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(71) Applicant (for all designated States except US): **BAKER HUGHES INCORPORATED** [US/US]; P.O. Box 4740, Houston, TX 77210-4740 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LUND, Jeffrey** [US/US]; 1260 South 1600 West, Orem, UT 84058 (US). **LYONS, Nicholas, J.** [US/US]; 808 Pecore Street, Houston, TX 77009 (US). **SULLIVAN, Eric, C.** [US/US]; 10714 Sagecanyon Drive, Houston, TX 77089 (US). **WATTS, Terry, D.** [US/US]; 16726 Bonnie Sean, Spring, TX 77379 (US).

(74) Agents: **WELBORN, Brian, S.** et al.; Baker Hughes Incorporated, P.O. Box 4740, Houston, TX 77210-4740 (US).

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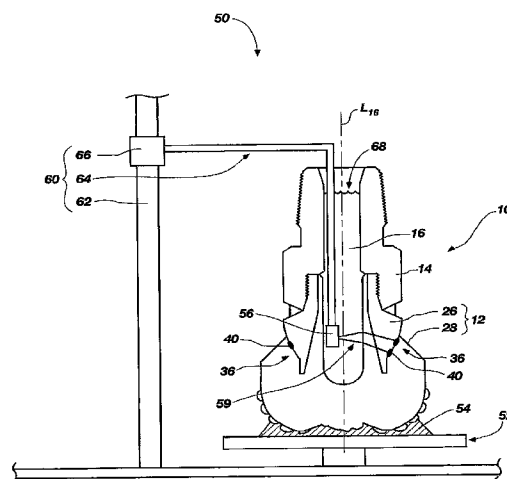
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(54) Title: ROTARY DRILL BITS, METHODS OF INSPECTING ROTARY DRILL BITS, APPARATUSES AND SYSTEMS THEREFOR



(57) Abstract: A method for conducting nondestructive internal inspection of a rotary drill bit used for drilling subterranean formations comprises communicating ultrasonic waves into a drill bit and detecting ultrasonic waves that are reflected by at least a portion of the drill bit. In some embodiments, the waves may be directed into the drill bit from within a longitudinal bore thereof. Reflected waves also may be detected from within the bore. The methods may be used to develop threshold acceptance criteria for classifying drill bits as acceptable or unacceptable to prevent catastrophic failures of drill bits during use. Systems and apparatuses are disclosed for conducting nondestructive ultrasonic inspection of a drill bit used for drilling subterranean formations. The systems and apparatuses may comprise an ultrasonic probe configured for insertion within an internal longitudinal bore of a drill bit. Drill bits are disclosed that are configured to facilitate nondestructive ultrasonic inspection thereof.



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