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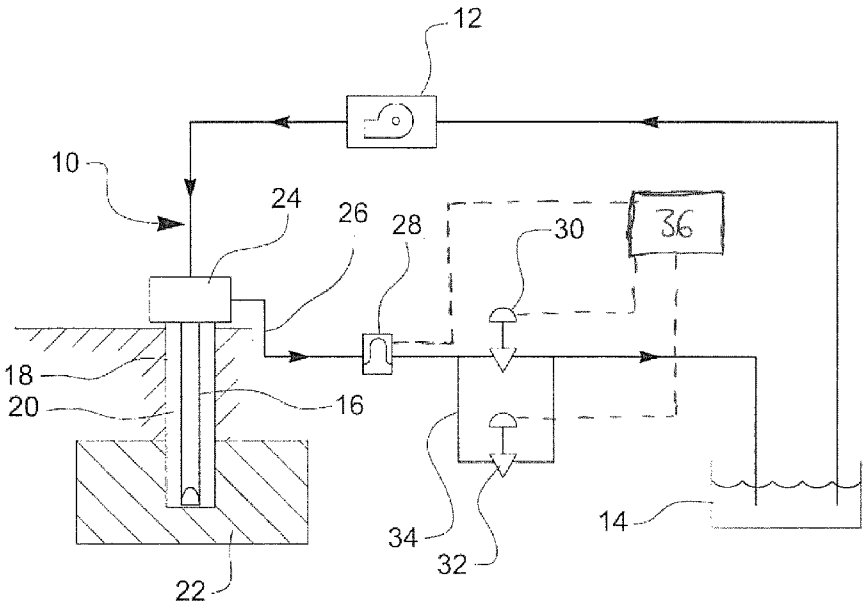

FIG 1

(57) Abstract: A method of drilling a subterranean wellbore using a drill string comprising the steps of: a. injecting a drilling fluid into the well bore via the drill string and removing said drilling fluid from an annular space around the drill string (the annulus) via an annulus return line, b. oscillating the pressure of the fluid in the annulus, c. determining the wellbore storage volume and well-bore storage coefficient for each fluid pressure oscillation, d. using the wellbore storage volume and wellbore storage coefficient to determine the proportion by volume of gas and proportion by volume of liquid in the annulus during that pressure oscillation.

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