

ABSTRACT

**TITLE OF INVENTION: A PIVOT THRUST BEARING DEVICE AND A
MOTOR COMPRISING THE SAME**

The present invention provides a pivot thrust bearing device comprising a rotating shaft having a sliding surface at the end thereof, a bearing portion having a thrust bearing portion for supporting the sliding surface of the rotating shaft in sliding contact with the sliding surface, and a lubricant provided between the rotating shaft and the bearing portion. The rotating shaft is made of steel, the sliding surface thereof is subjected to implantation of titanium ions and carbon ions, the dosage of titanium ions to the ion-implanted surface is 2.5×10^{17} ions/cm² or more, and the dosage of carbon ions is 1.6 times or more the dosage of titanium ions. Since the bearing device of the present invention is advantageous in minimizing a dimensional change in the axial direction for an extended period of time, the bearing device can be used to support the rotor of a spindle motor, and can also be used for the spindle motor directly driving, particularly the discs of a magnetic disc storage, whereby a displacement in the axial direction of the discs with the passage of time can be prevented.

Figure 3.