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**Neal**

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(54) **STATOR ASSEMBLY MADE FROM A PLURALITY OF TOROIDAL CORE SEGMENTS AND MOTOR USING SAME**

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(52) **U.S. Cl.** ..... **29/597; 29/596; 29/606; 310/45; 310/218**

(58) **Field of Classification Search** ..... 29/596, 29/598, 597, 605, 606, 732; 310/214, 216, 310/45, 154, 156, 218  
See application file for complete search history.

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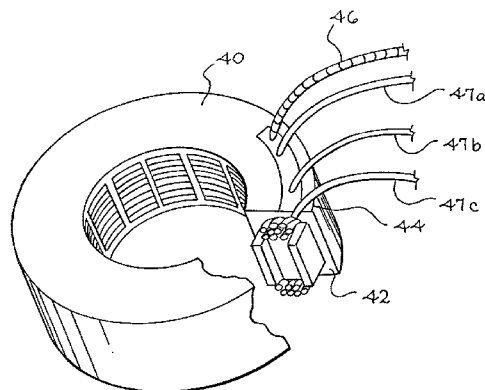
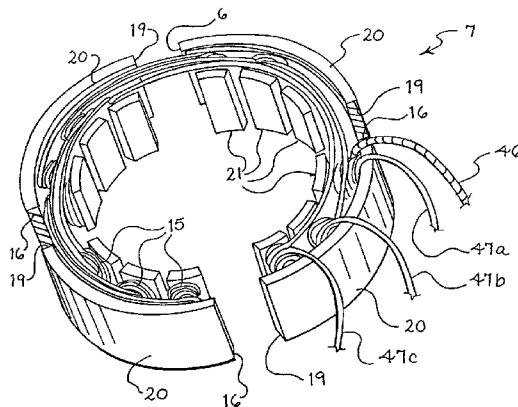
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(57) **ABSTRACT**

A plurality of stator arc segments form a toroidal core for a stator assembly used to make a motor. In a preferred embodiment, a plurality of magnetic fields is created when electrical current is conducted through wire wound around poles on the toroidal core. A monolithic body of phase change material substantially encapsulates the conductors and holds the stator arc segments in contact with each other in the toroidal core. Hard disc drives using the motor, and methods of constructing the motor and hard disc drives are also disclosed.

**29 Claims, 6 Drawing Sheets**



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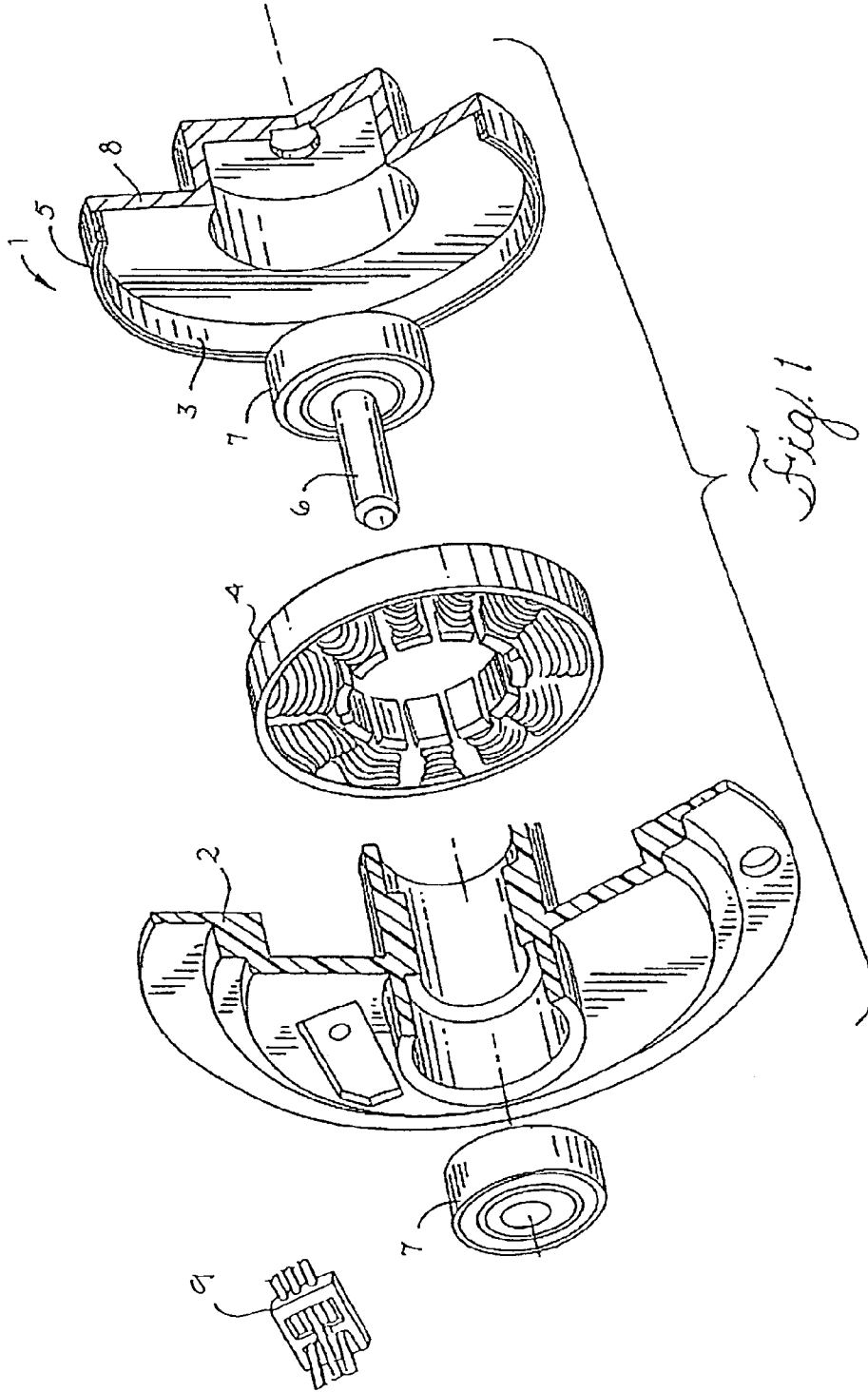
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*Fig. 1*

*Prior Art*

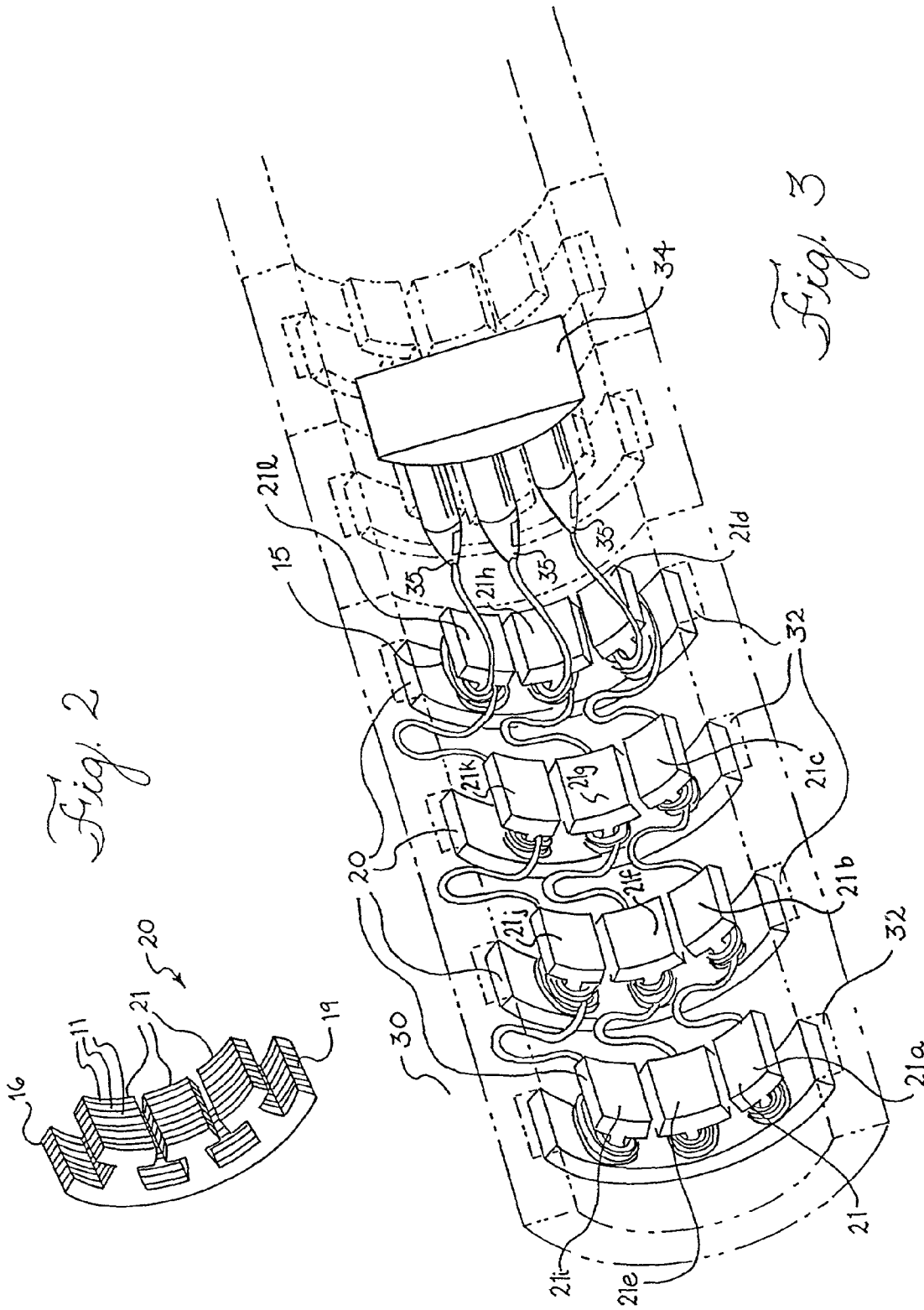


Fig. 2

Fig. 3

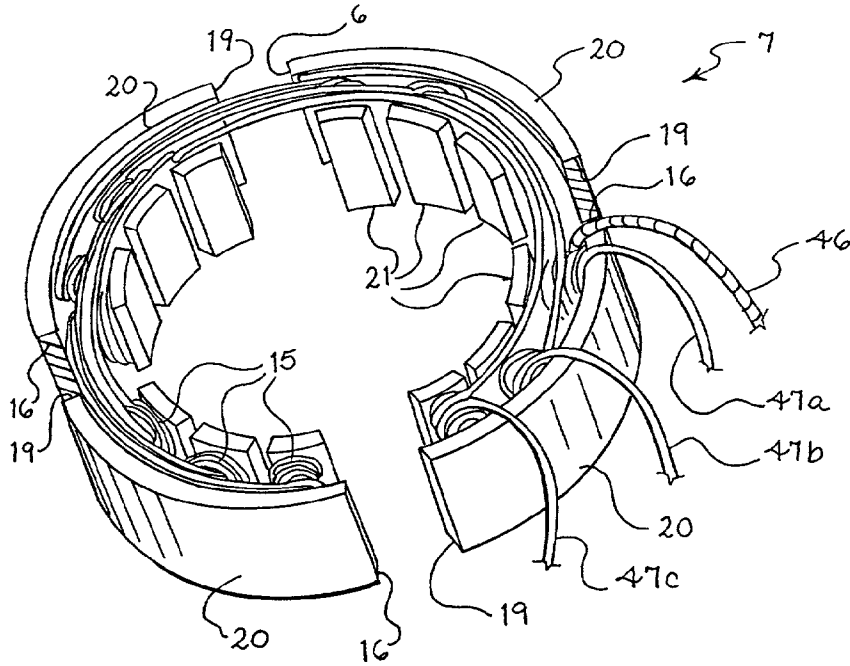


Fig. 4

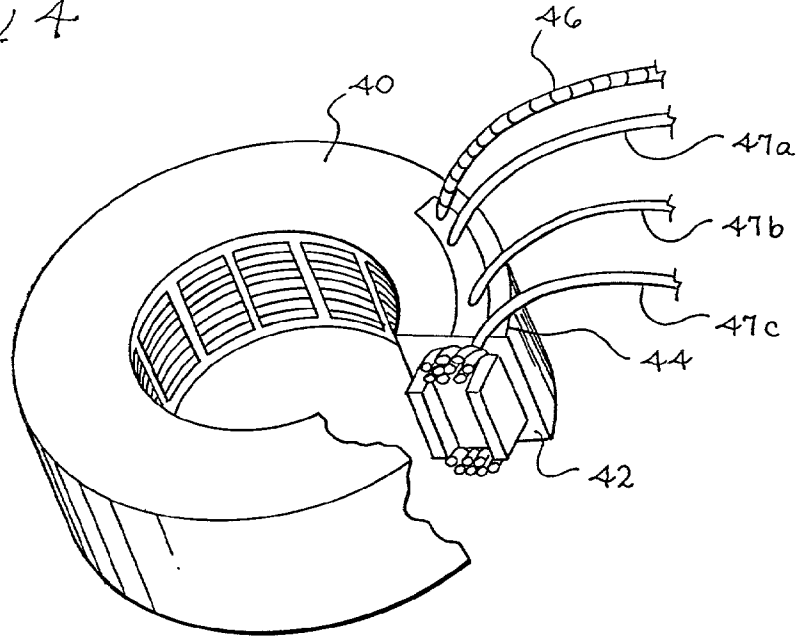


Fig. 5

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