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(54) Title: GENERATOR DESIGN WITH VARYING GAP

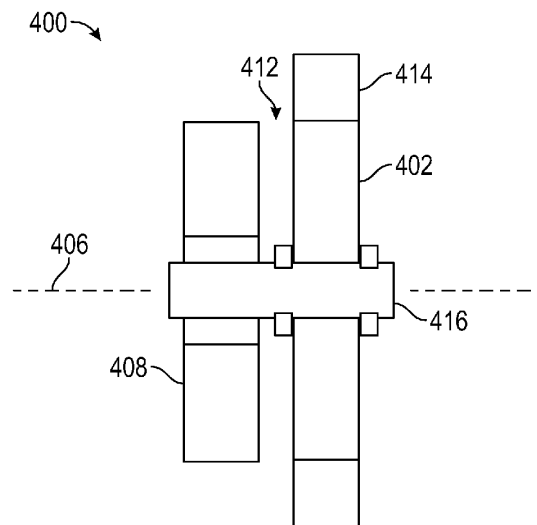


FIG. 7

(57) Abstract: A permanent magnet electric generator for use in downhole applications has a rotor element rotatable about an axis, extending in a radial direction generally perpendicular to the axis and one or more permanent magnets attached to the rotor for generating magnetic fields. A stator element also extends in a radial direction generally perpendicular to the axis. A shaft is connected to the rotor and rotatable about the axis, the shaft extends through the stator. The linear distance along the shaft between the rotor and stator defines a gap that is variable and resistant to debris buildup.

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