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[Continued on next page]

(54) **Title:** APPARATUS FOR CONTROLLING DRILL BIT DEPTH OF CUT USING THERMALLY EXPANDABLE MATERIALS

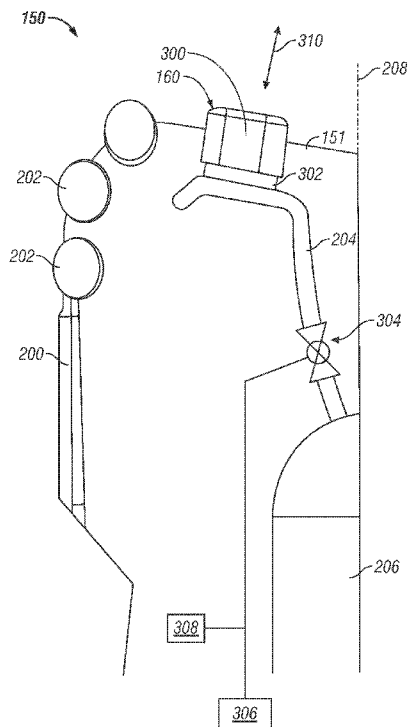


FIG. 3

(57) **Abstract:** In an aspect, drill bit for use in drilling a borehole is provided that includes a body including a side, face section and a passage in the body. The drill bit further includes a rubbing member disposed in the face section and configured to control a depth of cut for the drill bit, wherein the rubbing member comprises a thermally responsive material in thermal communication with the passage configured to control a position of the rubbing member with respect to the face section.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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- *without international search report and to be republished upon receipt of that report (Rule 48.2(g))*