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**United States Patent** [19]

Tabata et al.

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[54] **ELECTRIC MOTOR VEHICLE HAVING MEANS FOR FULLY DISCHARGING PART OF ENERGY STORAGE DEVICE WHEN ENERGY AMOUNT IN THE OTHER PART IS LARGER THAN A THRESHOLD**

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[51] **Int. Cl.<sup>7</sup>** ..... **B60K 6/00**

[52] **U.S. Cl.** ..... **180/165**

[58] **Field of Search** ..... 180/65.3, 165, 180/65.4, 65.5, 65.6, 306, 65.2, 65.8; 701/22; 320/166

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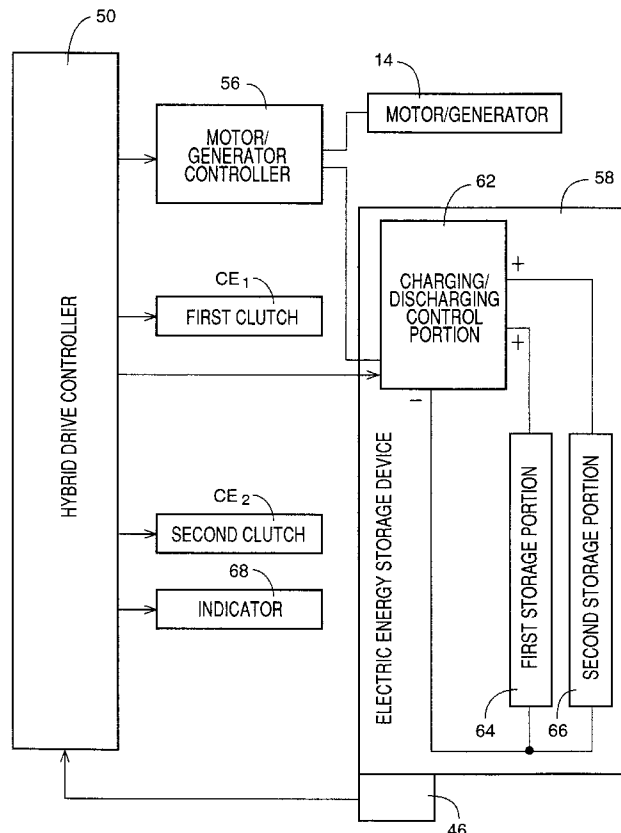
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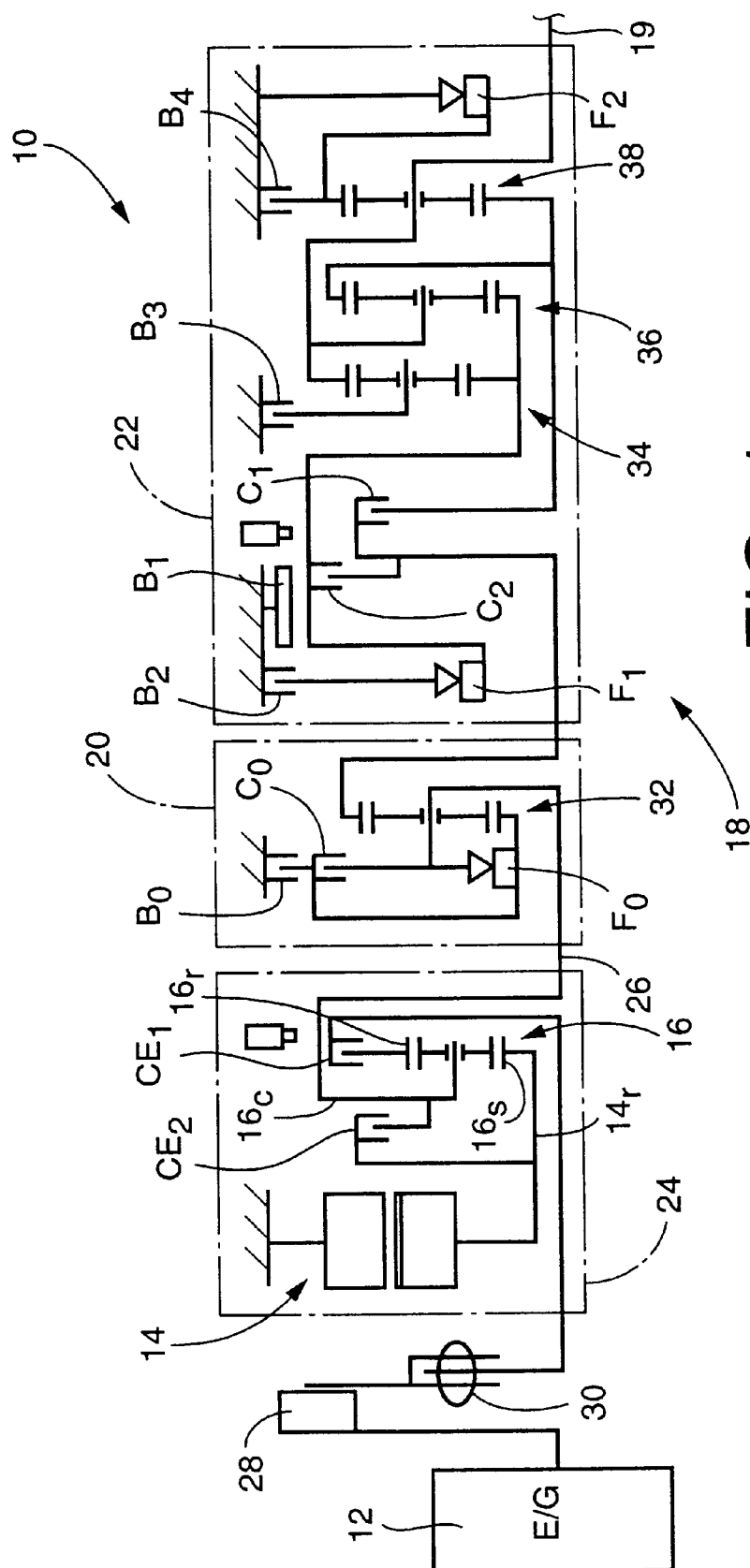
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[57] **ABSTRACT**

An electrically driven automotive vehicle including an electric motor for driving the vehicle, an electric energy storage device for storing an electric energy for operating the electric motor, the storage device having a plurality of storage portions which can be charged and discharged independently of each other, and a fully discharging device for fully discharging at least one of the storage portions, when an amount of electric energy stored in at least one of the other of the storage portions is larger than a predetermined threshold.

**26 Claims, 28 Drawing Sheets**



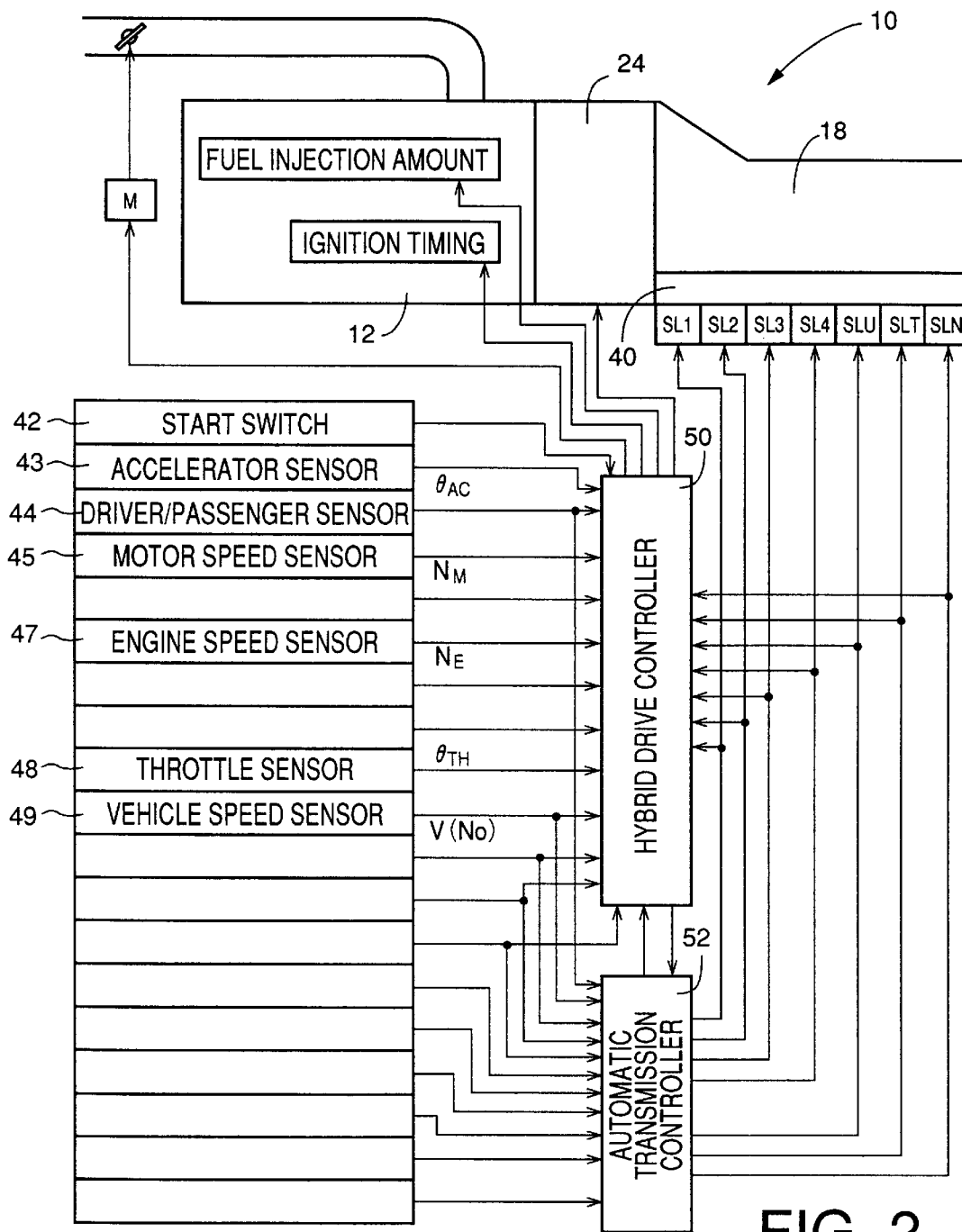
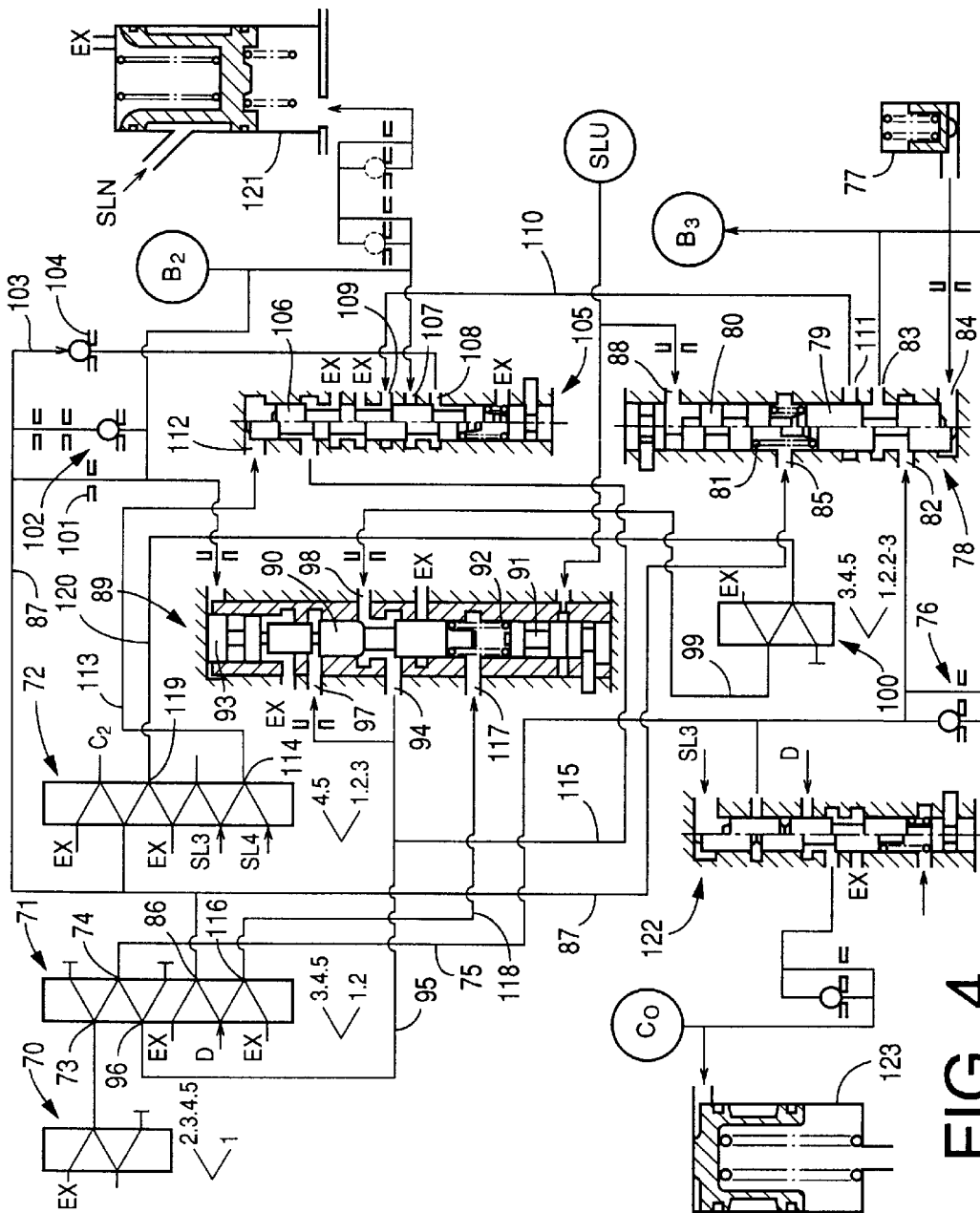


FIG. 2

FIG. 3

SHIFT LEVER	TRANSMISSION	CLUTCHES			BRAKES						ONE-WAY CLUTCHES			SPEED RATIO
		C <sub>0</sub>	C <sub>1</sub>	C <sub>2</sub>	B <sub>0</sub>	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	F <sub>0</sub>	F <sub>1</sub>	F <sub>2</sub>		
NEUTRAL	N	○												—
REVERSE	Rev	○		○					○	○				—4.550
DRIVE	1 st	○	○						●	○			○	3.357
	2 nd	●	○					○		○				2.180
	3 rd	○	○			●	○			○	○			1.424
	4 th	○	○	○			○			○				1.000
	5 th		○	○	○		○							0.753



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