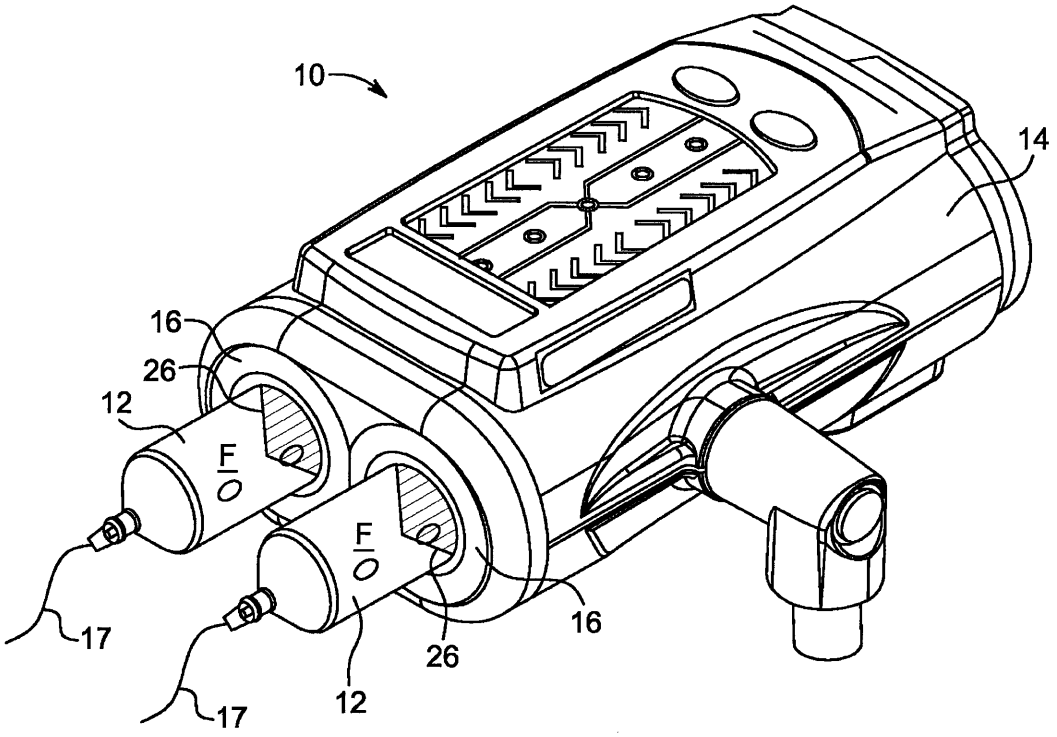

FIG. 1A

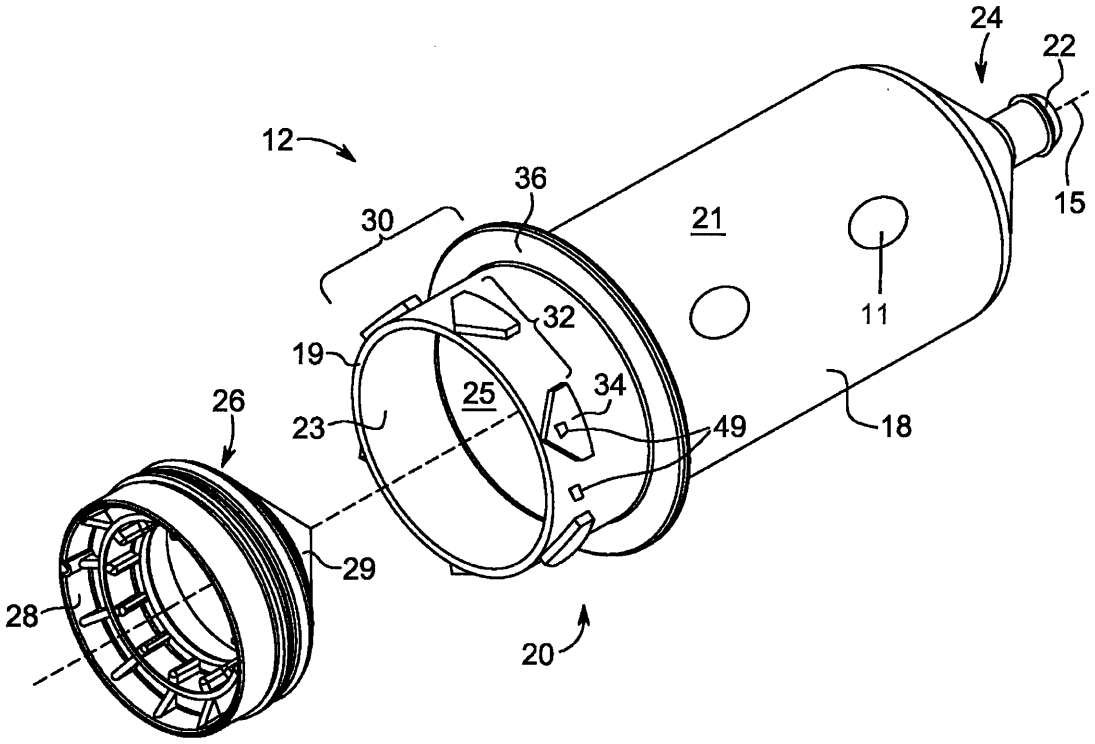

FIG. 1B

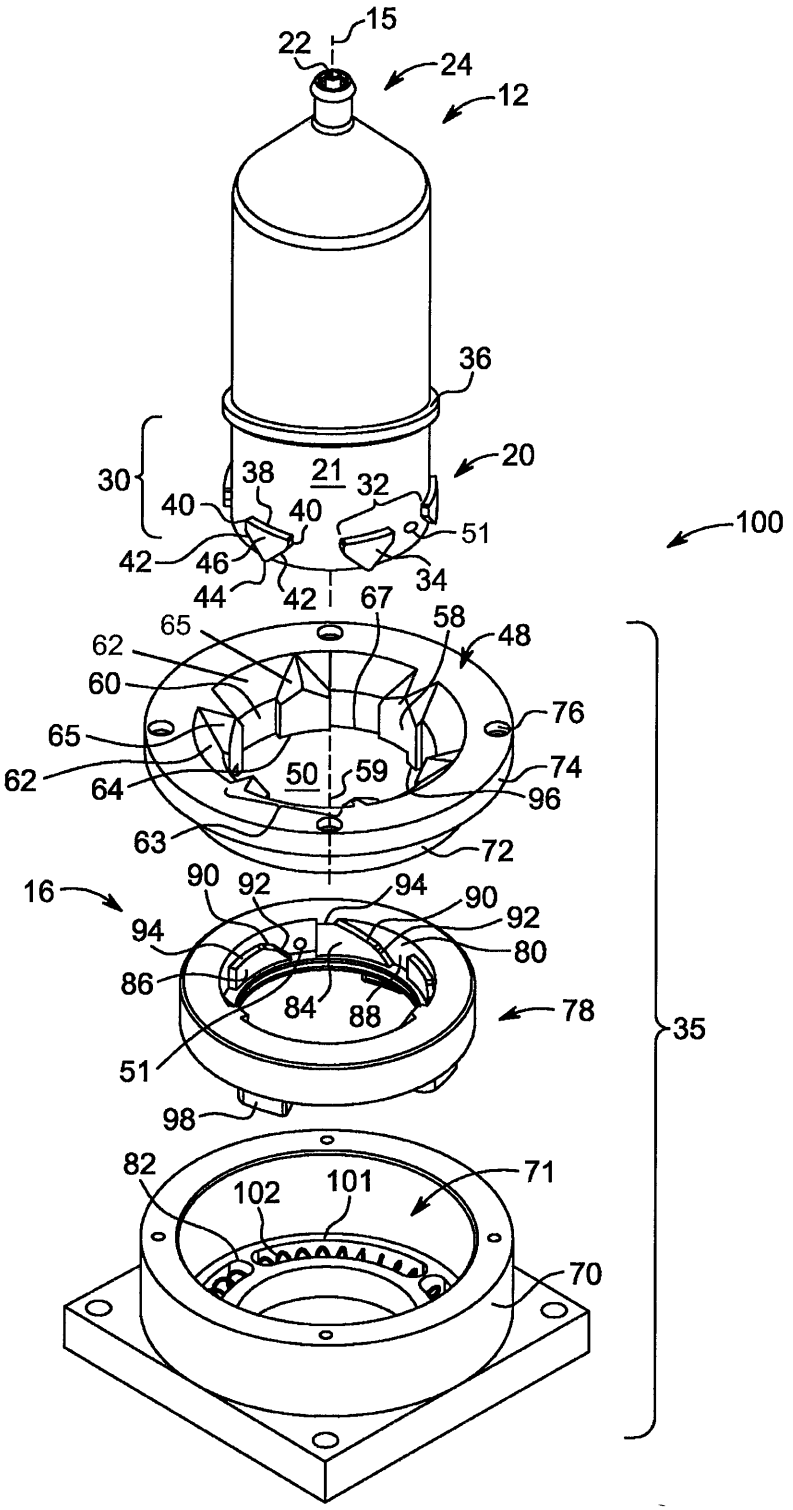
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FIG. 2A

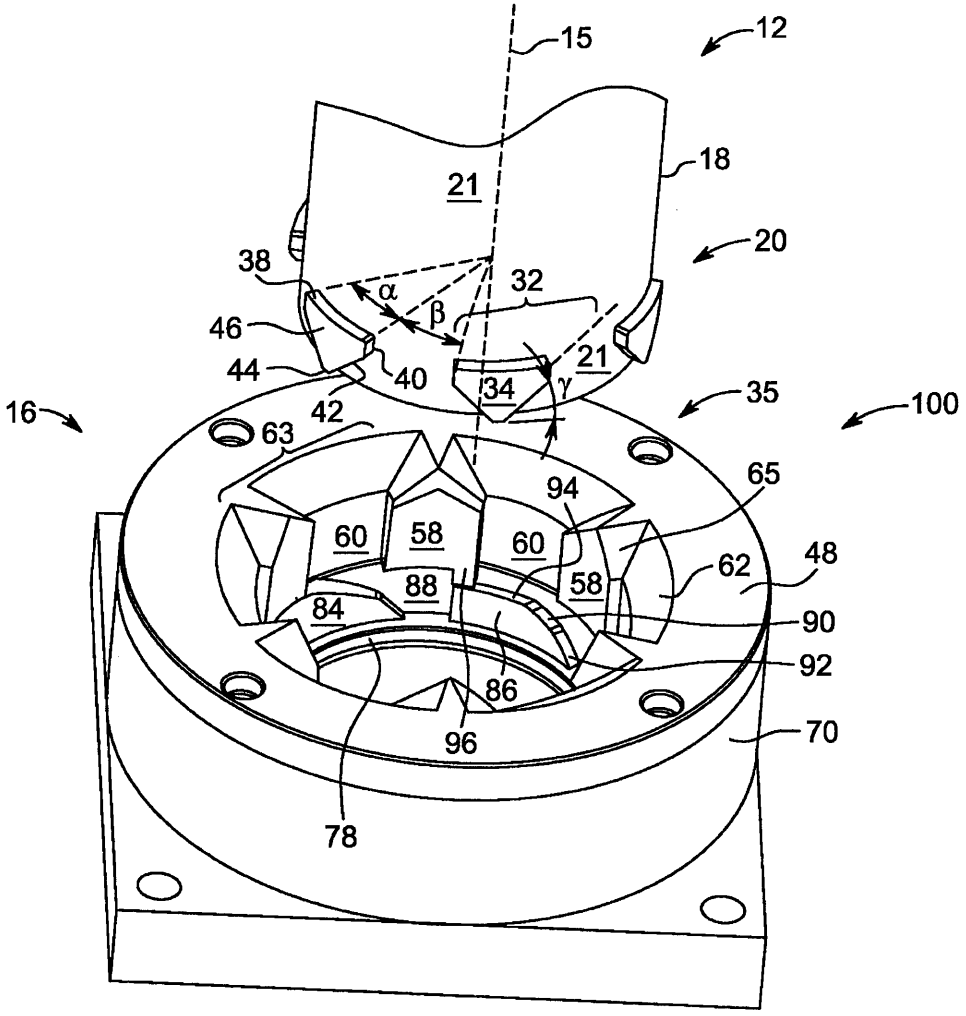
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FIG. 2B

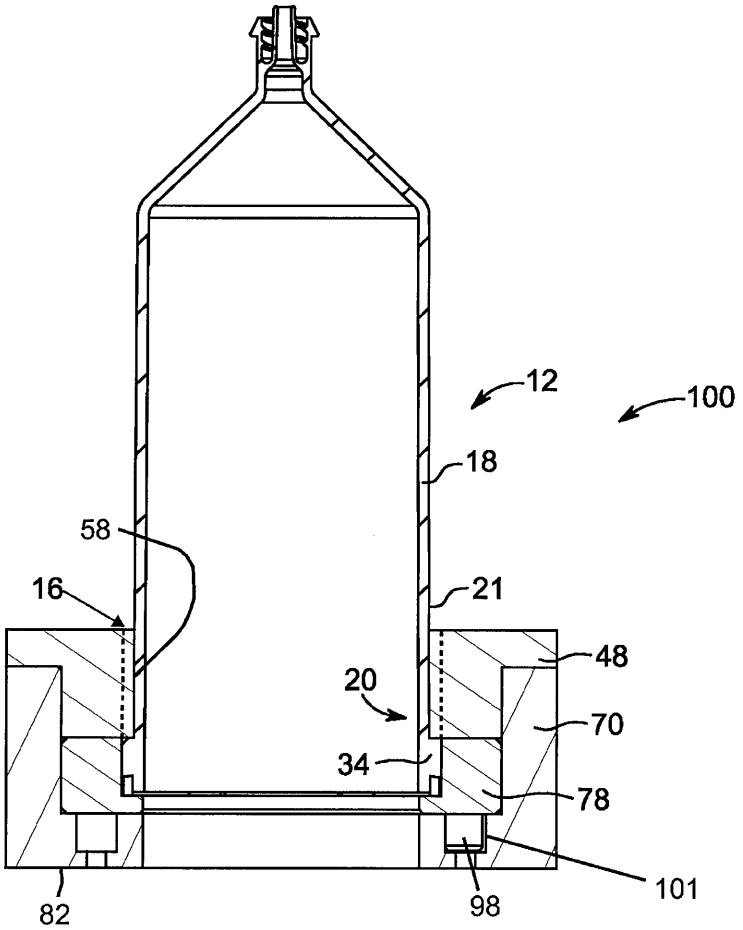

FIG. 2C

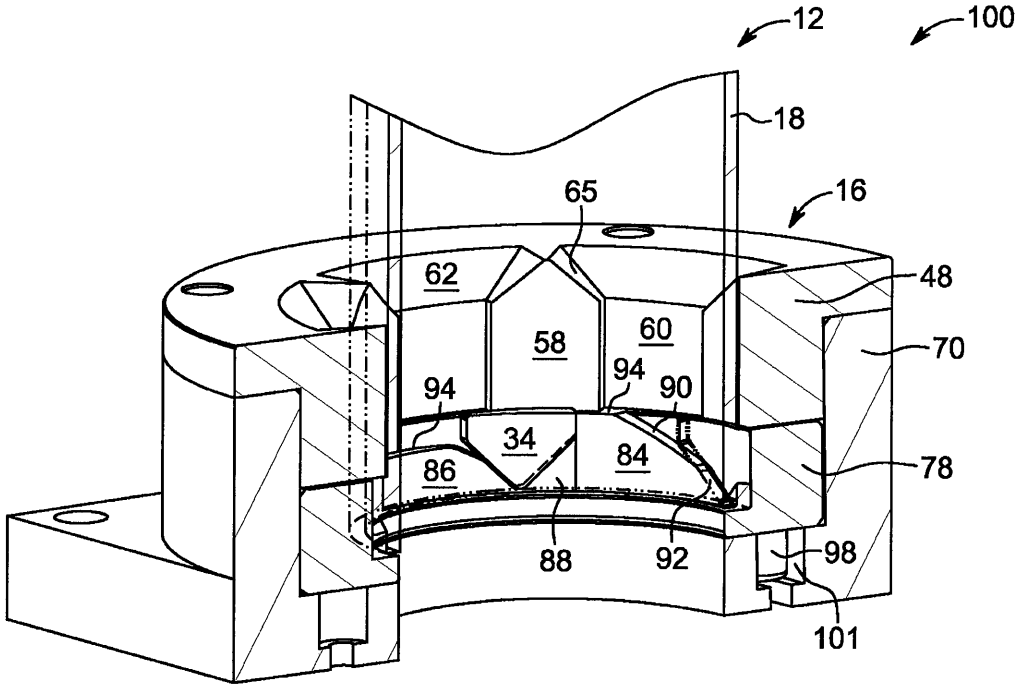

FIG. 2D

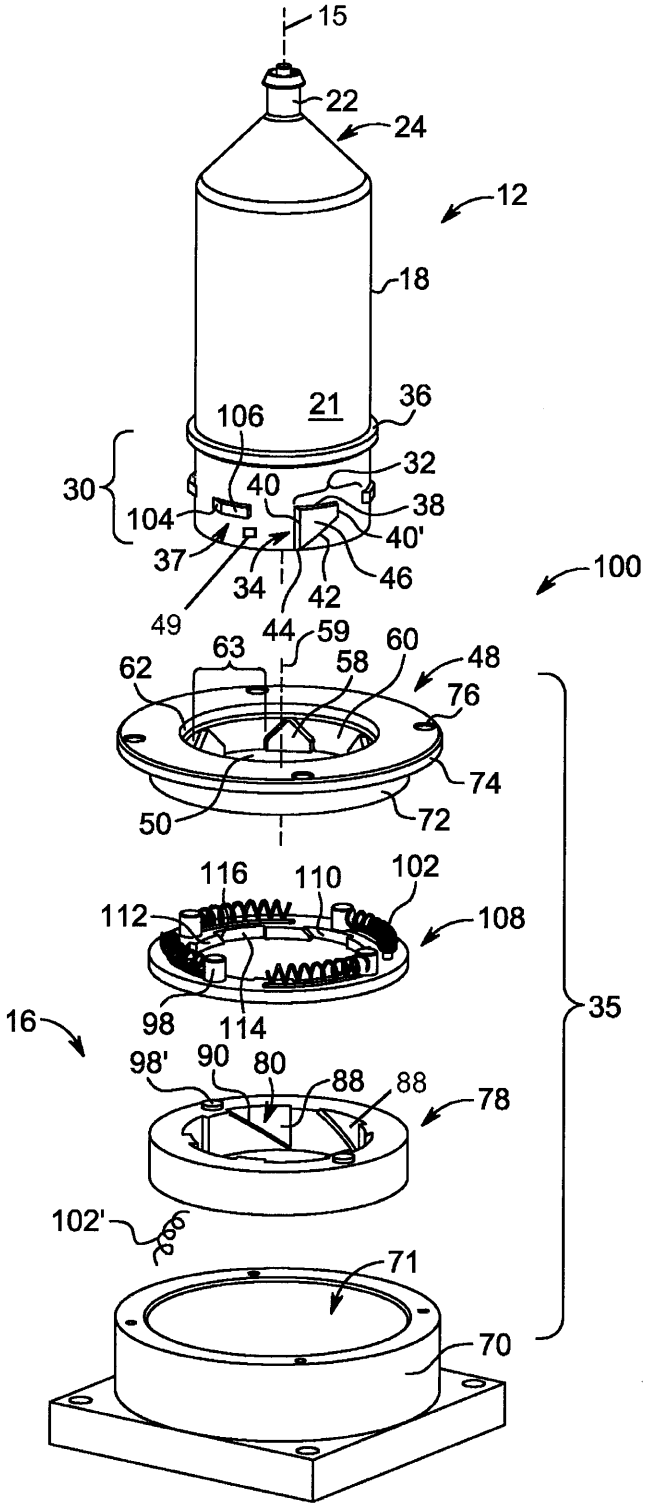
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FIG. 3A

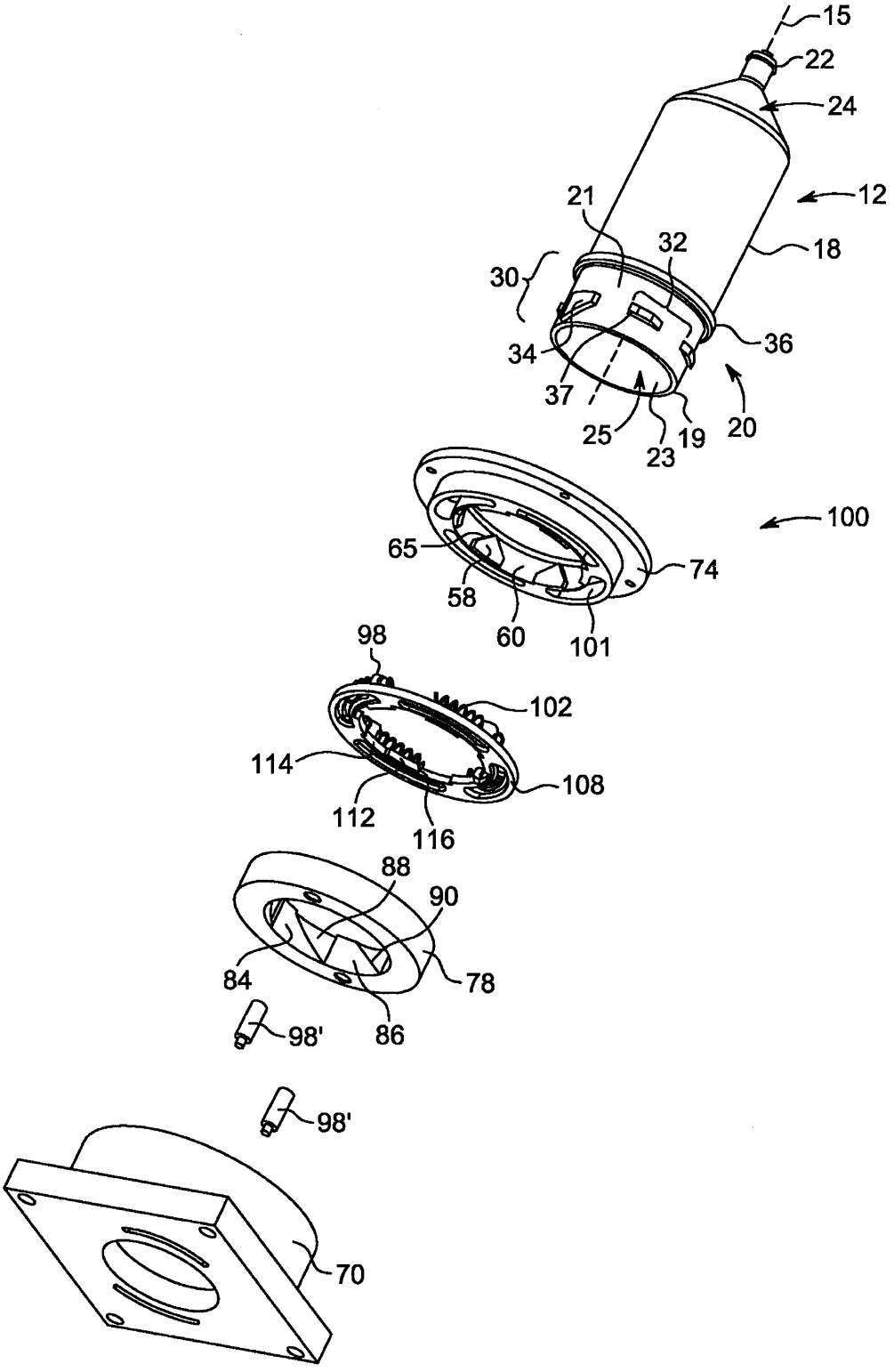
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FIG. 3B

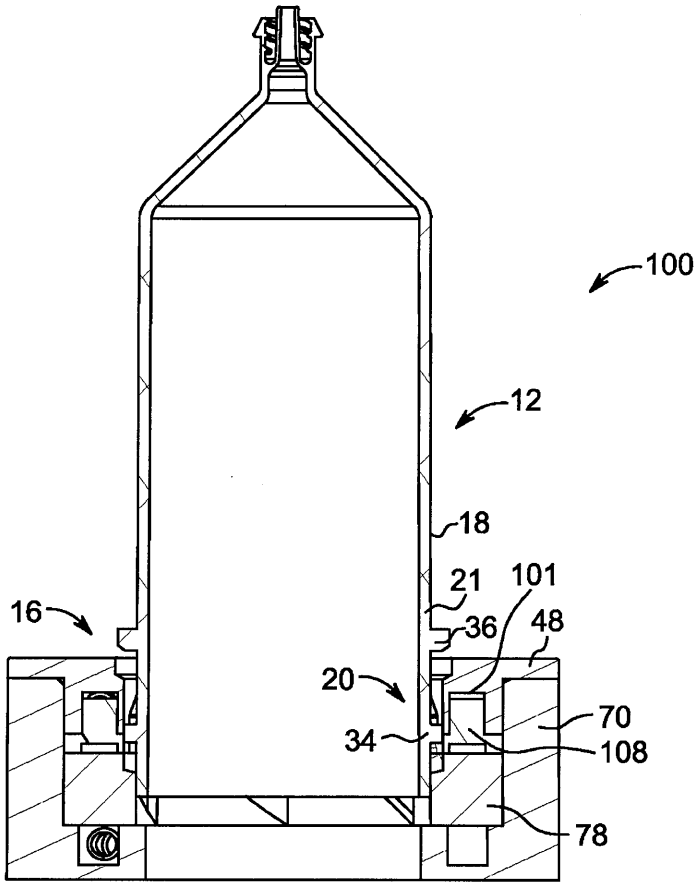

FIG. 3C

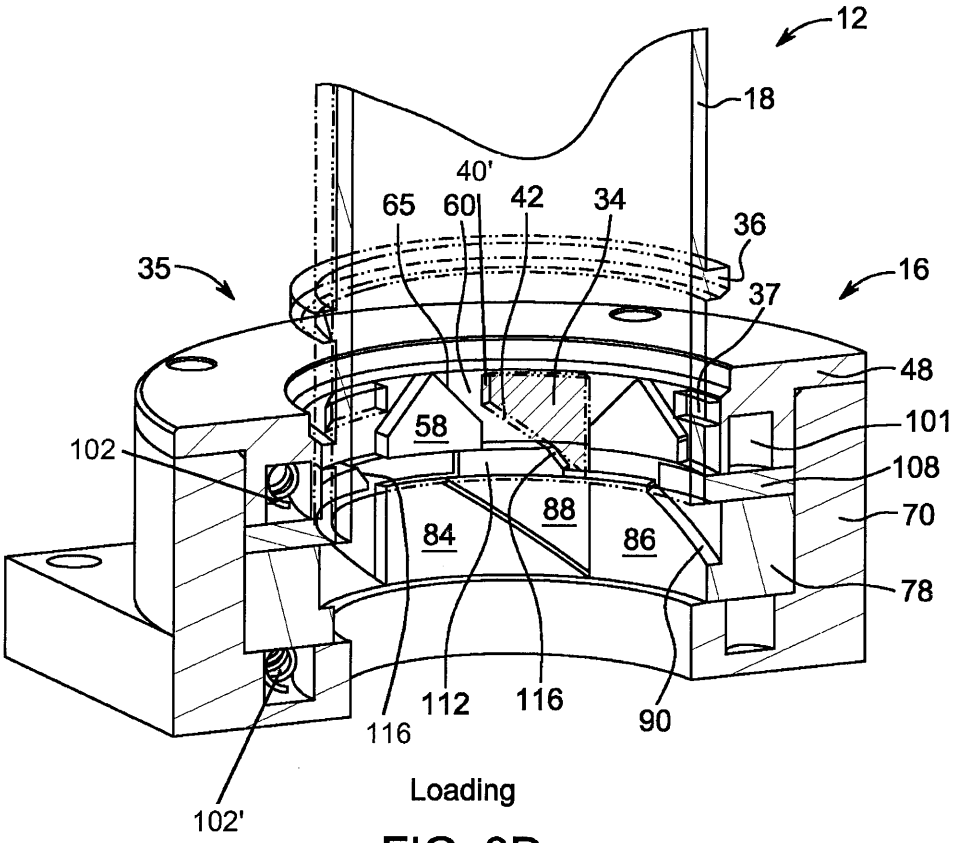
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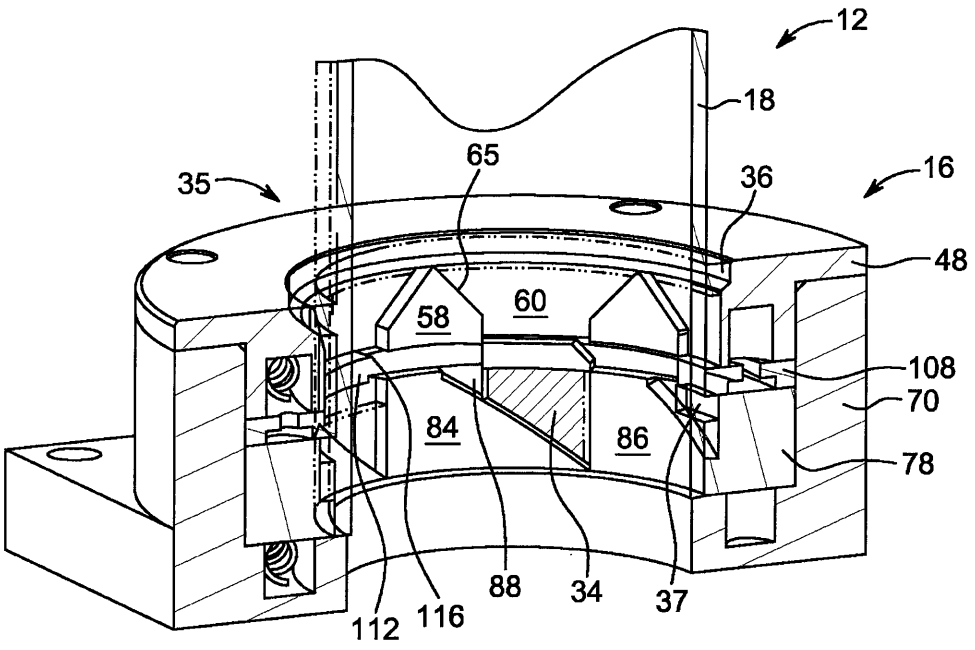
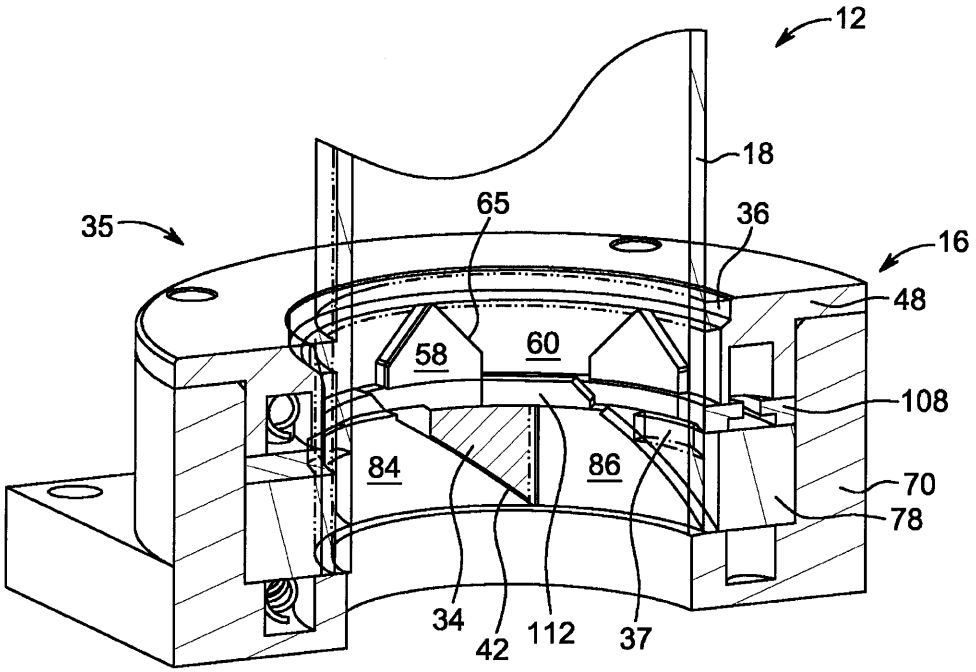
FIG. 3D



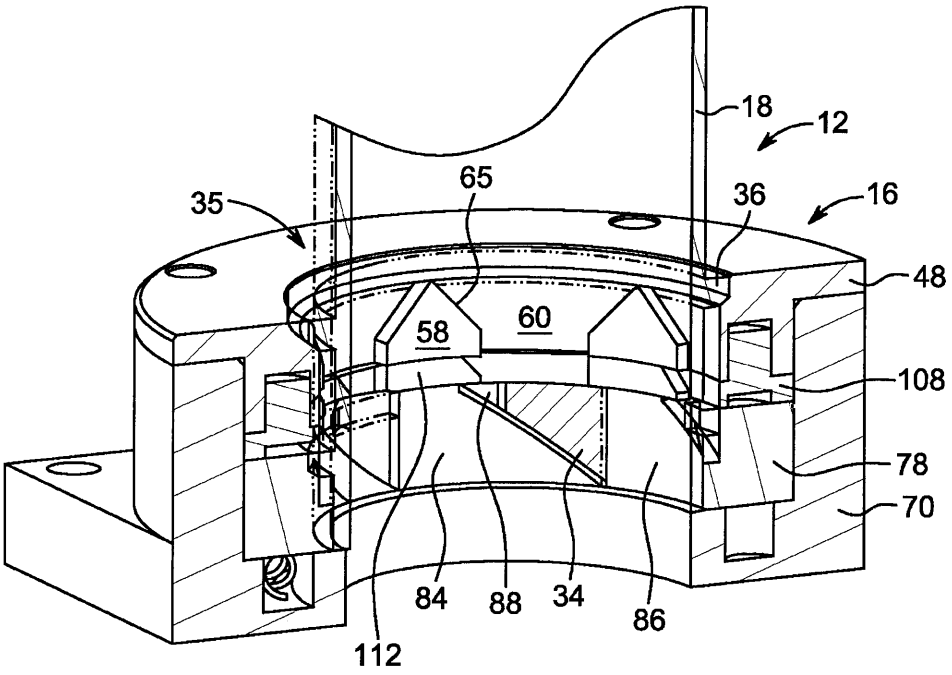
Locked

FIG. 3E



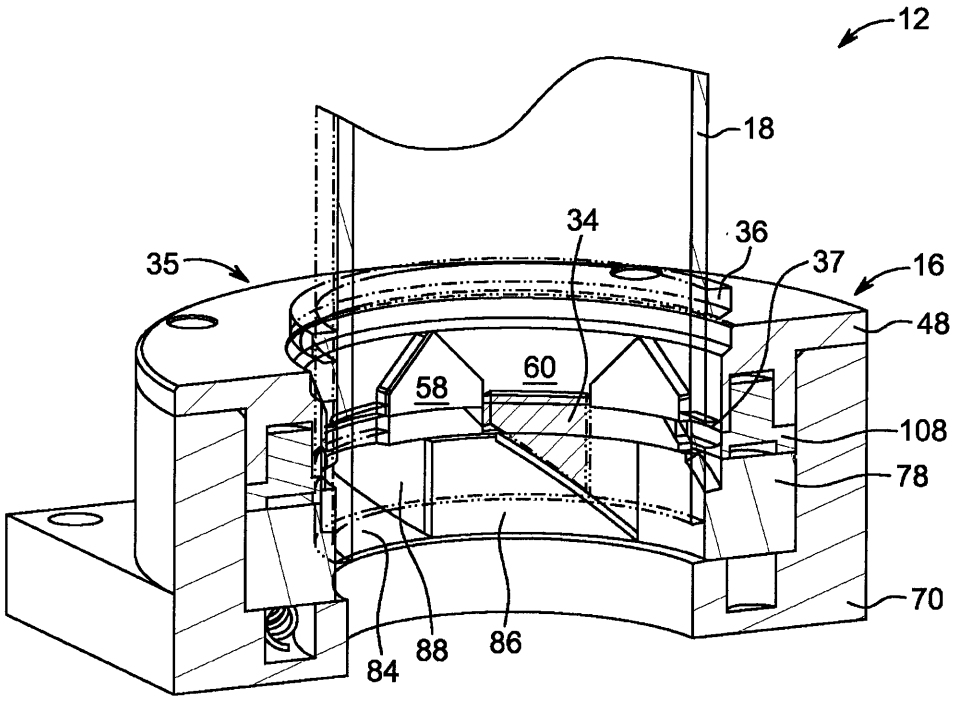
Half un-lock

FIG. 3F



Near extract

FIG. 3G



Extracting

FIG. 3H

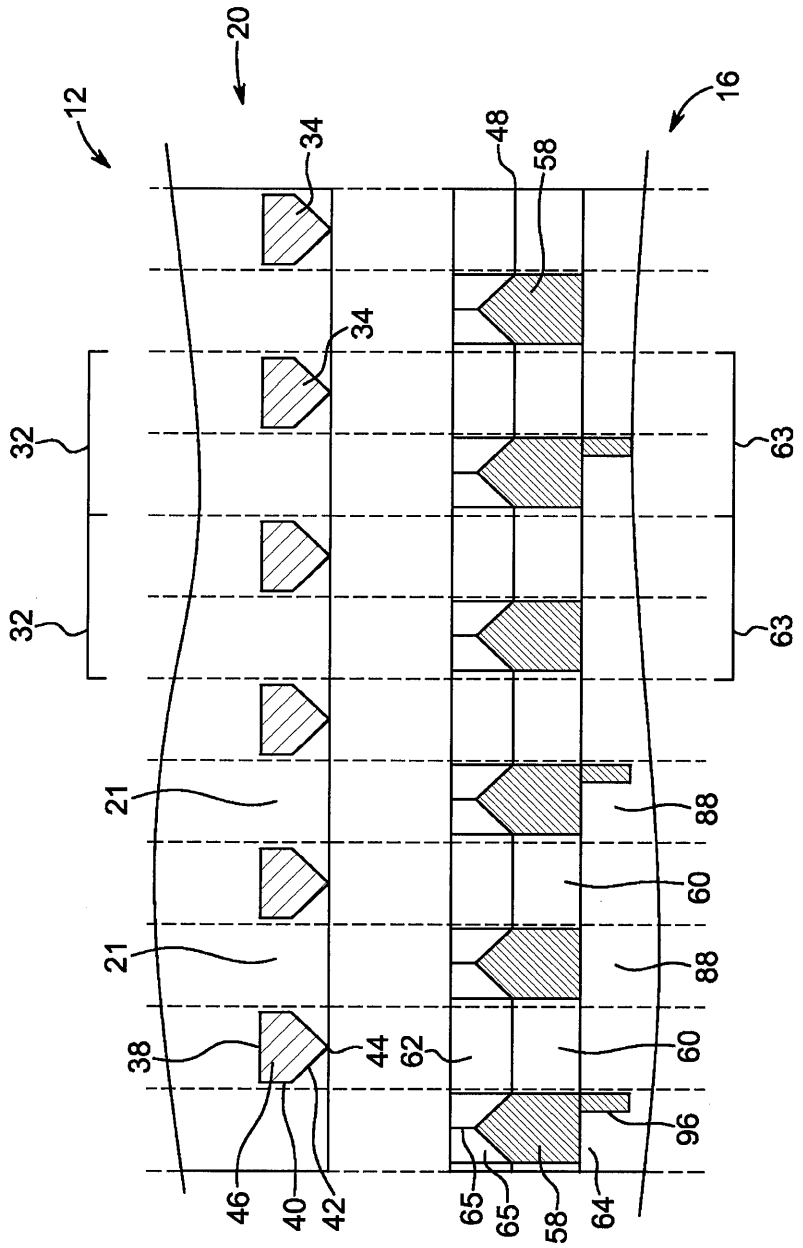

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FIG. 4A

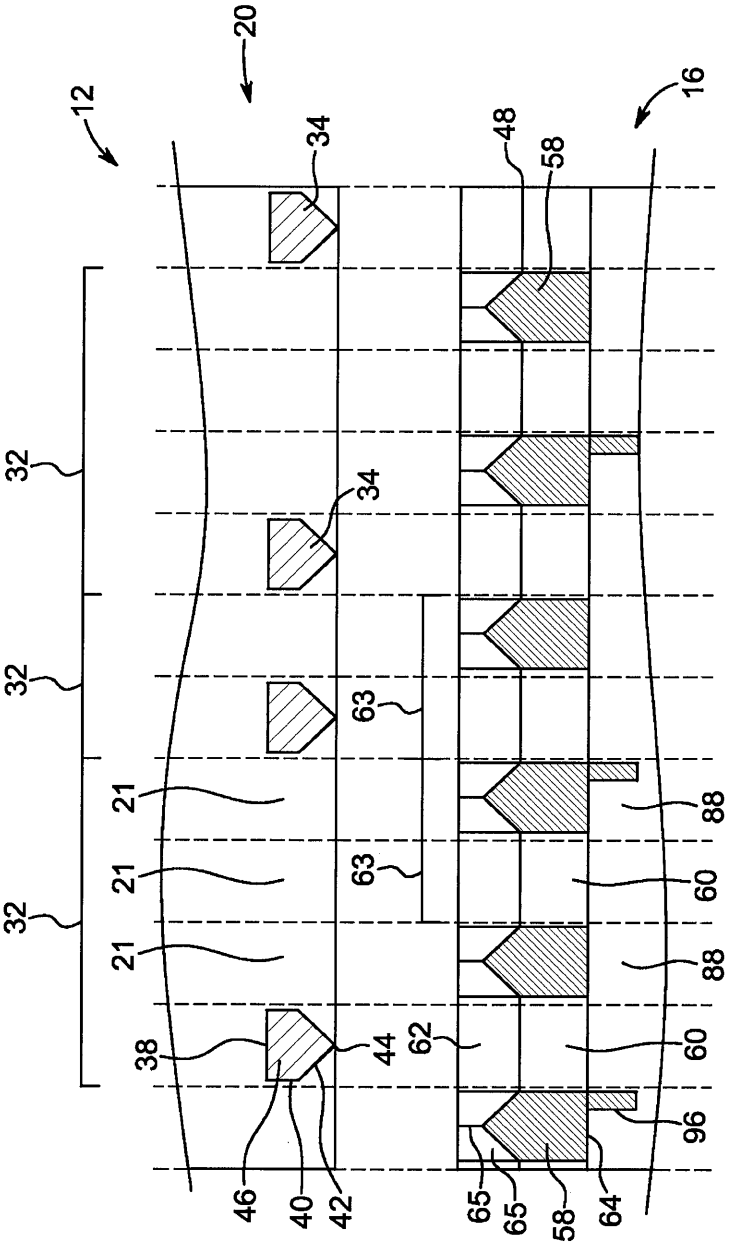
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FIG. 4B

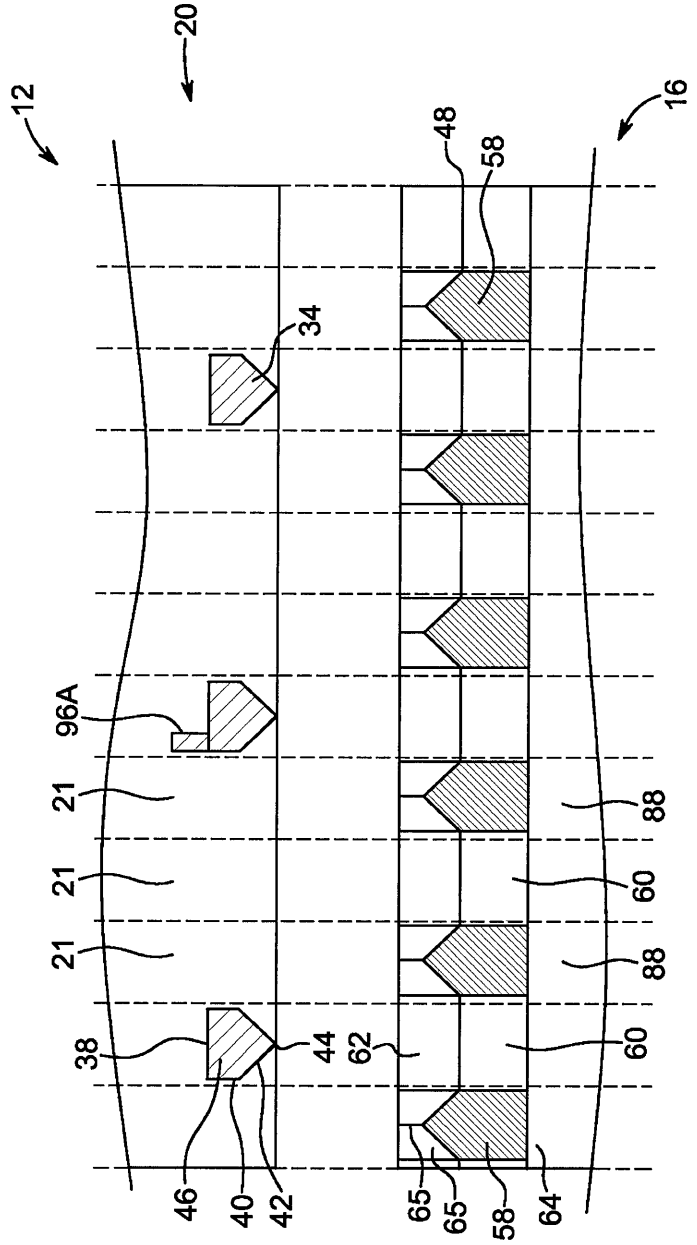

FIG. 4C

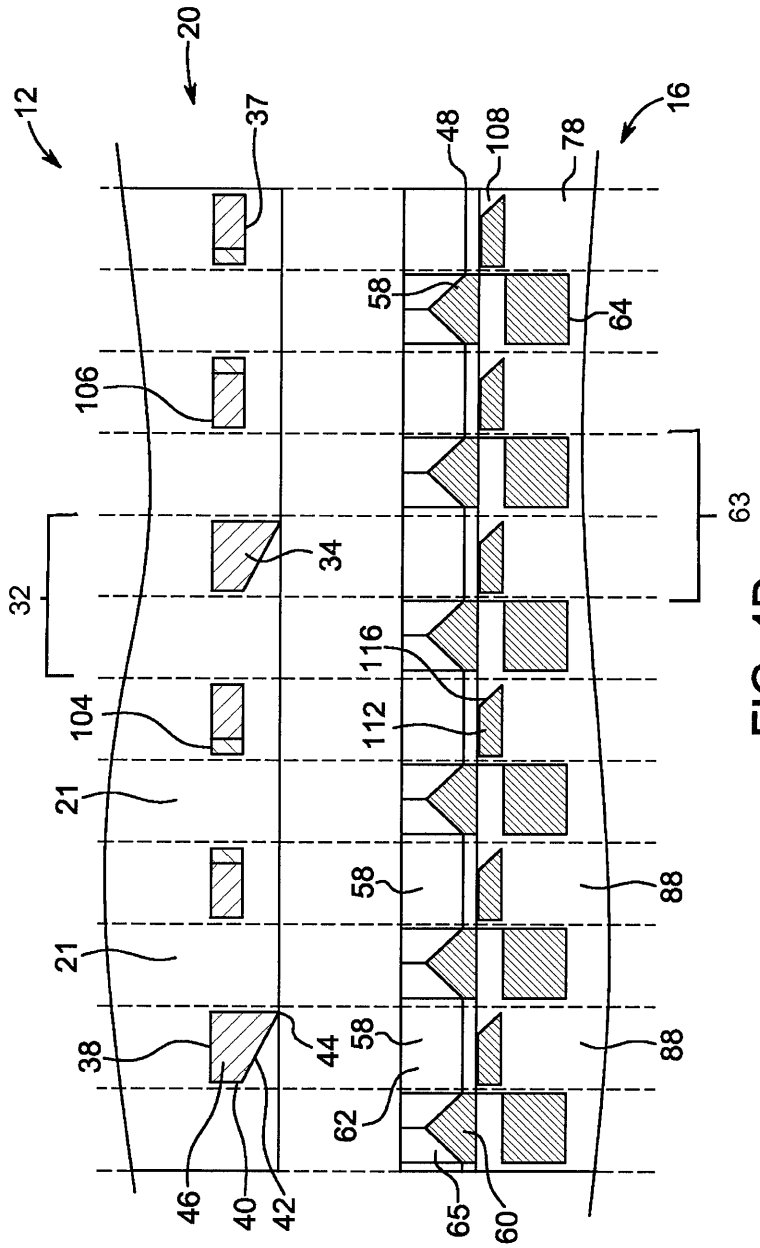
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FIG. 4D

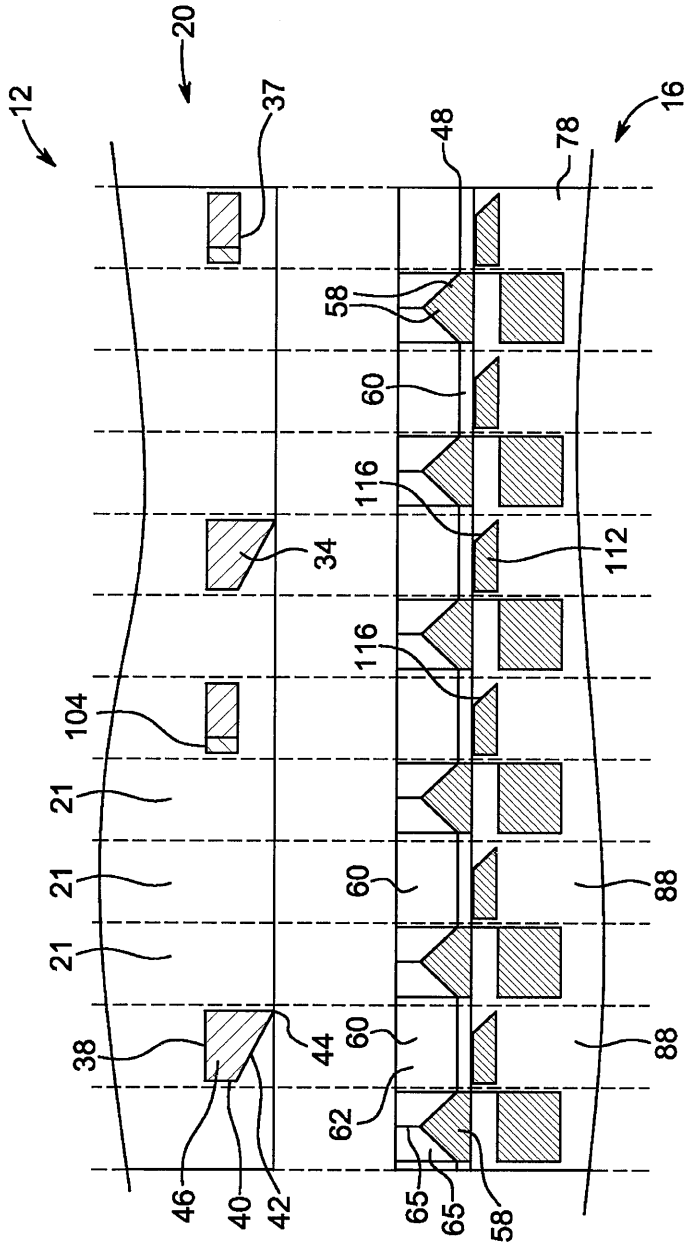
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FIG. 4E

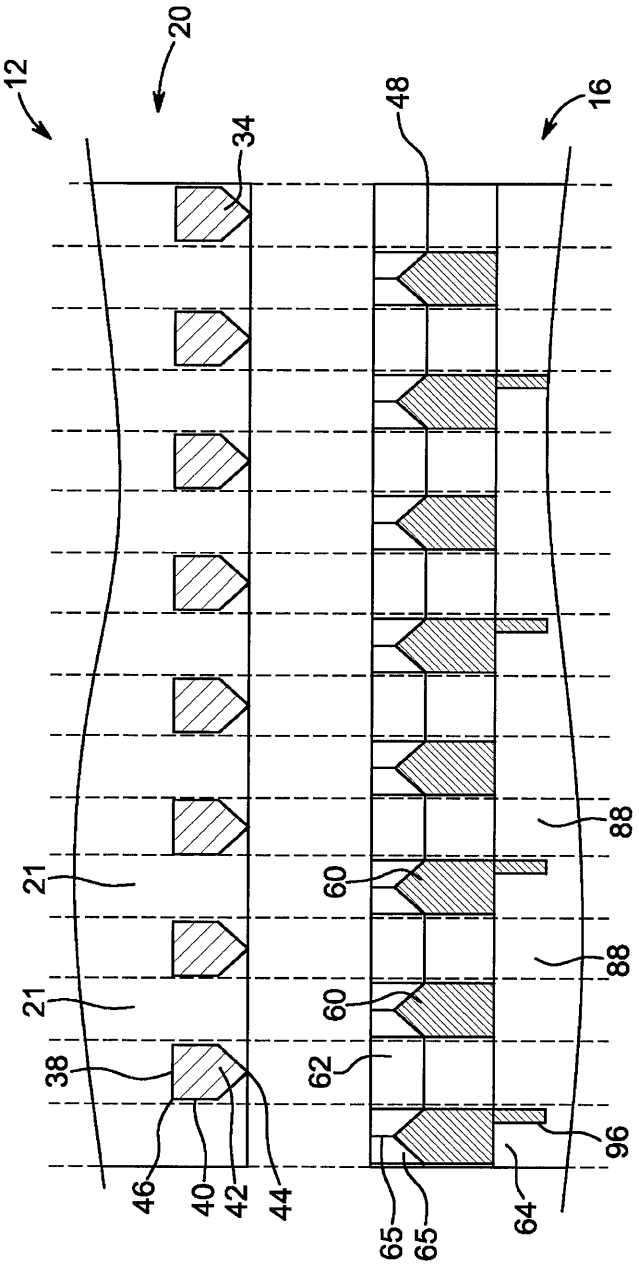

FIG. 4F

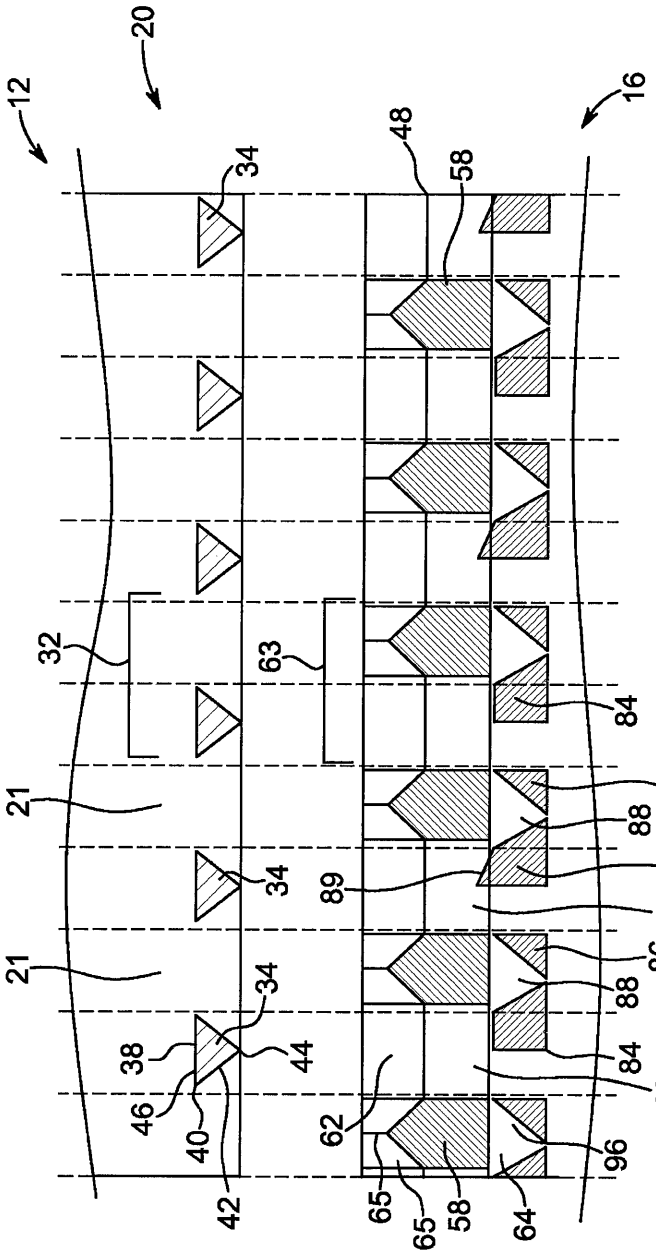

FIG. 4G

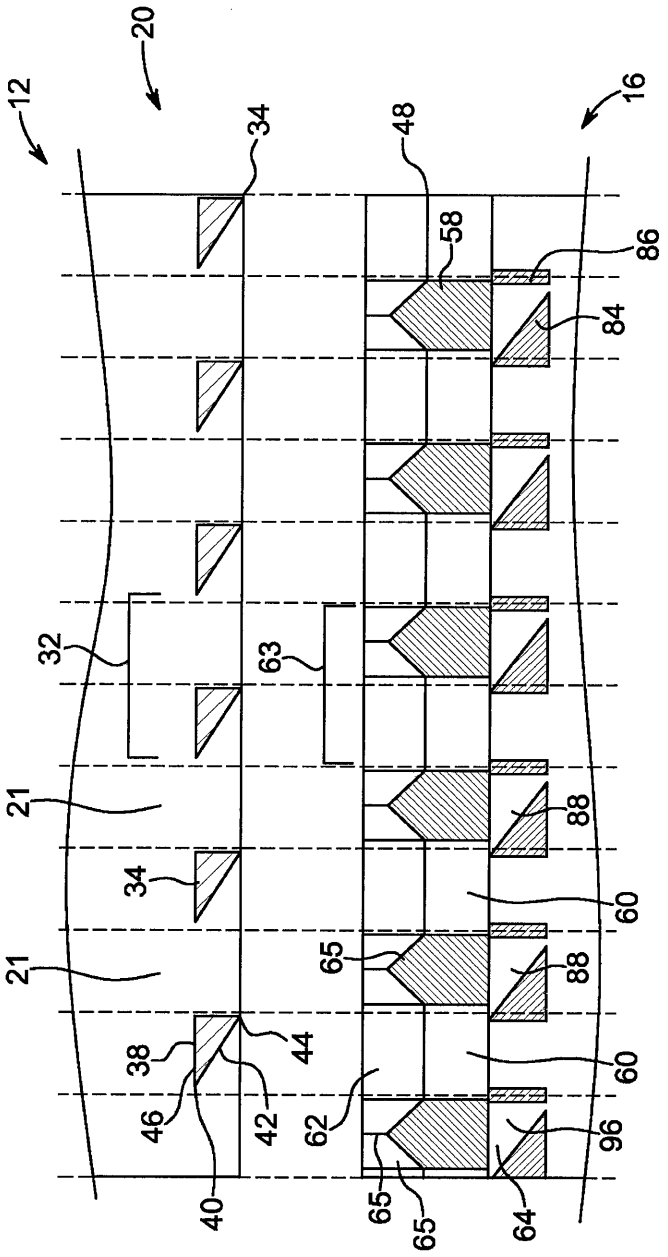
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FIG. 4H

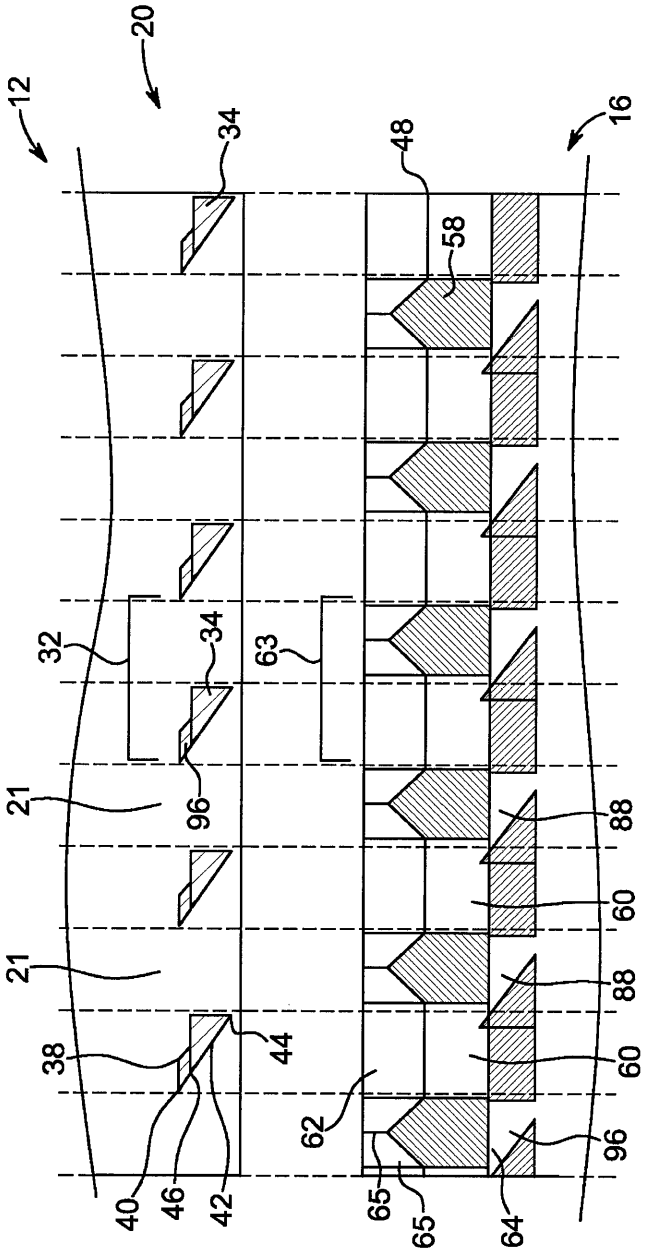
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FIG. 4I

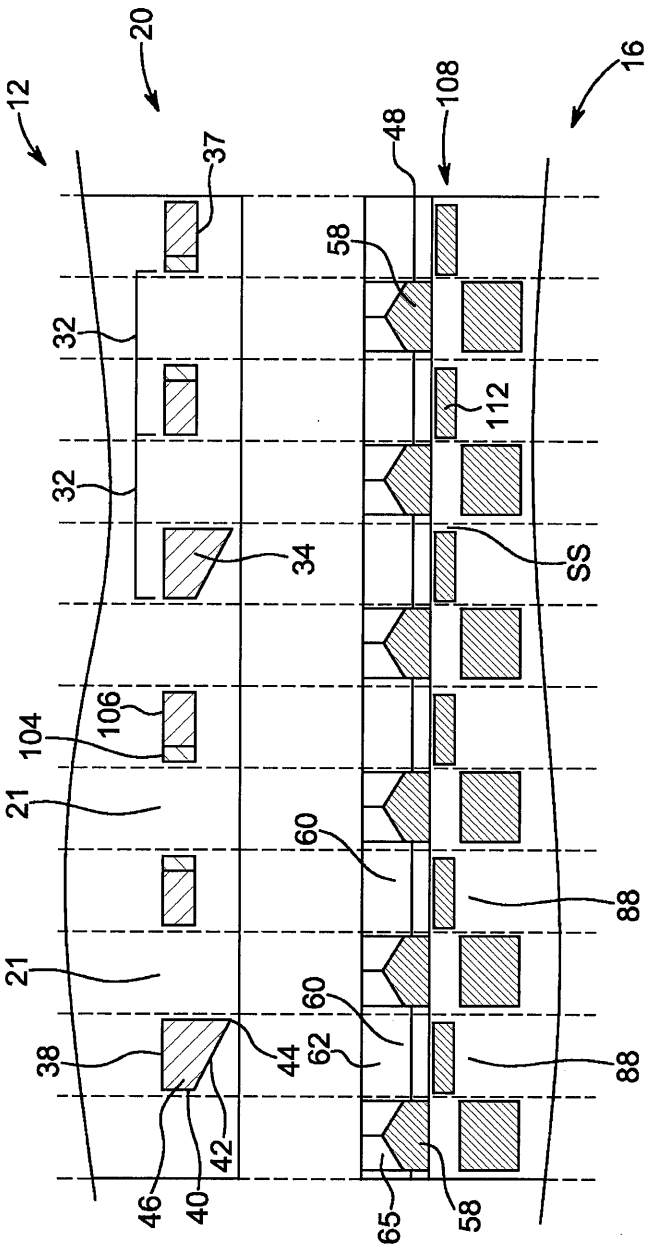
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FIG. 4J

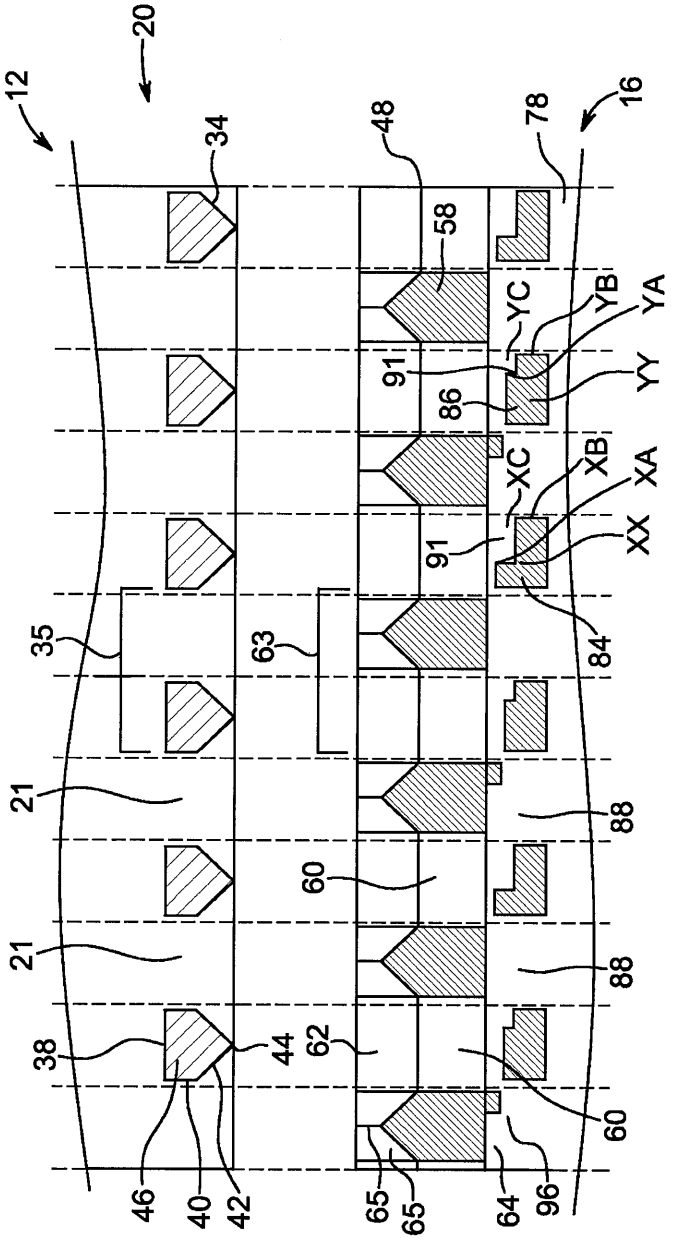
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FIG. 4K

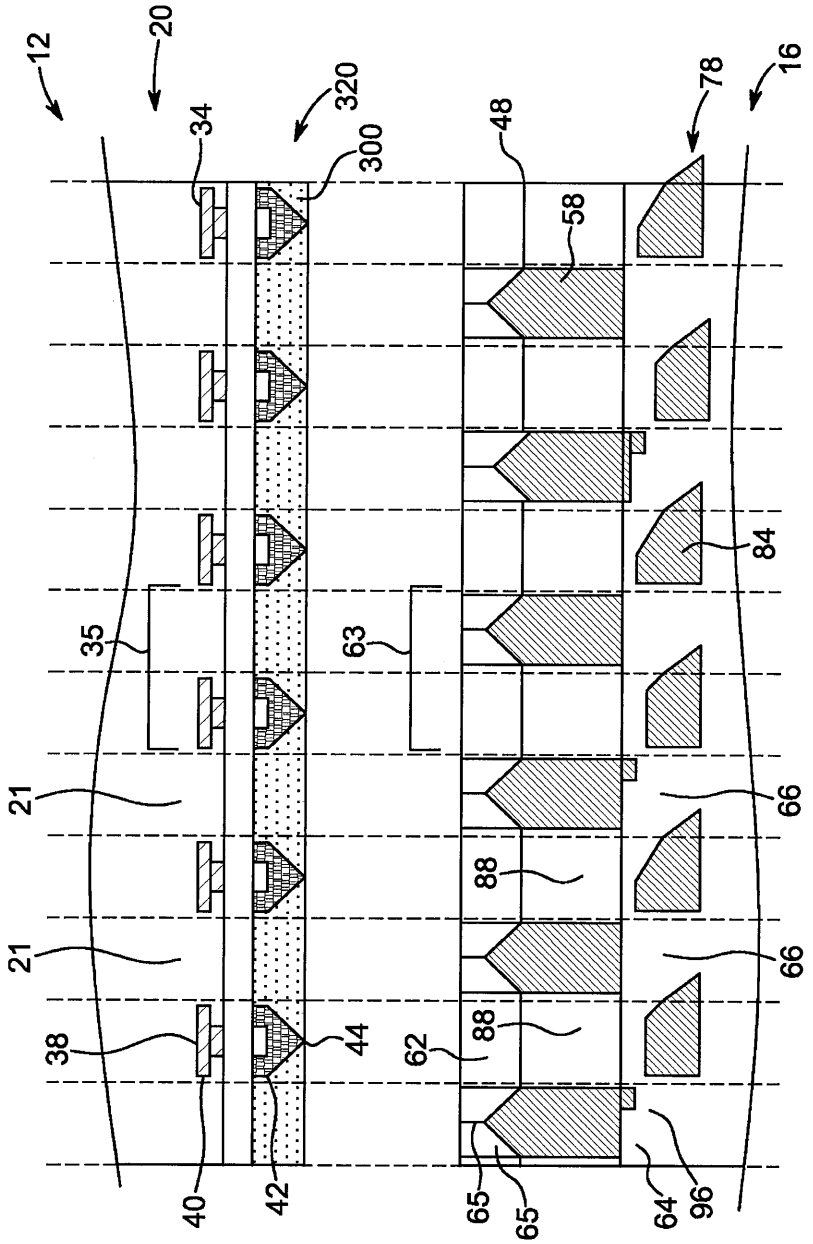
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FIG. 4L

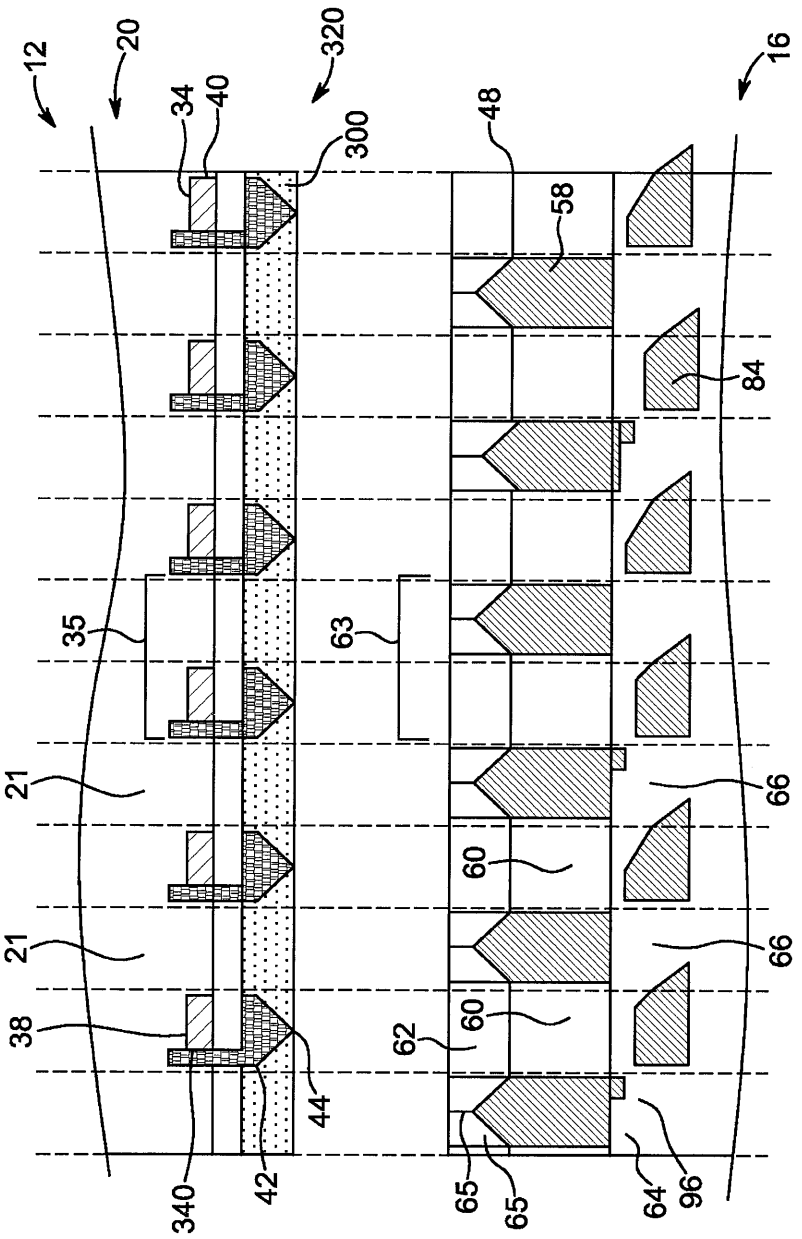
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FIG. 4M

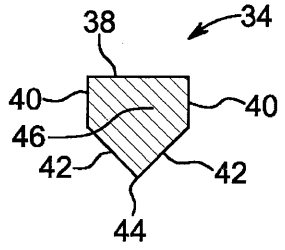

FIG. 5A

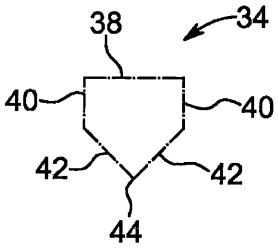

FIG. 5B

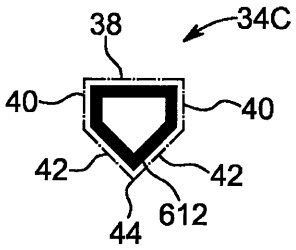

FIG. 5C

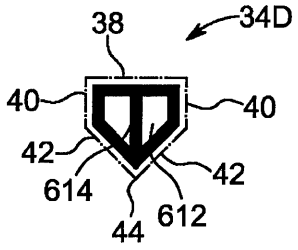

FIG. 5D

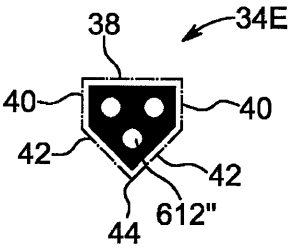

FIG. 5E

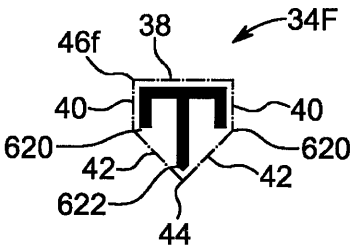

FIG. 5F

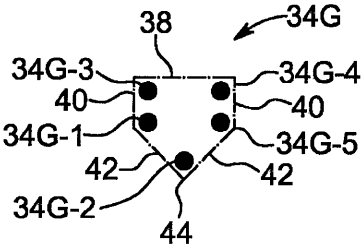

FIG. 5G

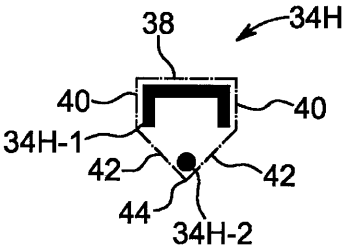

FIG. 5H

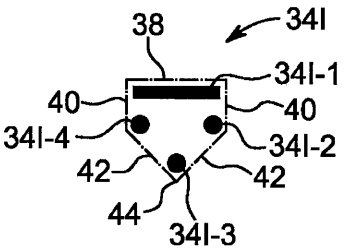

FIG. 5I

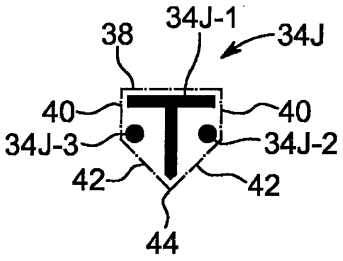

FIG. 5J

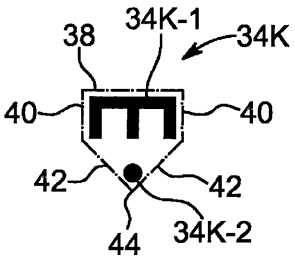

FIG. 5K

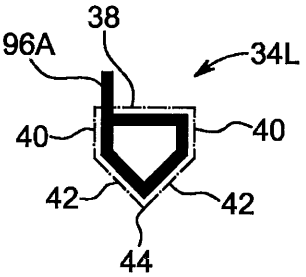

FIG. 5L

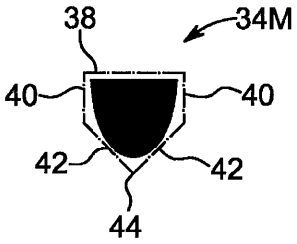

FIG. 5M

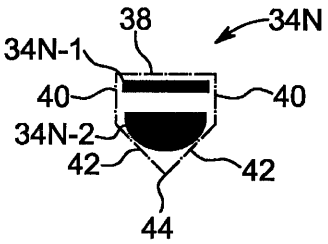

FIG. 5N

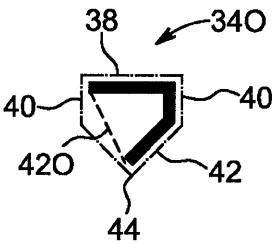

FIG. 5O

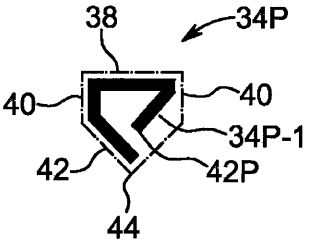

FIG. 5P

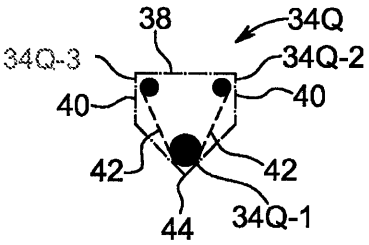

FIG. 5Q

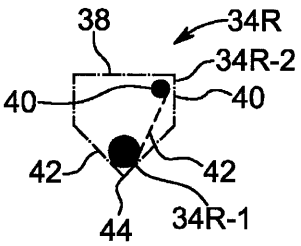

FIG. 5R

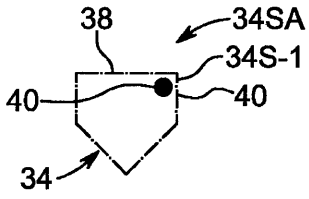

FIG. 5S(1)

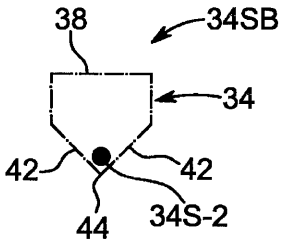

FIG. 5S(2)

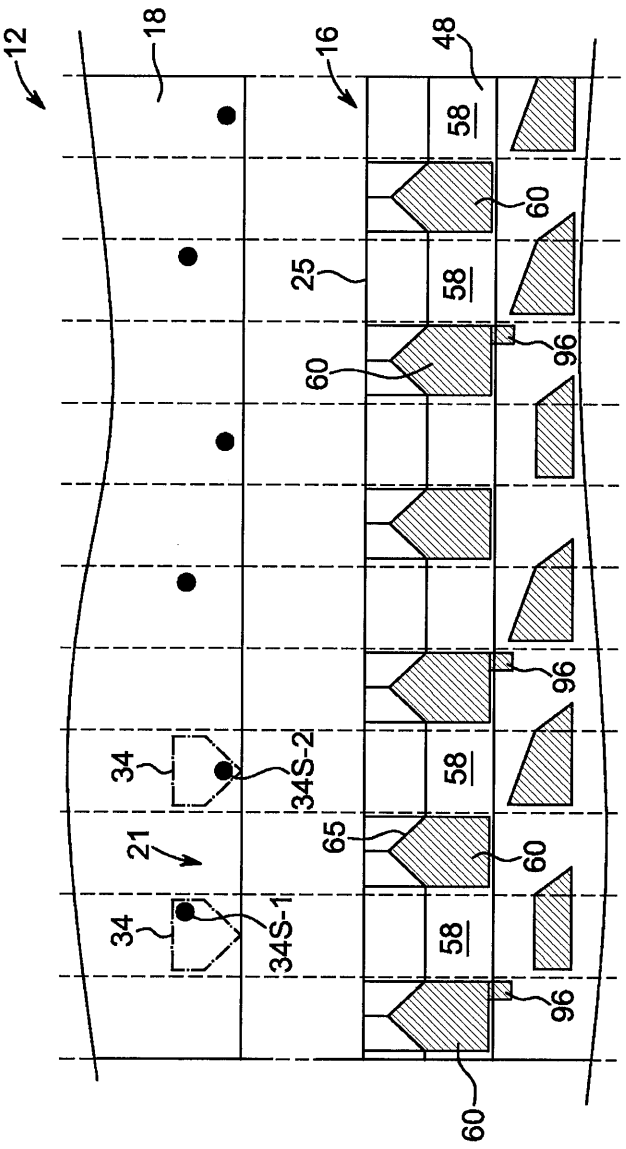
12
18
16
48
58
60
25
58
60
96
58
96
34
34S-2
58
65
60
21
34
34S-1
58
96
60

FIG. 5S(3)

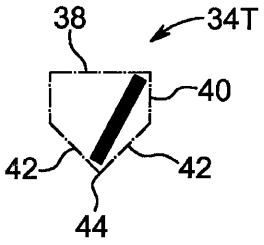

FIG. 5T

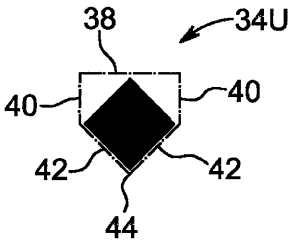

FIG. 5U

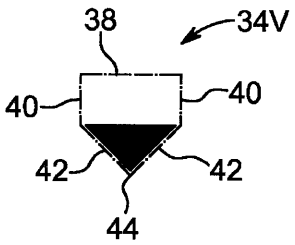

FIG. 5V

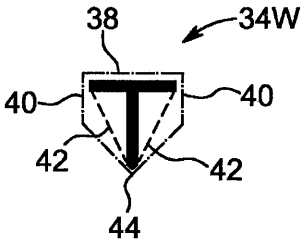

FIG. 5W

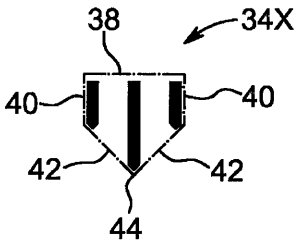

FIG. 5X

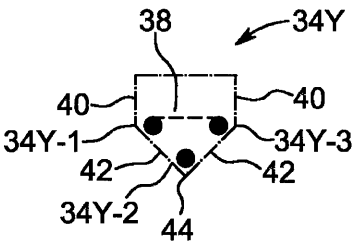

FIG. 5Y

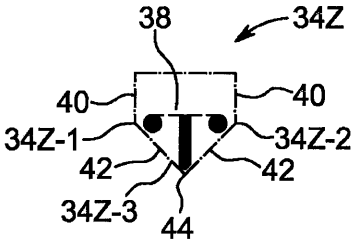

FIG. 5Z

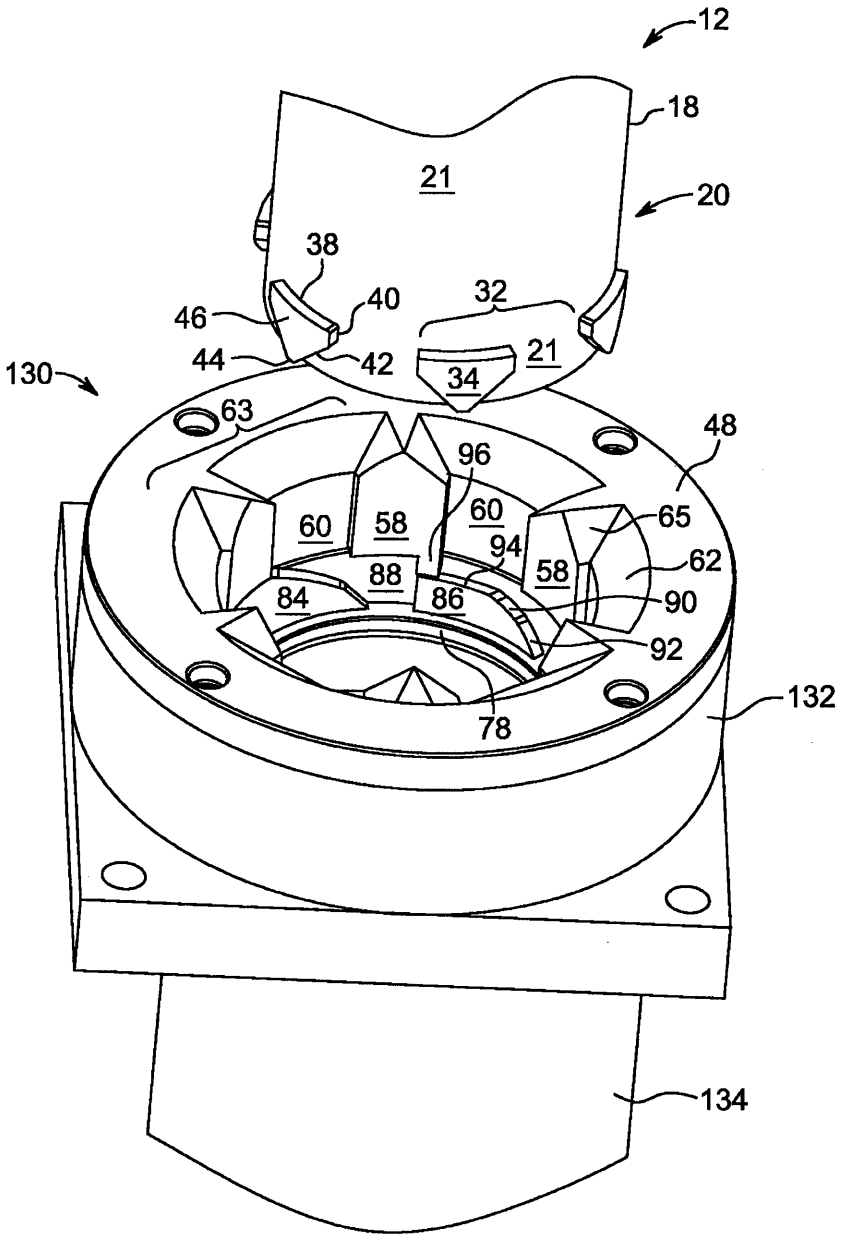
12
18
21
20
38
40
32
46
44
42
21
34
130
63
48
96
60
58
60
65
94
62
88
58
84
86
90
92
132
78
134

FIG. 6A

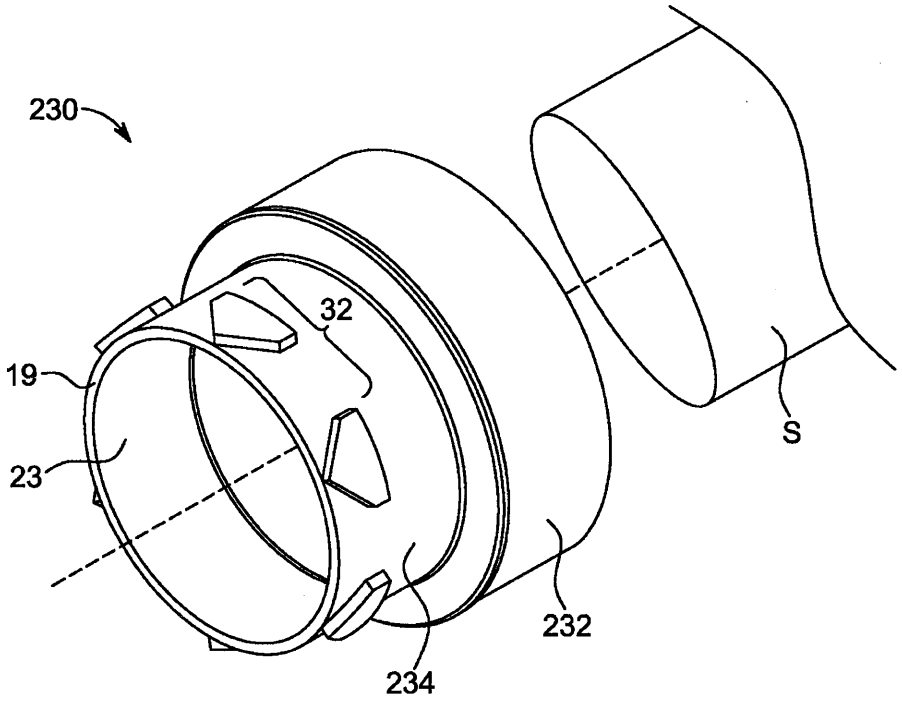

FIG. 6B

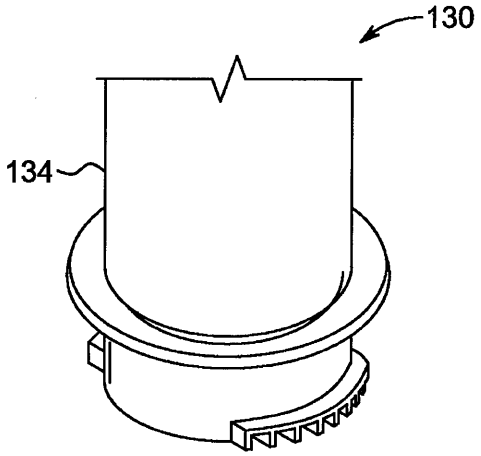

FIG. 7A

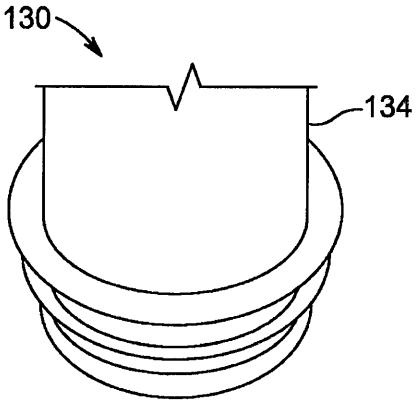

FIG. 7B

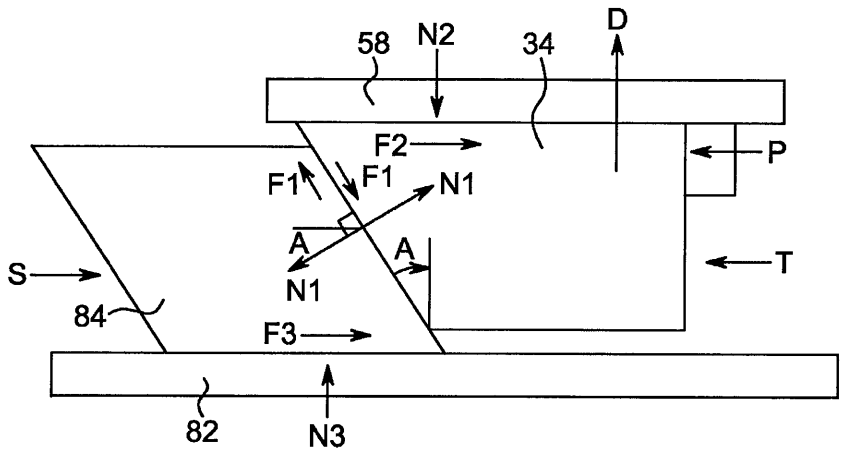
58
N2
34
D
F2
P
F1
F1
N1
A
A
N1
S
T
84
F3
82
N3

FIG. 8A

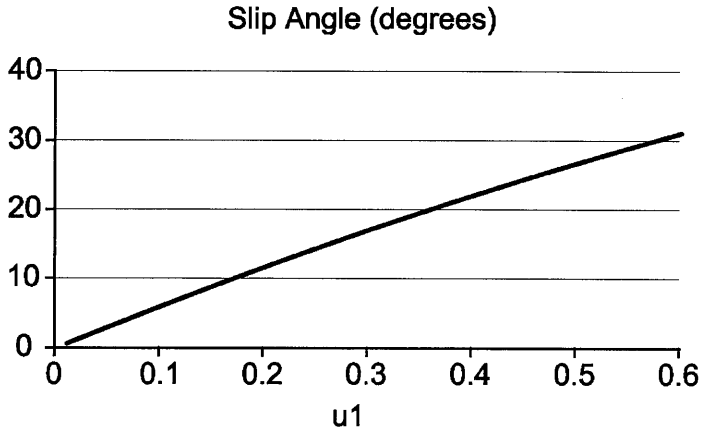
Slip Angle (degrees)
40
30
20
10
0
0
0.1
0.2
0.3
0.4
0.5
0.6
u1

FIG. 8B

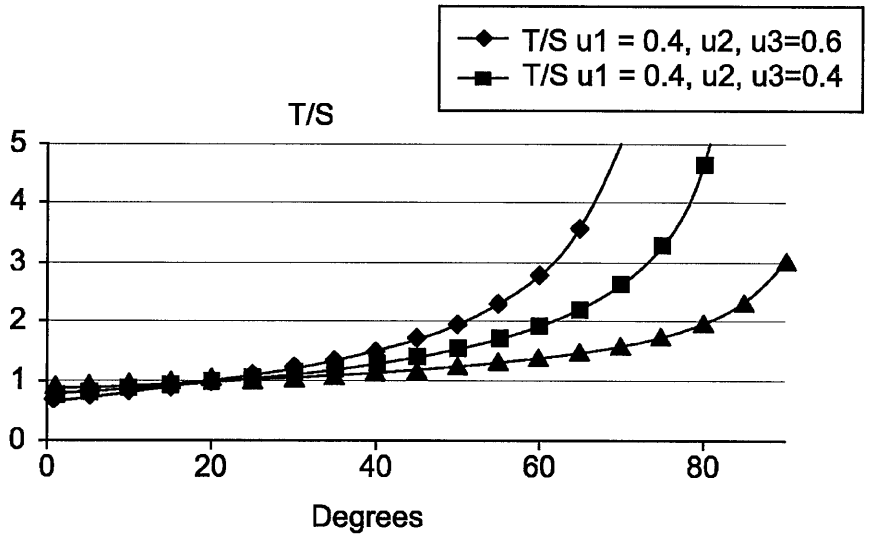

FIG. 8C

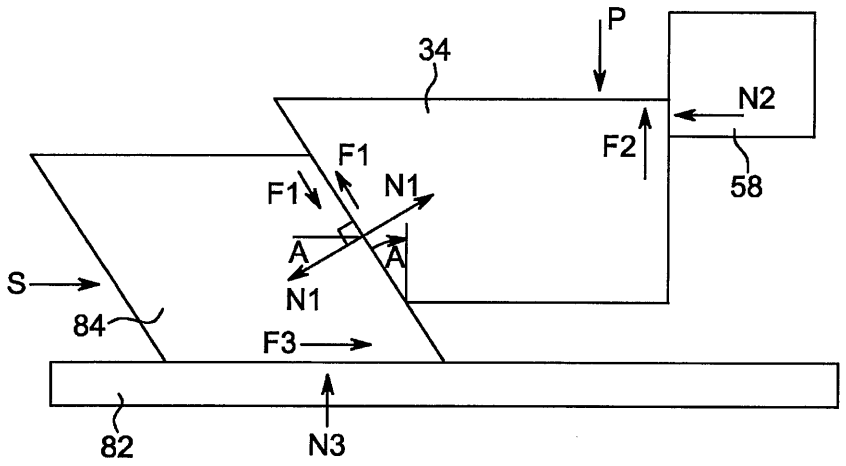
P
34
N2
F2
58
F1
F1
N1
A
A
N1
S
84
F3
82
N3

FIG. 9A

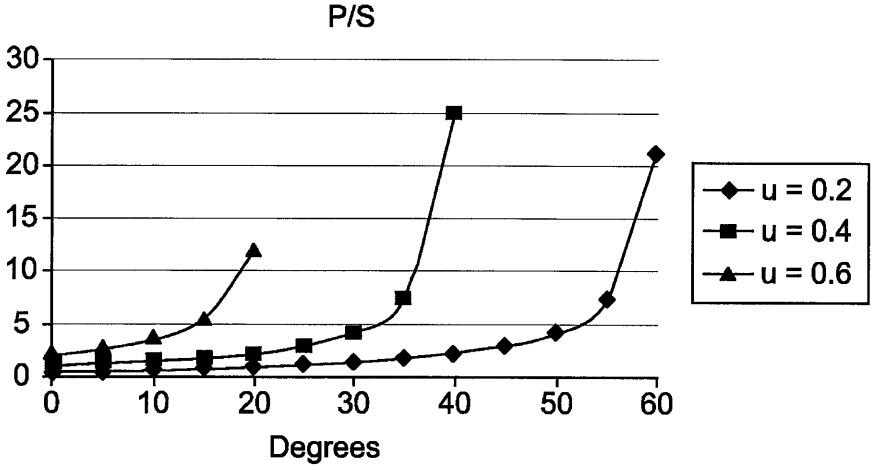
P/S
30
25
20
15
10
5
0
0
10
20
30
40
50
60
Degrees
u = 0.2
u = 0.4
u = 0.6

FIG. 9B

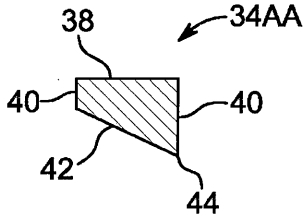

FIG. 10A

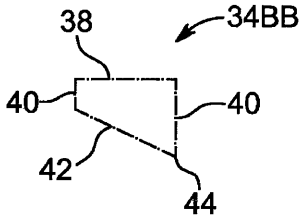

FIG. 10B

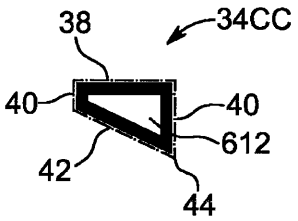

FIG. 10C

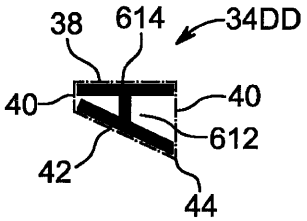

FIG. 10D

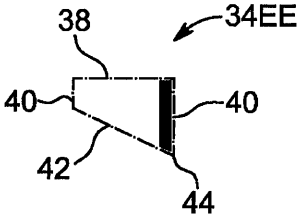

FIG. 10E

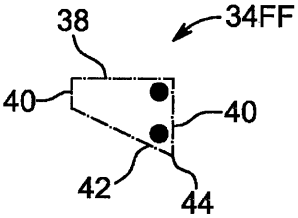

FIG. 10F

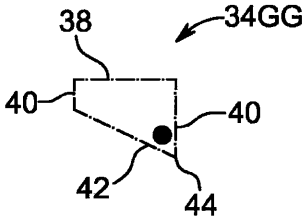

FIG. 10G

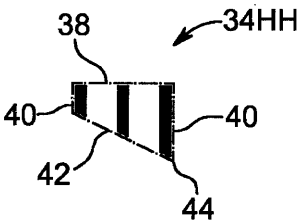

FIG. 10H