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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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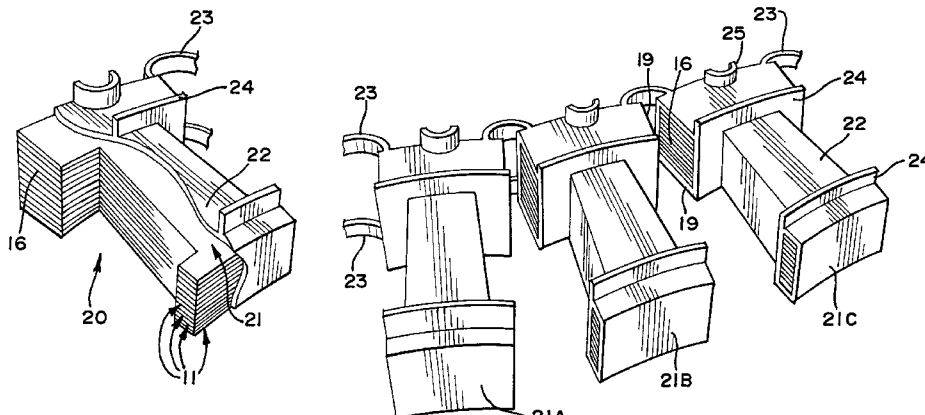
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(57) **ABSTRACT**

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

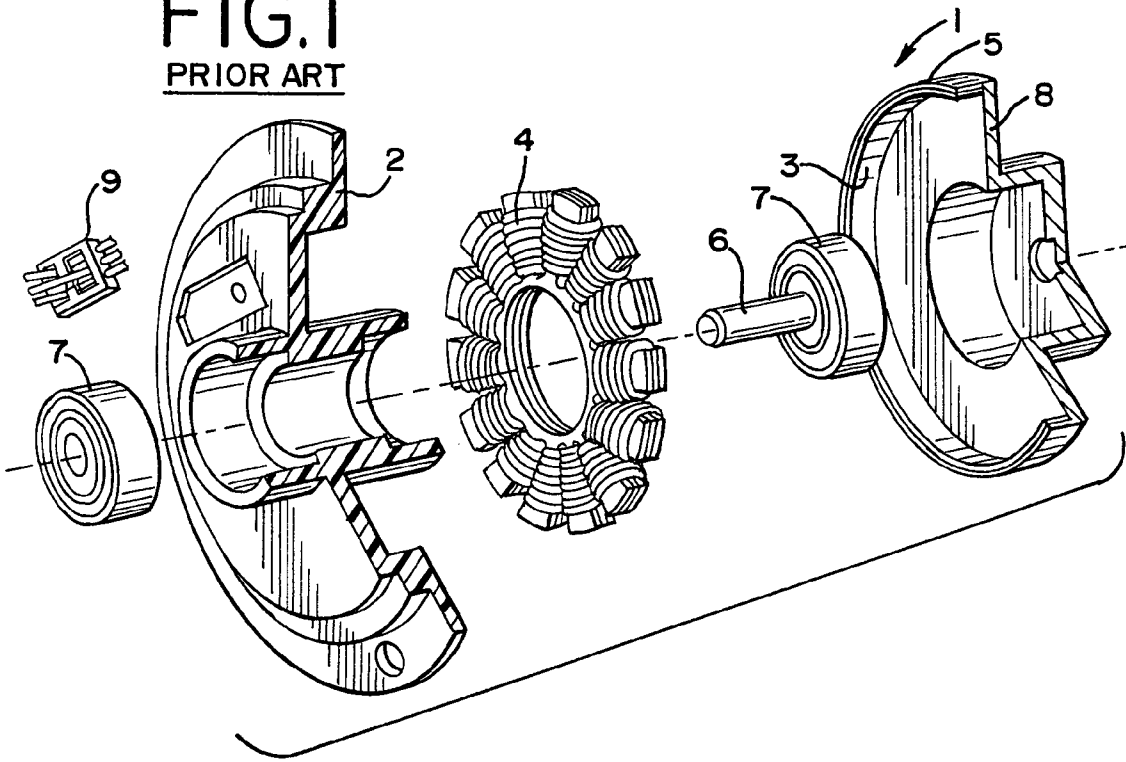


FIG. 2

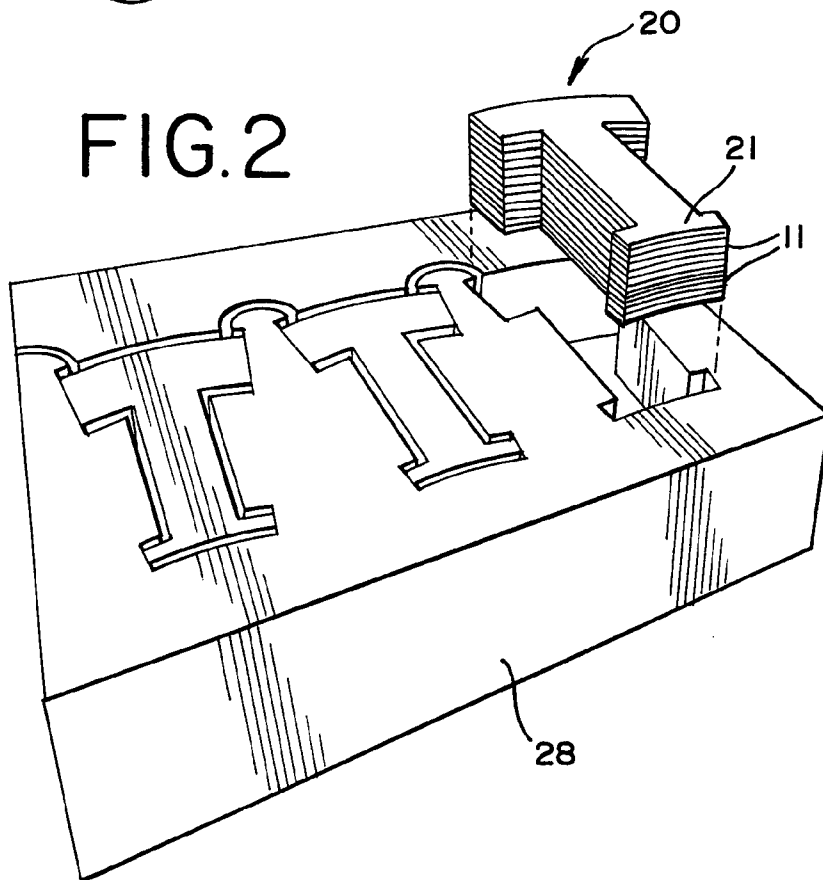


FIG. 3

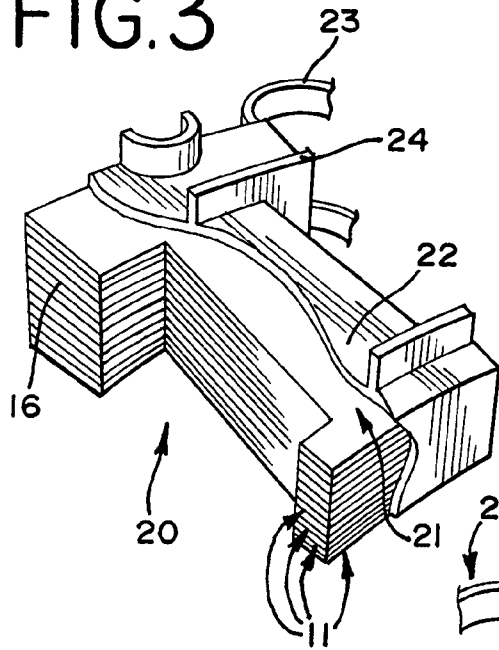


FIG. 4

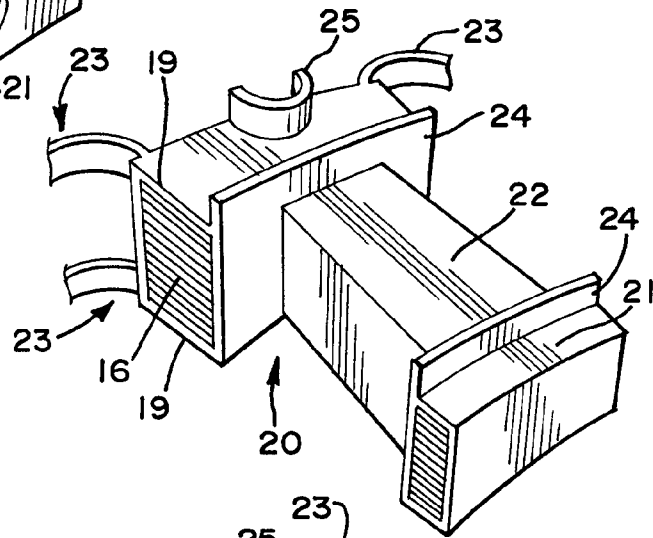
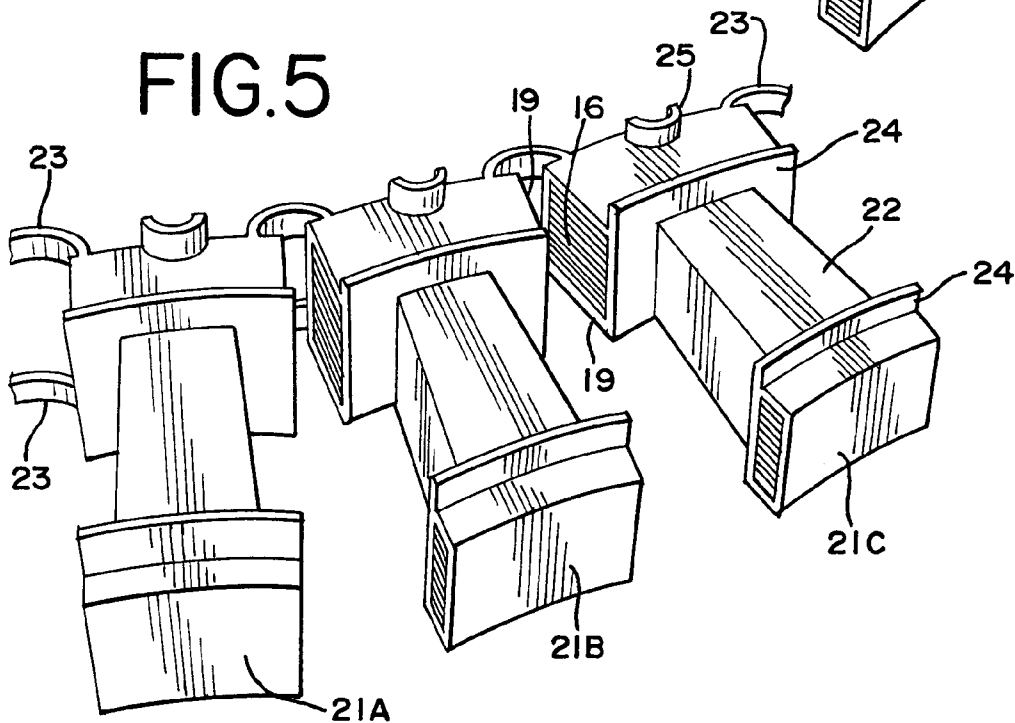


FIG. 5



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