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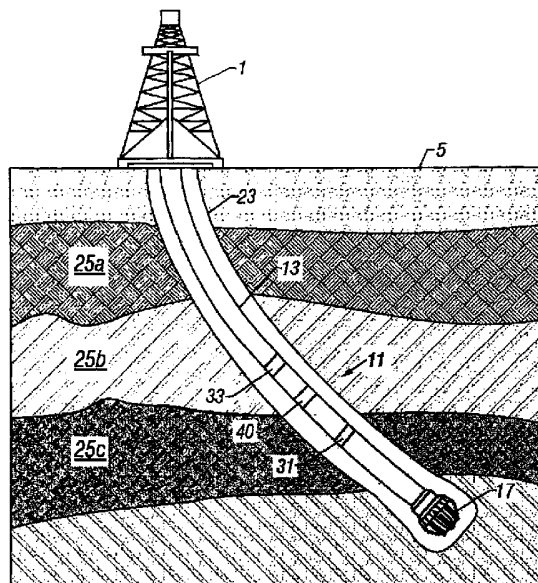
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(54) Abstract Title: **ACOUSTIC ISOLATOR FOR DOWNHOLE APPLICATIONS**

(57) An apparatus for performing acoustic investigations while drilling a borehole in a subsurface geological formation comprises a longitudinally extending assembly conveyed in the borehole on a drilling tubular (13). The assembly and the drilling tubular (13) have a drilling fluid flowing through a longitudinally extending passage in the assembly and the drilling tubular. An acoustic transmitter (31) is supported by the assembly. The transmitter (31) generates acoustic signals in the assembly, the borehole and the subsurface formation. An acoustic receiver (33) is spaced apart from the transmitter (31) and receive the acoustic signals. An attenuator (40) is located in the assembly between the acoustic transmitter (31) and the acoustic receiver (33) for attenuating the acoustic signals in the assembly within a predetermined frequency range. The attenuator (40) comprises a tubular element of a composite material having a substantially cylindrical outer surface. The outer surface has a plurality of spaced-apart masses having a predetermined spacing, mass and length firmly attached thereto.



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