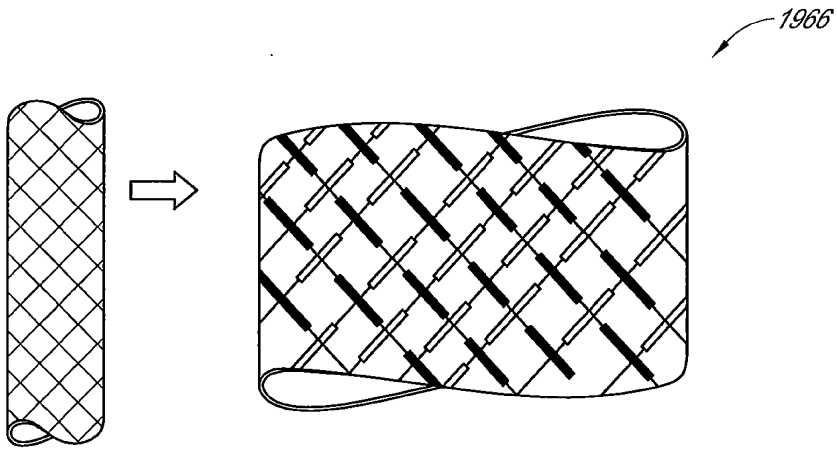


FIG. 49

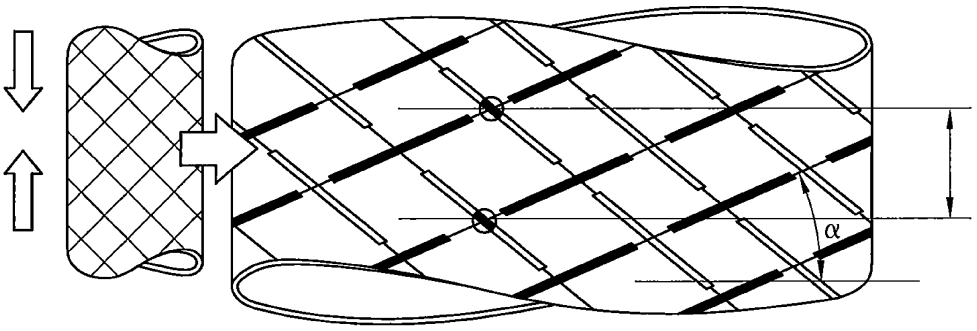


FIG. 50

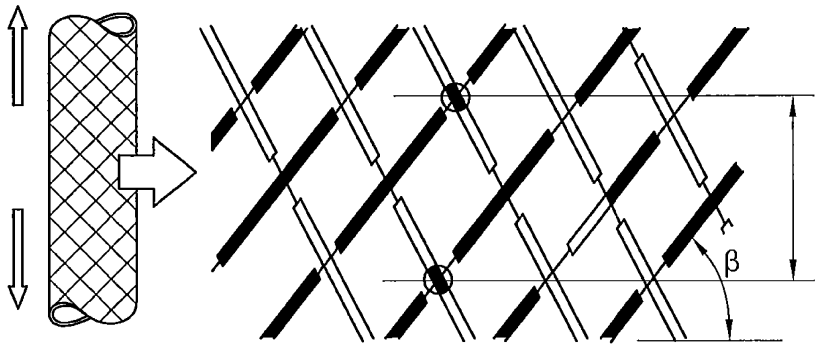


FIG. 51

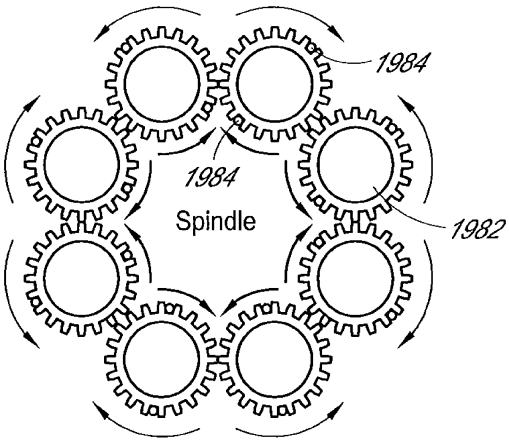


FIG. 52

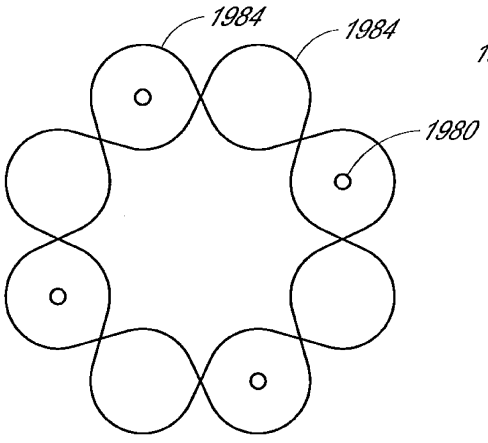


FIG. 53

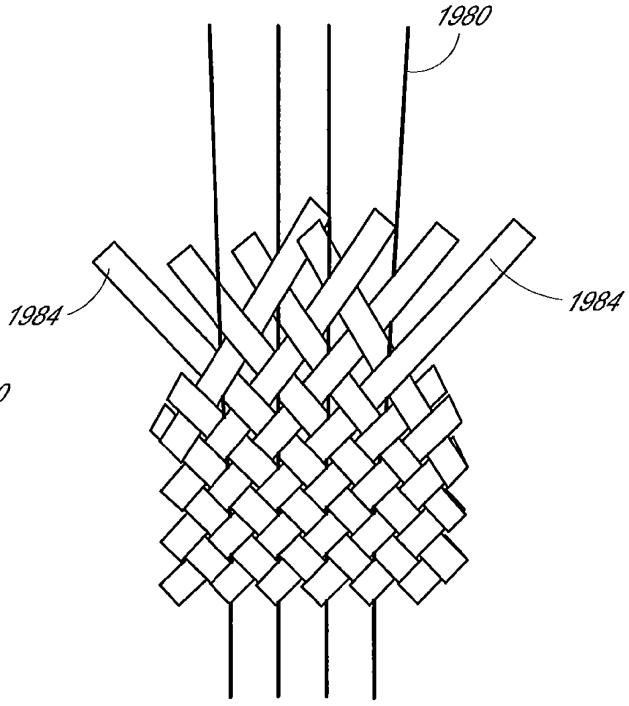


FIG. 54

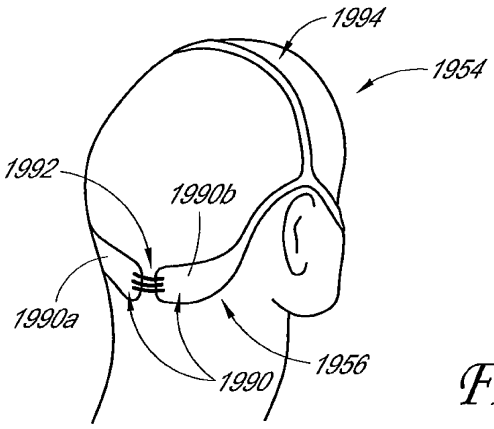


FIG. 55

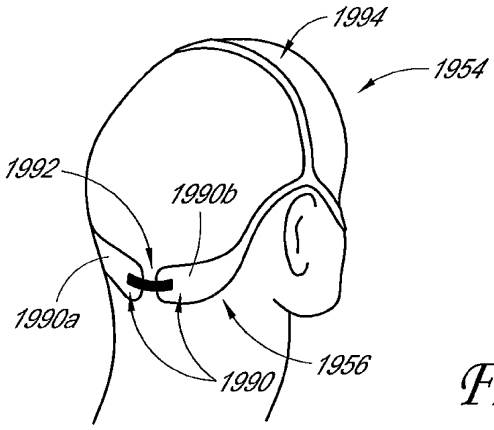


FIG. 56

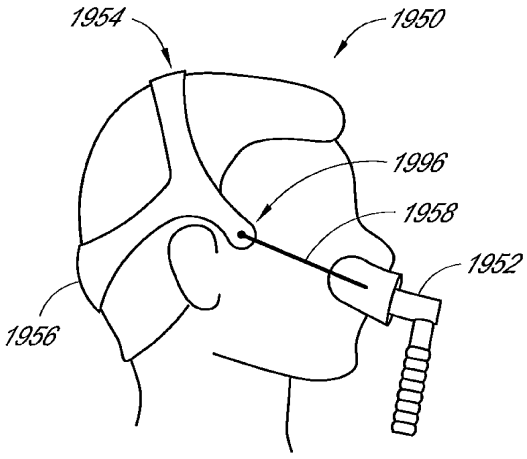


FIG. 57

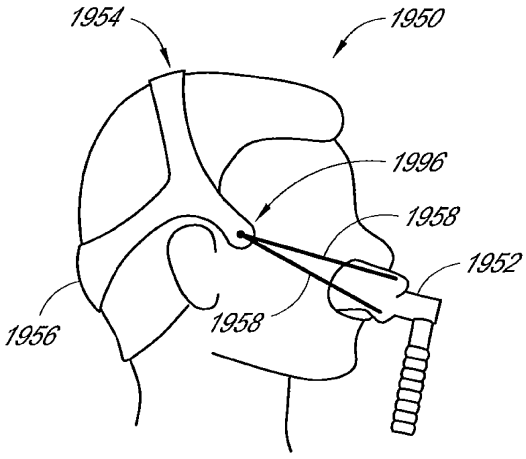


FIG. 58

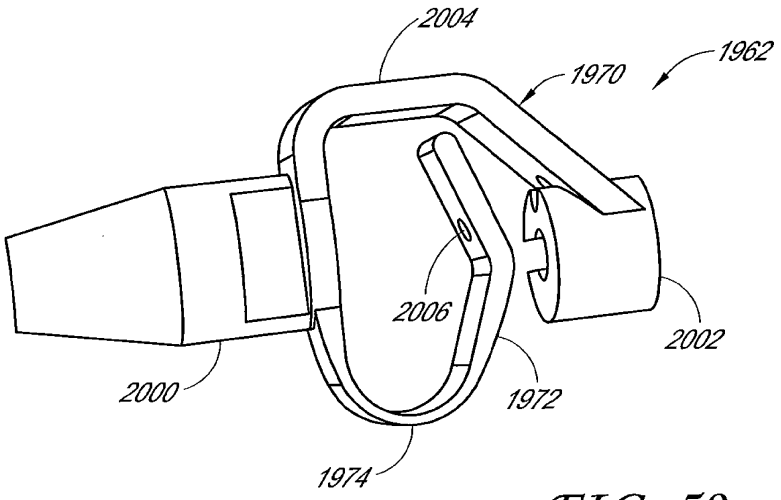

2004
1970
1962
2006
2002
2000
1972
1974

FIG. 59

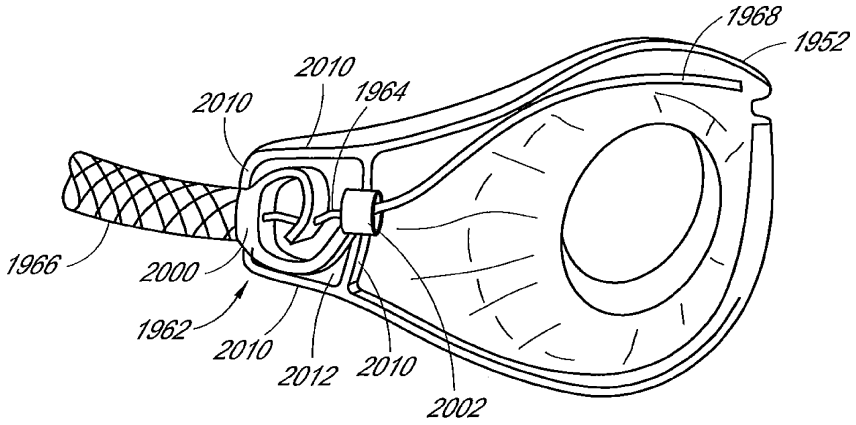

1968
1952
2010
2010
1964
1966
2000
1962
2010
2012
2010
2002

FIG. 60

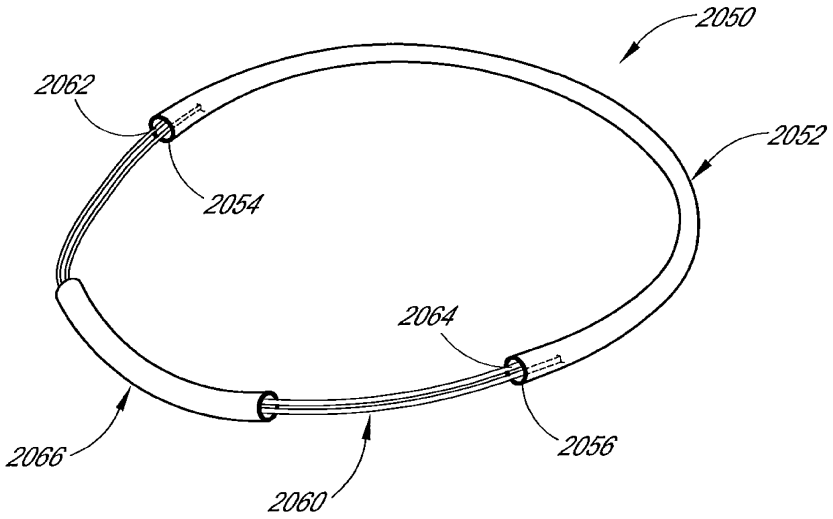


FIG. 61

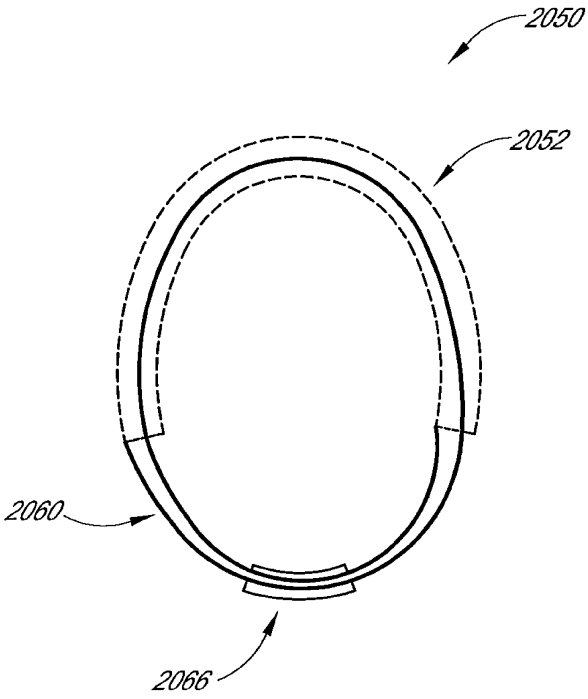


FIG. 62

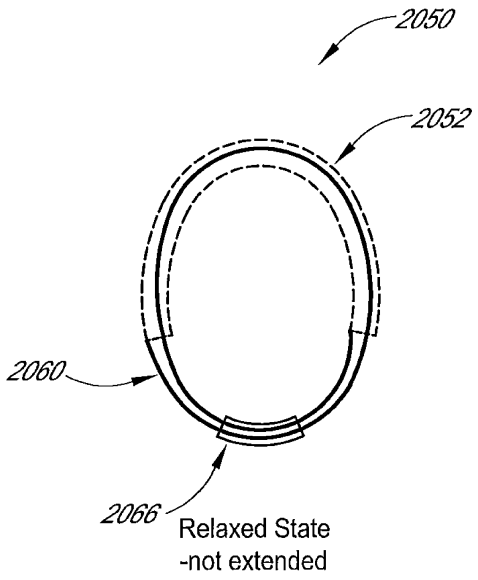


FIG. 63

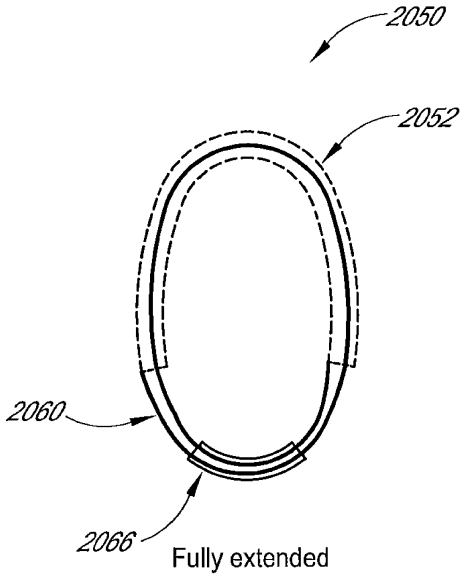


FIG. 64

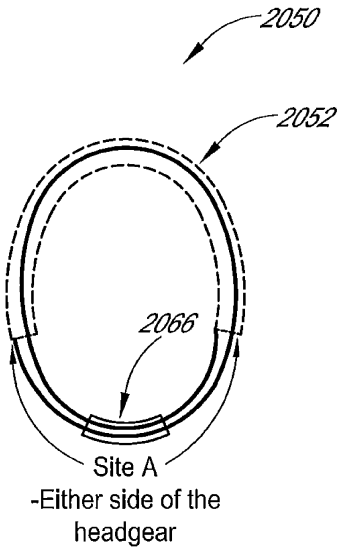


FIG. 65

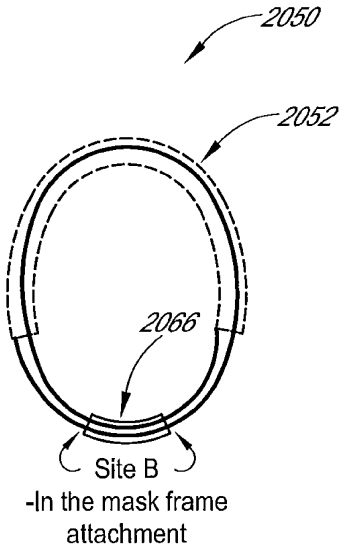


FIG. 66

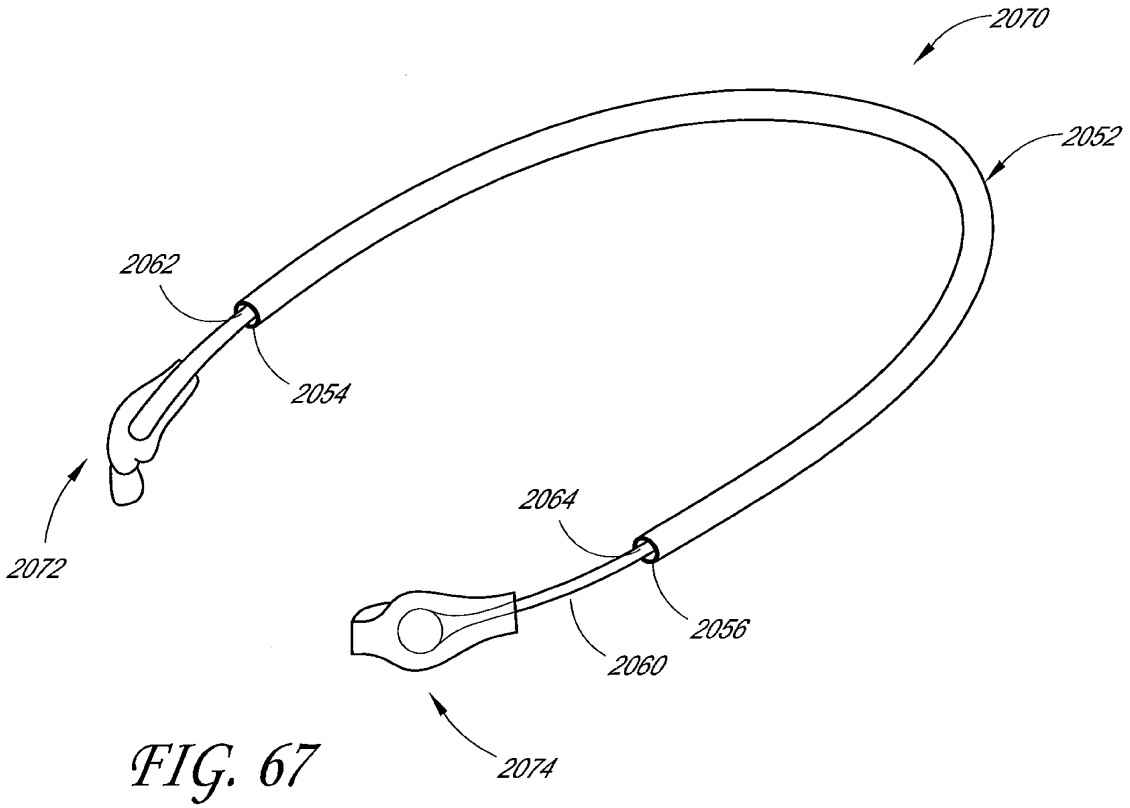

2070
2052
2062
2054
2064
2056
2060
2072
2074

FIG. 67

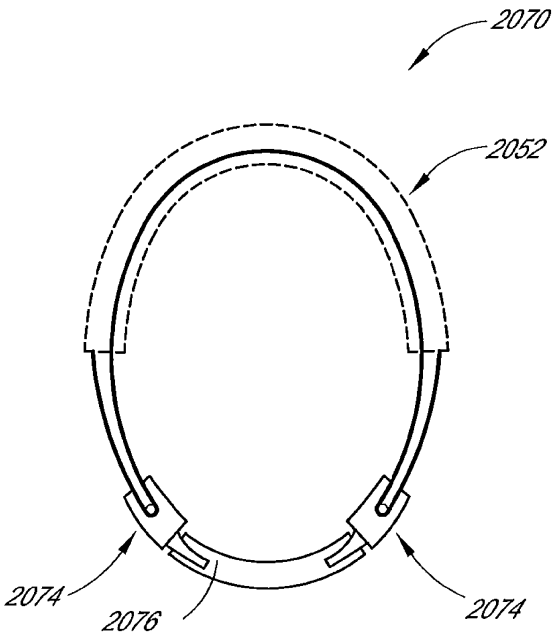

2070
2052
2074
2076
2074

FIG. 68

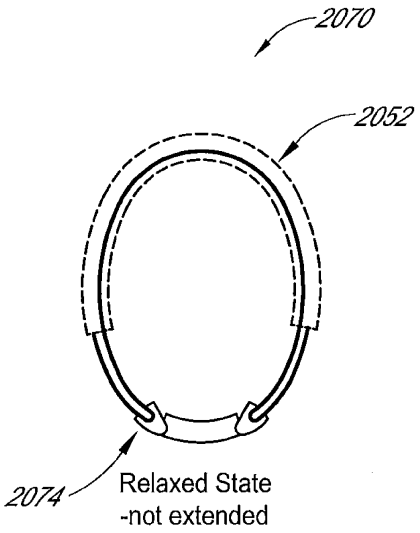


FIG. 69

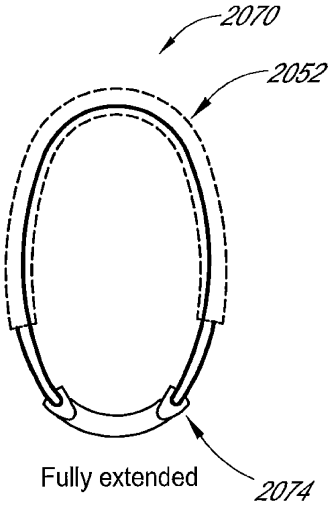


FIG. 70

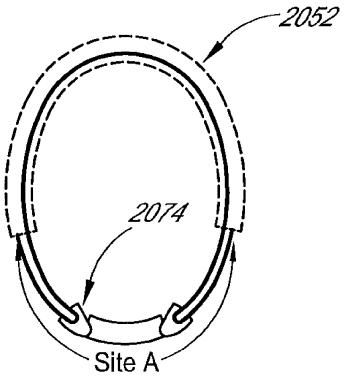


FIG. 71

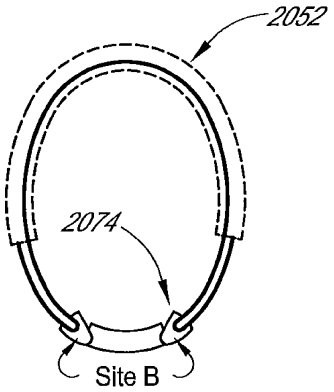


FIG. 72

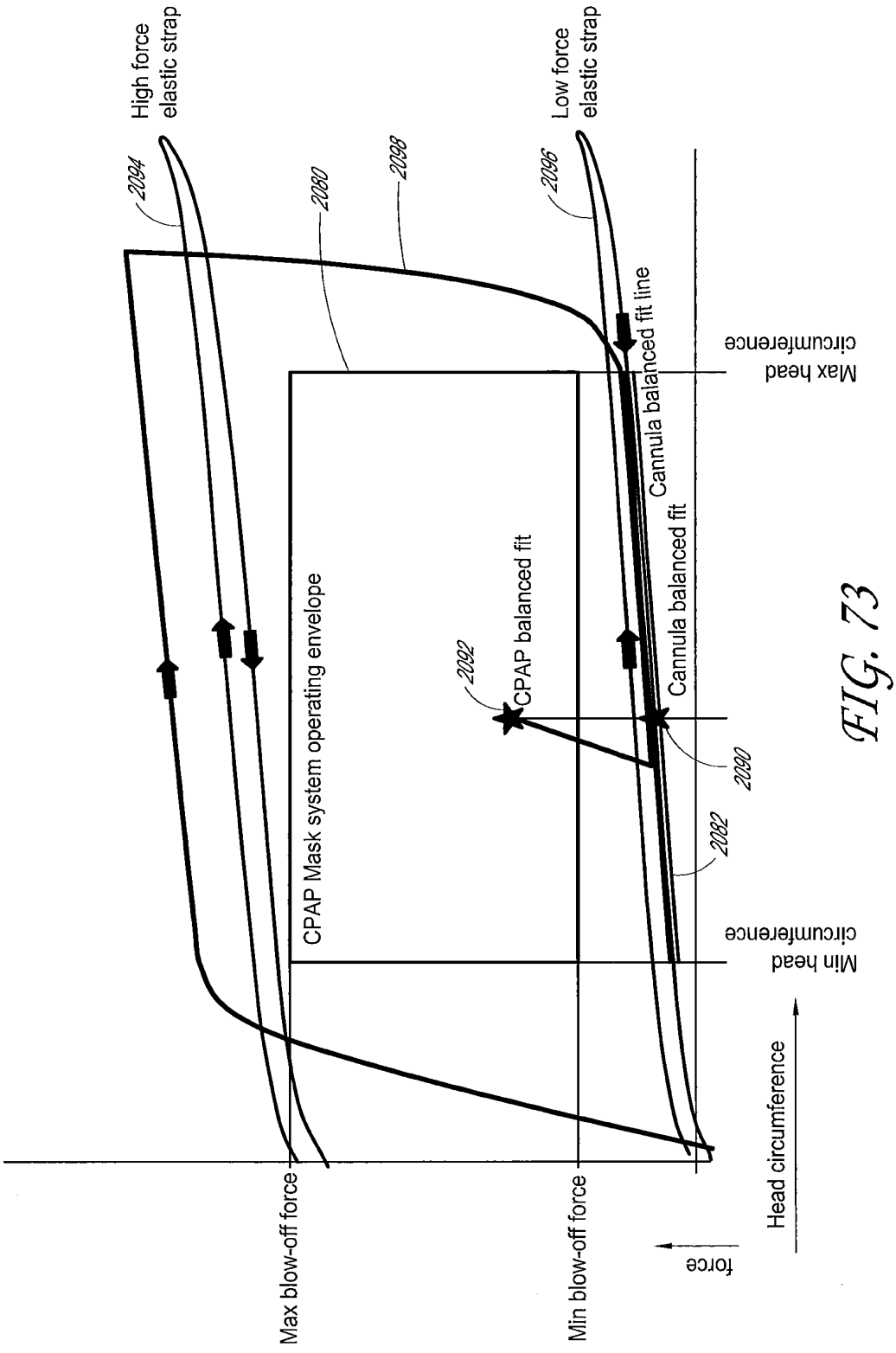

High force elastic strap
Low force elastic strap
2094
2080
2098
2096
Cannula balanced fit line
Max head circumference
CPAP Mask system operating envelope
2092
CPAP balanced fit
Cannula balanced fit
2090
2082
Min head circumference
Max blow-off force
Min blow-off force
force
Head circumference

FIG. 73

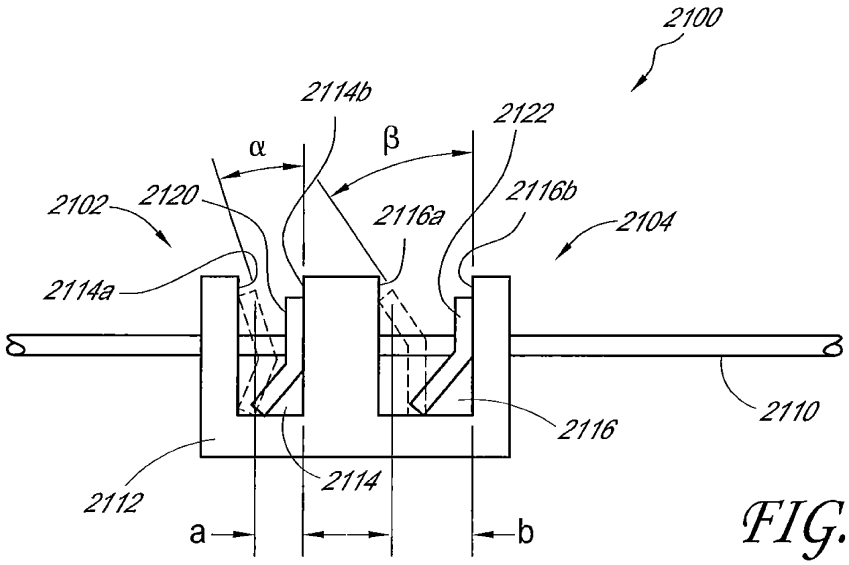

2100
2114b
2122
α
β
2102
2120
2116a
2116b
2104
2114a
2110
2116
2112
2114
a
b

FIG. 74

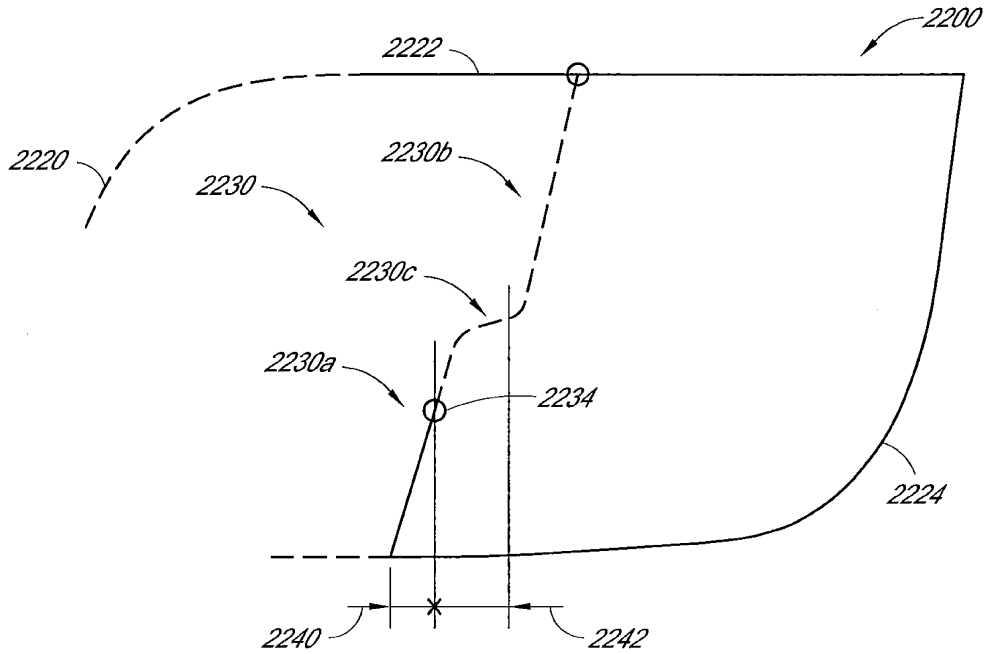

2200
2222
2220
2230b
2230
2230c
2230a
2234
2224
2240
2242

FIG. 75

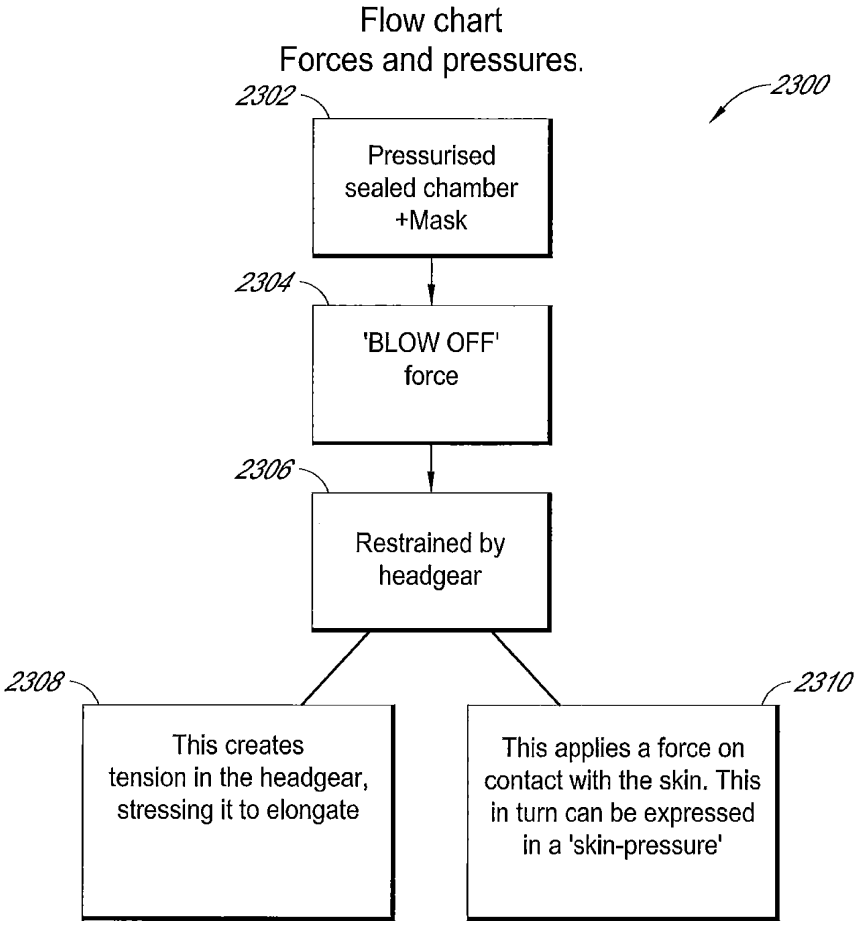

Flow chart
Forces and pressures.
2300
2302
Pressurised sealed chamber +Mask
2304
'BLOW OFF' force
2306
Restrained by headgear
2308
This creates tension in the headgear, stressing it to elongate
2310
This applies a force on contact with the skin. This in turn can be expressed in a 'skin-pressure'

FIG. 76