

Ex. PGS 1017

[54] **DEVICE AND METHOD FOR POSITIONING OF TOWING SYSTEMS FOR USE IN MARINE SEISMIC SURVEYS**

5,443,027 8/1995 Owsley et al. 114/244

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[75] **Inventor:** **Tor Elholm, Hosle, Norway**

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[30] **Foreign Application Priority Data**

Feb. 23, 1993 [NO] Norway 930641

[51] **Int. Cl.⁶** **G01V 1/38; B63B 21/66**

[52] **U.S. Cl.** **367/16; 114/244; 367/20**

[58] **Field of Search** 367/16, 17, 18, 367/20, 106; 114/244, 245, 246

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[57] **ABSTRACT**

A positioning device for seismic equipment which is towed by a seismic vessel is designed with a body part which is equipped with wings (7) and rudders (8, 6, 9, 5). For the control of wings (7) and rudders (8, 6, 9, 5) control means, preferably hydraulic or electrical means are used. The device further comprises a control unit for processing of signals which preferably operate exclusively on the basis of information from the vessel or the ship, instruments for use in the positioning of the device and a communication system for the communication between the vessel and the device and vice versa, preferably electrical, acoustic or optical. It is further equipped with attachment devices for one or more cables (26) and floats, which are preferably provided at the front of the device, and preferably in the vicinity of the wing's (7) attachment point to the device's body part as well as a power supply system.

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24 Claims, 5 Drawing Sheets

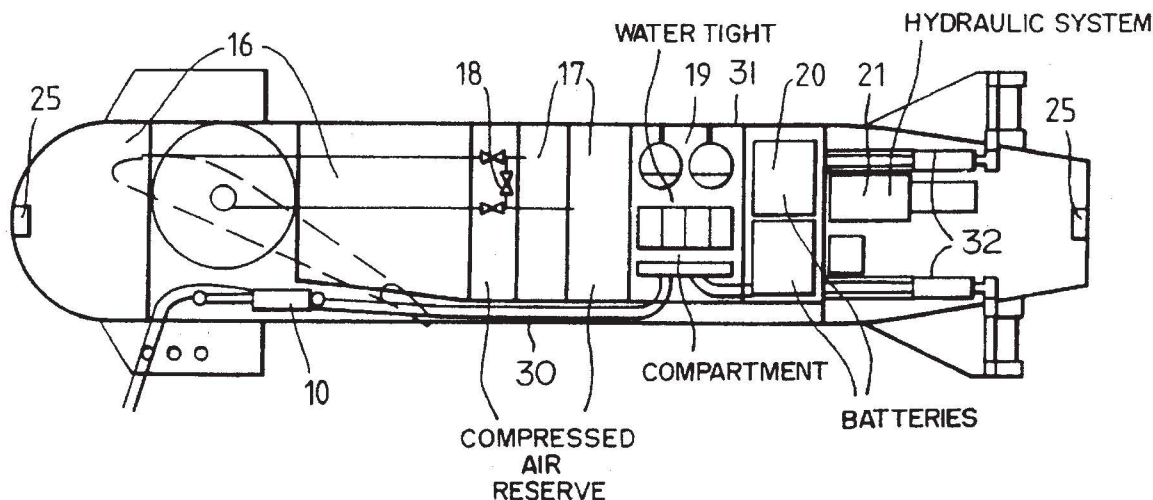


Fig. 1.
(PRIOR ART)

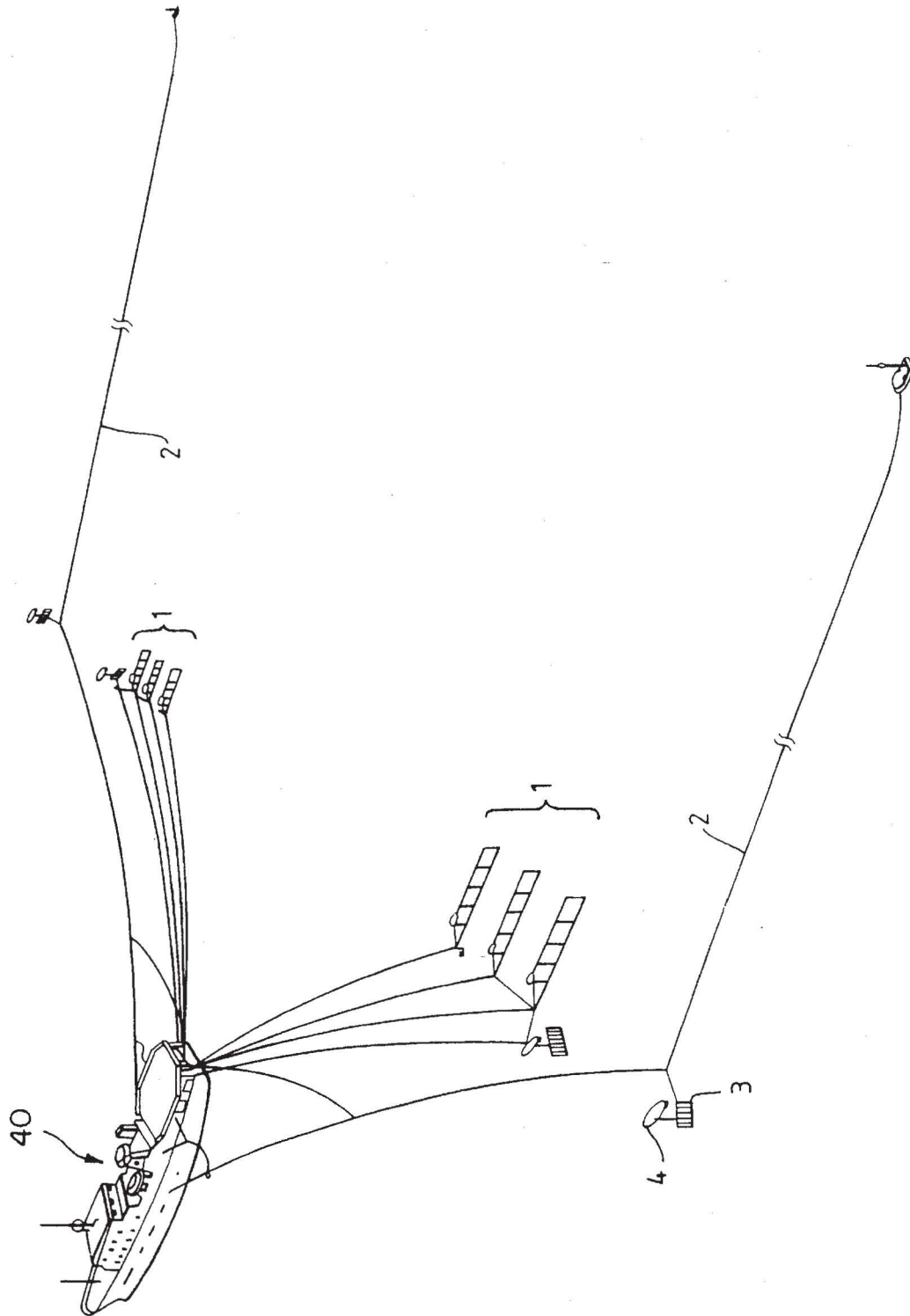


Fig. 2a.

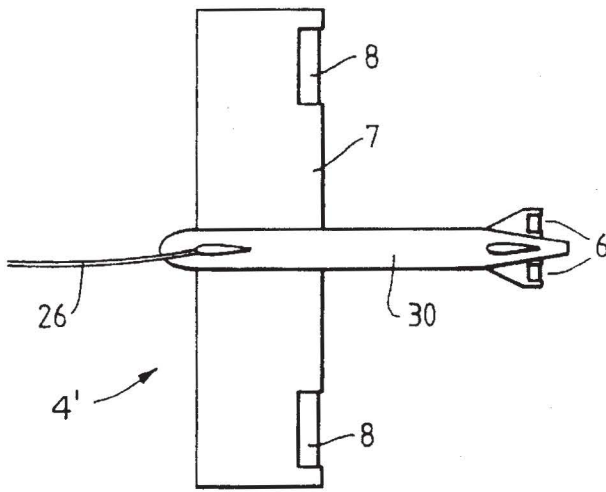


Fig. 2b.

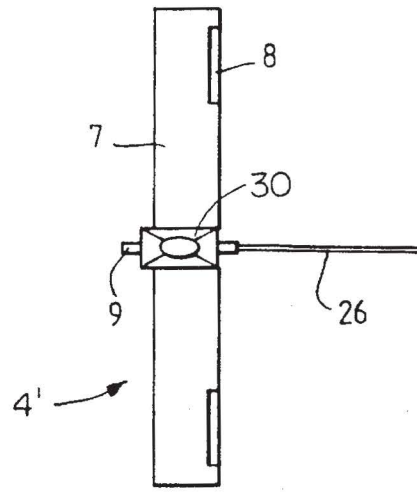


Fig. 2c.

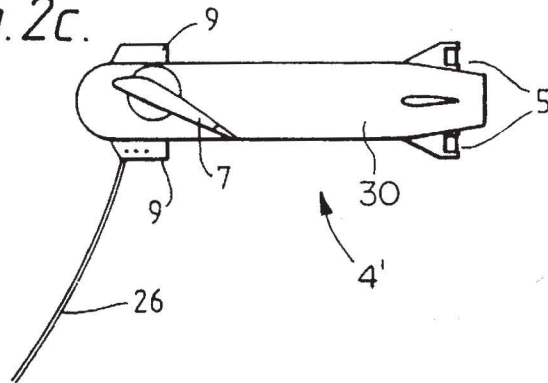


Fig. 3.

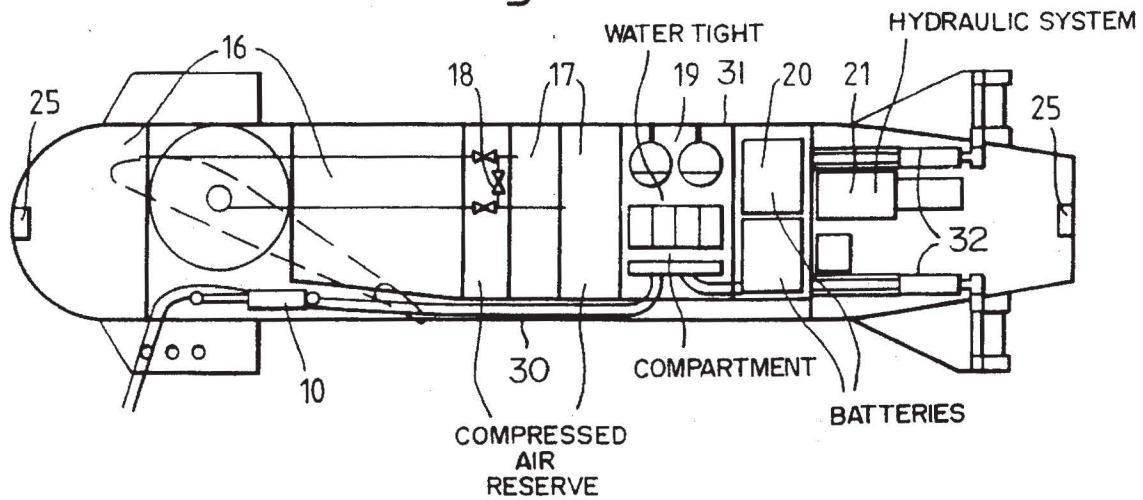


Fig. 4.

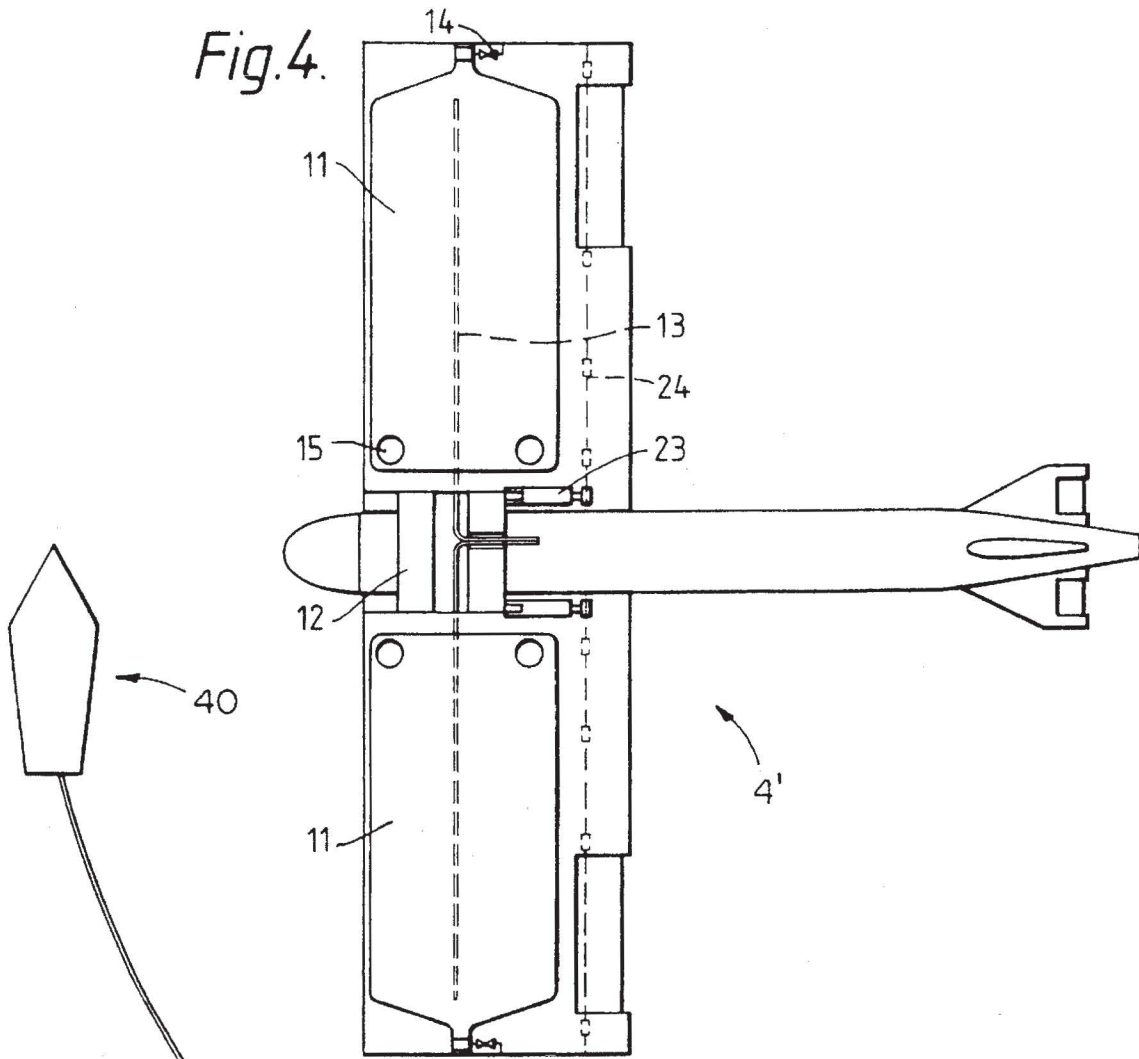
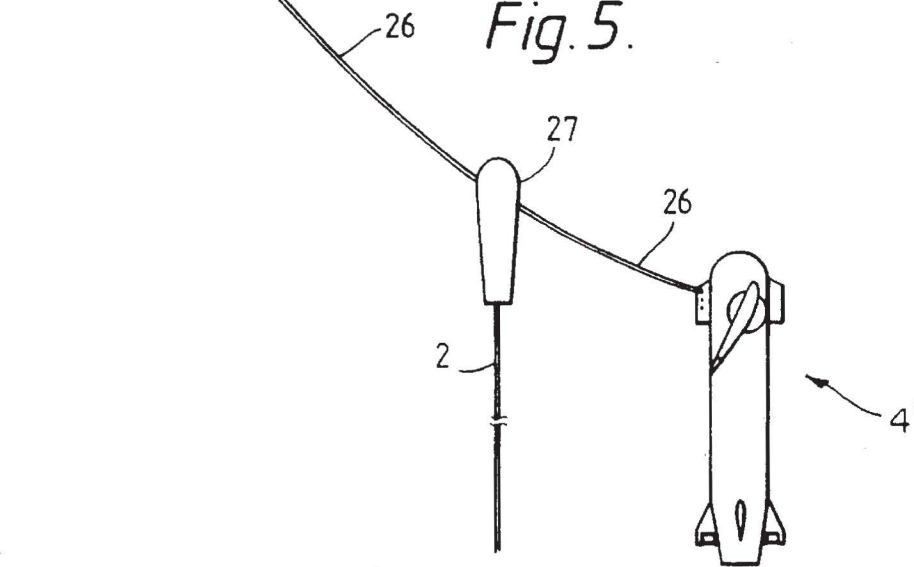


Fig. 5.



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