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# United States Patent [19]

[11] Patent Number: 5,113,427

Ryoichi et al.

[45] Date of Patent: May 12, 1992

[54] RADIO-SIGNAL-RESPONSIVE VEHICLE DEVICE CONTROL SYSTEM

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[75] Inventors: Kimura Ryoichi; Hattori Noriaki, both of Saitama; Watabe Kazuharu, Tokyo, all of Japan

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Primary Examiner—James L. Dwyer

[21] Appl. No.: 572,686

Assistant Examiner—Dwayne D. Bost

[22] Filed: Aug. 24, 1990

Attorney, Agent, or Firm—Lahive & Cockfield

### Related U.S. Application Data

[63] Continuation of Ser. No. 283,928, Nov. 21, 1988.

### [57] ABSTRACT

### [30] Foreign Application Priority Data

Mar. 31, 1987	[JP]	Japan	62-47914
Apr. 1, 1987	[JP]	Japan	62-79895
Mar. 31, 1988	[WO]	PCT Int'l Appl.	PCT/JP88/00330

A radio-signal-responsive vehicle device control system including a receiver unit (9, 41, 74, 100) for receiving a radio signal generated based on a signal transmitted from a calling telephone unit and for generating a detectable signal based on the received radio signal, receiver unit storage structure (8, 91, 102) mounted in a motor vehicle for storing the receiver unit, a detector (D, 42, 73) for producing a detected signal in response to detection of the detectable signal from the receiver unit, a control unit (S, S', 43, 60) responsive to the detected signal from the detector for producing a control signal based on at least the detectable signal, and an actuator (A, F, 52, 56, 46, 68, 75, 517A) for controlling at least one device in the motor vehicle based on the control signal from the control unit. The vehicle device control system allows the vehicle device to be remotely controlled through a simple and low-cost arrangement, making it possible for a vehicle radio telephone unit with no reception capability to receive and transmit a signal.

[51] Int. Cl.<sup>5</sup> H04M 11/00

[52] U.S. Cl. 379/57; 340/825.44; 340/825.48; 367/197; 180/167; 307/10.1

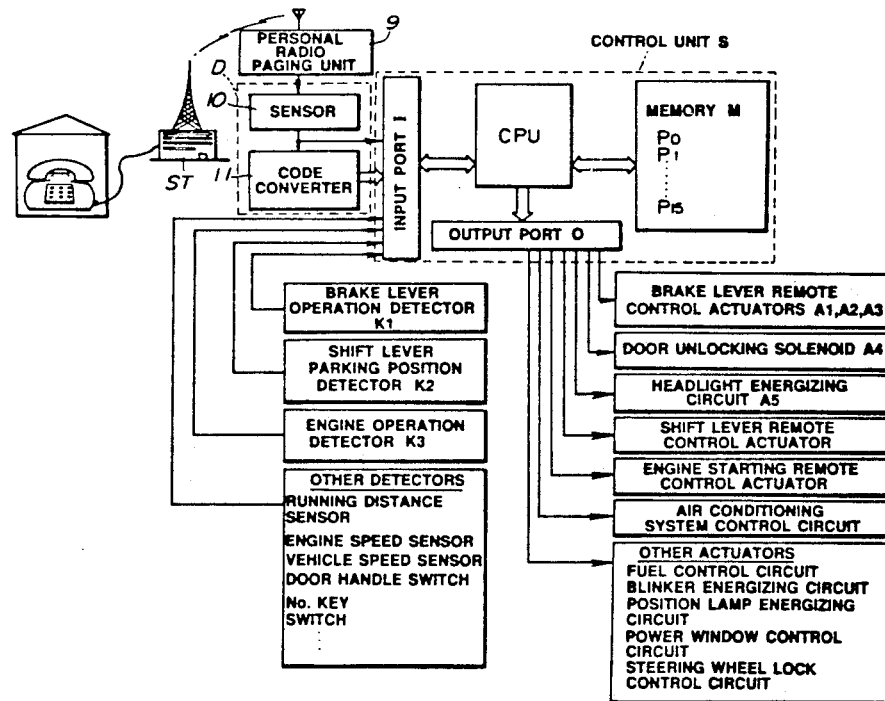
[58] Field of Search 379/57-59, 379/63; 340/425.5, 426, 441, 531, 539, 825.31, 825.44, 825.48, 825.69, 825.71, 825.72; 367/197-199; 180/167; 307/10.1, 10.3, 10.6

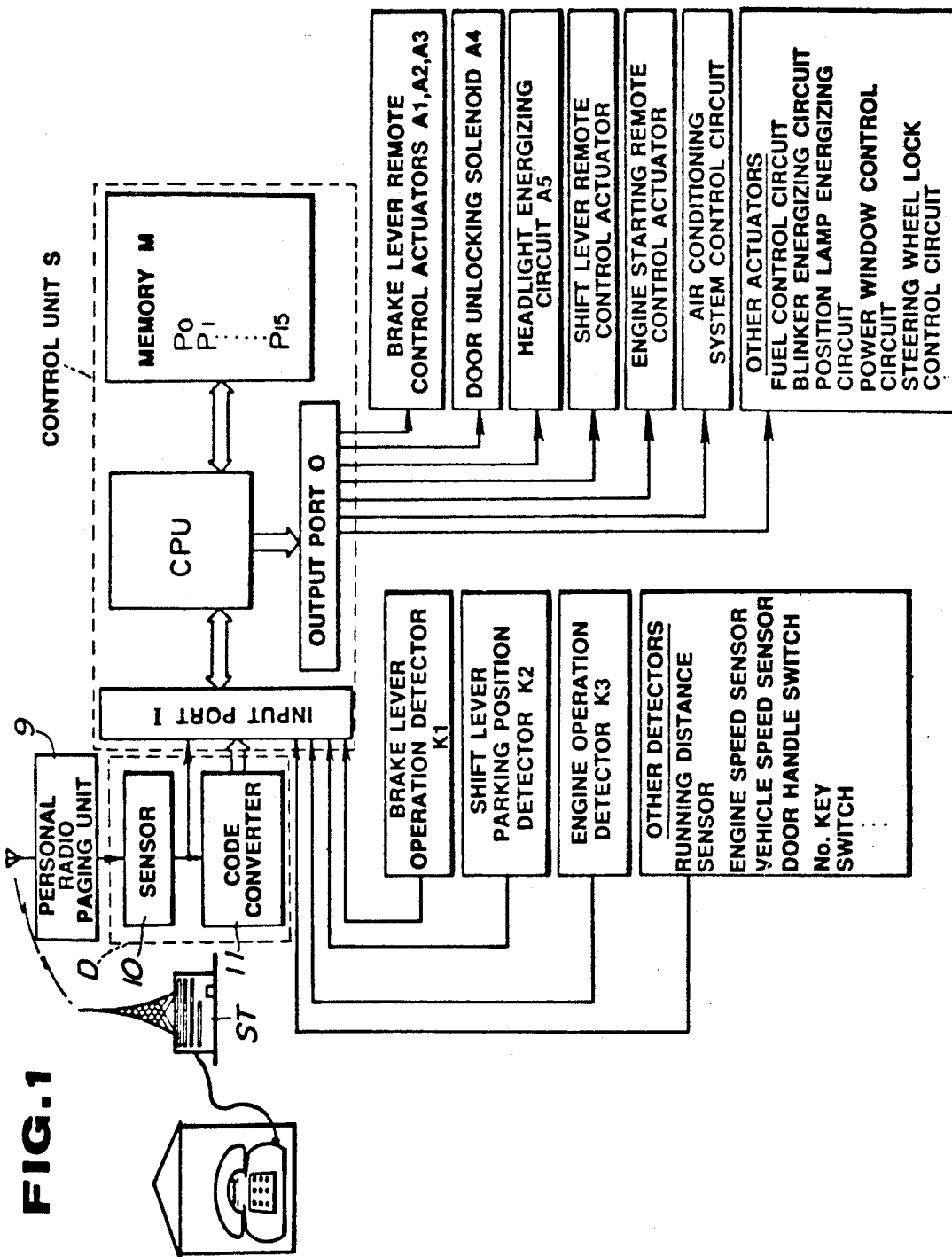
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12 Claims, 23 Drawing Sheets





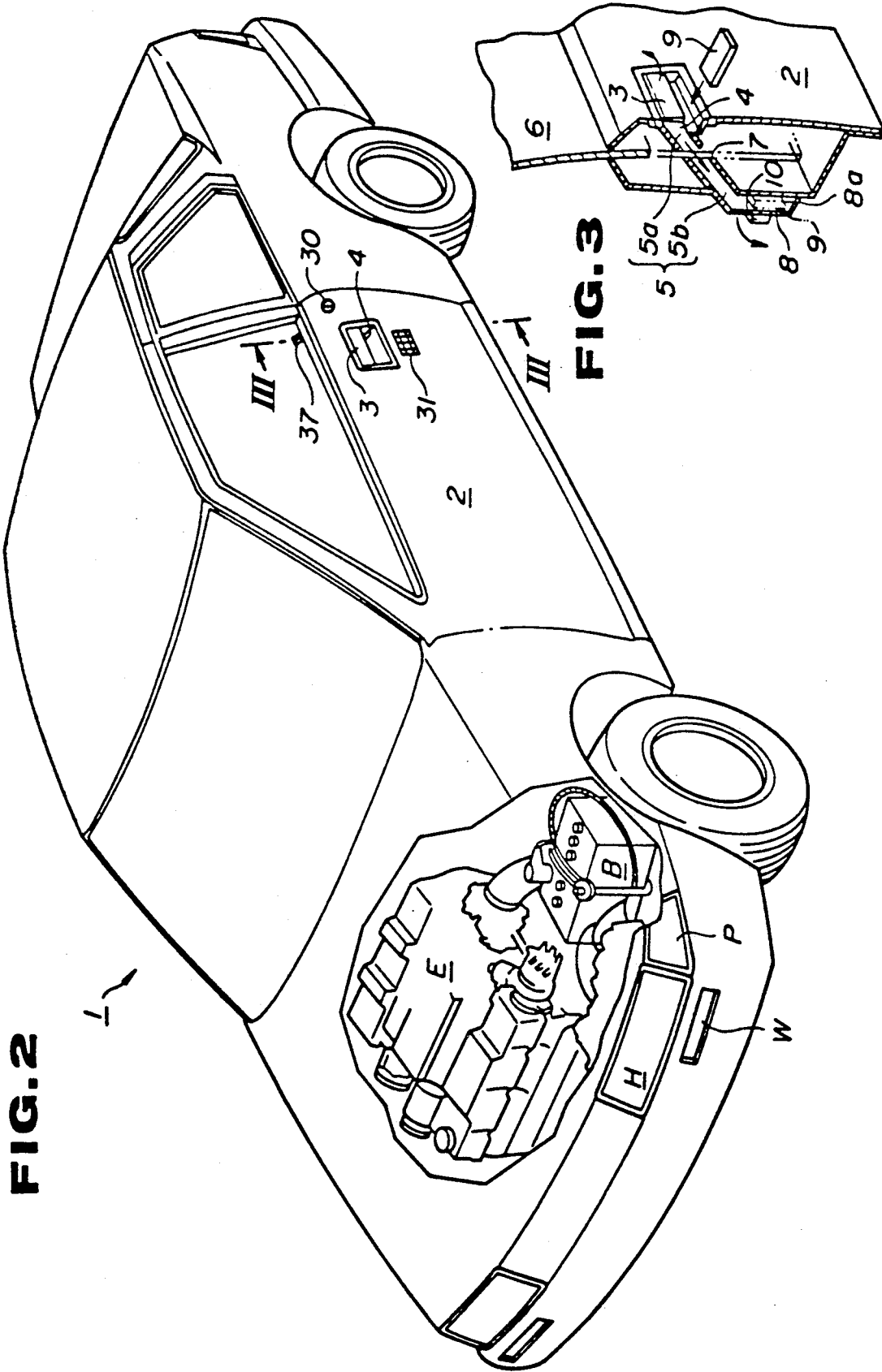


FIG. 2

FIG. 3



FIG. 5

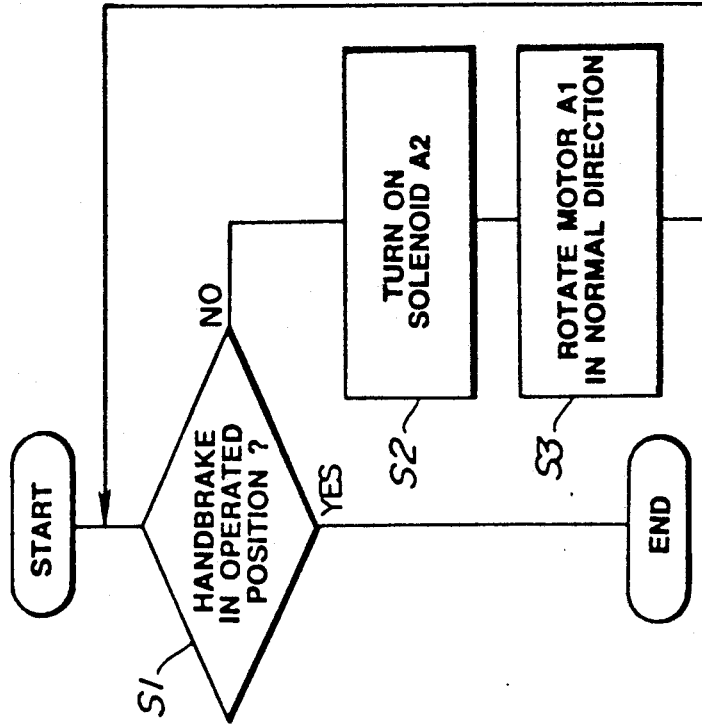
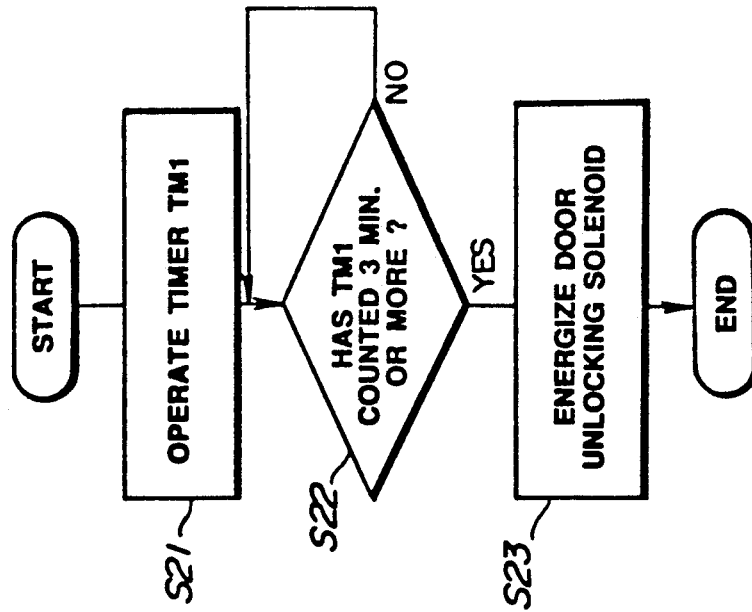


FIG. 6



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