



[54] OUTER-ROTOR ELECTRIC MOTOR HAVING INNER-STATOR FORMED BY CONCENTRICALLY WRAPPING FLATTENED STATOR ELEMENTS ON STATOR CORE

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4,395,815	8/1983	Stanley et al.	29/598
4,712,035	12/1987	Forbes et al.	310/269
4,818,911	4/1989	Taguchi et al.	310/259
5,642,011	6/1997	Fanning et al.	310/216

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[57] ABSTRACT

[21] Appl. No.: 09/296,691

An electric motor of outer-rotor type includes: an inner stator mounted on a stator holder, an outer rotor rotatably circumferentially disposed around the inner stator, a shaft coaxially secured with the outer rotor, and a housing combined with the stator holder for encasing the outer rotor and the inner stator within the housing; with the inner stator including an annular core made of magnetic conductor, a plurality of fin arrays made of magnetic conductors and formed as a fin array assembly concentrically wrapped on the annular core, and a plurality of insulating coil bobbins each coil bobbin pre-wound with the coil windings thereon and jacketed on each fin array, thereby forming an inner stator having a stable construction, a higher winding capacity, higher magnetic flux density and higher output power, as well as a lower production cost.

[22] Filed: Apr. 21, 1999

[51] Int. Cl.⁷ H02K 1/12; H02K 15/02

[52] U.S. Cl. 310/179; 310/216; 310/218; 310/259; 310/269; 29/596; 29/597; 29/598

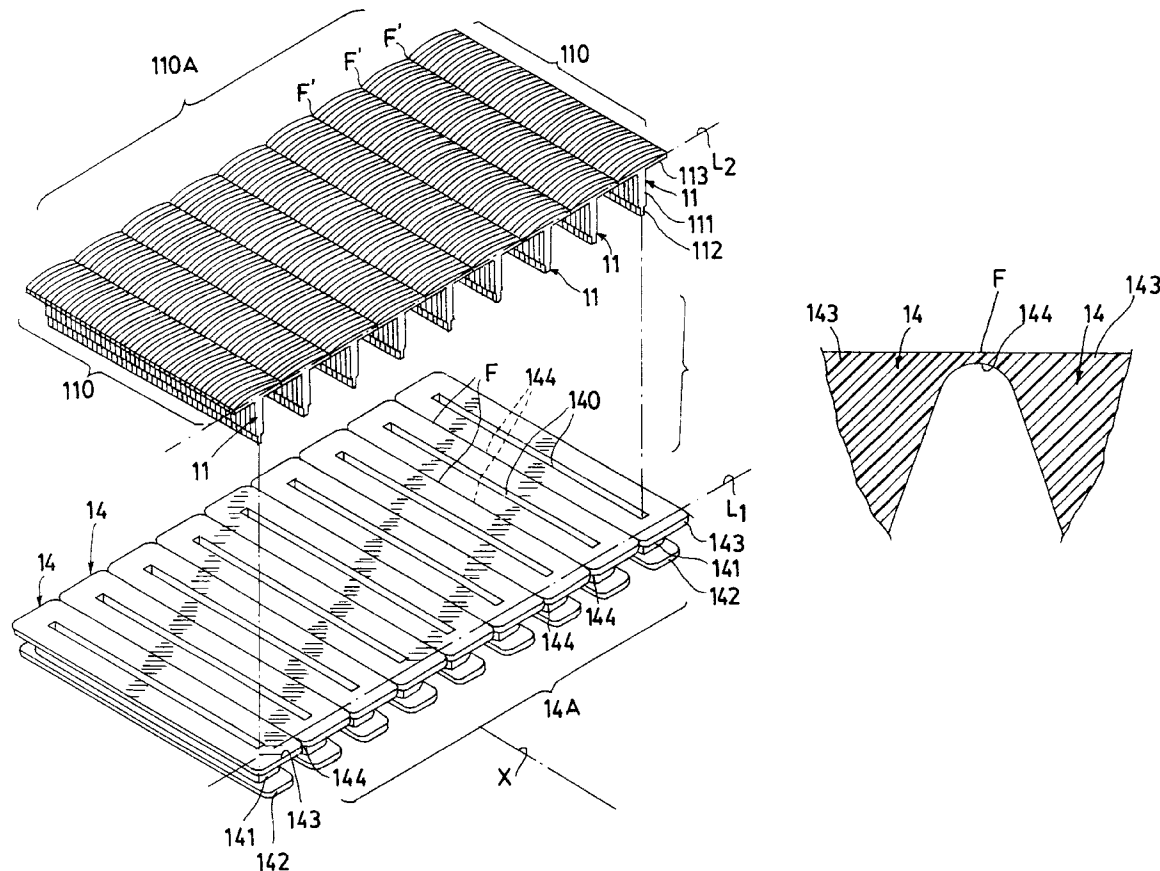
[58] Field of Search 310/254, 259, 310/41, 216, 218, 269, 156, 194; 29/596, 597, 598, 609, 605

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U.S. PATENT DOCUMENTS

3,577,851	5/1971	Detheridge	29/596
3,886,256	5/1975	Ohuchi et al.	310/216
4,102,040	7/1978	Rich	29/598

11 Claims, 8 Drawing Sheets



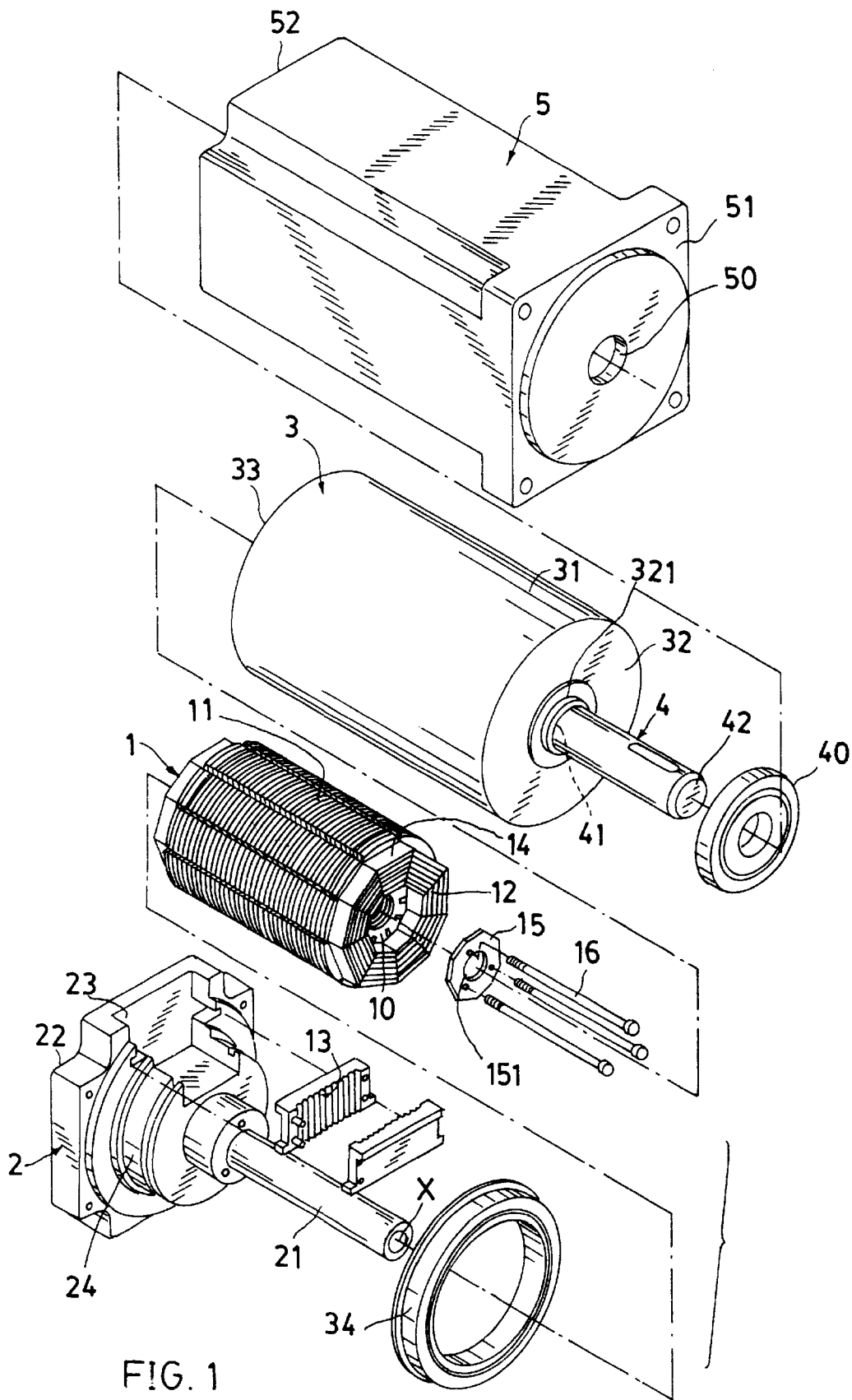


FIG. 1

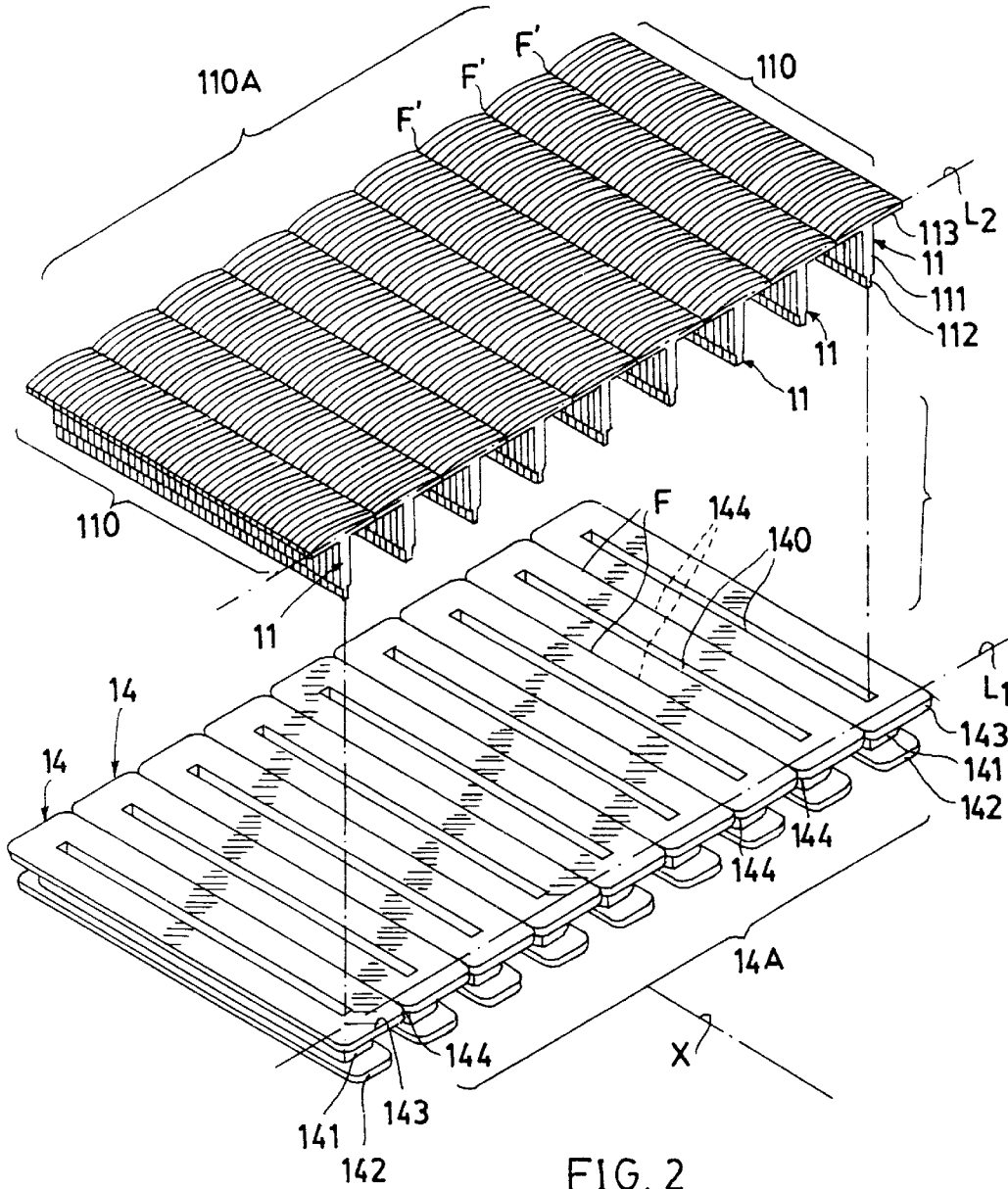


FIG. 2

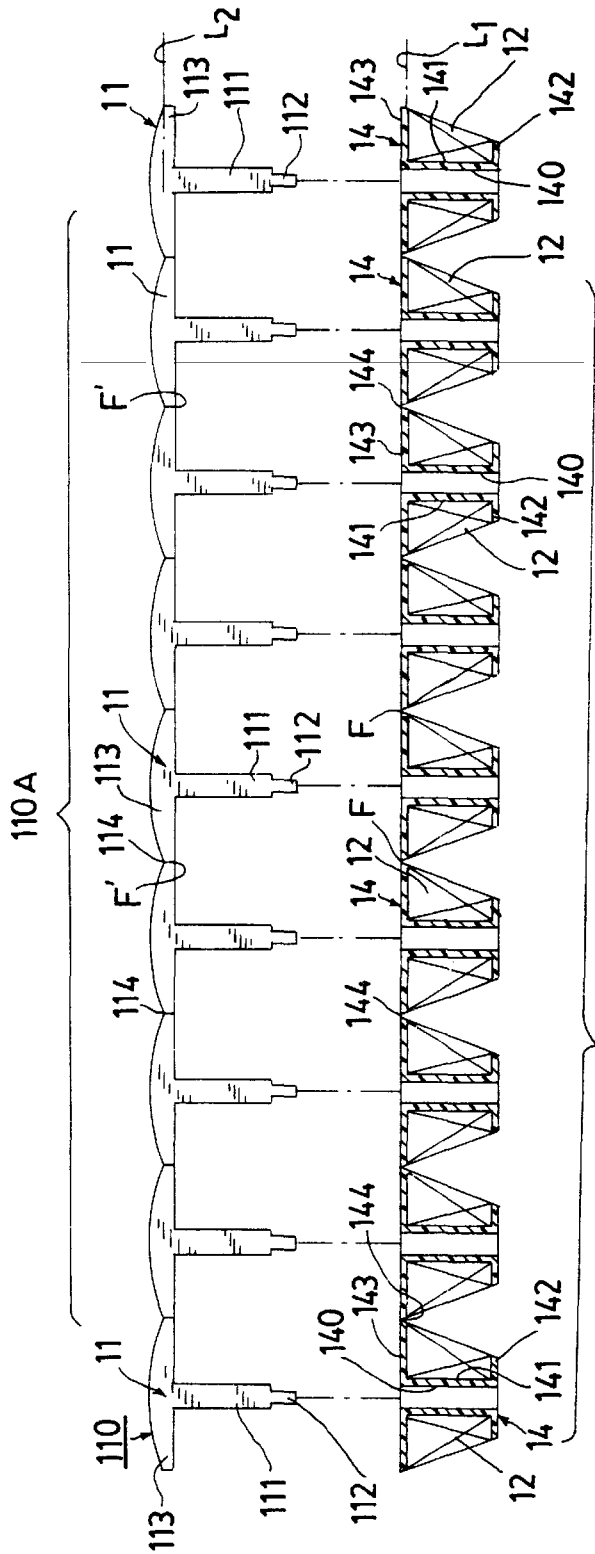


FIG. 3

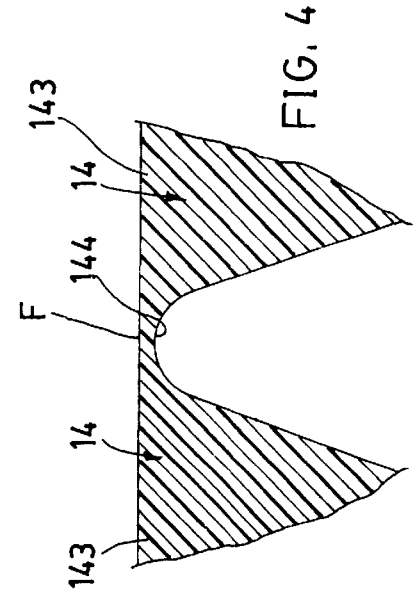


FIG. 4

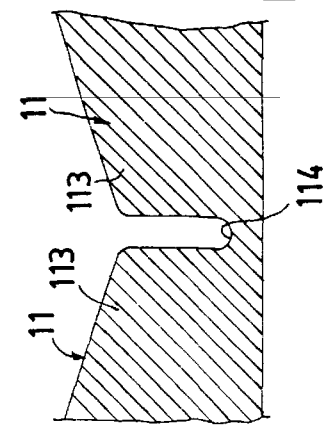


FIG. 5

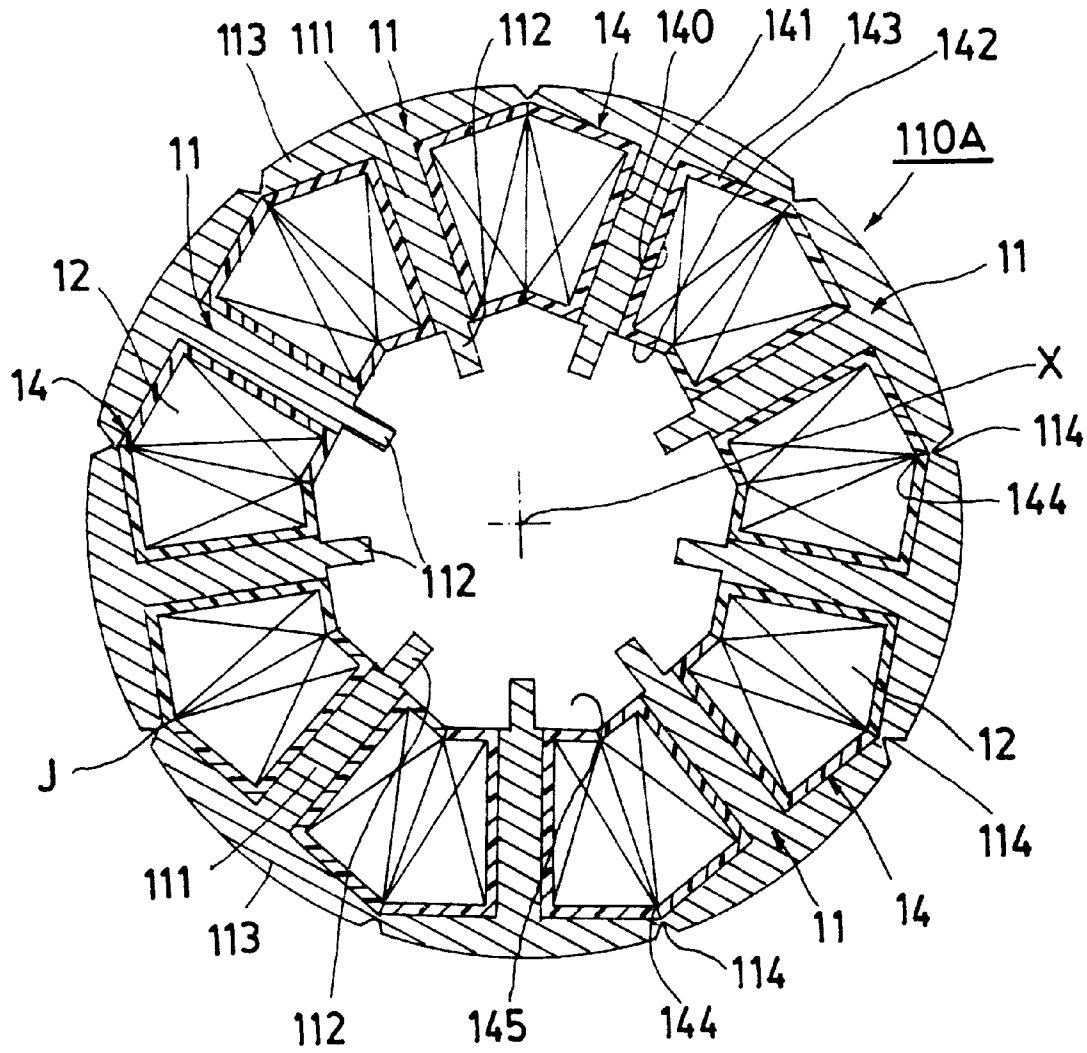


FIG. 6

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