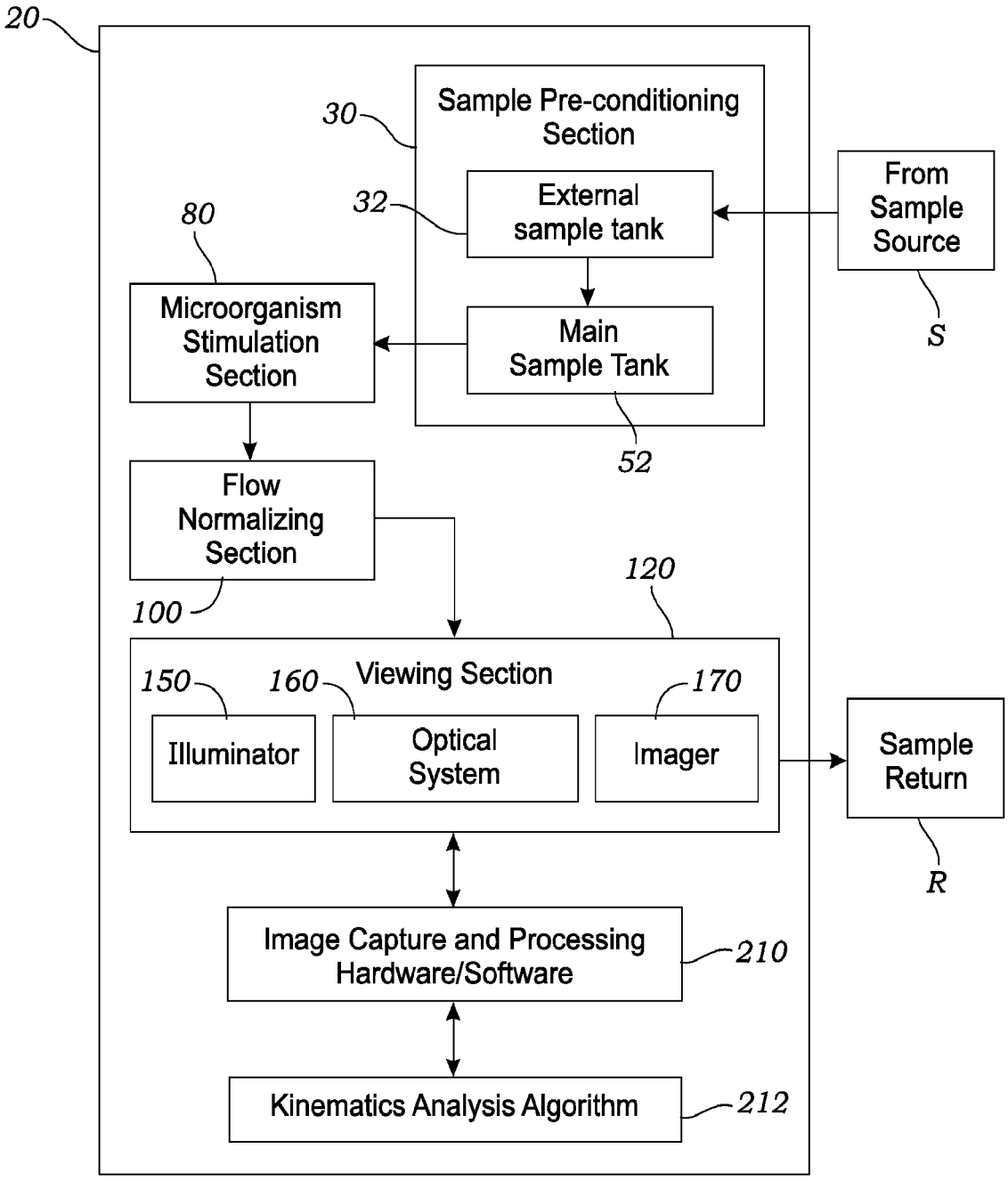

20
30
Sample Pre-conditioning Section
32
External sample tank
From Sample Source
S
80
Microorganism Stimulation Section
Main Sample Tank
52
Flow Normalizing Section
100
120
150
160
Viewing Section
170
Illuminator
Optical System
Imager
Sample Return
R
Image Capture and Processing Hardware/Software
210
Kinematics Analysis Algorithm
212

Fig. 1

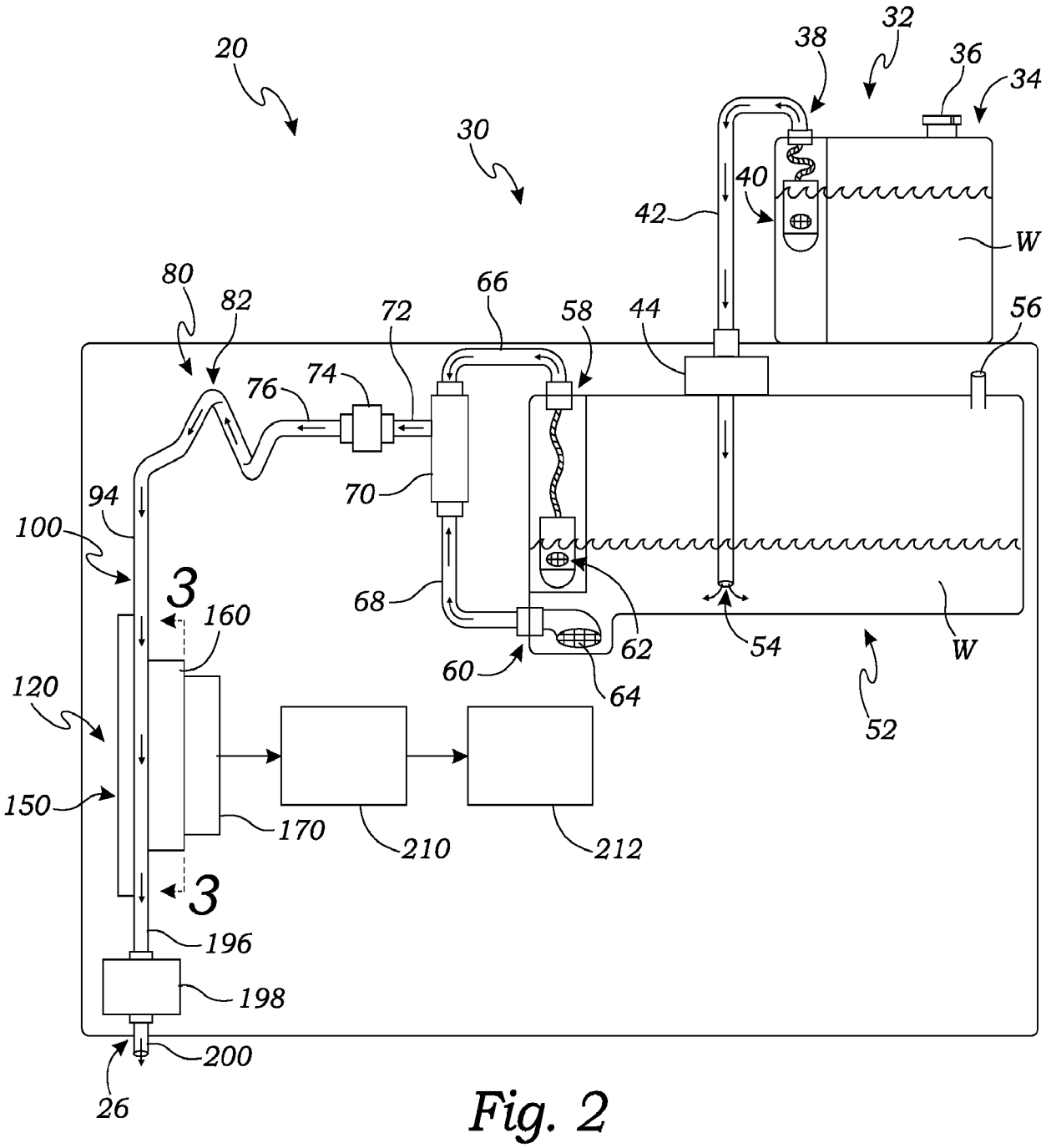

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W
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120
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170
210
212
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196
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200
26

Fig. 2

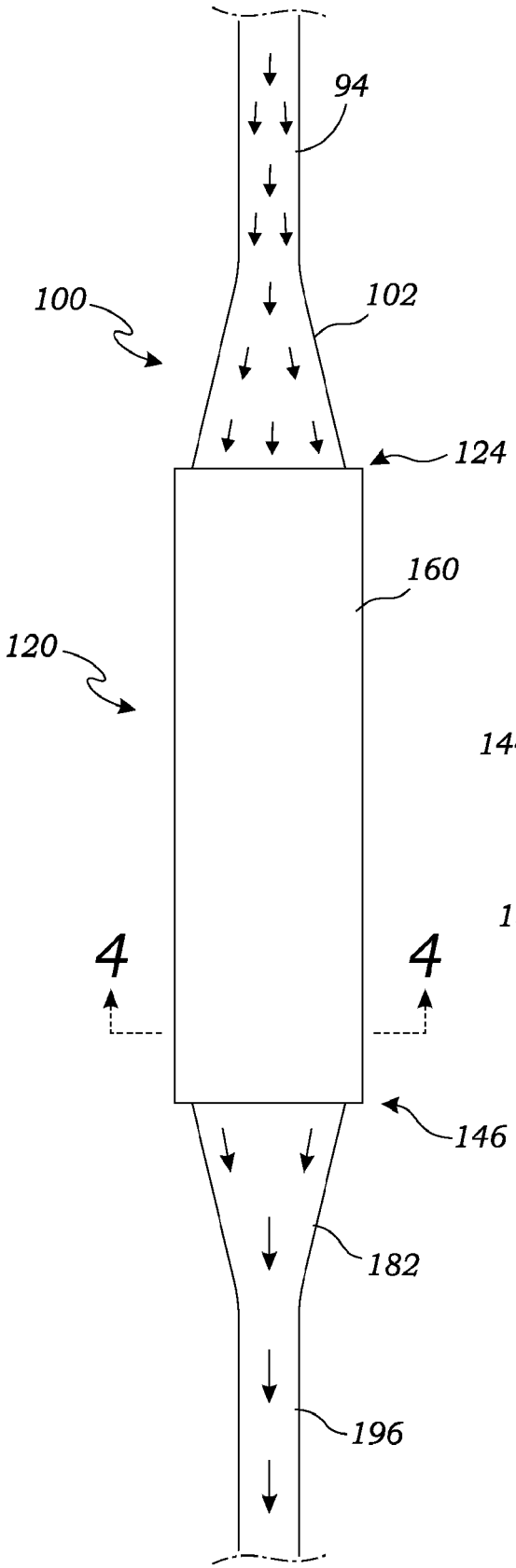

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196

Fig. 3

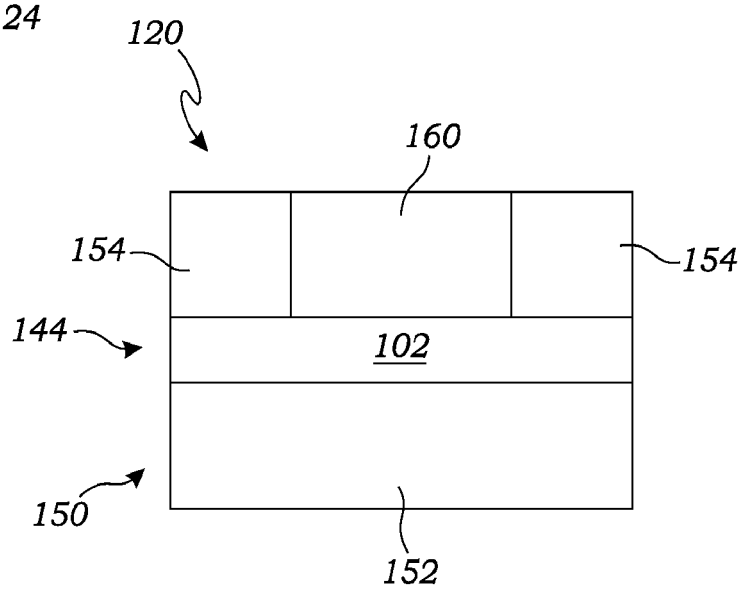

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144
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Fig. 4

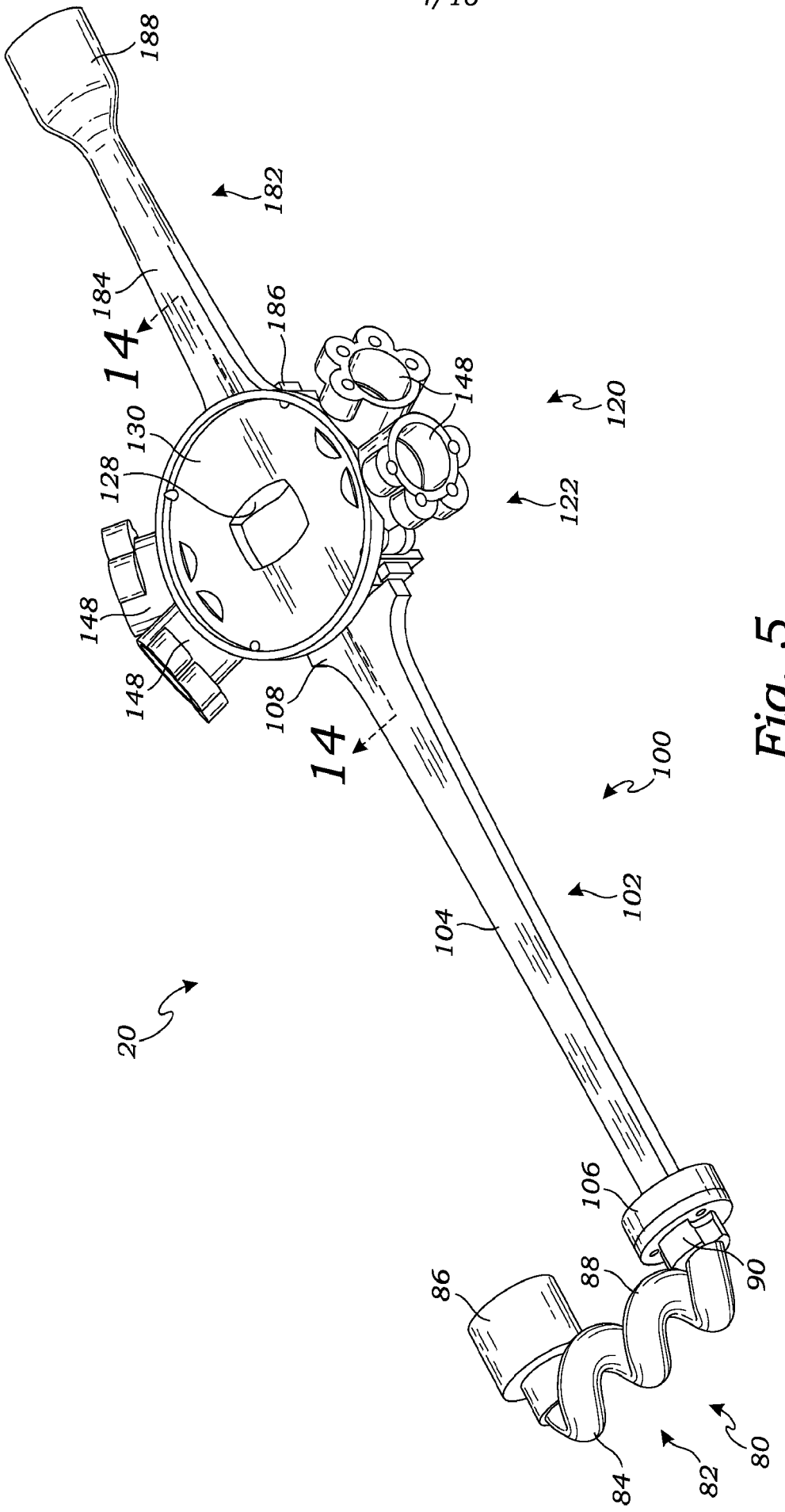

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Fig. 5

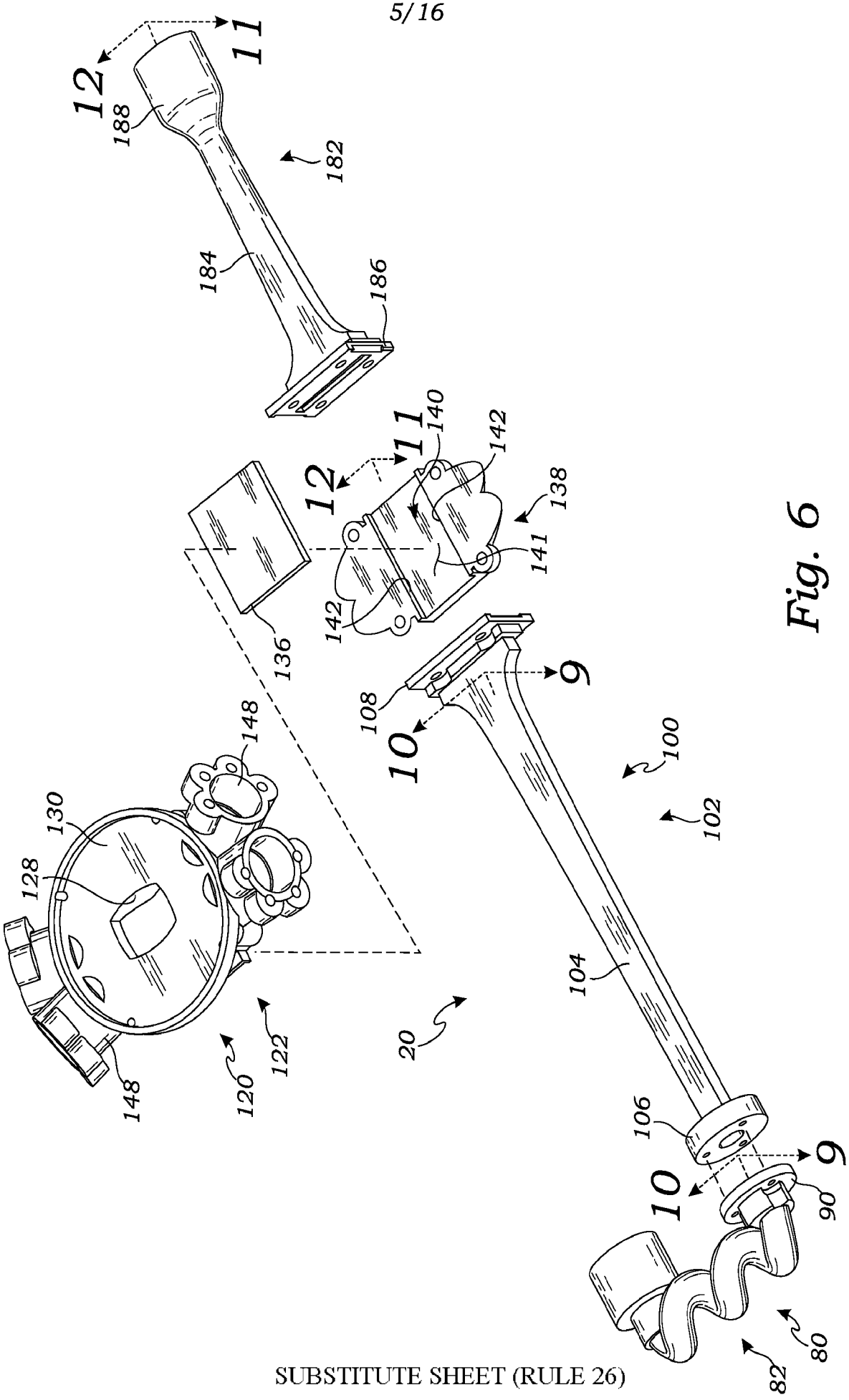

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Fig. 6

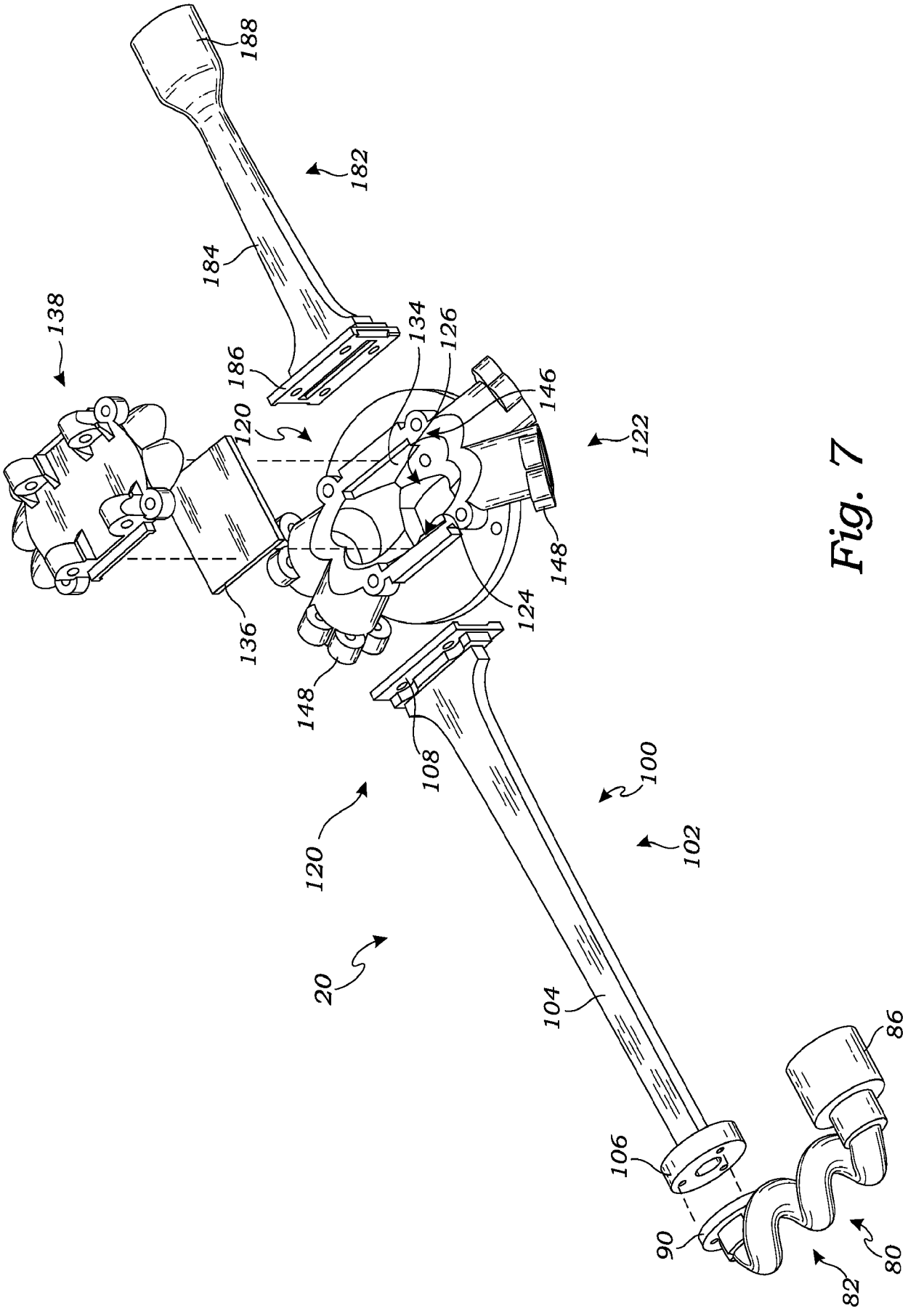

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Fig. 7

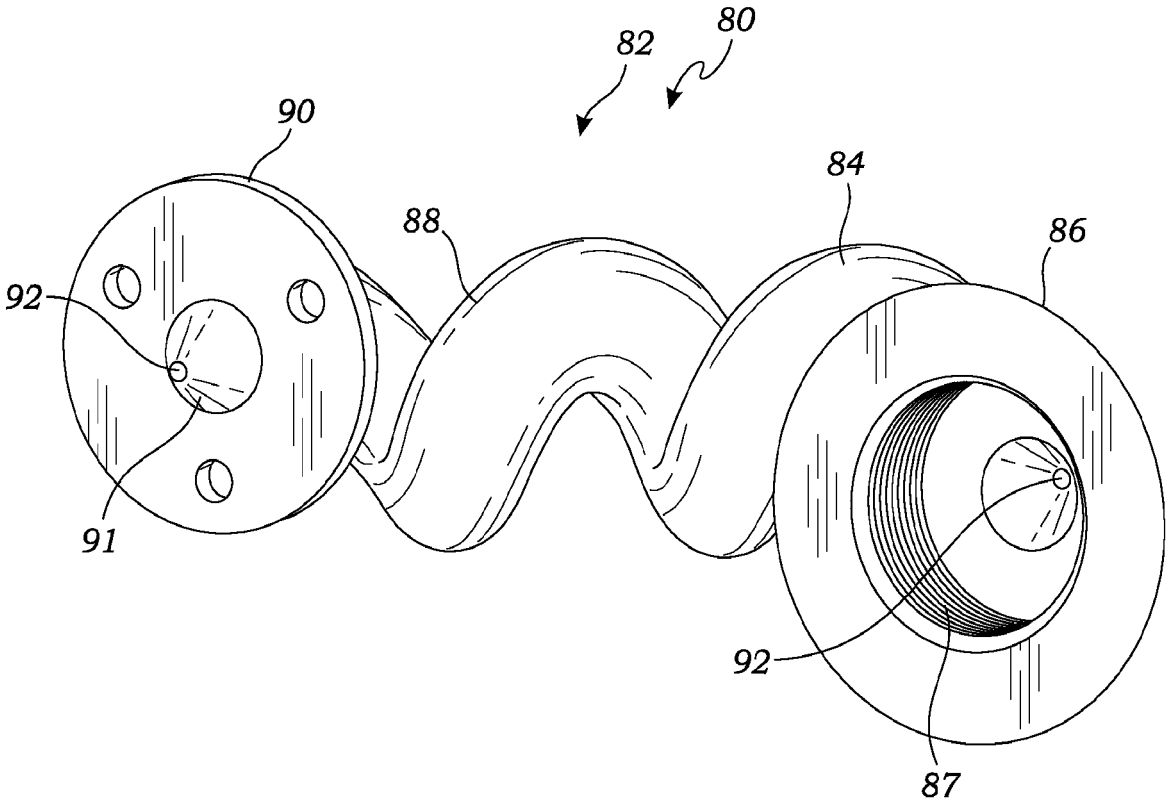


Fig. 8

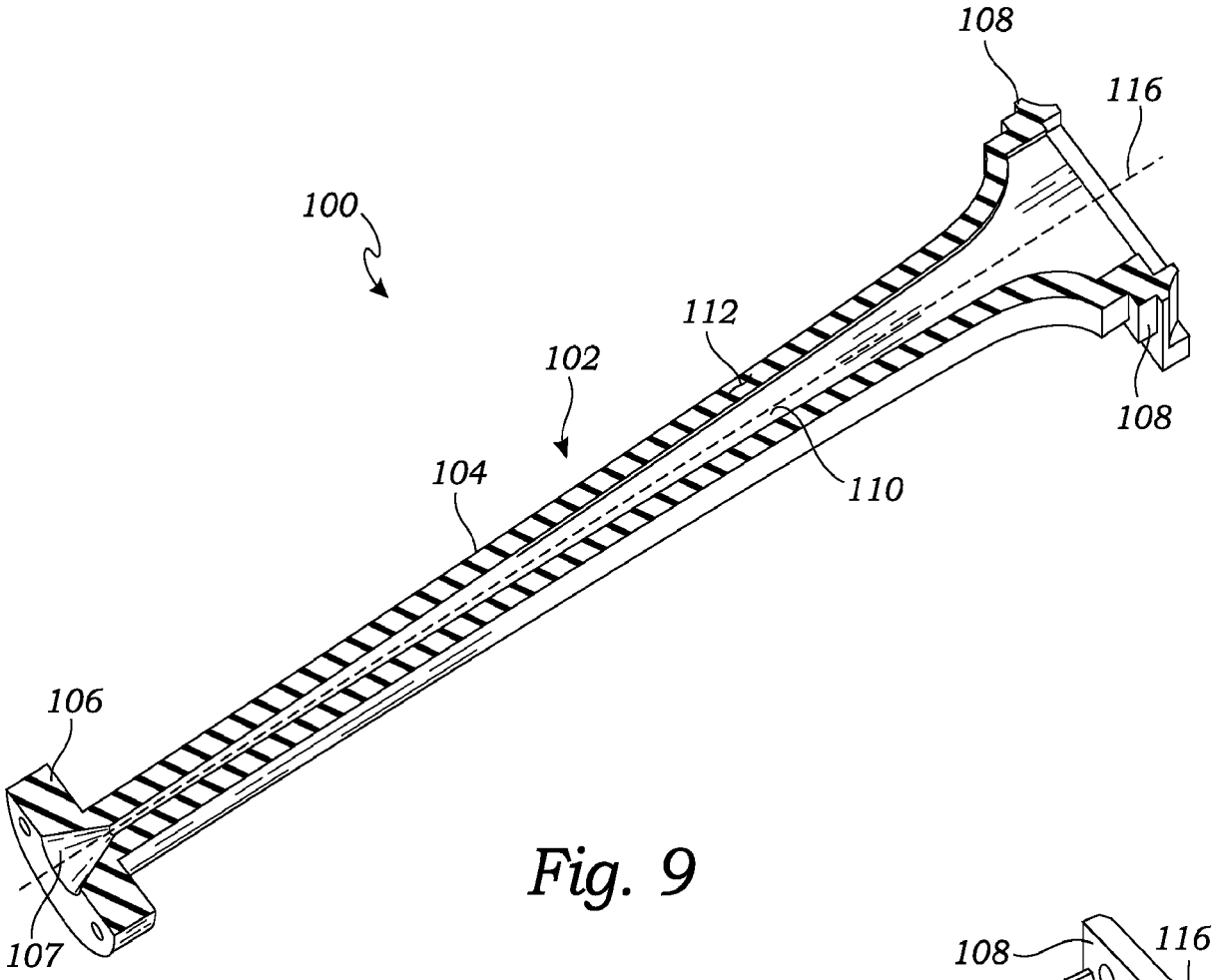

108
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Fig. 9

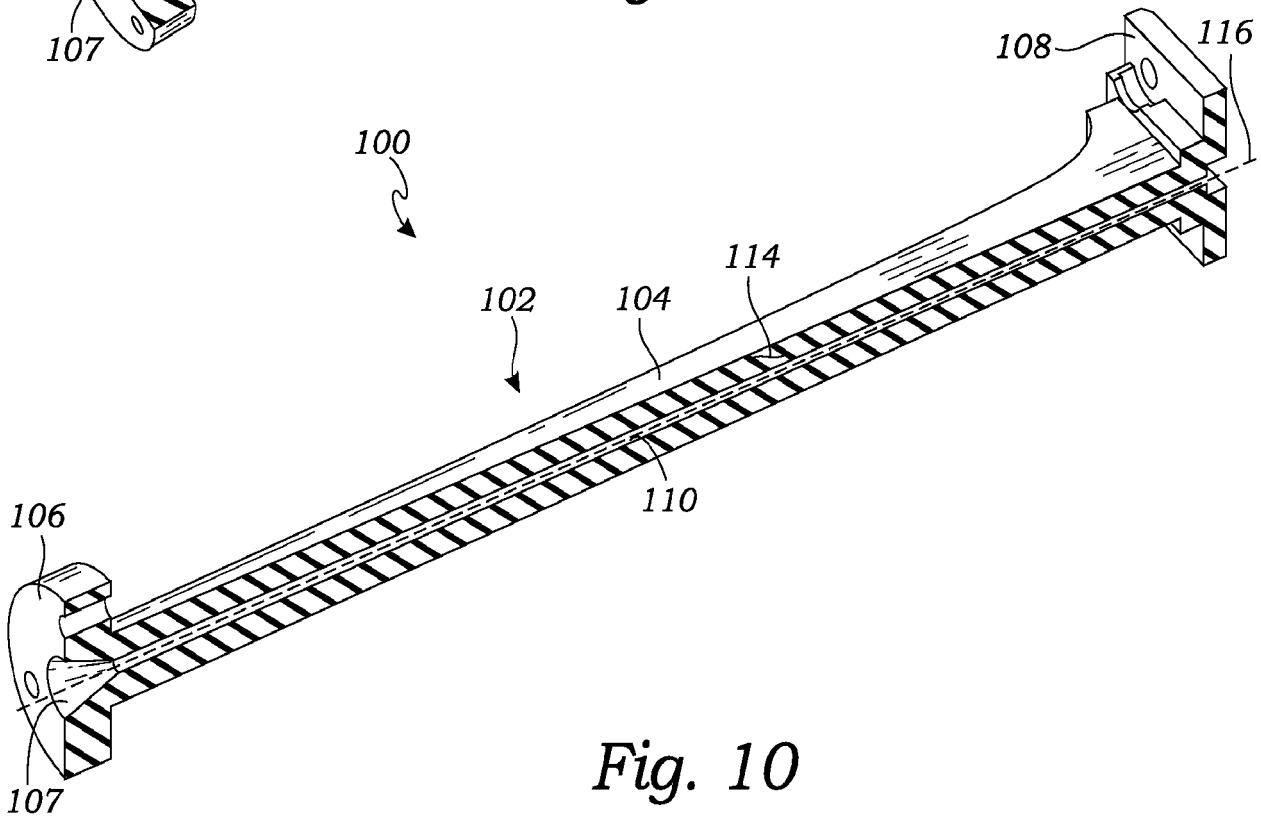

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Fig. 10

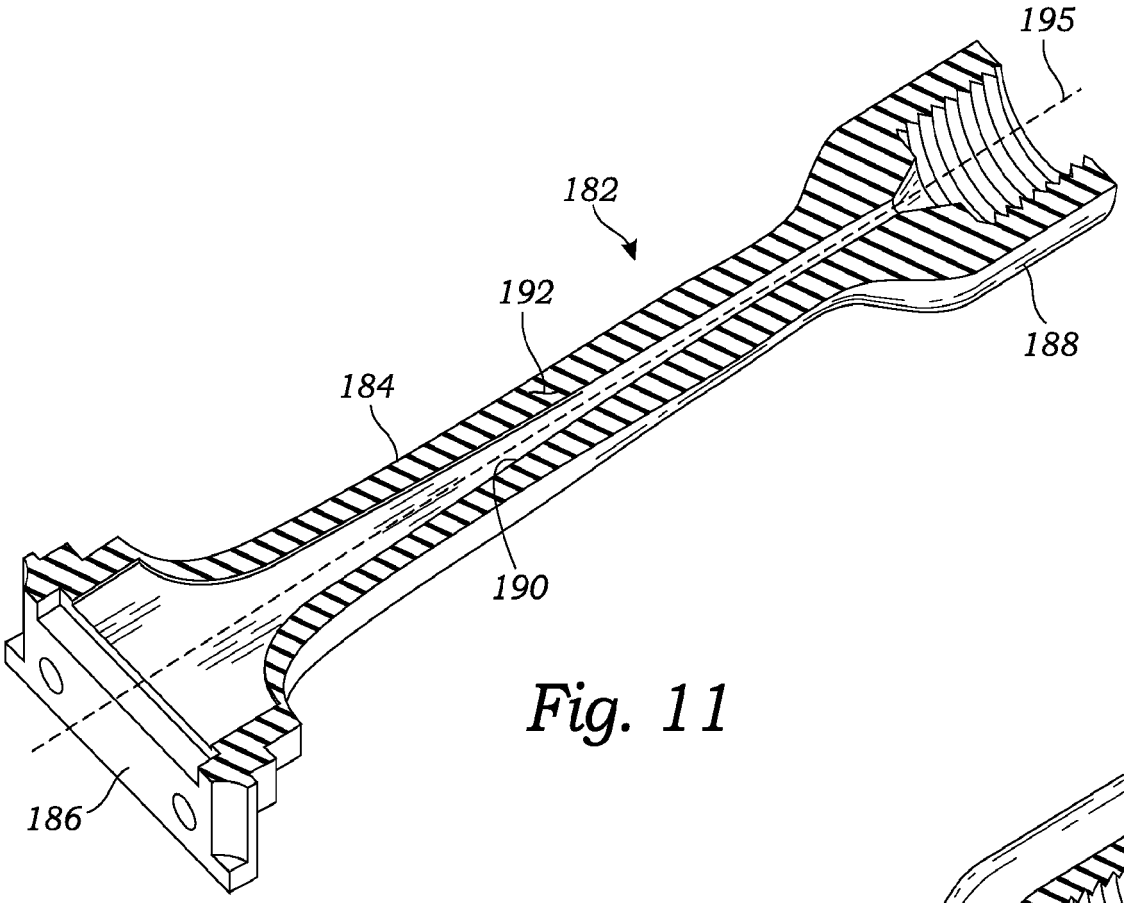


Fig. 11

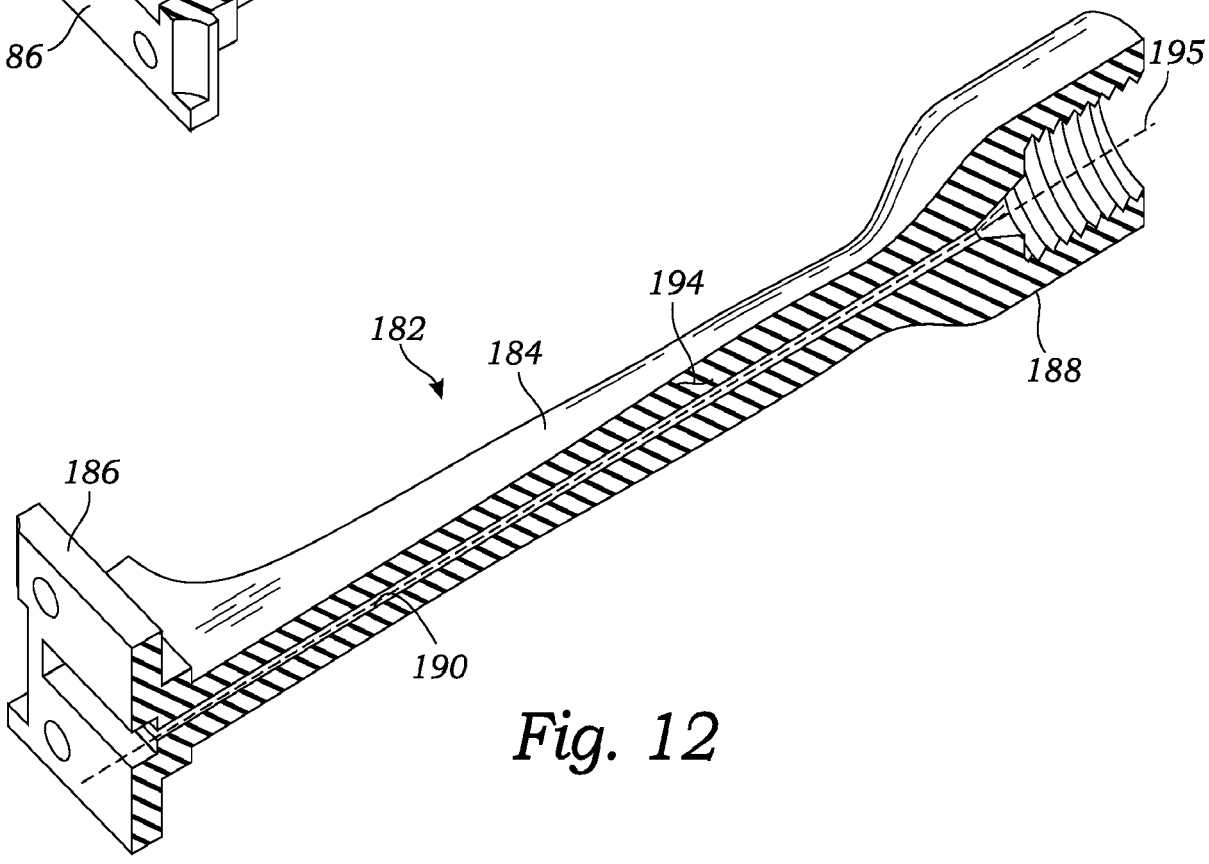


Fig. 12

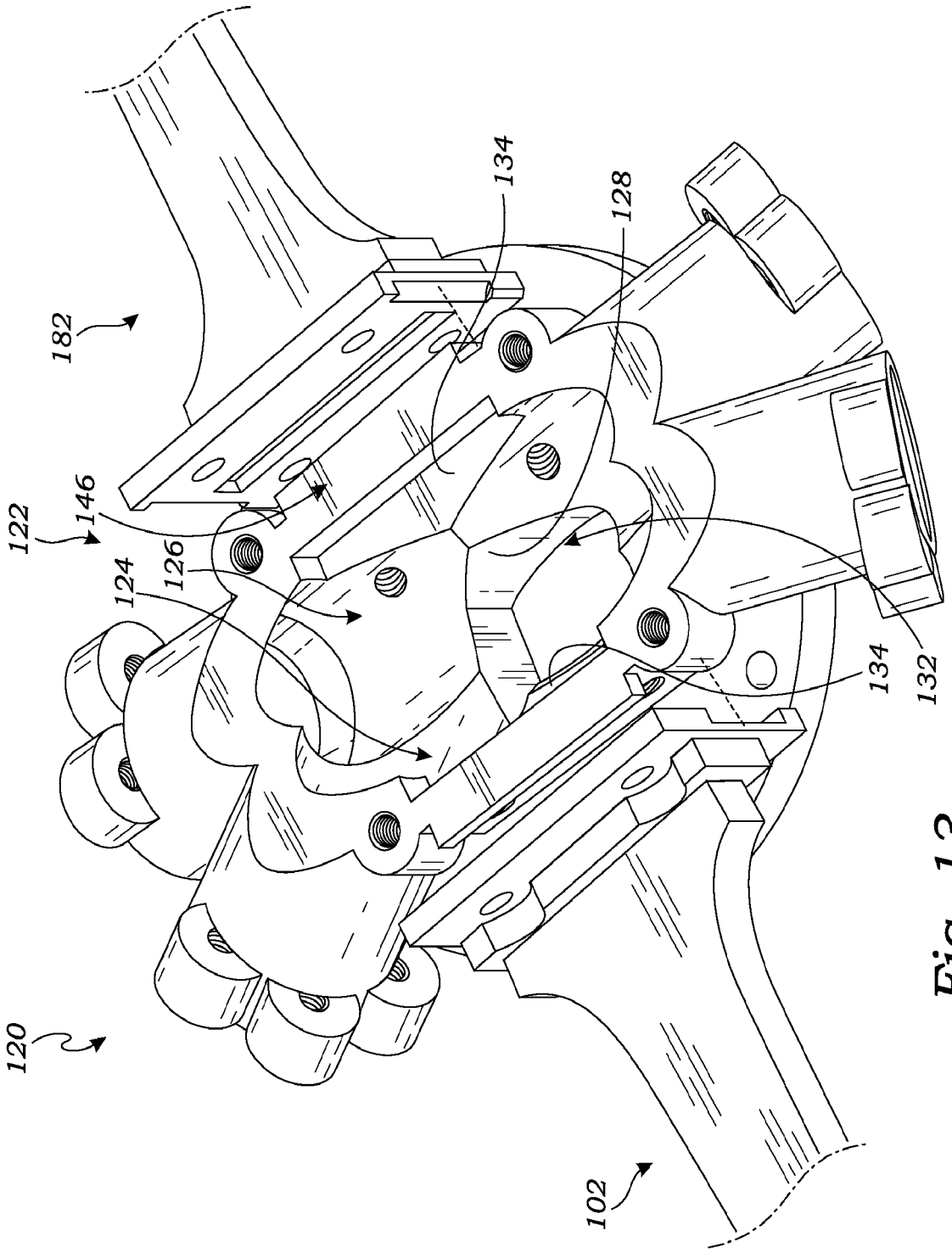


Fig. 13

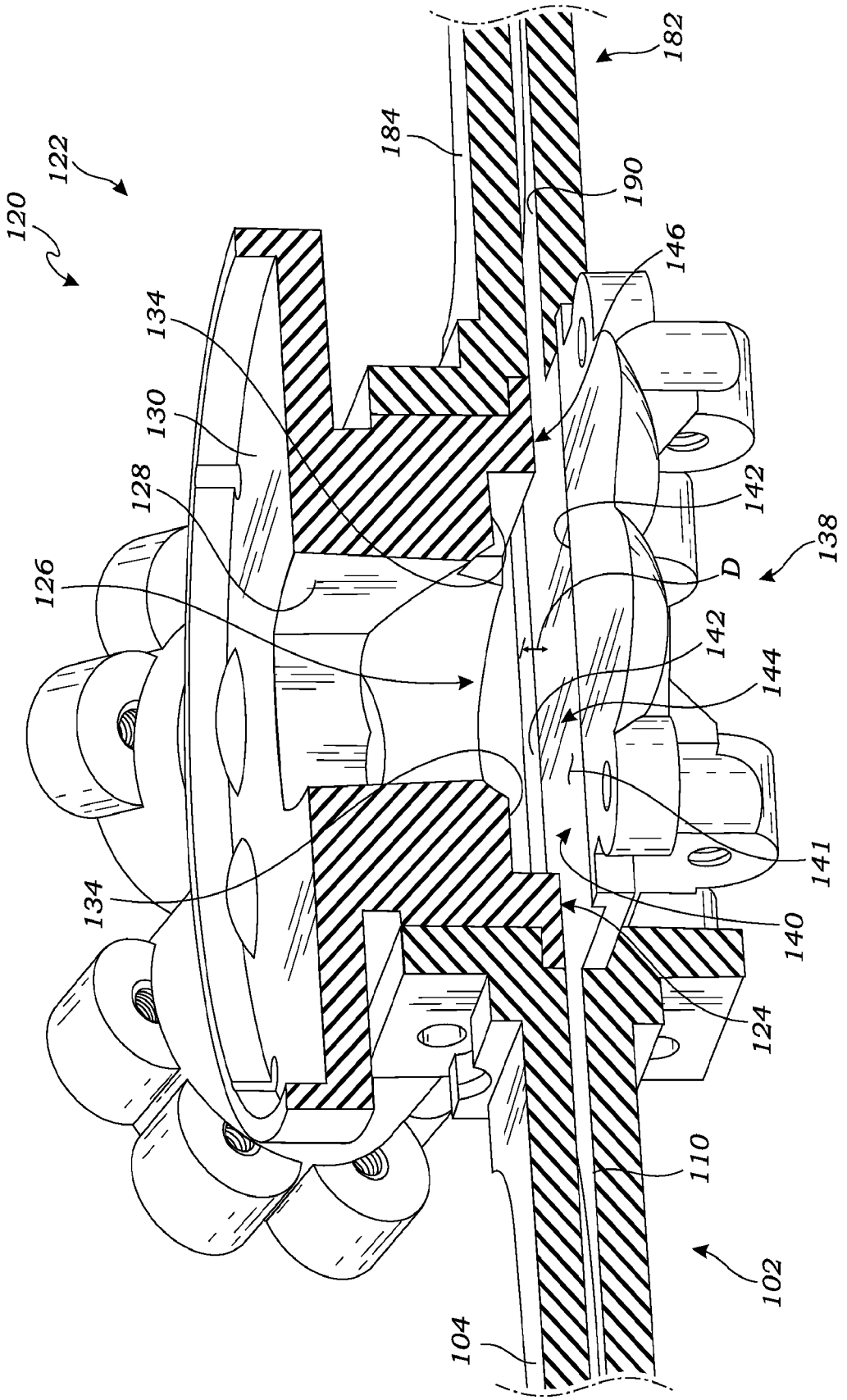

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Fig. 14

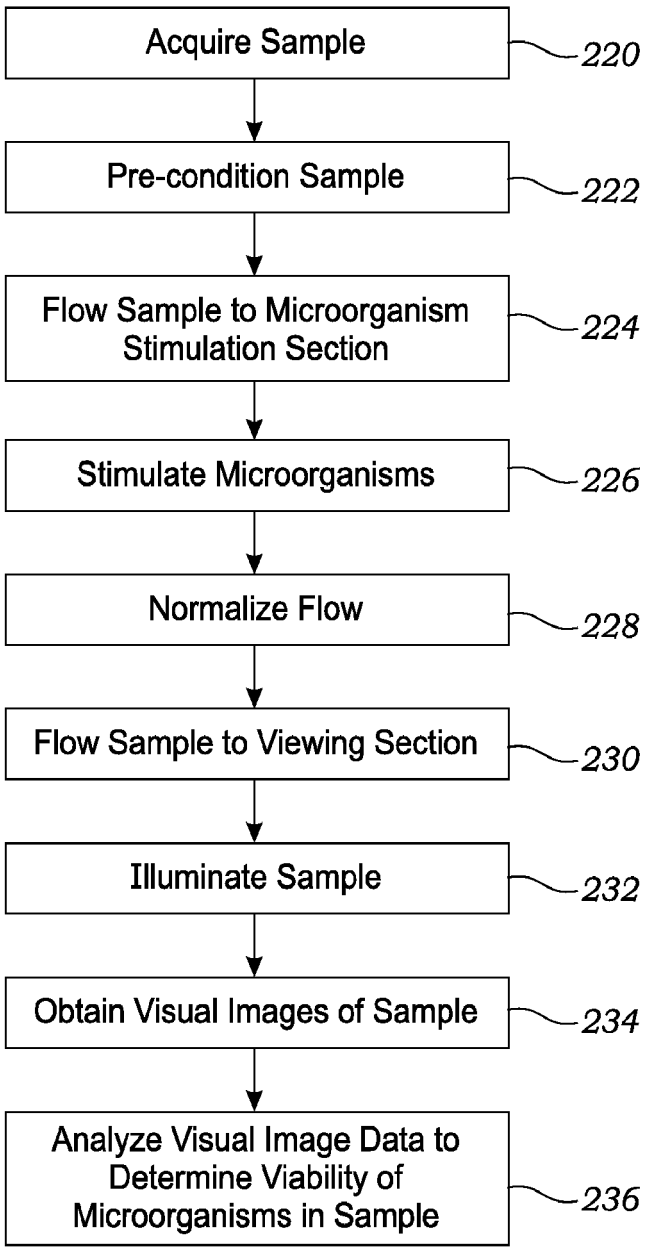

Acquire Sample
220
Pre-condition Sample
222
Flow Sample to Microorganism Stimulation Section
224
Stimulate Microorganisms
226
Normalize Flow
228
Flow Sample to Viewing Section
230
Illuminate Sample
232
Obtain Visual Images of Sample
234
Analyze Visual Image Data to Determine Viability of Microorganisms in Sample
236

Fig. 15

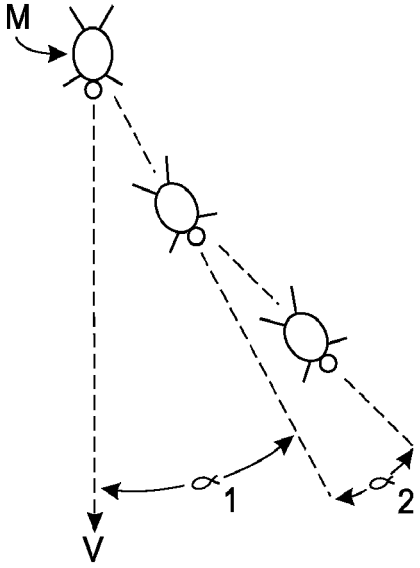


Fig. 16A

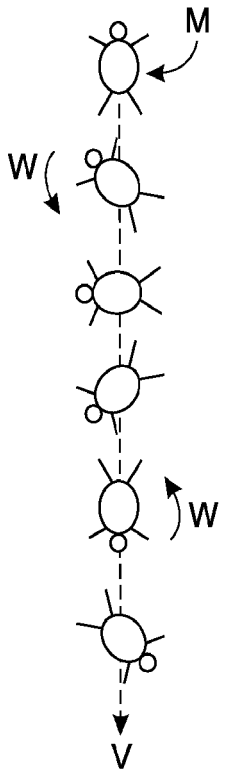


Fig. 16B

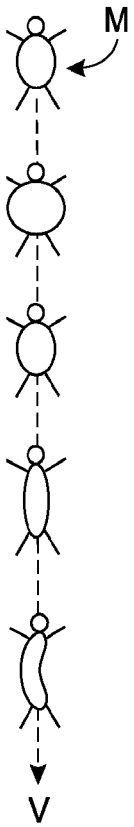


Fig. 16C

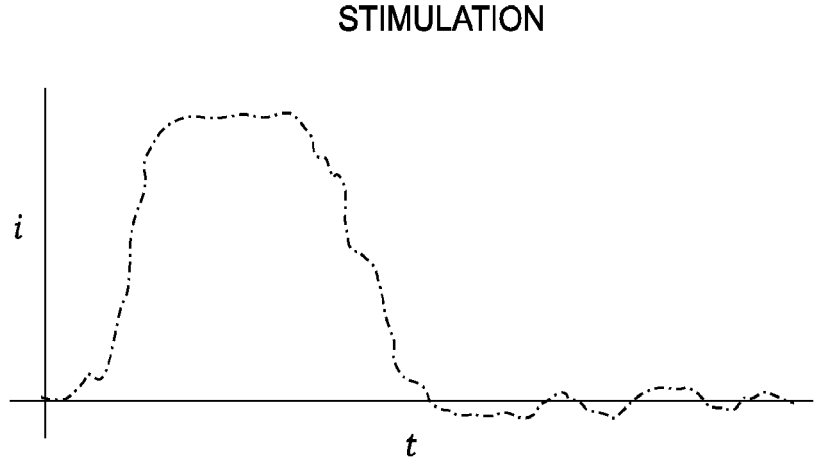


Fig. 17A

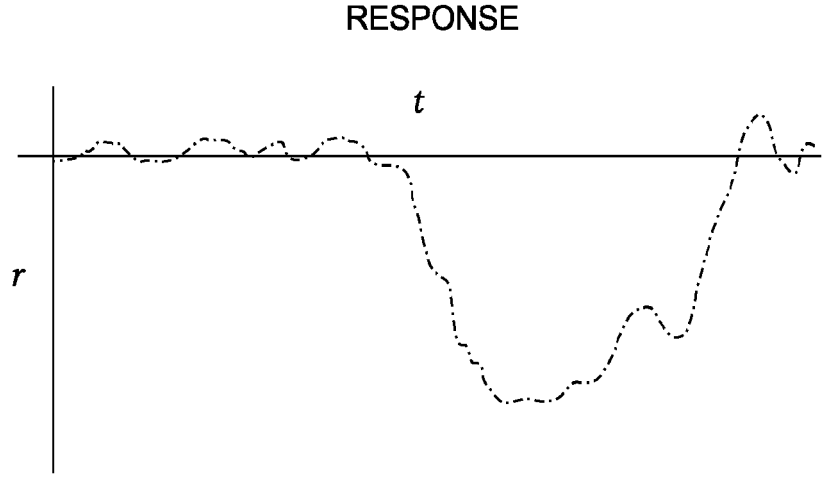


Fig. 17B

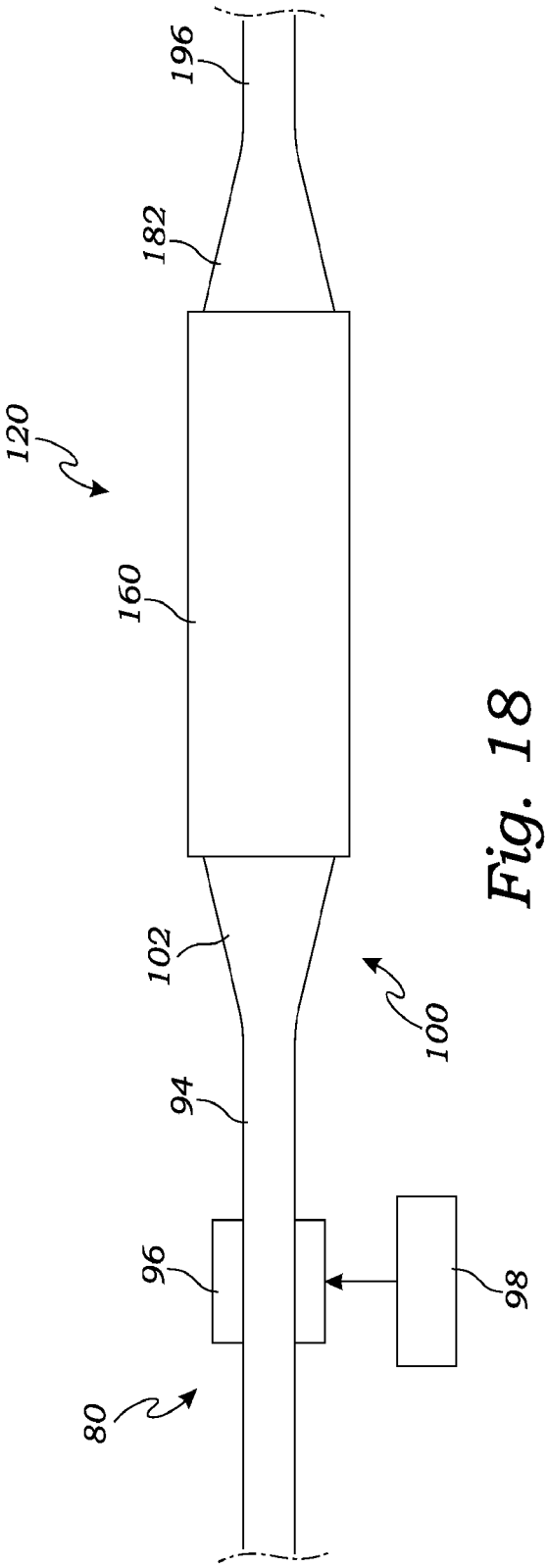

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Fig. 18

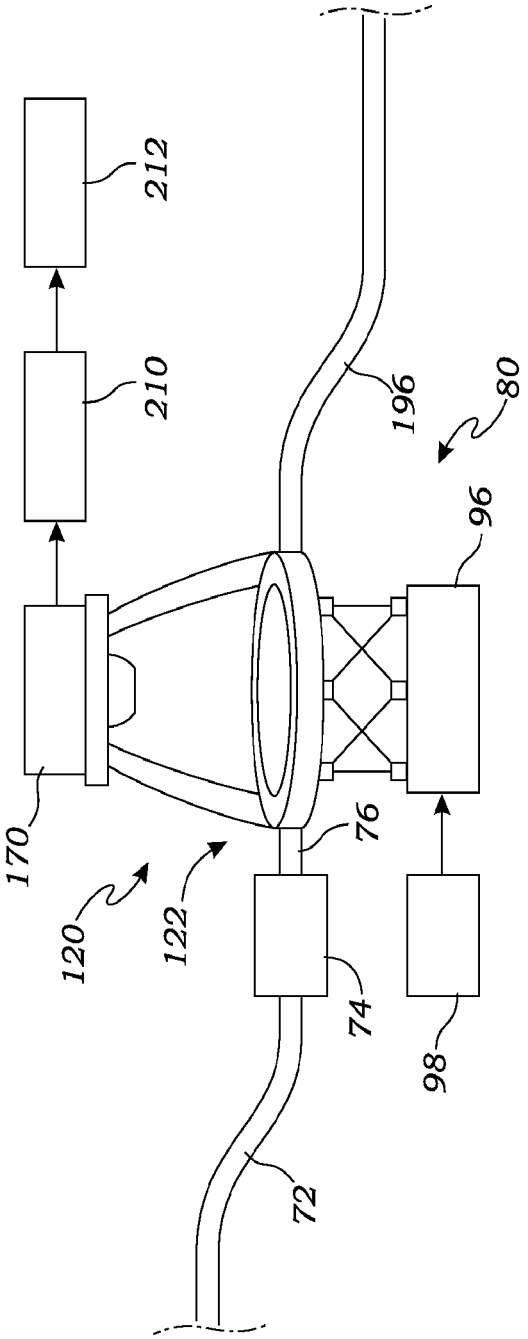

212
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Fig. 19

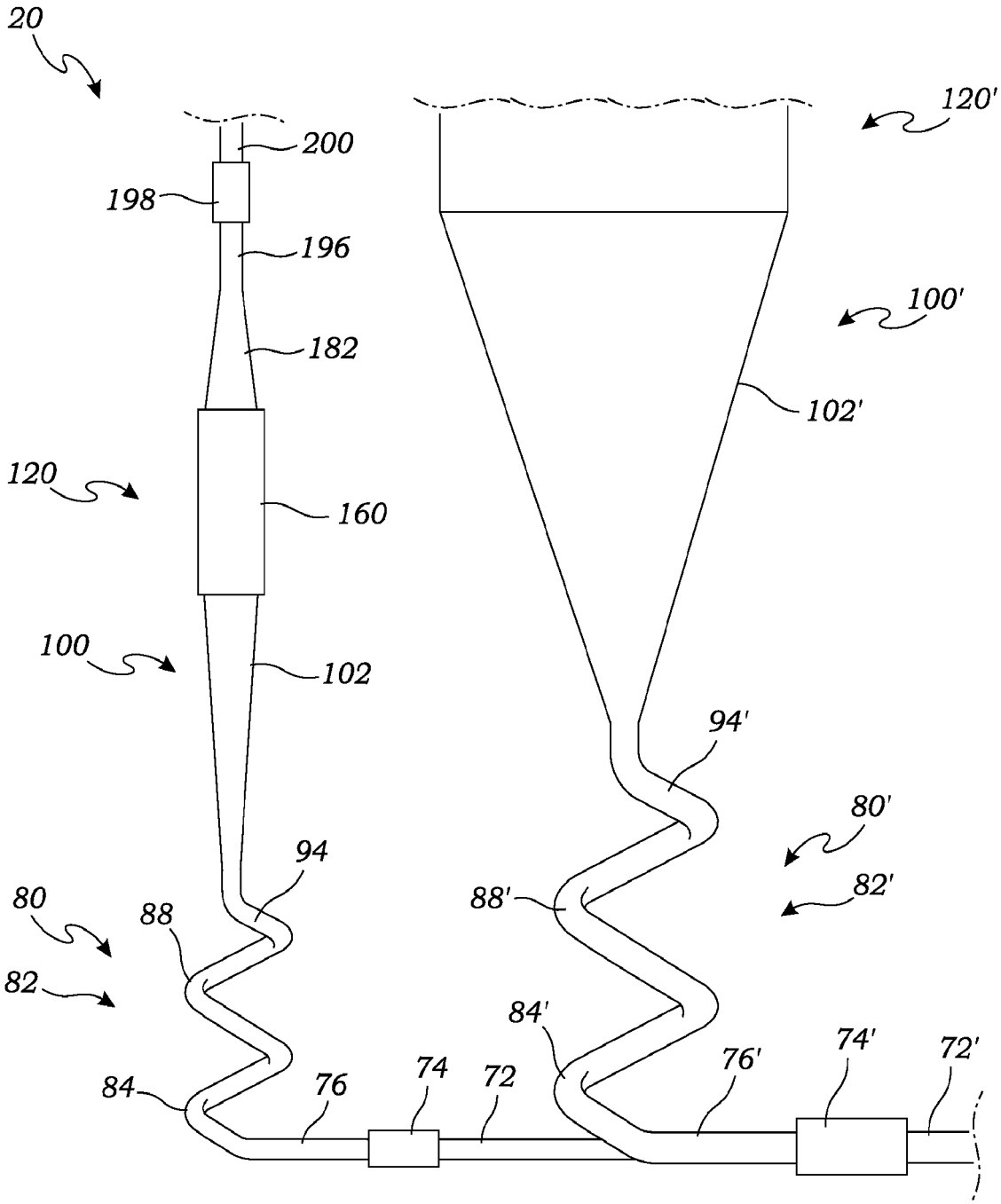

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Fig. 20