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Neal

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

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(51) **Int. Cl.**

H02K 1/18 (2006.01)

H02K 15/02 (2006.01)

H02K 15/10 (2006.01)

(52) **U.S. Cl.** **310/259**; 310/42; 310/45; 310/218

(58) **Field of Classification Search** 310/42-43, 310/45, 216-218, 254, 259; 244/432, 433, 244/433.4; 29/596
See application file for complete search history.

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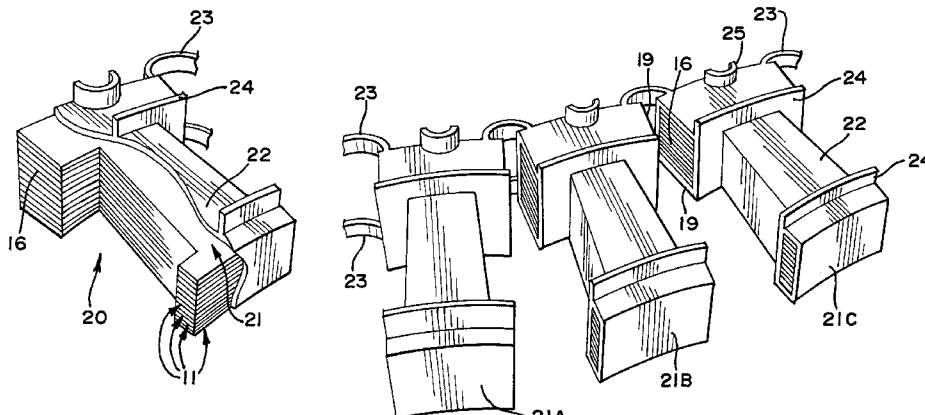
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(57) **ABSTRACT**

A plurality of stator arc segments **20** are linked together by a phase change material **22** enabling simplified winding and higher slot fill. Once wound this continuous structure can be formed into a toroidal core **17** for a stator assembly **40** used to make a motor **100**. In a preferred embodiment, a monolithic body **42** of phase change material substantially encapsulates the conductors and holds the stator arc segments **20** in contact with each other in the toroidal core **17**. Hard disc drives using the motor **100**, and methods of constructing the motor **100** are also disclosed.

14 Claims, 5 Drawing Sheets



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FIG. 1
PRIOR ART

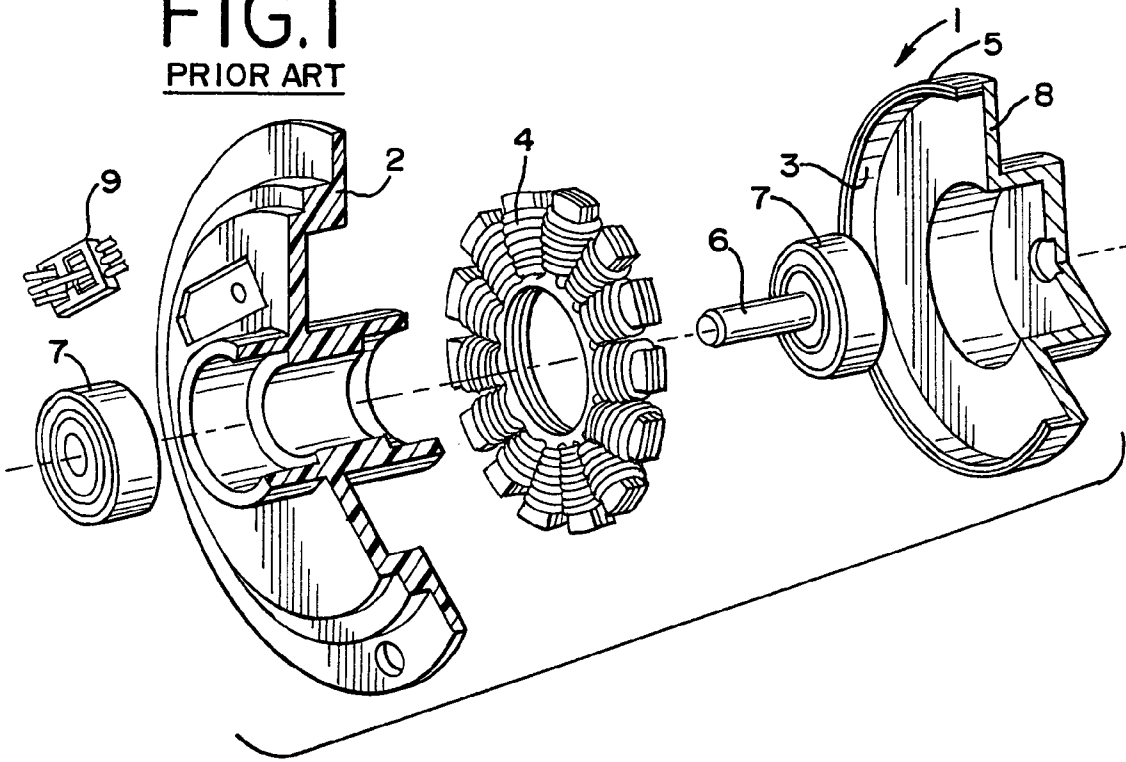


FIG. 2

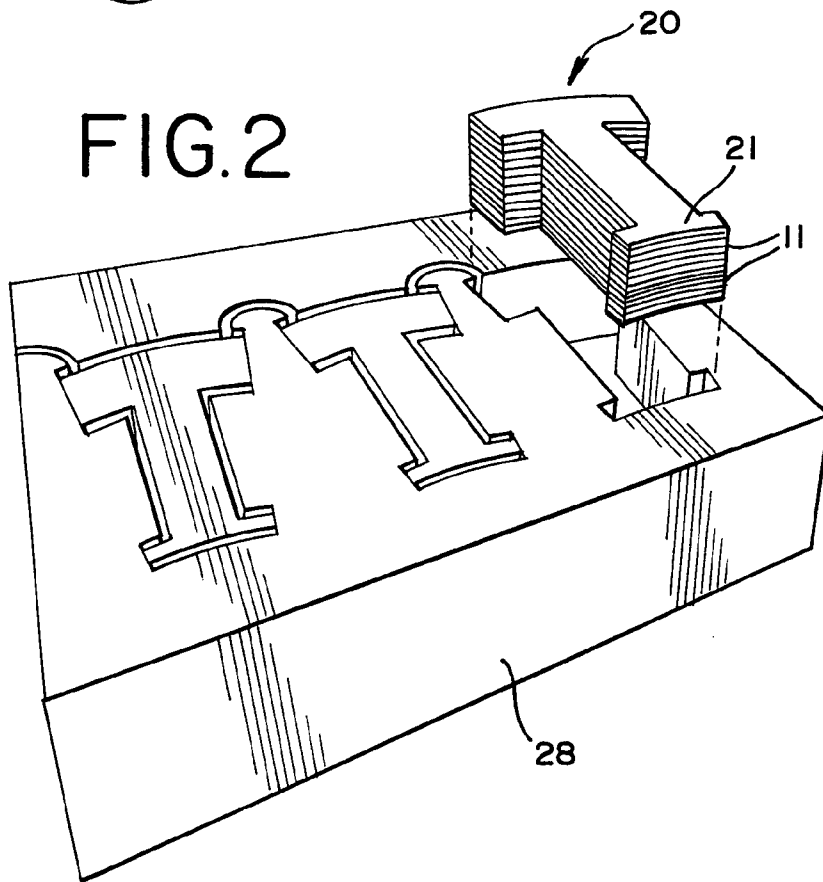


FIG. 3

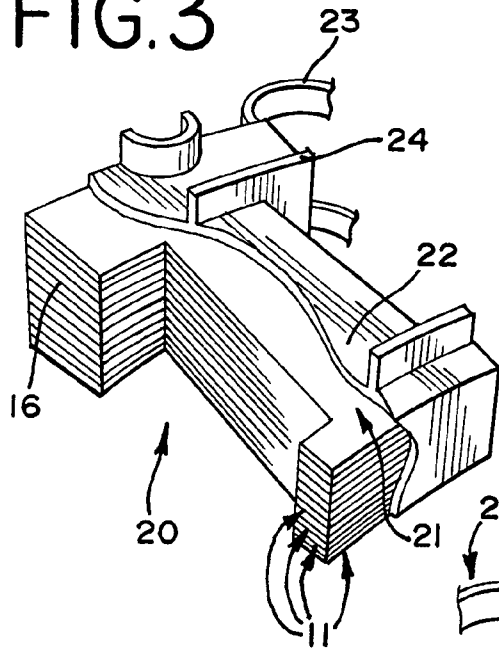


FIG. 4

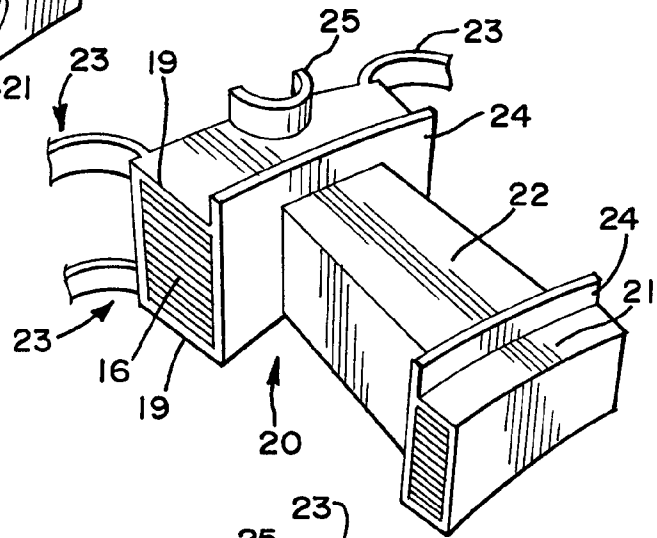
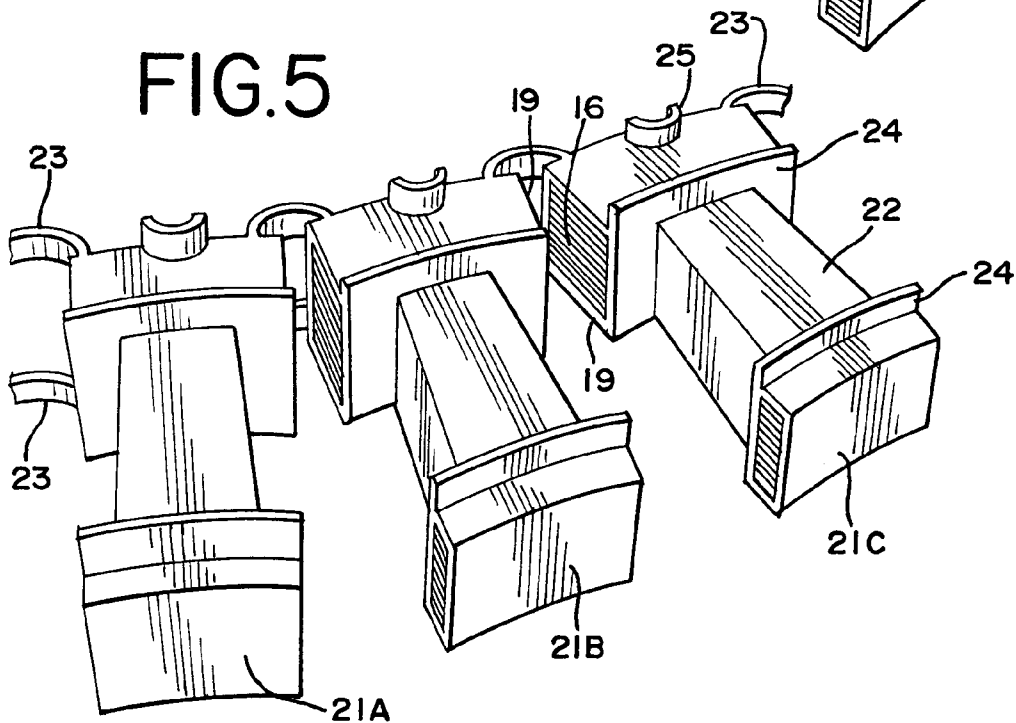


FIG. 5



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