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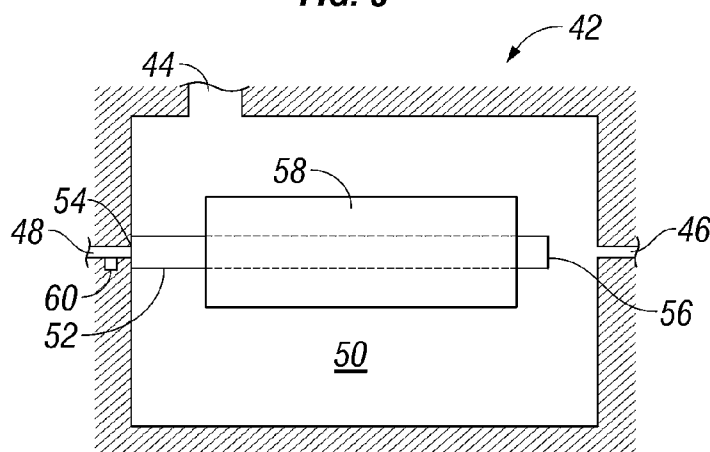
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(54) Title: TOOL FACE SENSOR METHOD

FIG. 3



(57) Abstract: Exhaust pressure from at least one actuator (34,36) which can tilt joint (6) of a bottom hole assembly (4) can be utilized to determine the direction (26) tiltable joint (6) is pointing (e.g., orientation, angular displacement, and/or inclination and azimuth). In one embodiment, a known exhaust pressure can be correlated to a known orientation and/or angular displacement, and the measured exhaust pressure can be compared to the known exhaust pressure to determine the orientation and/or angular displacement. In another embodiment, the flow rate of fluid exhausted from an actuator (34,36) can be derived from the exhaust pressure. The exhaust flow rate can then be used to calculate the state of actuation, which can allow determination of the angular displacement of the tiltable joint (6). Orientation and/or angular displacement with respect to the bottom hole assembly (4) can be resolved into an inclination and azimuth with respect to a formation (14).





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