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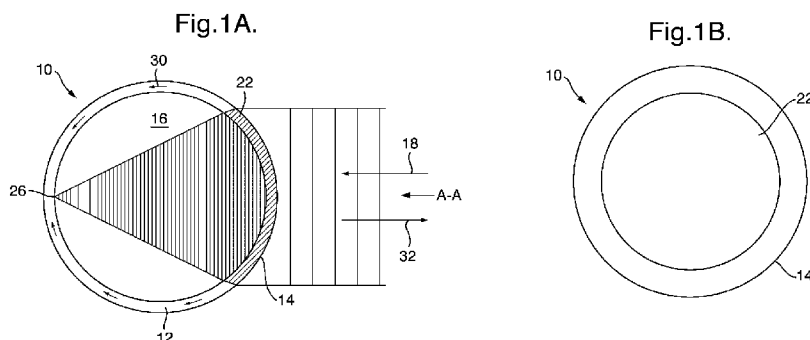
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(54) Title: ACOUSTIC REFLECTORS



(57) Abstract: An acoustic reflector comprises a shell surrounding a core, said shell being capable of transmitting acoustic waves incident on the surface of the shell into the core to be focused and reflected from an area of the shell located opposite to the area of incidence so as to provide a reflected acoustic signal output from the reflector, having a core in which the shell is dimensioned relative to the core such that a portion of the acoustic waves incident on the shell wall are coupled into the shell and guided therein around the circumference of the shell and then re-radiated to combine constructively with the said reflected acoustic signal output so as to provide an enhanced reflected acoustic signal output. The ratio of the speed of sound wave transmission in the shell to the average speed of the wave transmission in the core is preferably in the range of 2.74 to 3.4, inclusive with best result in the range of 2.74 to 2.86 inclusive. Applications to underwater pipelines are described, scouring measurement and arrays of reflectors are also described along with novel methods of construction of such reflectors.