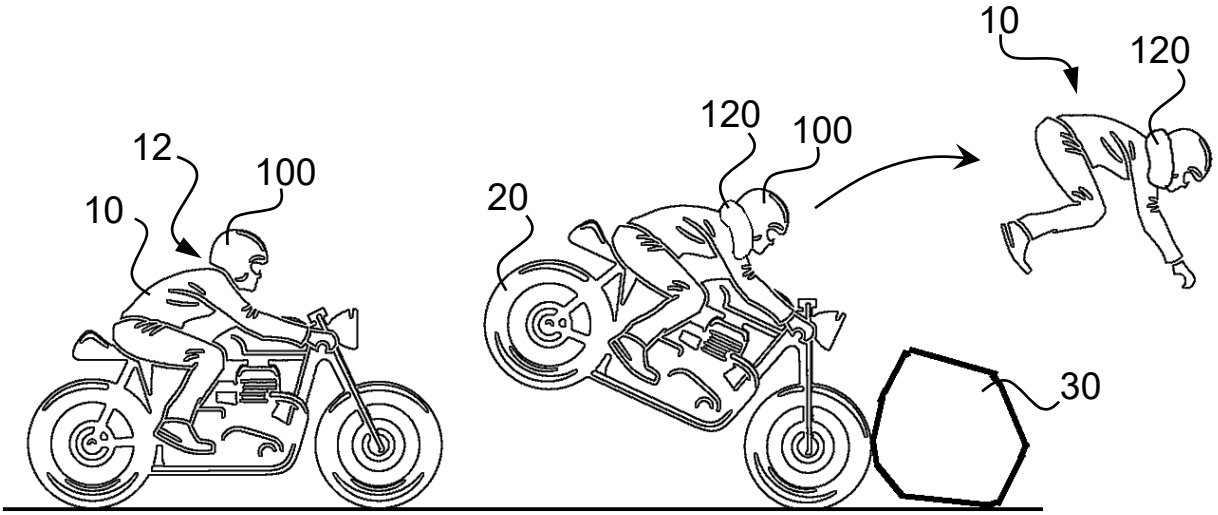


Fig. 1

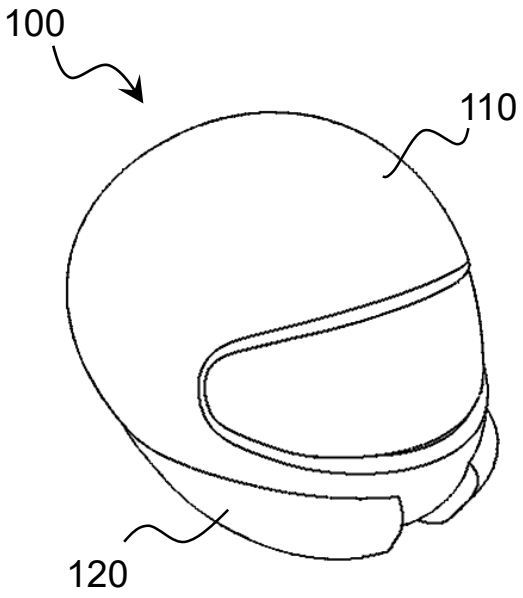


Fig. 2

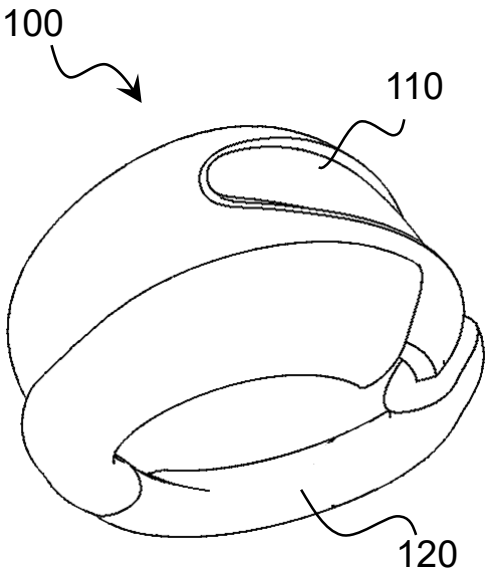


Fig. 3

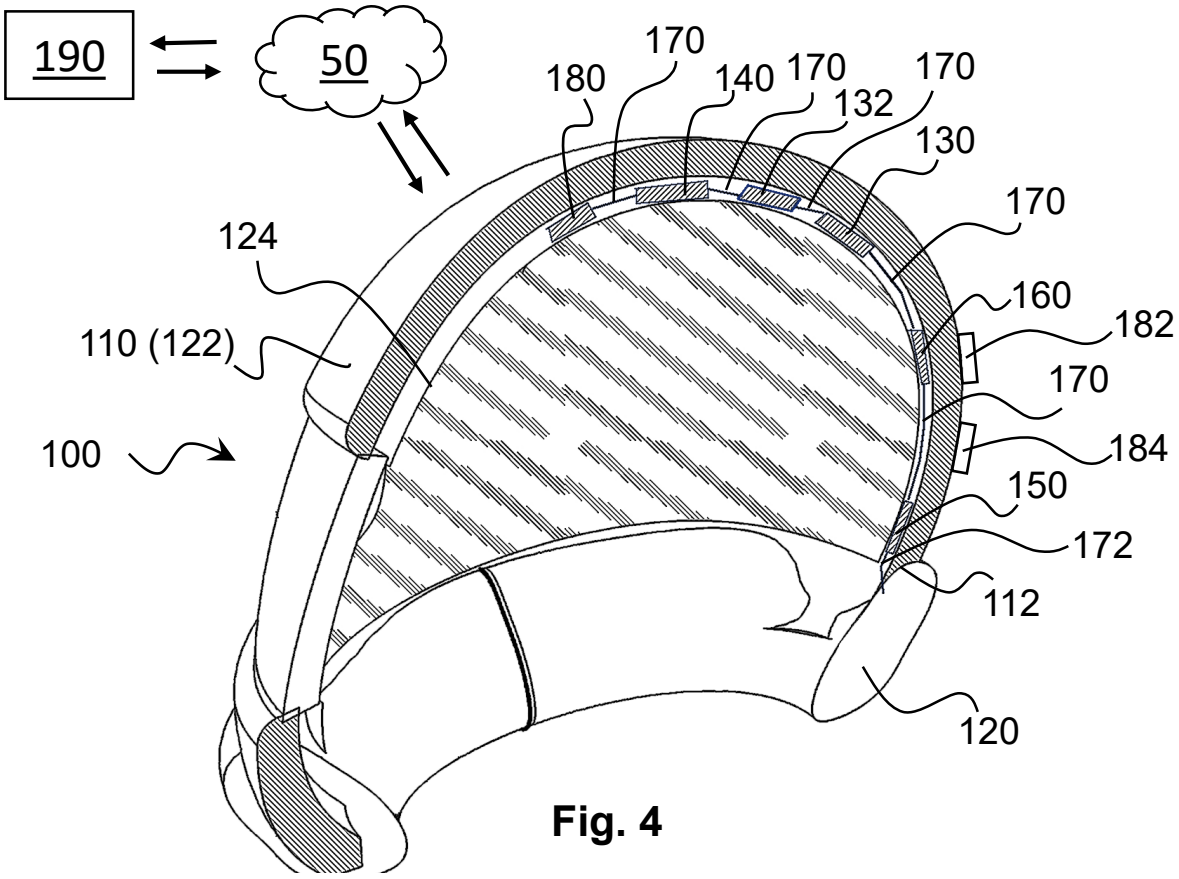

190
50
180
170
140
170
132
170
130
170
124
160
182
110 (122)
170
100
184
150
172
112
120

Fig. 4

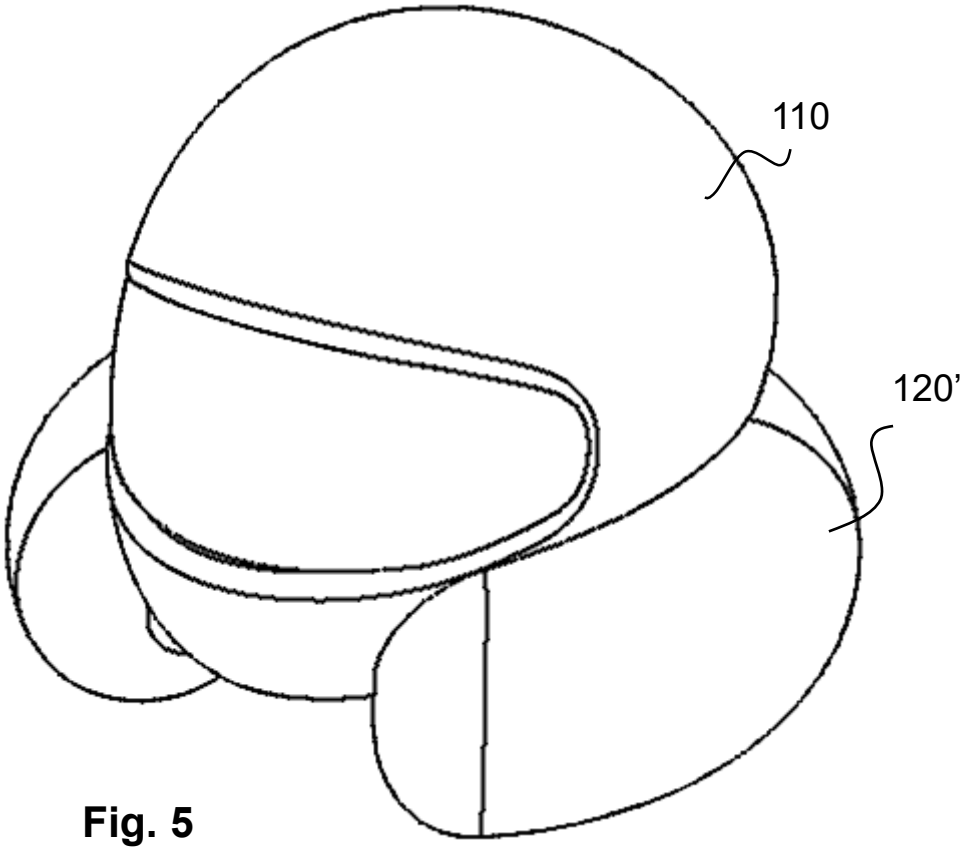

110
120'

Fig. 5

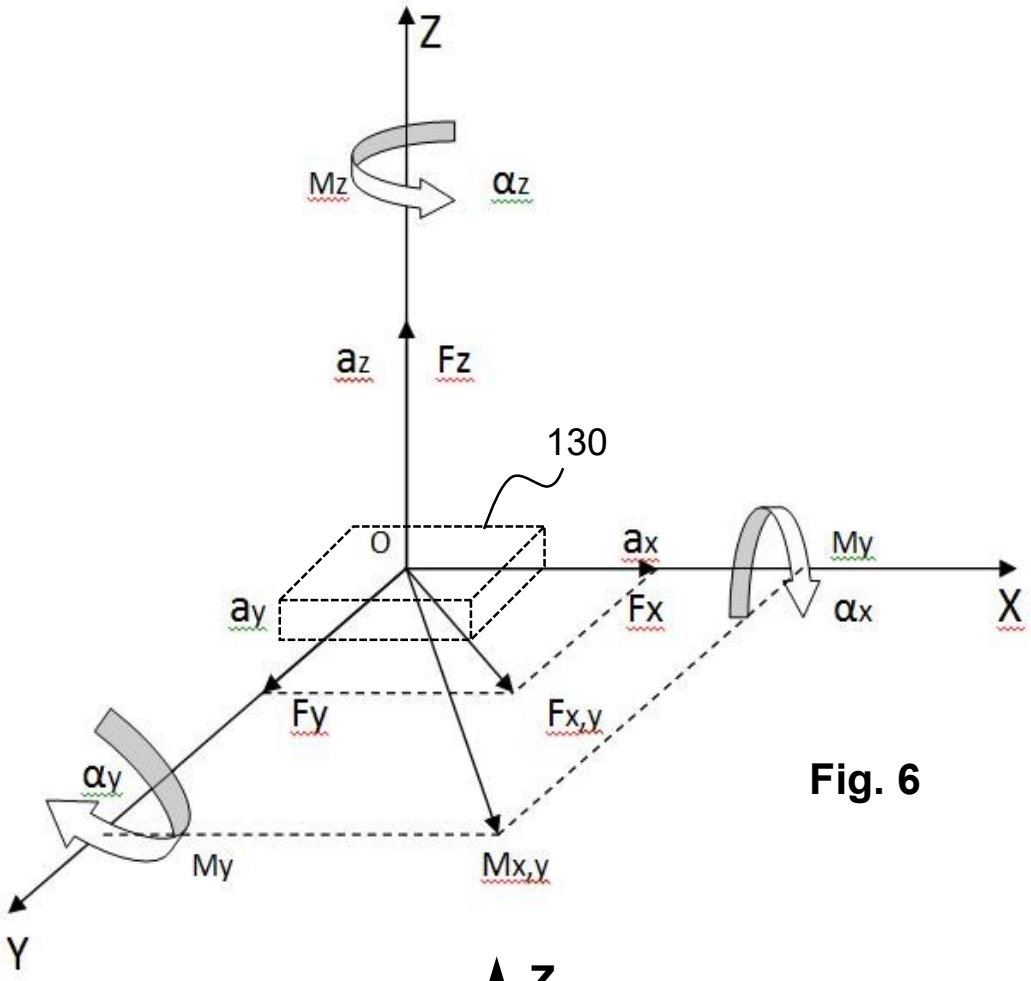


Fig. 6

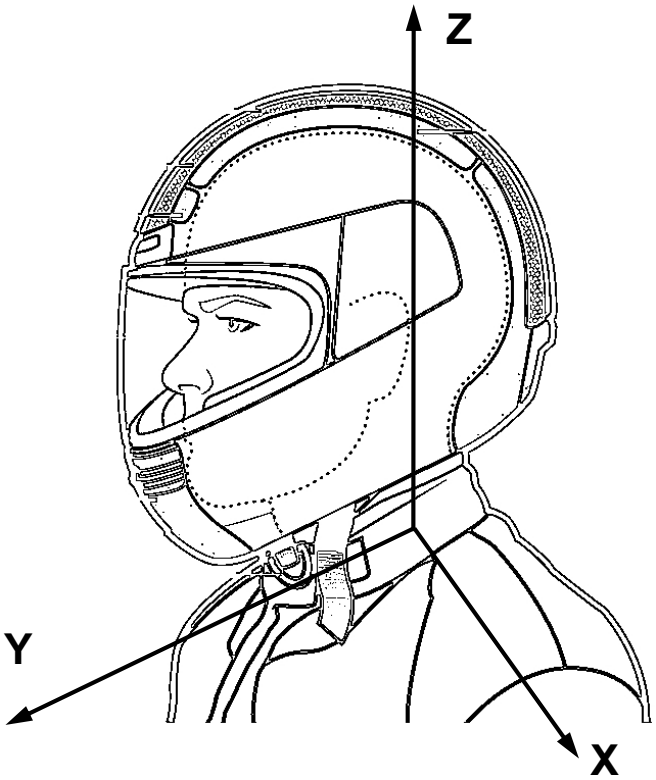


Fig. 7

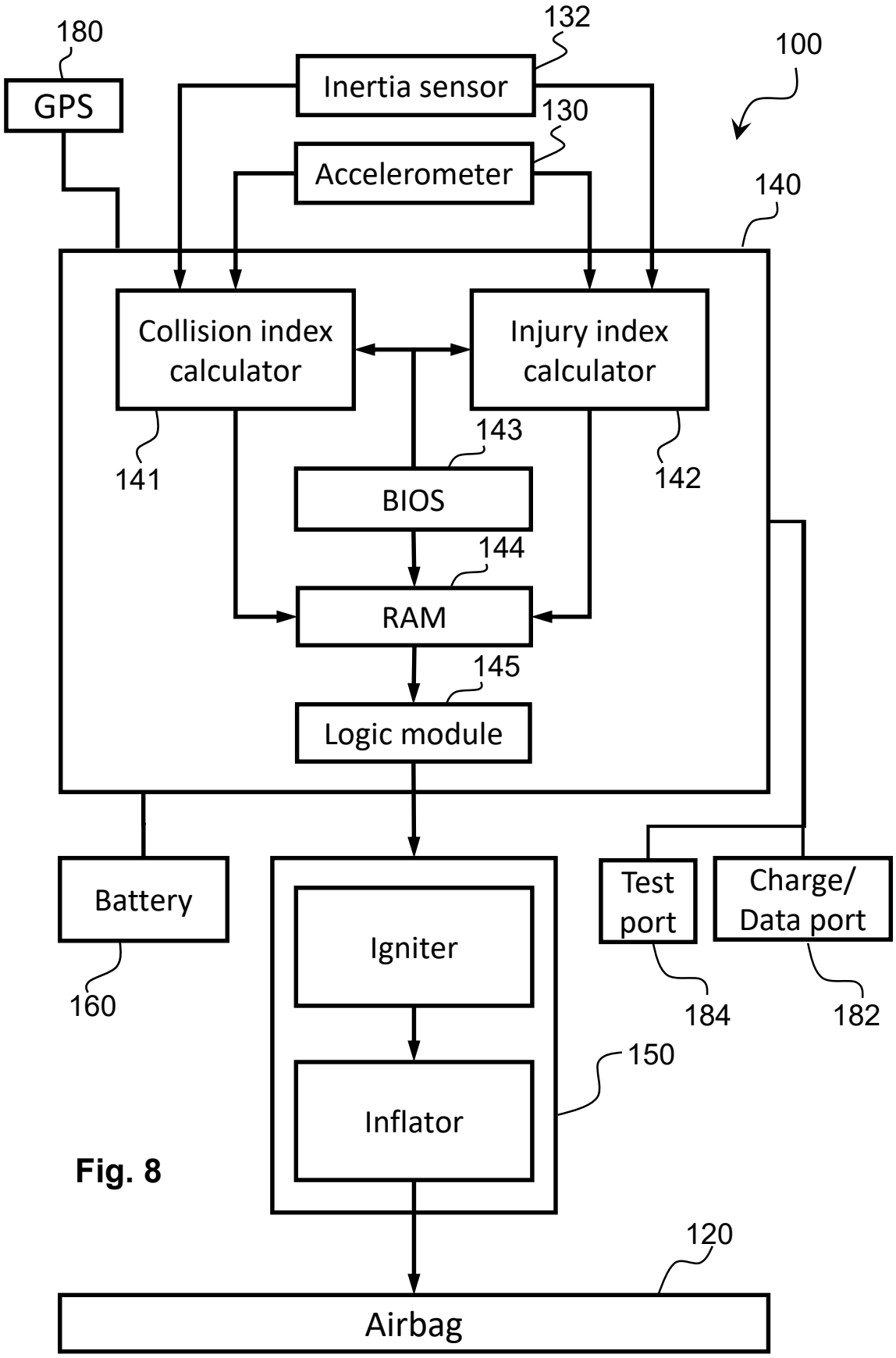

180
GPS
132
Inertia sensor
130
Accelerometer
100
140
Collision index calculator
Injury index calculator
141
143
BIOS
142
144
RAM
145
Logic module
Battery
160
Igniter
Inflator
150
Test port
Charge/ Data port
184
182
120
Airbag

Fig. 8

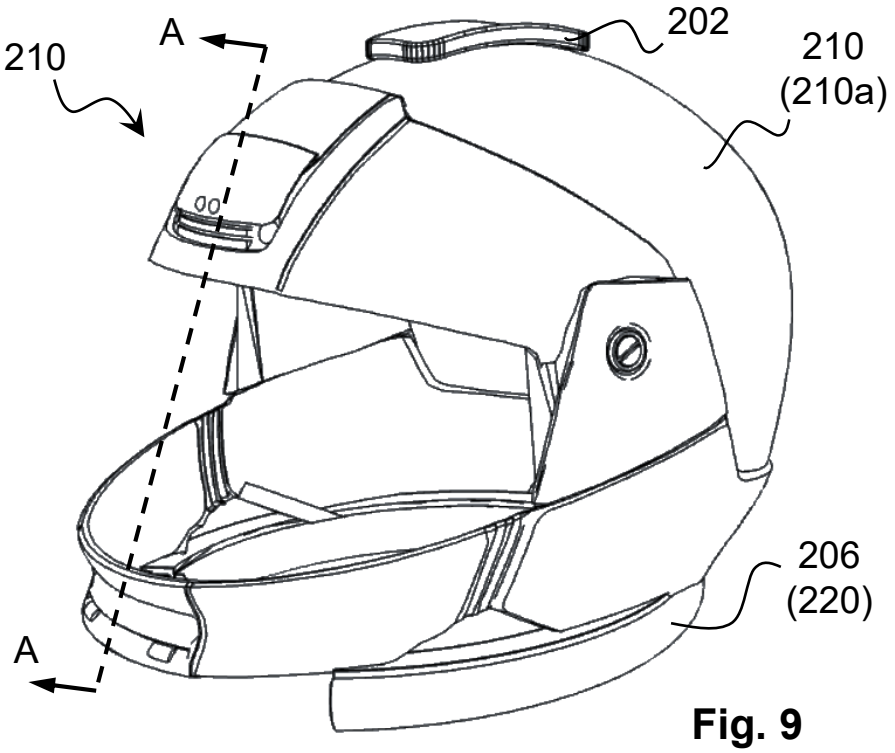


Fig. 9

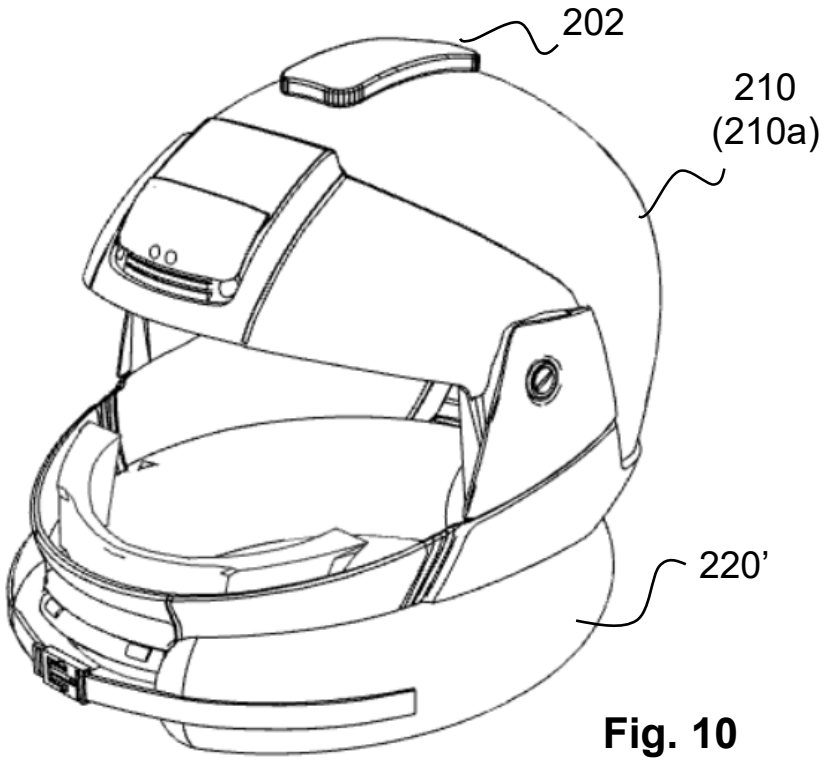


Fig. 10

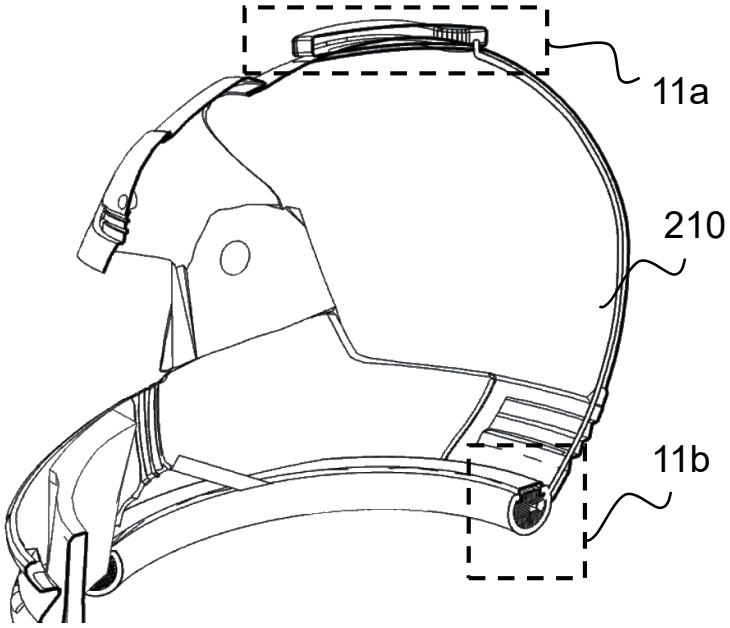


Fig. 11
A-A

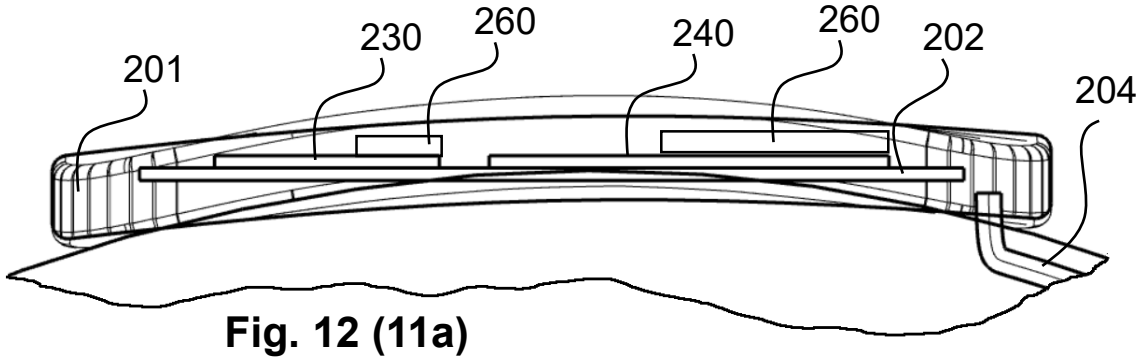


Fig. 12 (11a)

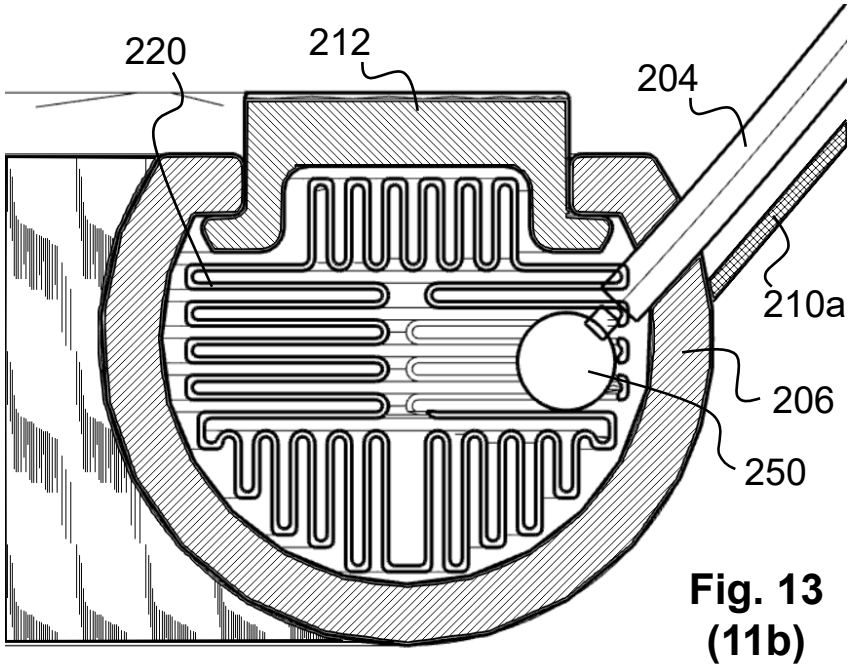


Fig. 13
(11b)

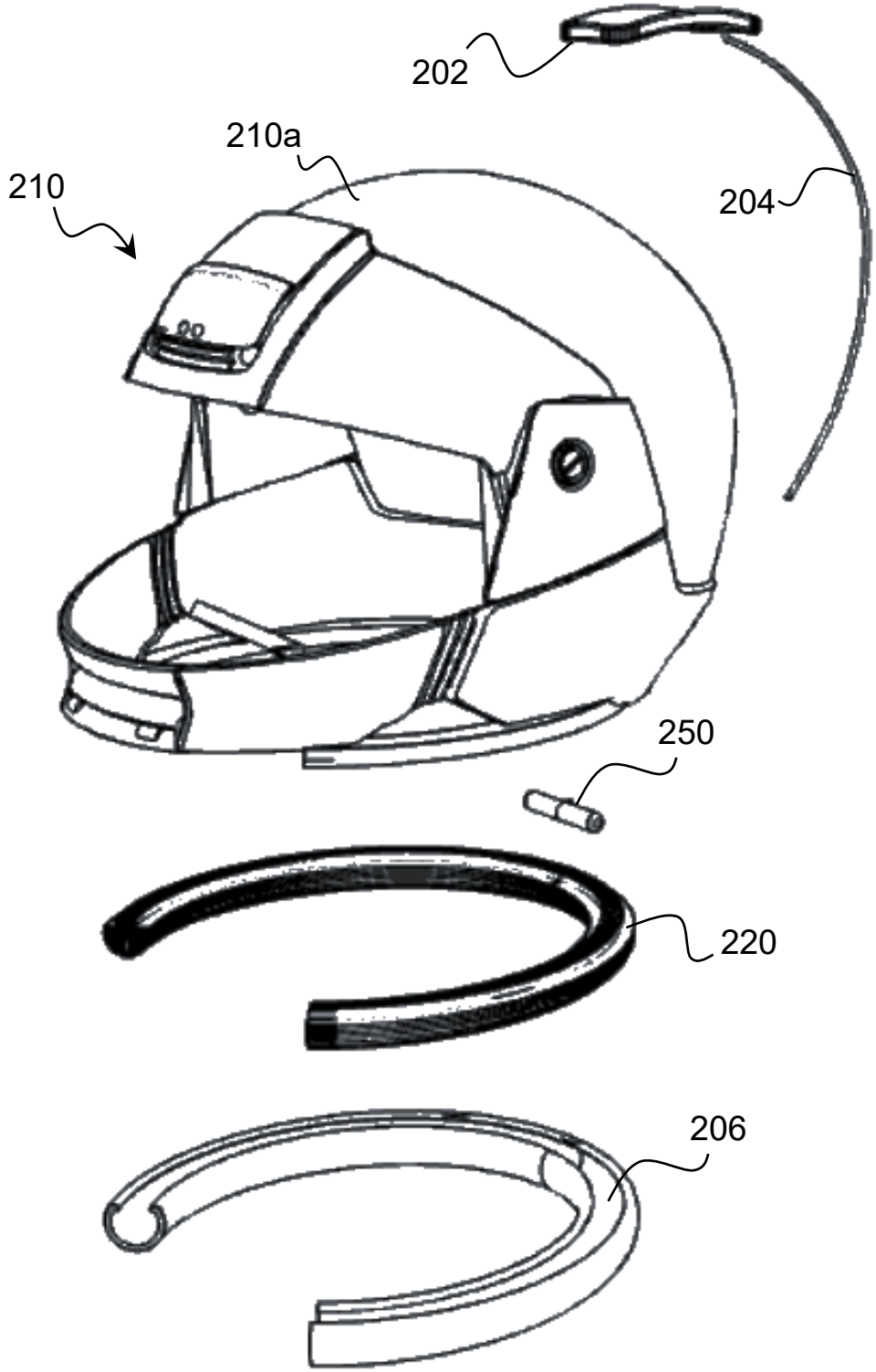


Fig. 14

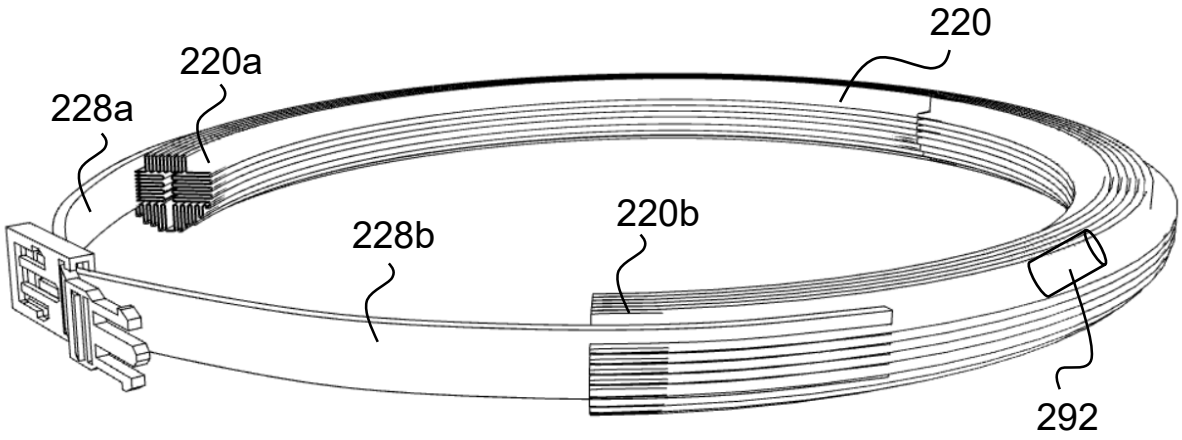


Fig. 15

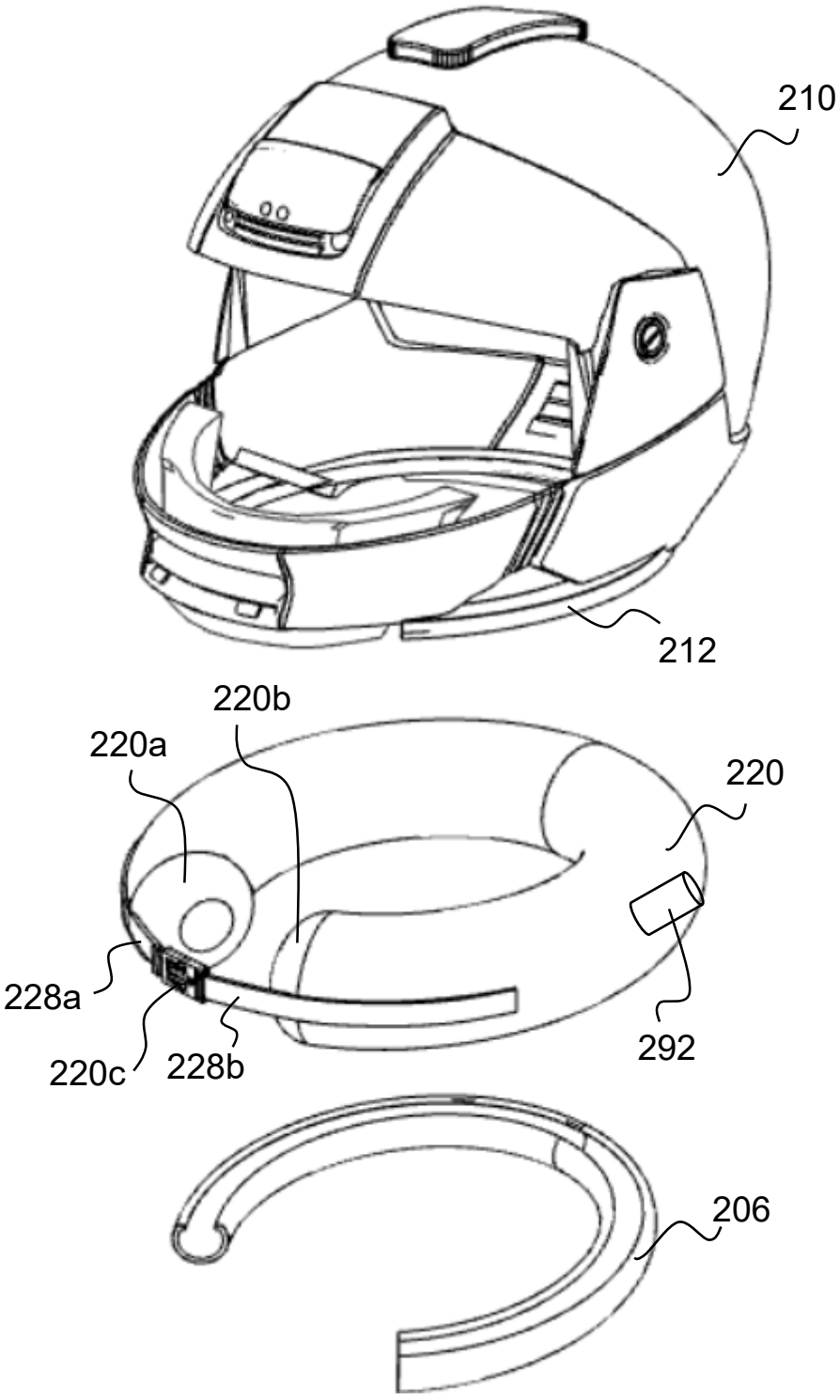


Fig. 16

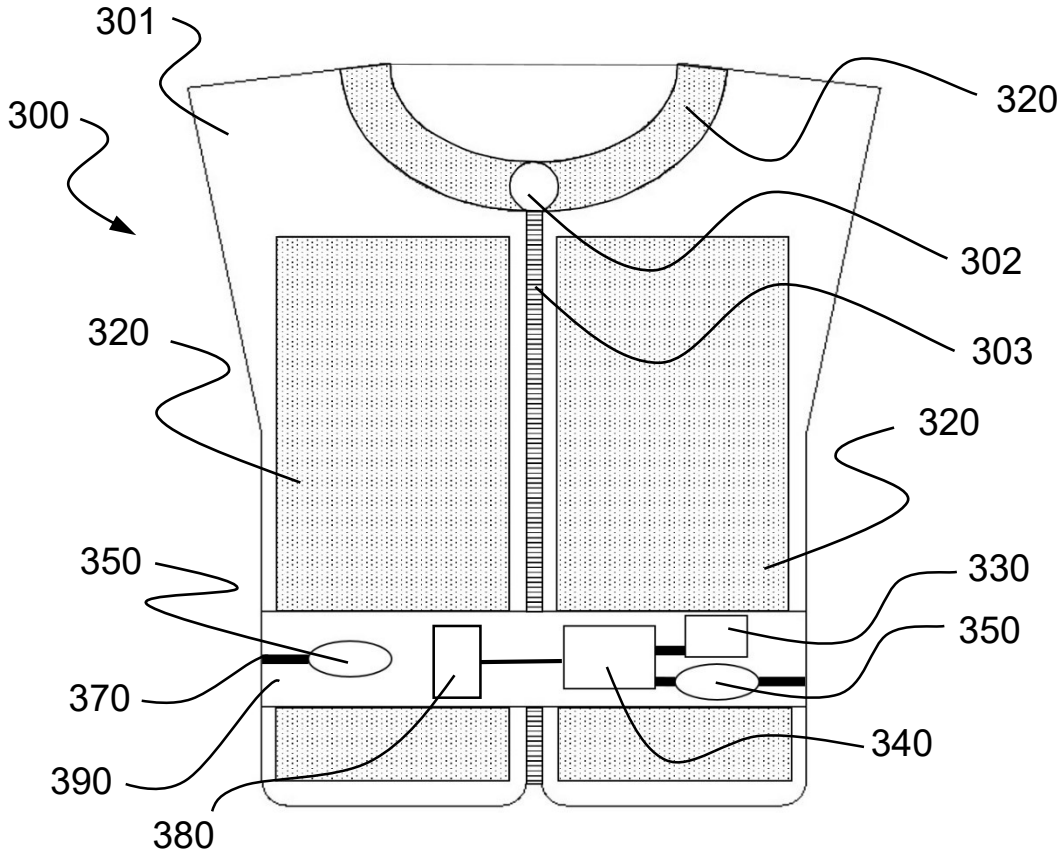


Fig. 17A

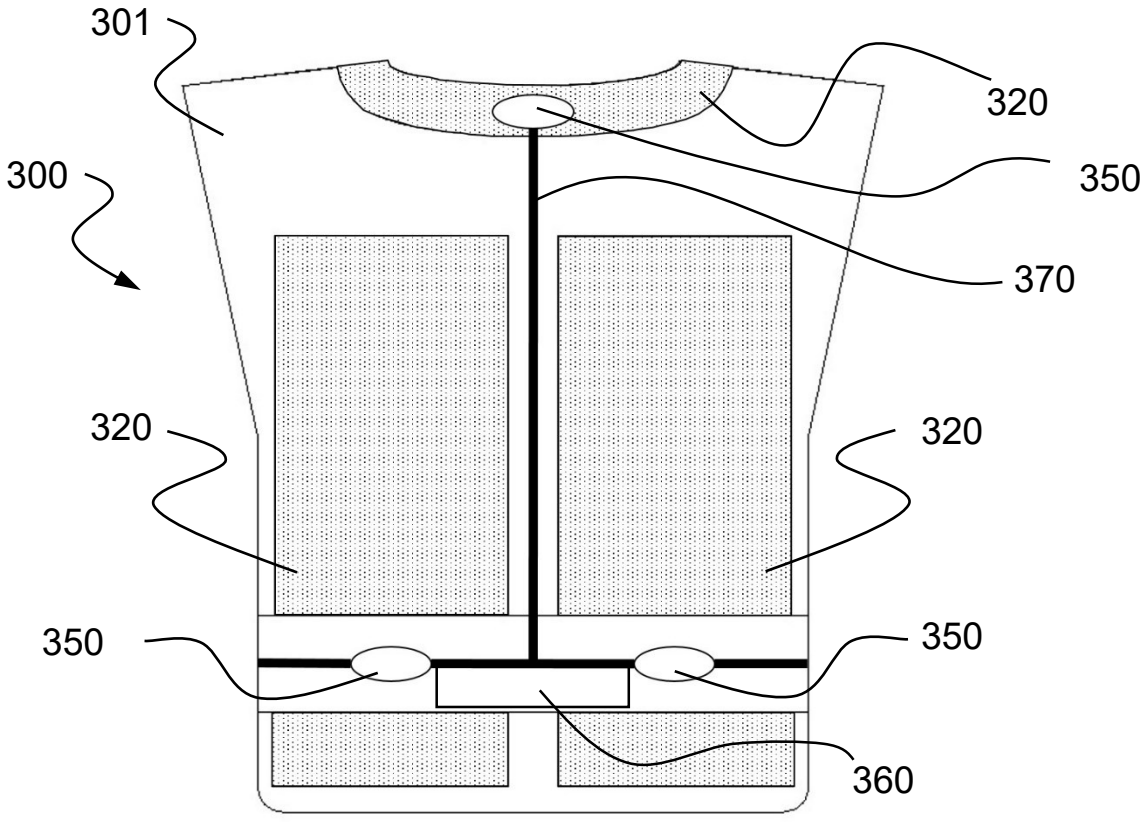


Fig. 17B

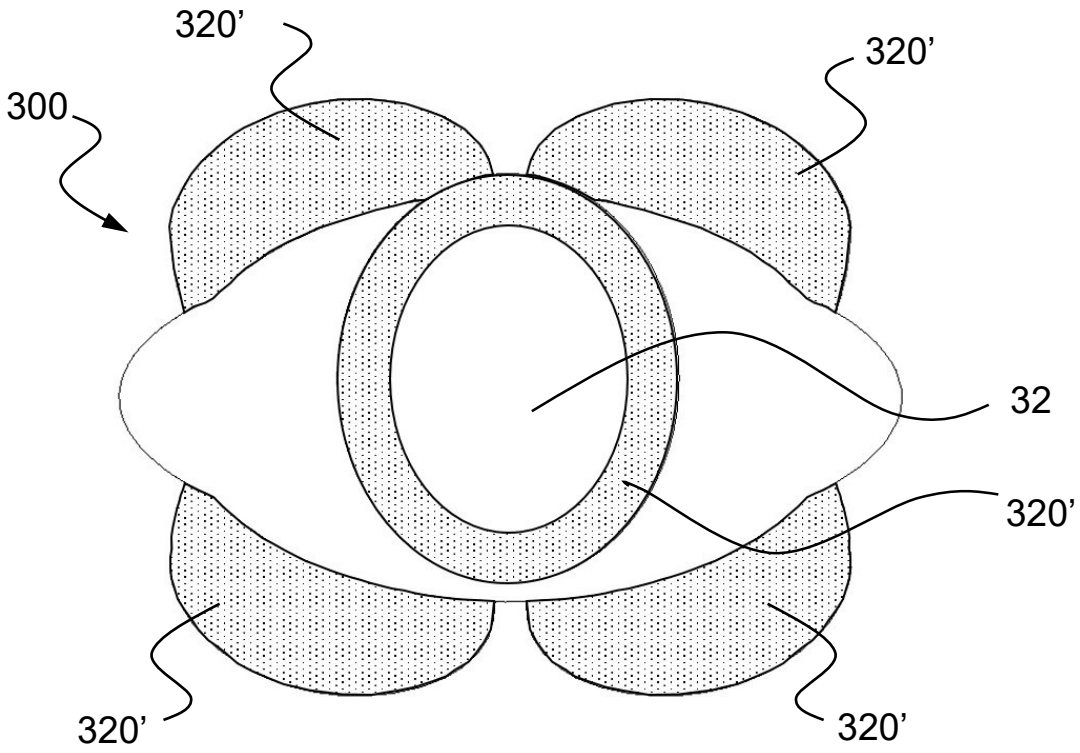


Fig. 18

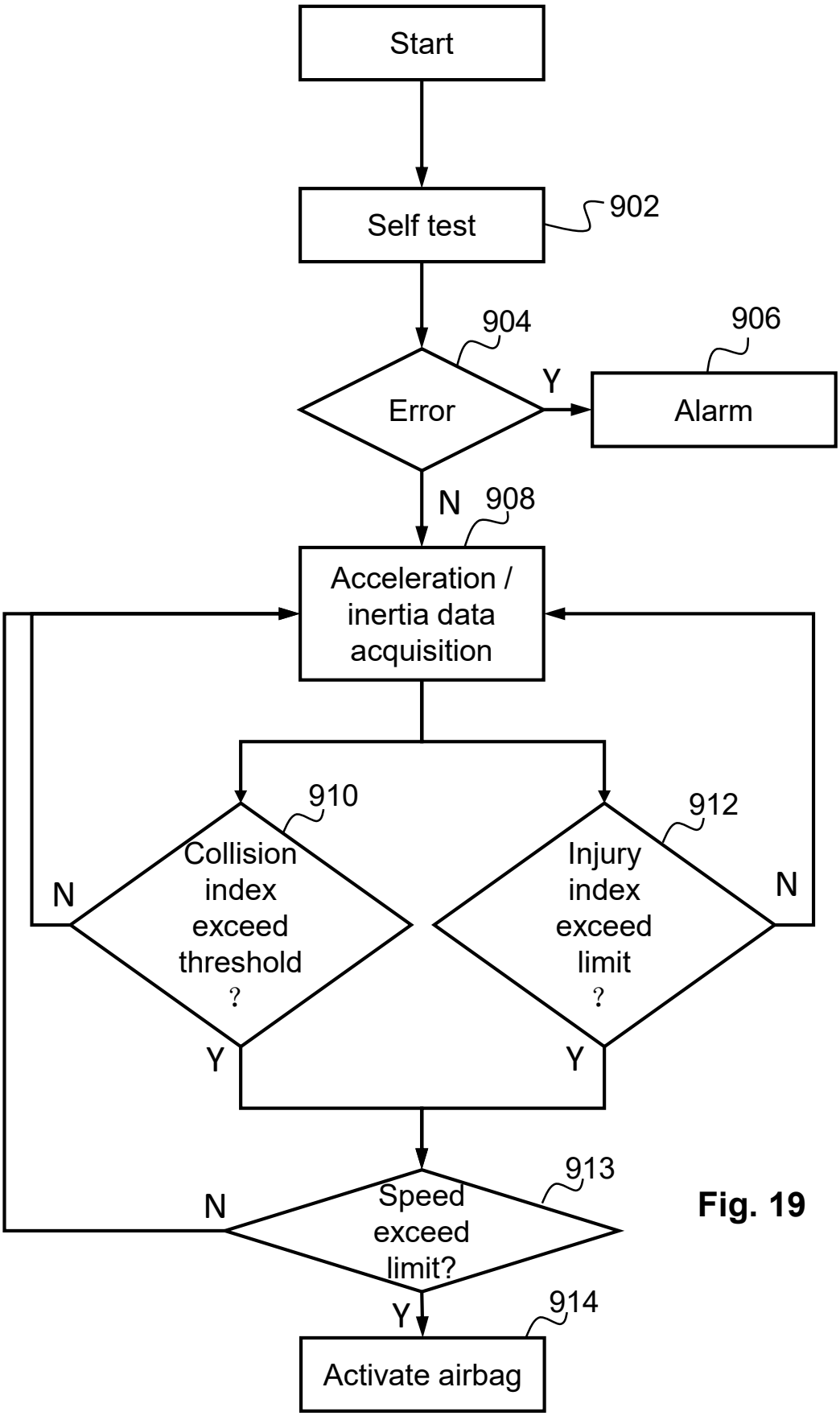

Start
Self test
902
904
906
Error
Y
Alarm
N
908
Acceleration / inertia data acquisition
910
912
Collision index exceed threshold ?
Injury index exceed limit ?
N
N
Y
Y
913
Speed exceed limit?
N
Y
914
Activate airbag

Fig. 19

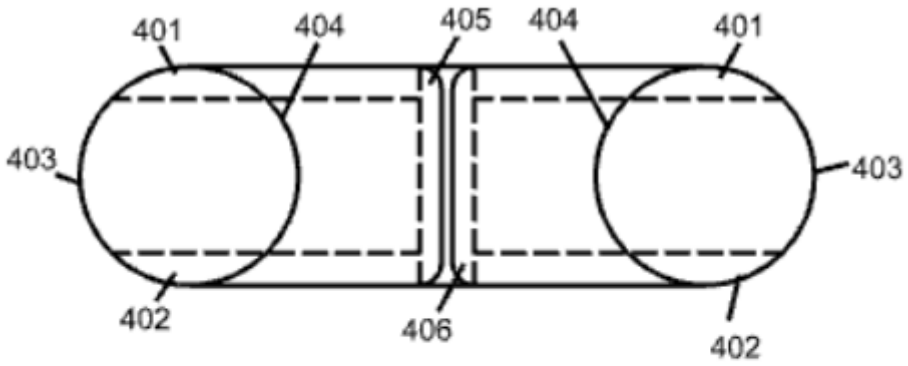


Fig. 20A

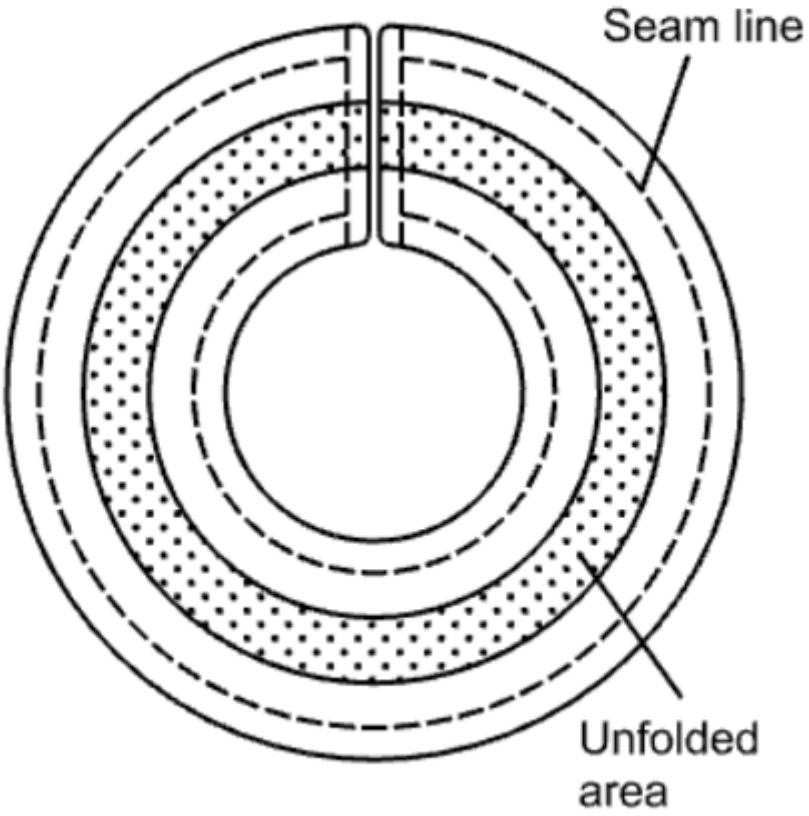


Fig. 20B

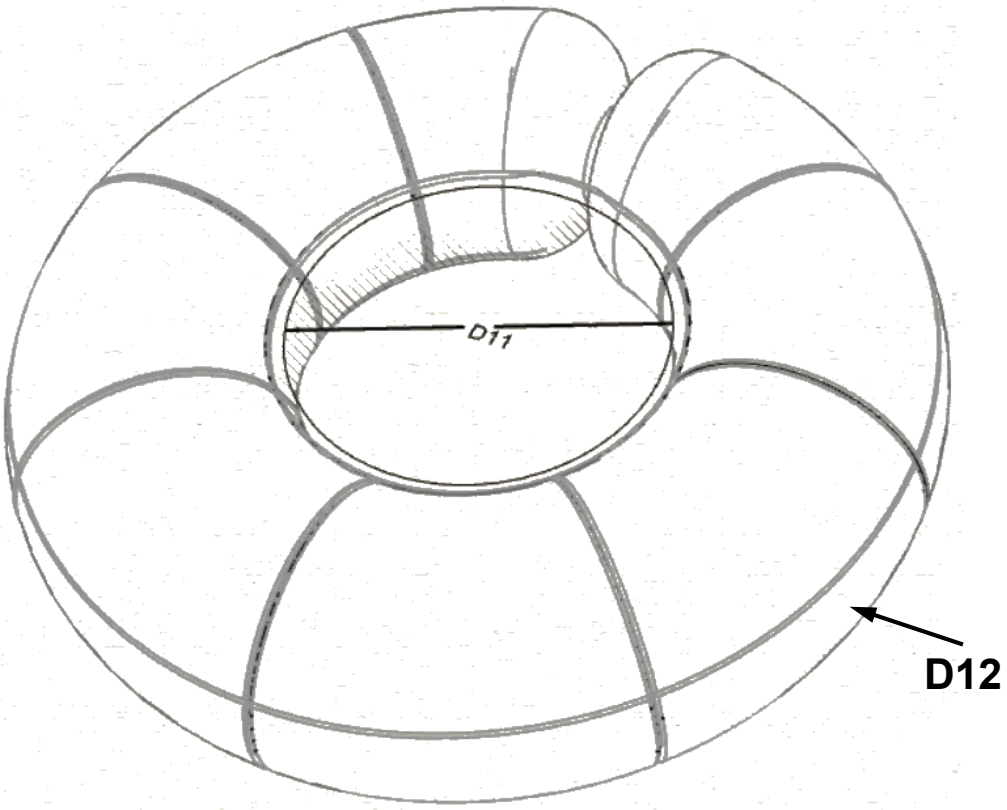


Fig. 20C

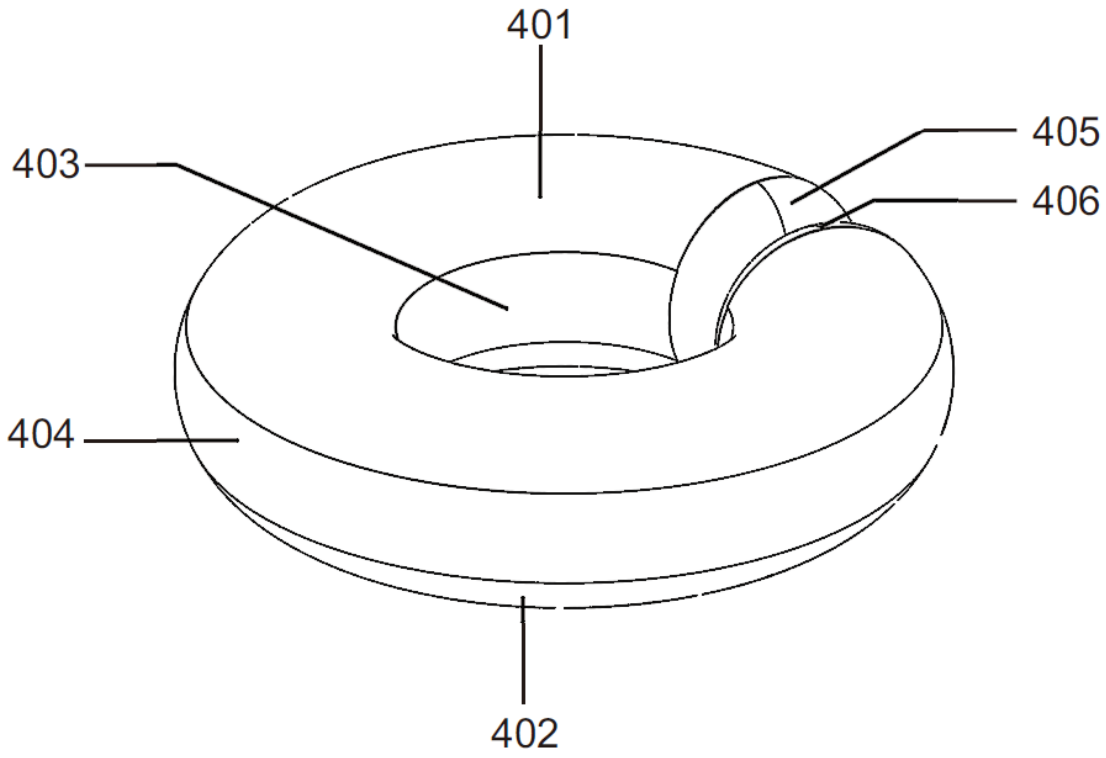


Fig. 20D

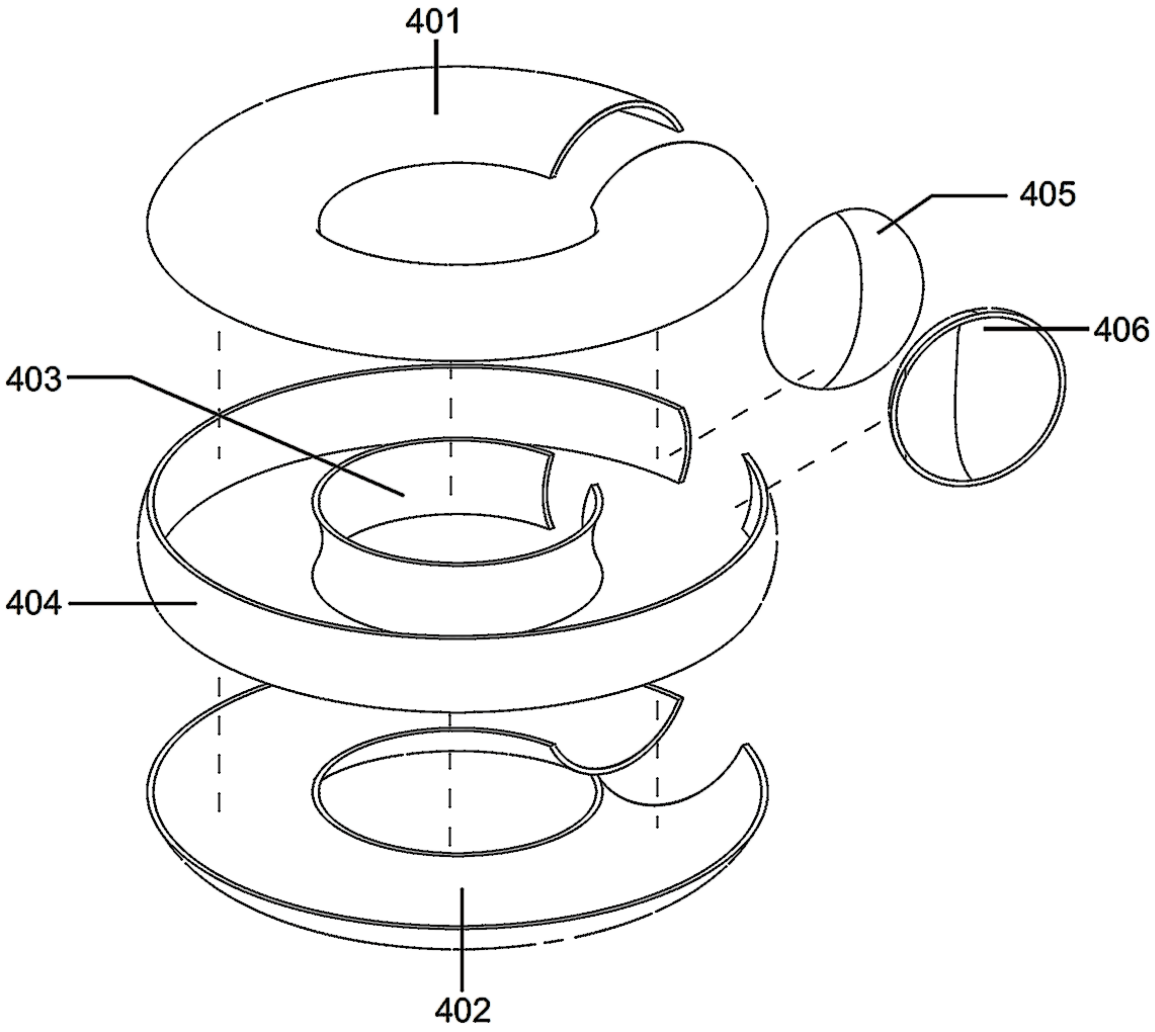


Fig. 20E

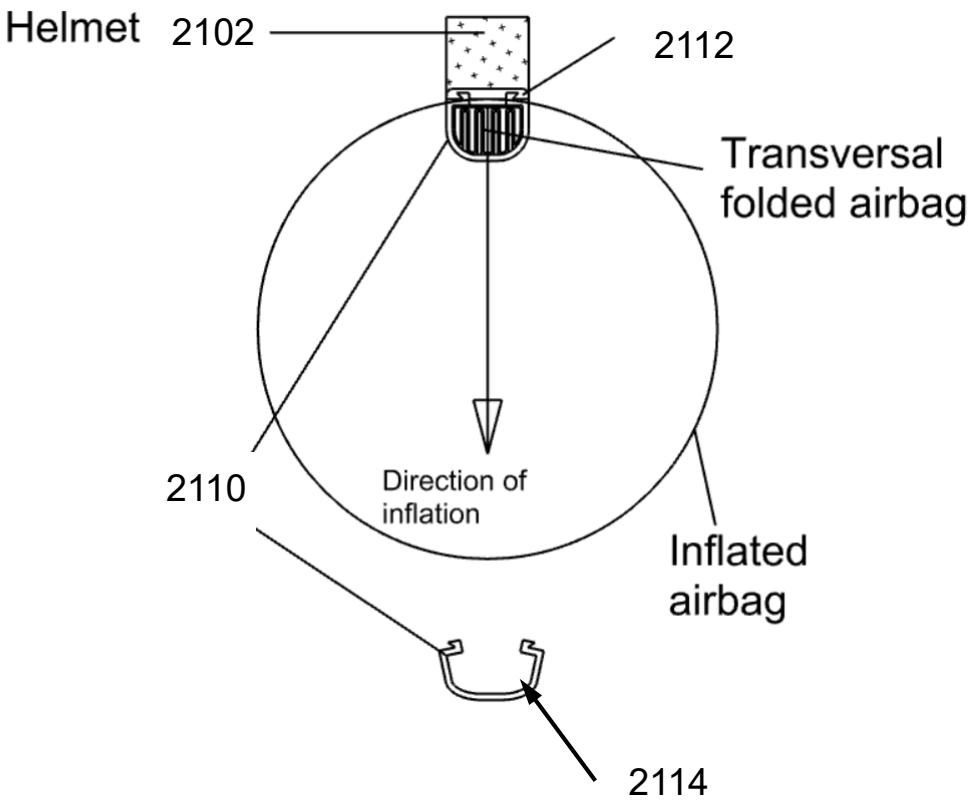

Helmet
2102
2112
Transversal
folded airbag
2110
Direction of
inflation
Inflated
airbag
2114

Fig. 21

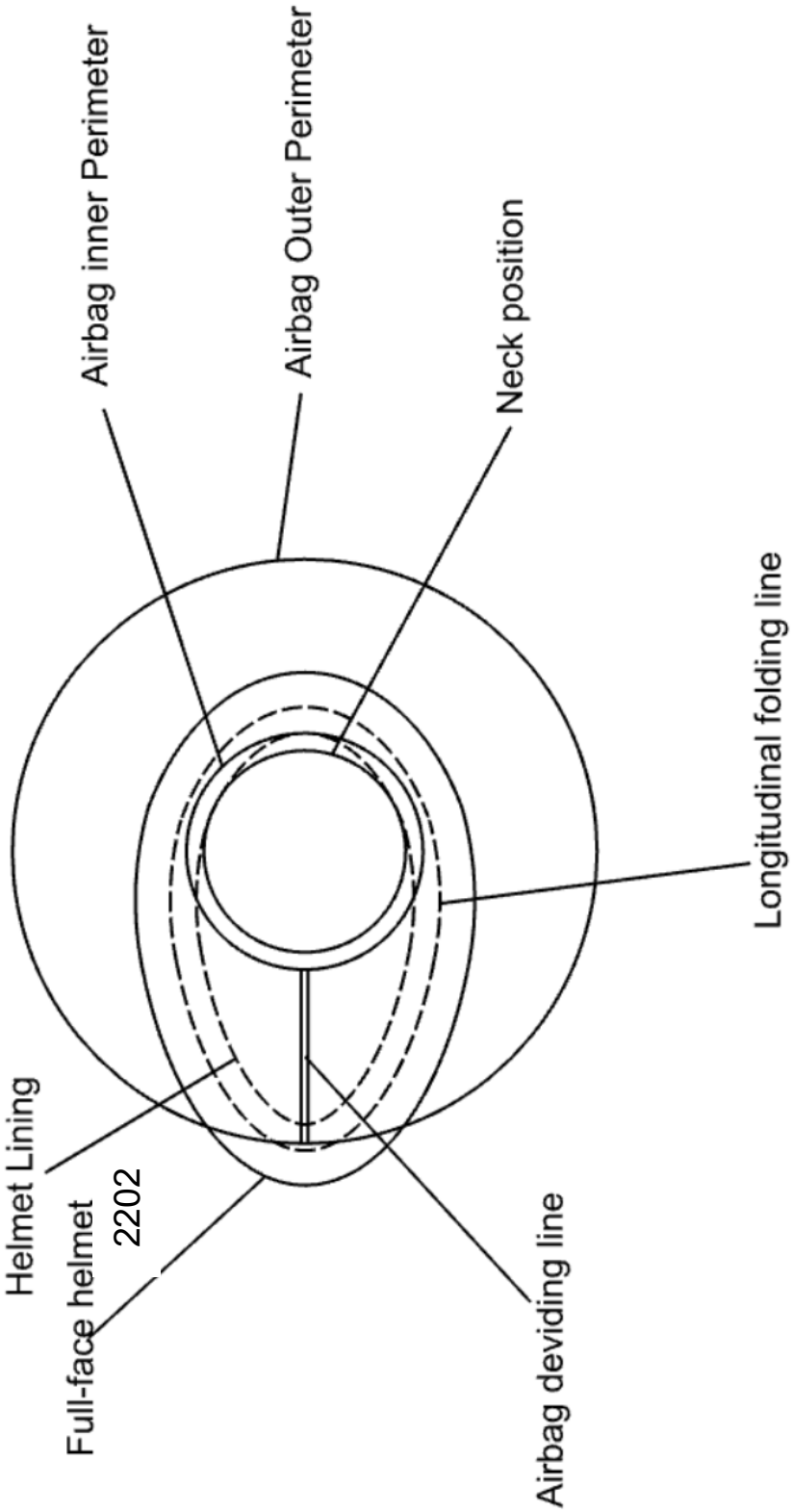

Airbag inner Perimeter
Airbag Outer Perimeter
Neck position
Longitudinal folding line
Helmet Lining
Full-face helmet
2202
Airbag deviding line

Fig. 22A

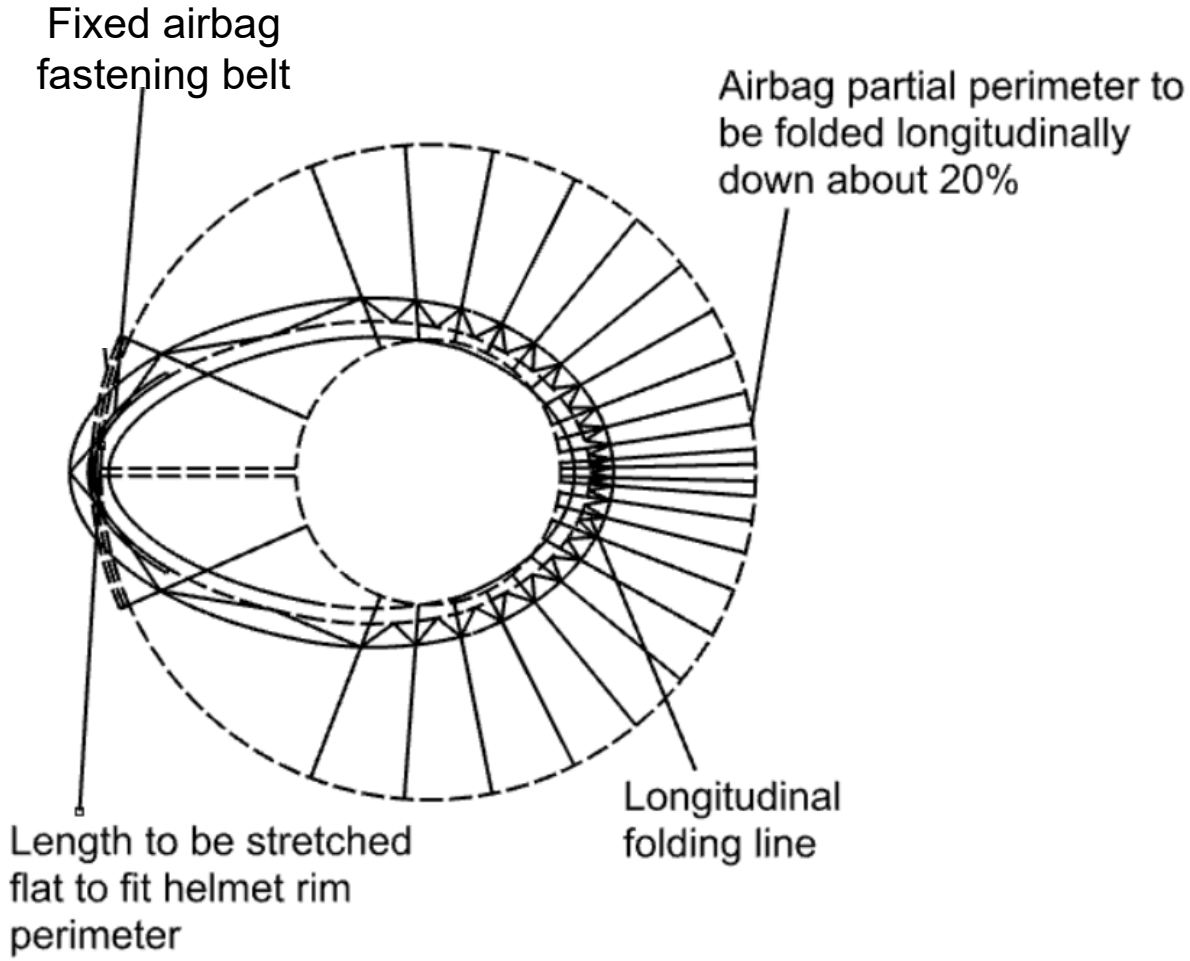

Fixed airbag fastening belt
Airbag partial perimeter to be folded longitudinally down about 20%
Longitudinal folding line
Length to be stretched flat to fit helmet rim perimeter

Fig. 22B

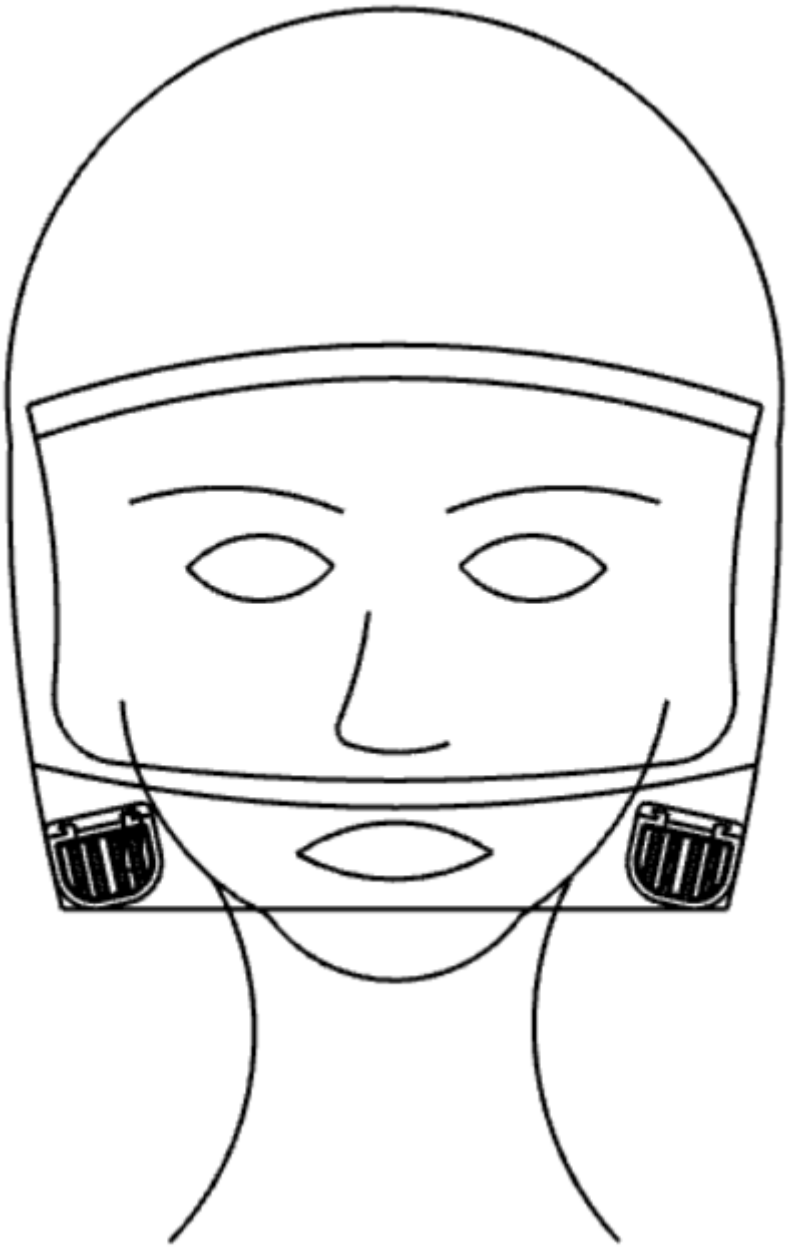


Fig. 23A

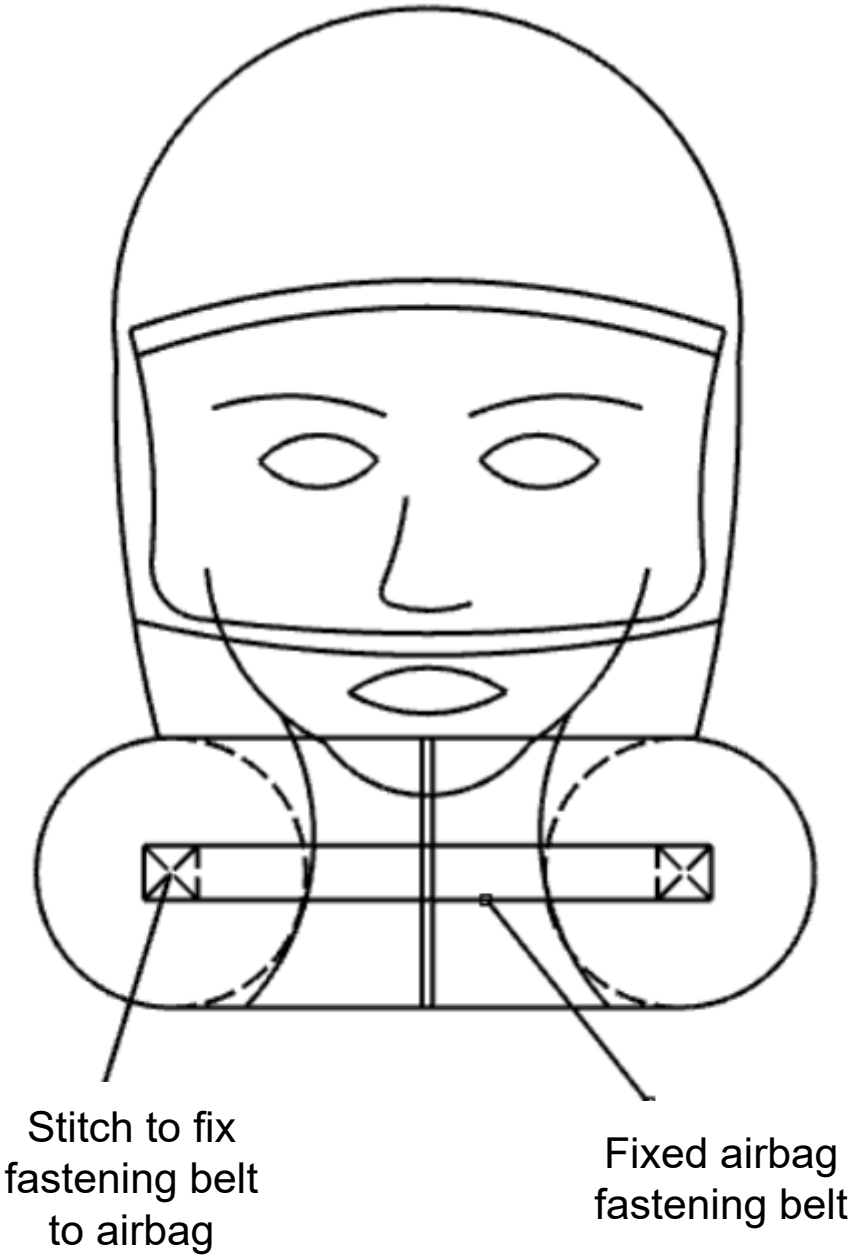

Stitch to fix fastening belt to airbag
Fixed airbag fastening belt

Fig. 23B

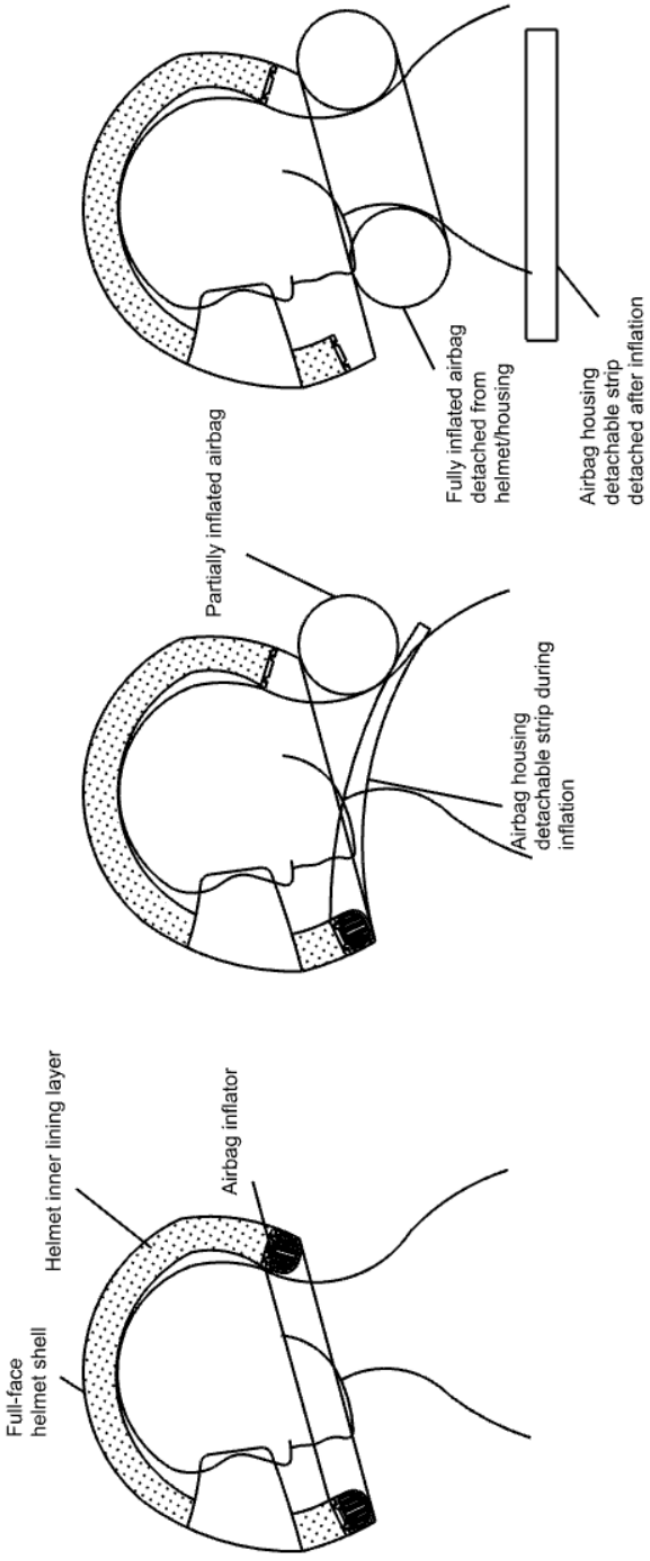


Fig. 24A

Fig. 24B

Fig. 24C

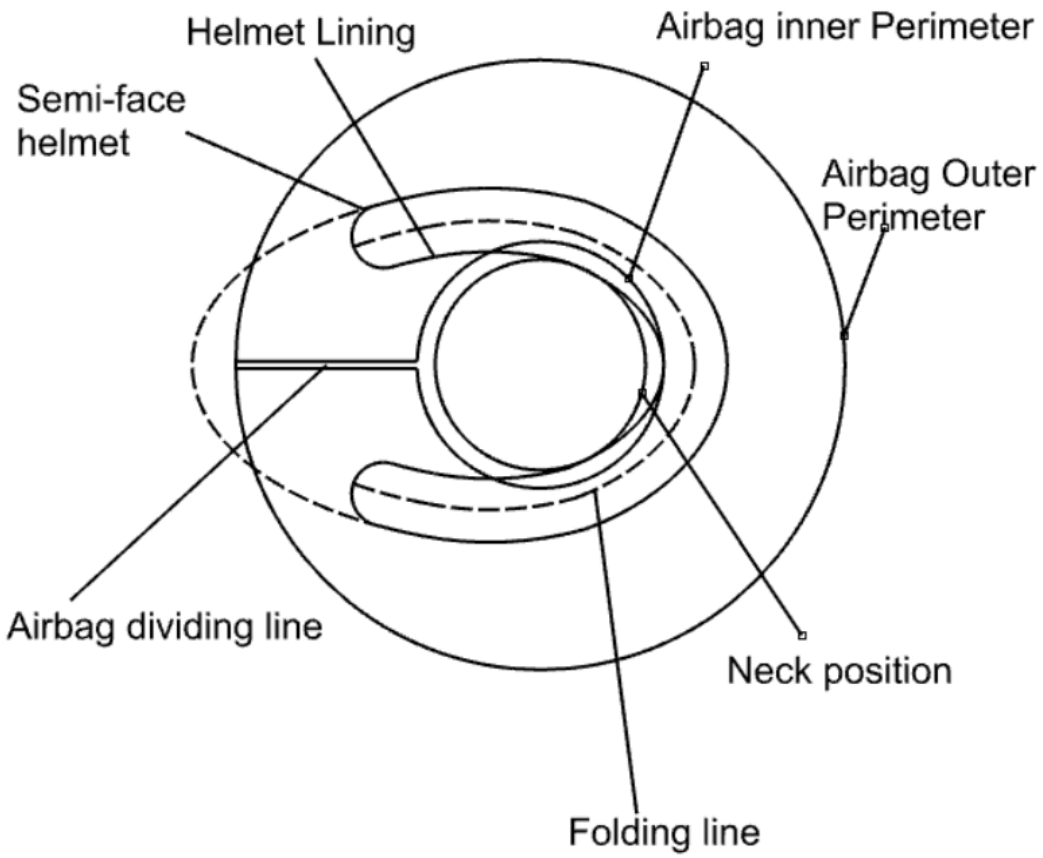

Helmet Lining
Airbag inner Perimeter
Semi-face helmet
Airbag Outer Perimeter
Airbag dividing line
Neck position
Folding line

Fig. 25A

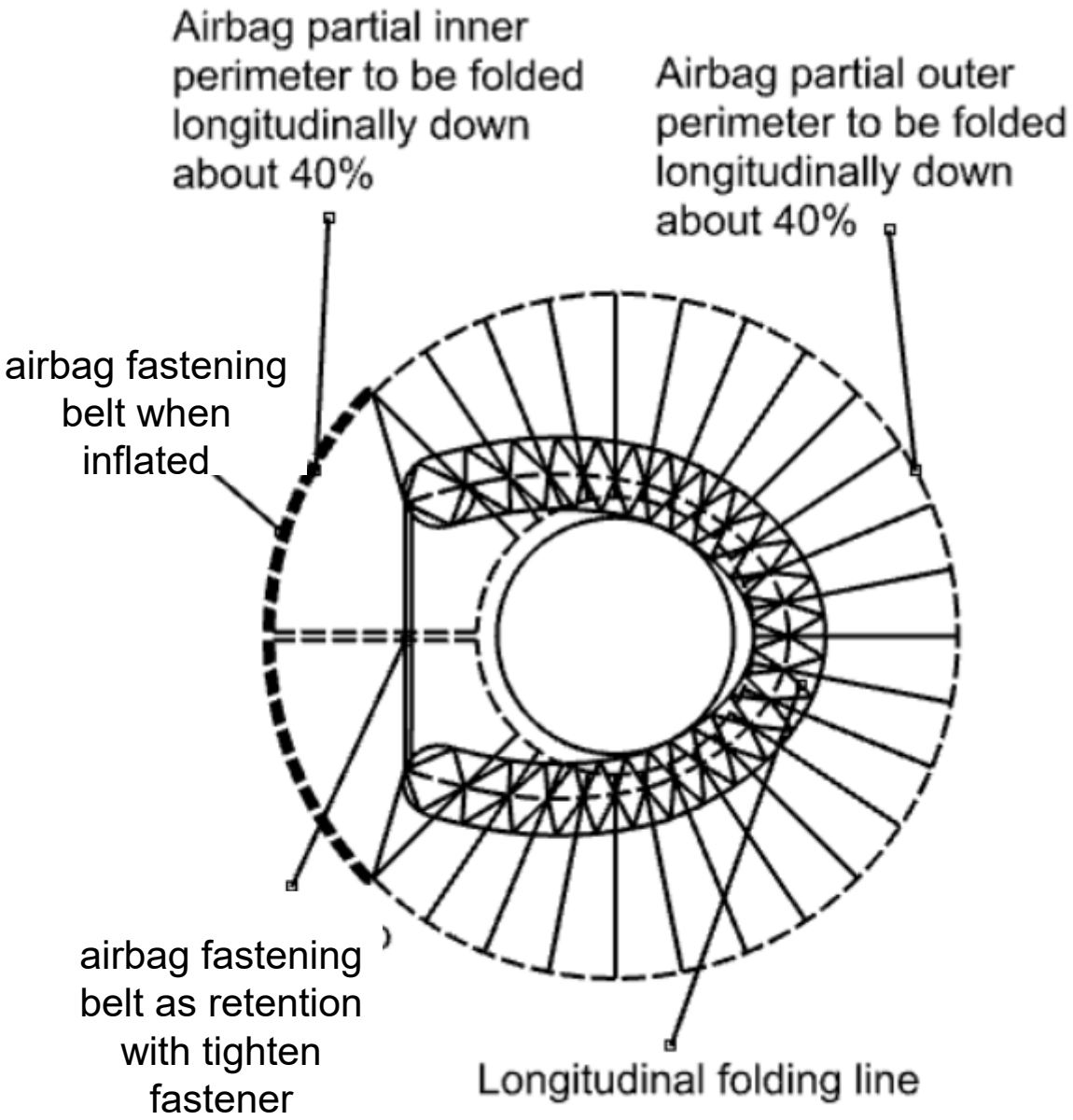

Airbag partial inner perimeter to be folded longitudinally down about 40%
Airbag partial outer perimeter to be folded longitudinally down about 40%
airbag fastening belt when inflated
airbag fastening belt as retention with tighten fastener
Longitudinal folding line

Fig. 25B

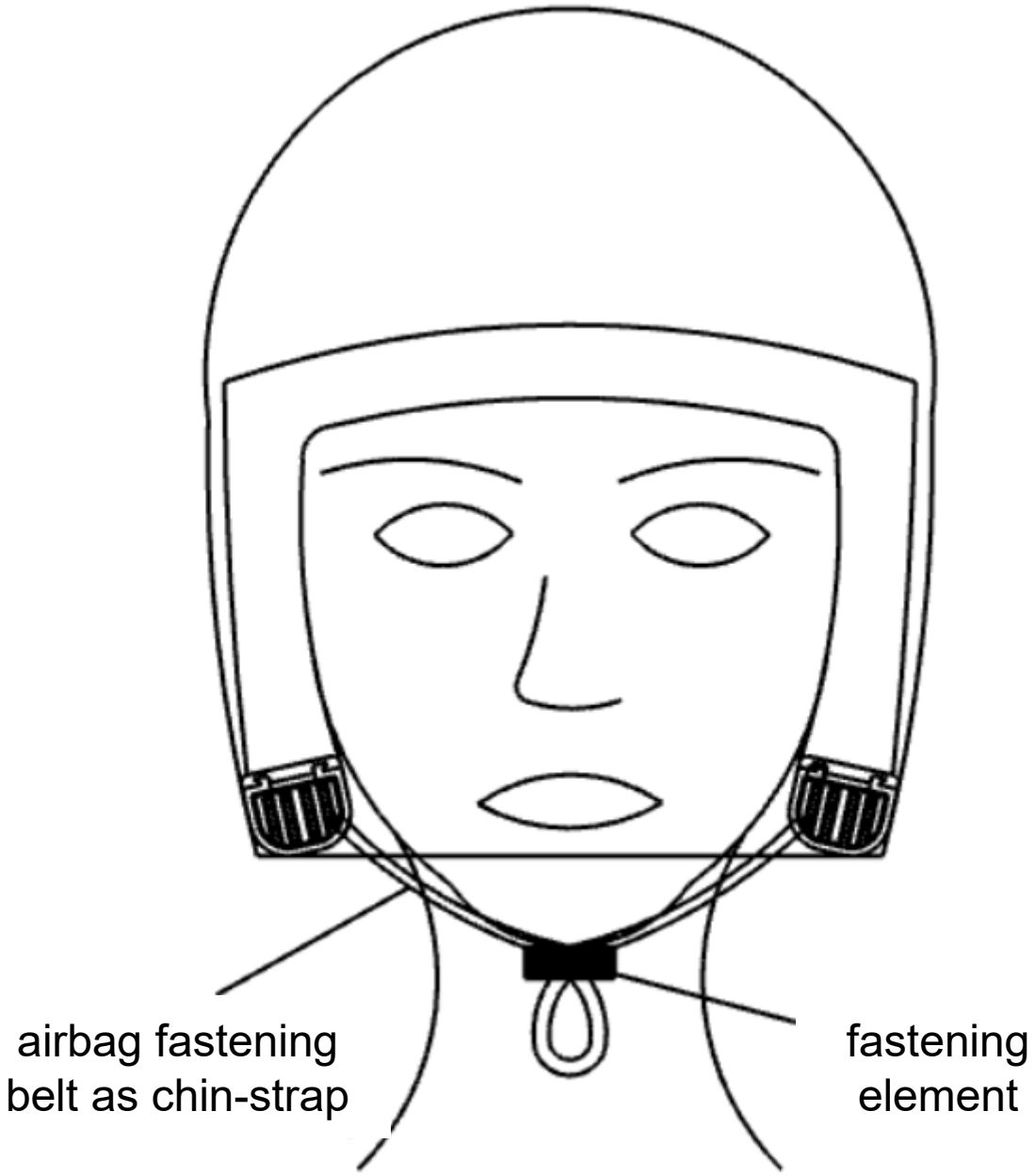


Fig. 26A

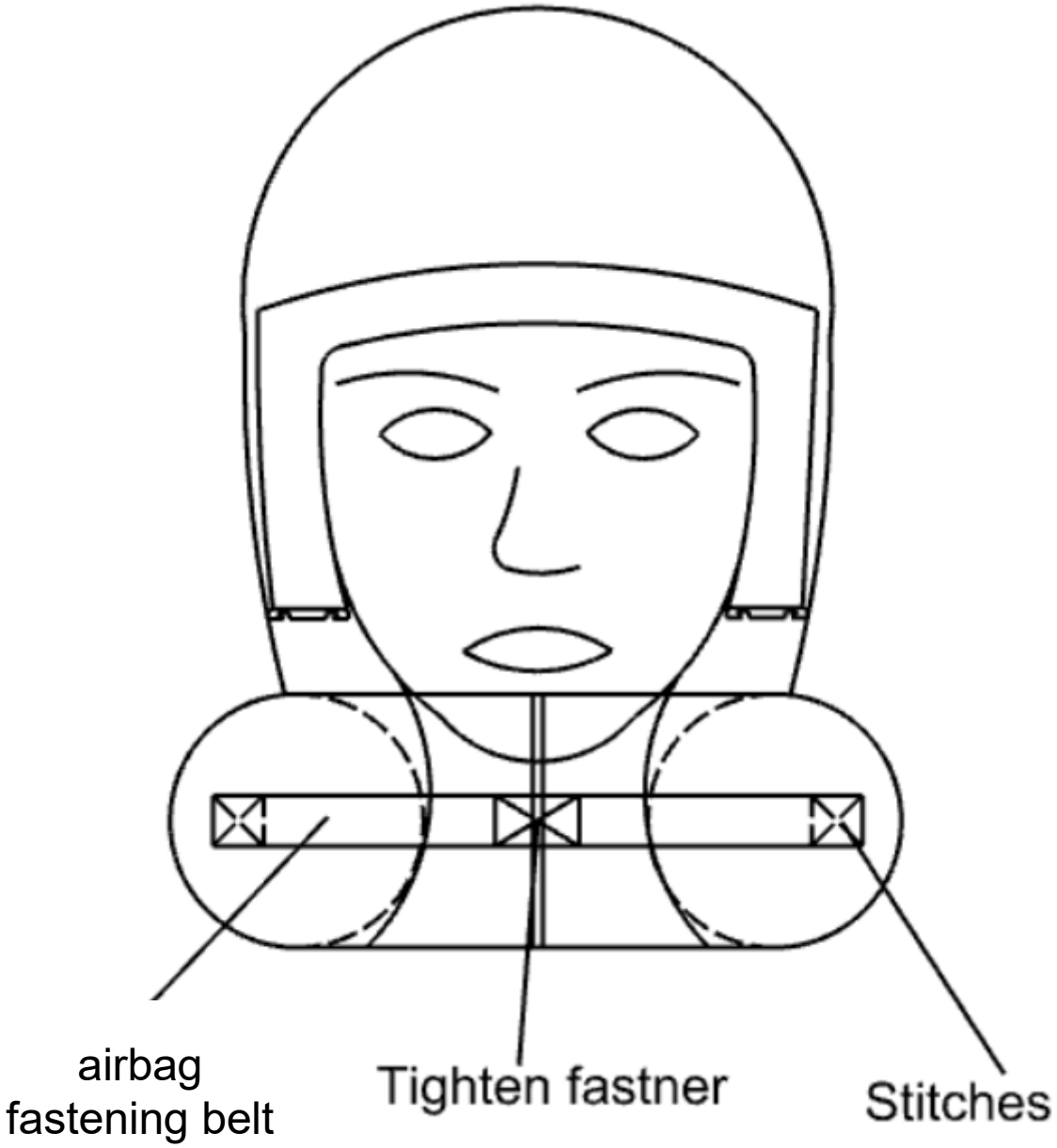


Fig. 26B

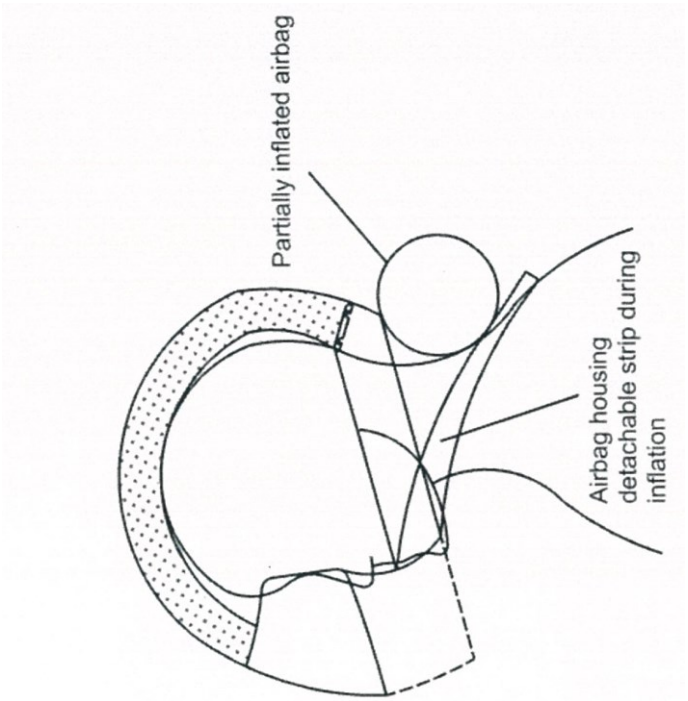


Fig. 27B

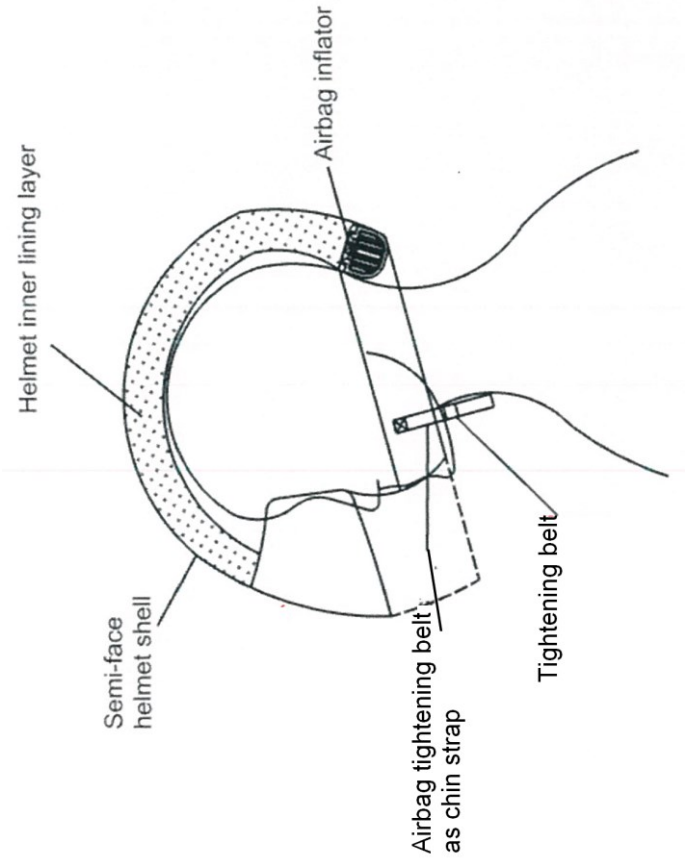


Fig. 27A

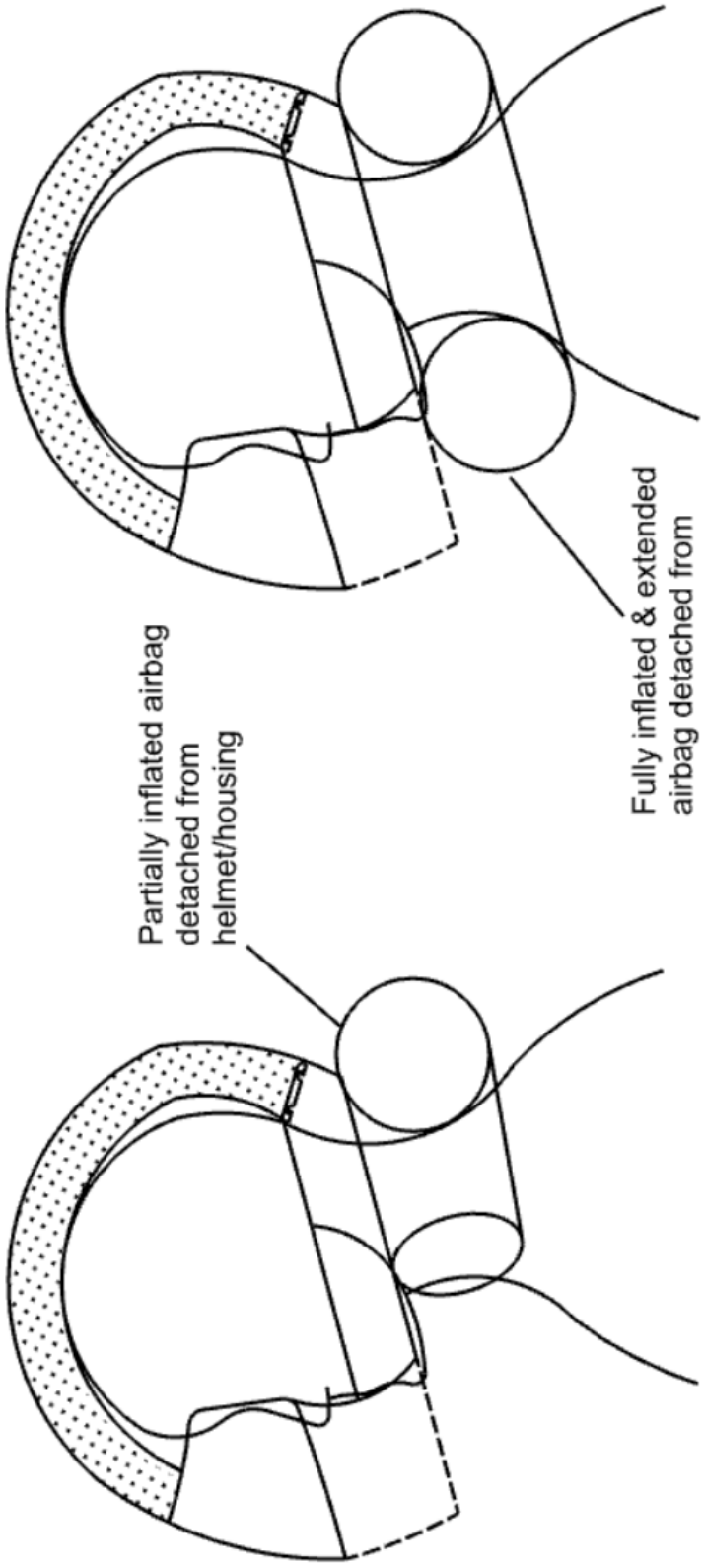


Fig. 27C

Fig. 27D

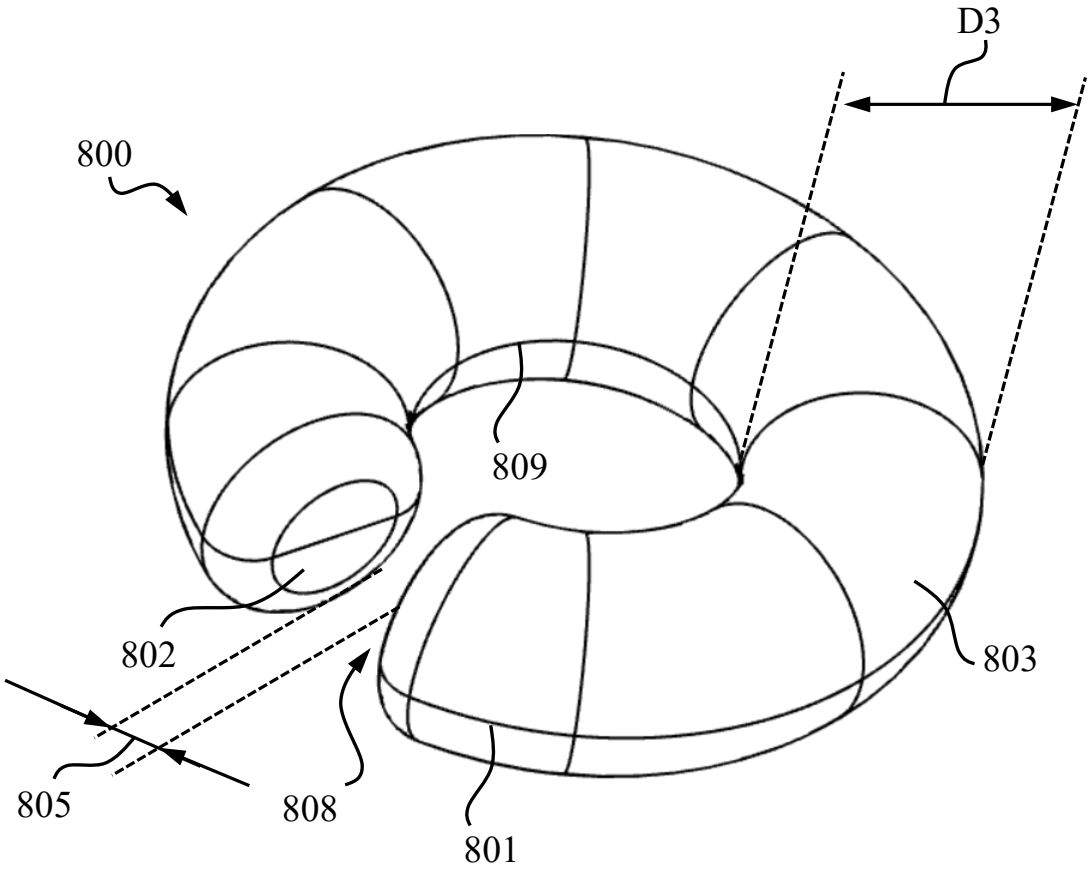


FIG. 28

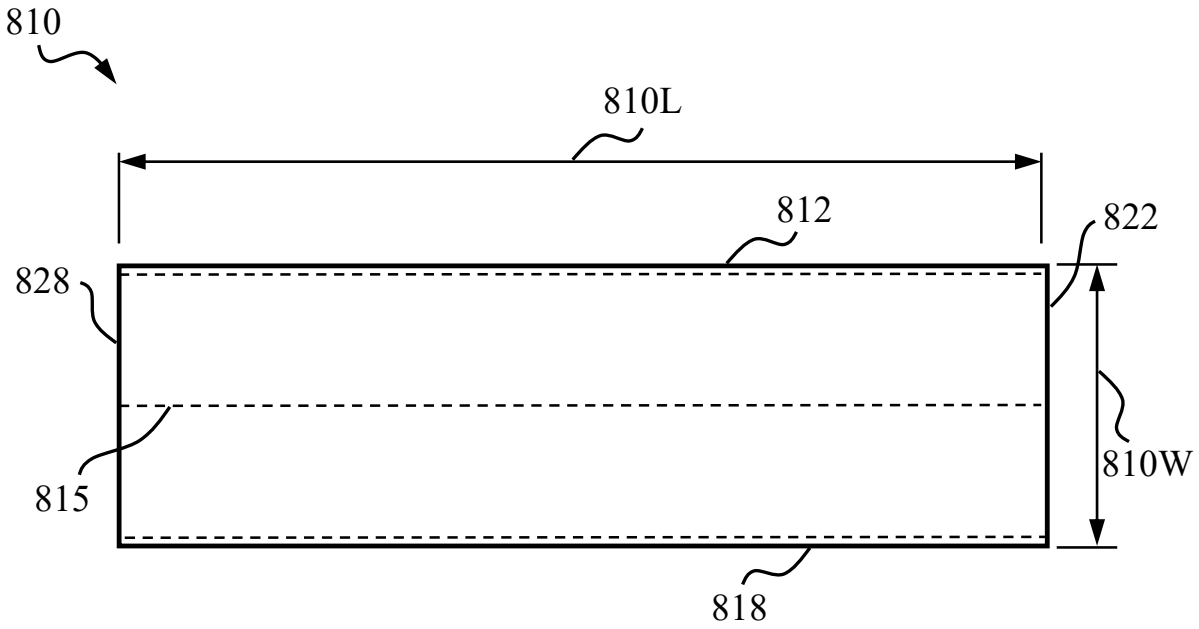

810
810L
812
822
828
815
810W
818

FIG. 29

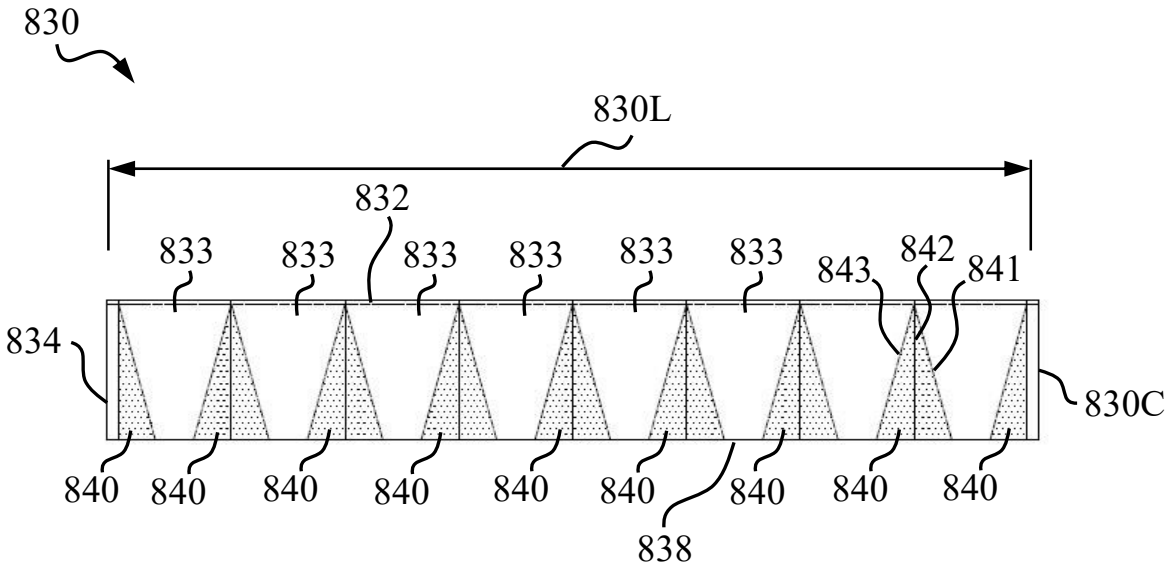

830
830L
832
833
833
833
833
833
833
843
842
841
834
830C
840
840
840
840
840
840
840
840
840
838

FIG. 30

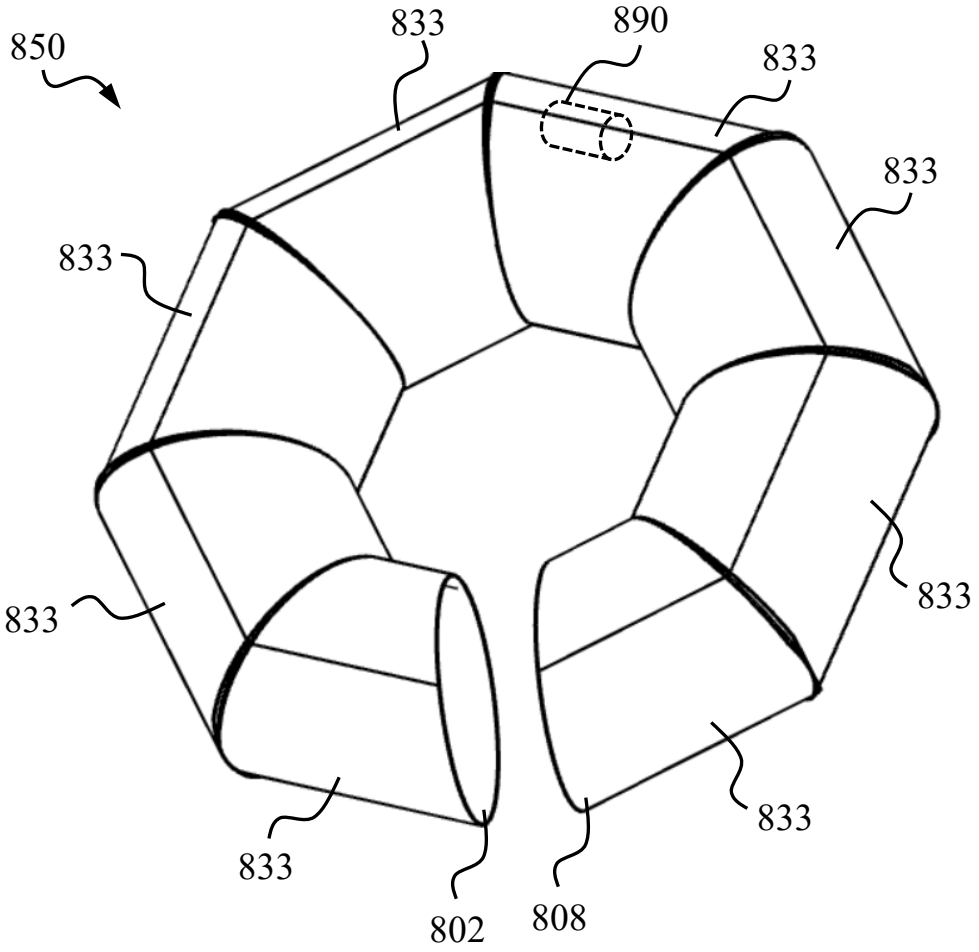


FIG. 31

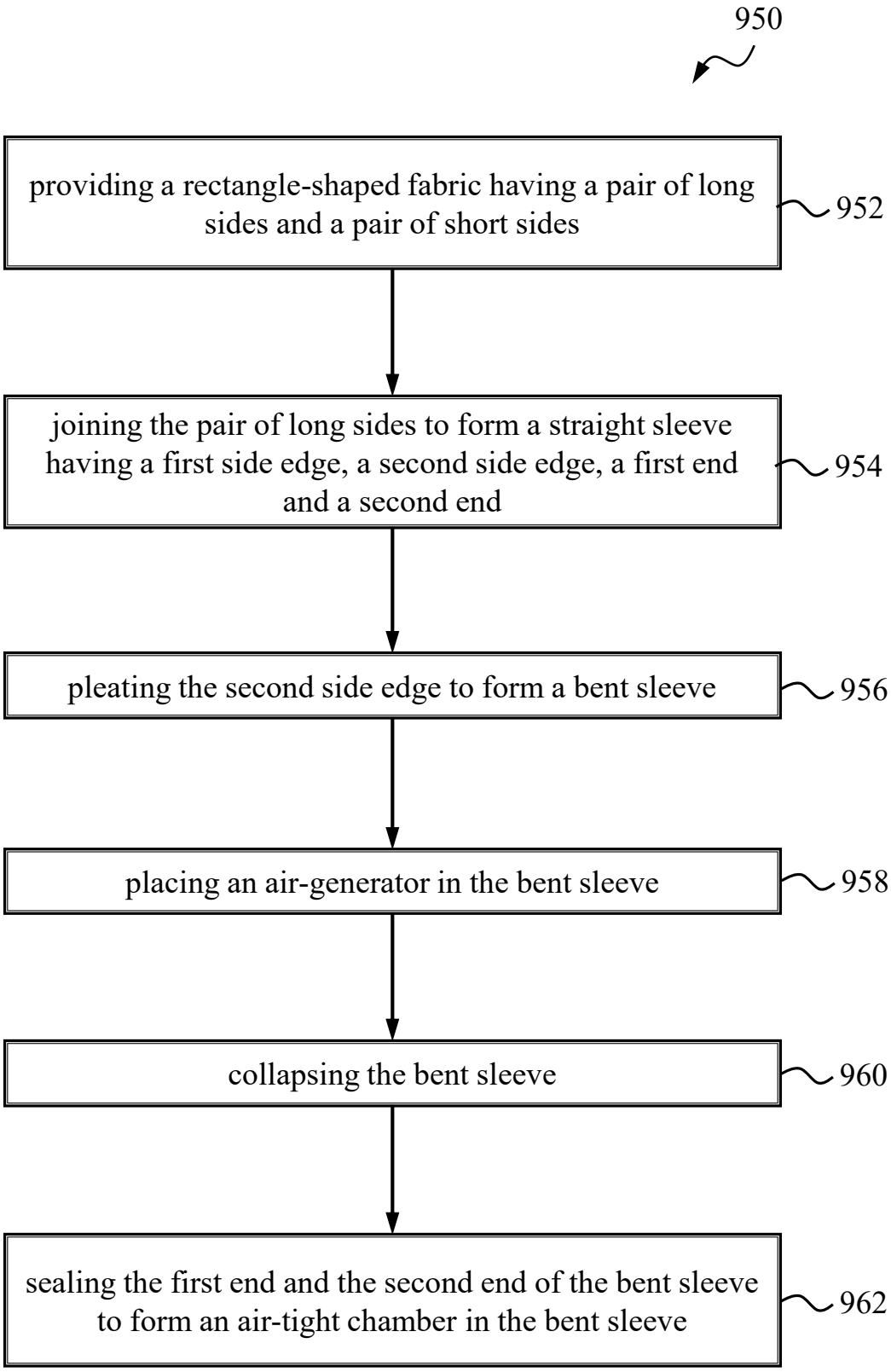

950
providing a rectangle-shaped fabric having a pair of long sides and a pair of short sides
952
joining the pair of long sides to form a straight sleeve having a first side edge, a second side edge, a first end and a second end
954
pleating the second side edge to form a bent sleeve
956
placing an air-generator in the bent sleeve
958
collapsing the bent sleeve
960
sealing the first end and the second end of the bent sleeve to form an air-tight chamber in the bent sleeve
962

FIG. 32