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# MAGNETIC WAER DEBRIS COLLECTOR FOR AIR BEARING OF A SPINDLE MOTOR IN A HARD DISK DRIVE

## ABSTRACT

A method and apparatus for providing magnetic wear debris collection for an air bearing (250) of a spindle motor (200) in a hard disk drive (100) is disclosed. A magnetic ring (260) is provided near one end of the journal bearing (250) forming an air bearing (250). In addition, the mating surface of the air bearing is paramagnetic or ferromagnetic material. The magnetic ring (260), acting as a debris collector, collects debris (262) from the air bearing (250) to prevent wear debris from reaching the head/disk interface, which can lead to head crash. The journal bearing (250) includes a mating surface. The mating surface may be of paramagnetic or ferromagnetic material. A thrust bearing (252) is provided to axially support the hub (210). The thrust bearing (252) may be an oil bearing or an air bearing.

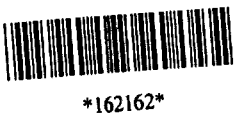

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Fig. 2

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