United States Patent [19]

Klima

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[54] **SEALED HARD-ROCK DRILL BIT**

[76] Inventor: **Frank J. Klima**, 1401 W. Chestnut St., Virginia, Minn. 55792

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[58] **Field of Search** 175/371, 372; 308/8.2, 308/187.1, 187, 187.2, 36.1, 36.2, 36.3; 277/216

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Primary Examiner—Stuart S. Levy
Assistant Examiner—Thomas R. Hannon
Attorney, Agent, or Firm—Peterson, Palmatier, Sturm, Sjoquist & Baker, Ltd.

[57] **ABSTRACT**

A sealed, internally lubricated rotary roller drill bit for drilling hard earth formations in which internally disposed axially, thrust and ball anti-friction bearings are used in combination and in which a first seal means is provided for preventing the introduction of drilling debris and a second seal means is provided to prevent the introduction of such debris and to maintain the lubricant inside of the bit under pressure. A pressure relief means is provided to allow excess lubricant to flow around one of the seals. A stream of air is directed through the bit, first in a direction to "clean" the bore hole and in further directions to allow ready access to a lubricant fitting and to effect a seal at the interface between rotating portions of the bit.

6 Claims, 3 Drawing Figures