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United States Patent [19] Schousek

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[45] **Date of Patent:** Dec. 12, 1995

[54] **VEHICLE OCCUPANT RESTRAINT WITH SEAT PRESSURE SENSOR**

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[75] **Inventor:** Theresa J. Schousek, Kokomo, Ind.

[57] **ABSTRACT**

[73] **Assignee:** Delco Electronics Corporation, Kokomo, Ind.

An air bag restraint system is equipped with seat occupant sensing apparatus for a passenger seat which detects both infant seats and adults and distinguishes between rear and forward facing infant seats. Air bag deployment is inhibited when an occupied rear facing infant seat is present. The sensing apparatus comprises eight variable resistance pressure sensor in the seat cushion. The response of each sensor to occupant pressure is monitored by a microprocessor which calculated total weight and weight distribution. The weight is used to discriminate between an occupied infant seat, an adult and no occupant. The weight distribution is used to distinguish between forward and rear facing infant seats. Another embodiment uses the occupant sensing along with seat belt fastening detection to indicate when a seat is occupied and the belt is not fastened.

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[22] **Filed:** Jan. 10, 1995

[51] **Int. Cl.⁶** B60R 21/32

[52] **U.S. Cl.** 280/735; 180/268; 280/730.1

[58] **Field of Search** 280/730.1, 732, 280/735; 180/268

[56] **References Cited**

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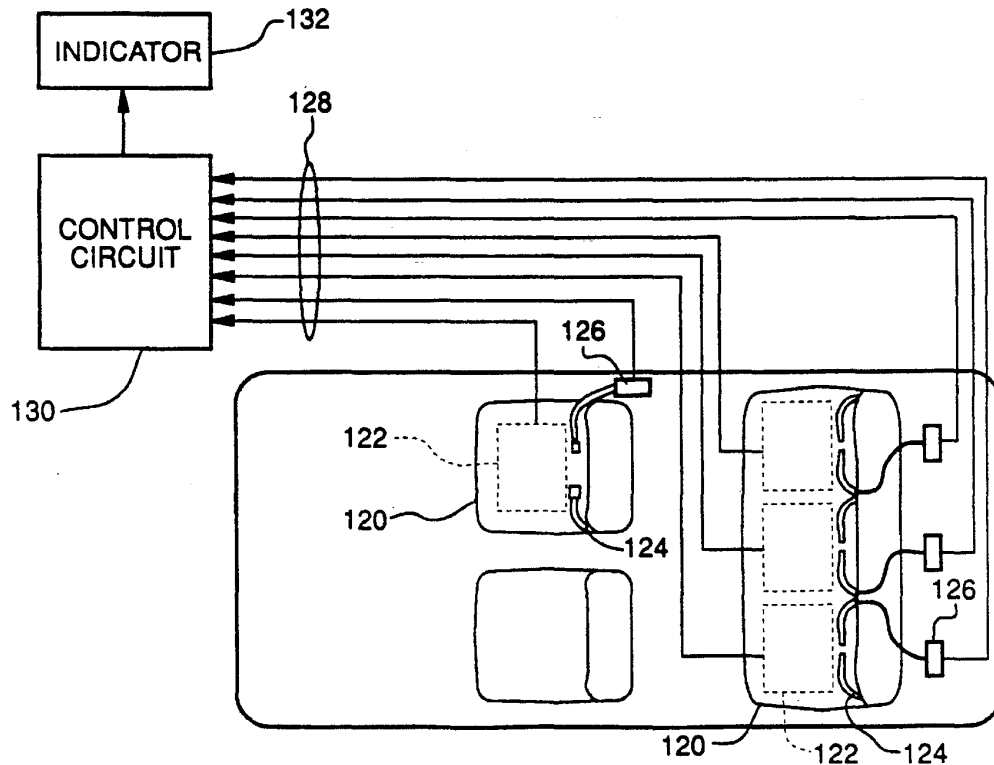
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Primary Examiner—Kenneth R. Rice

11 Claims, 4 Drawing Sheets



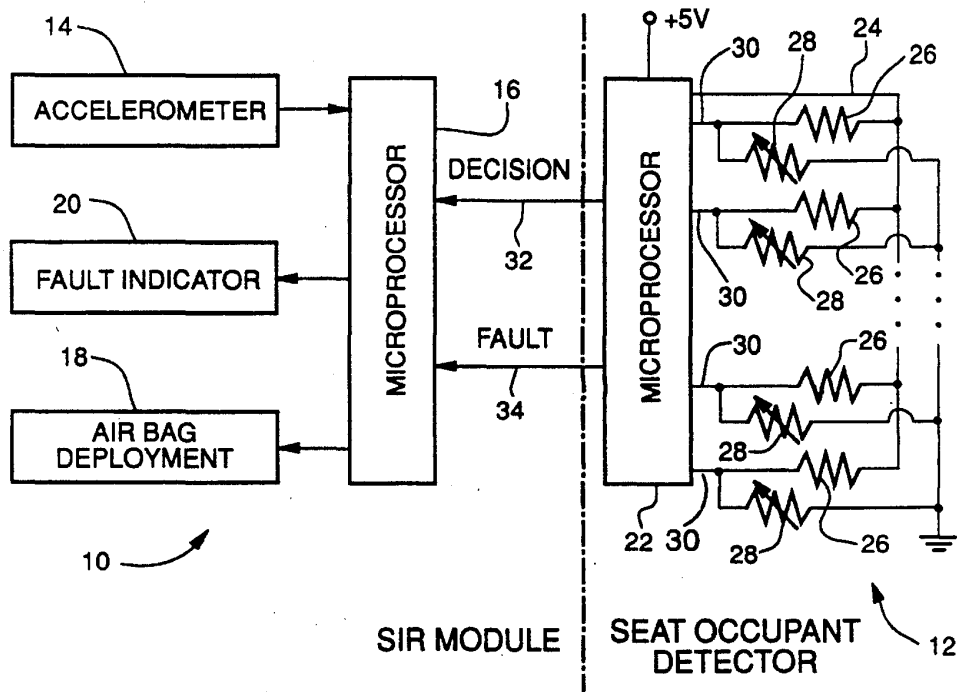
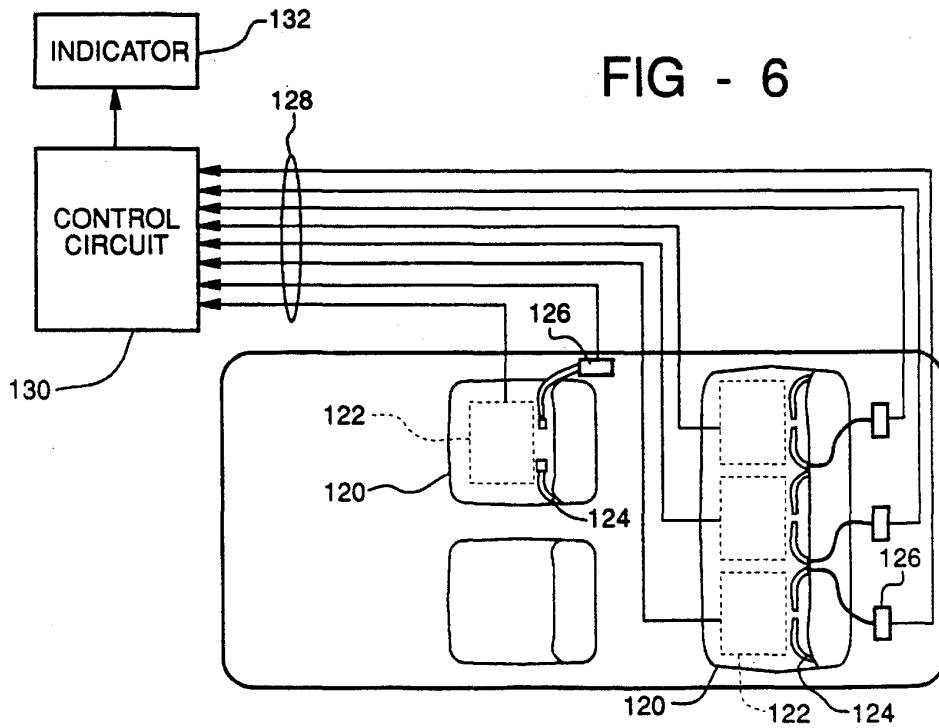


FIG - 6



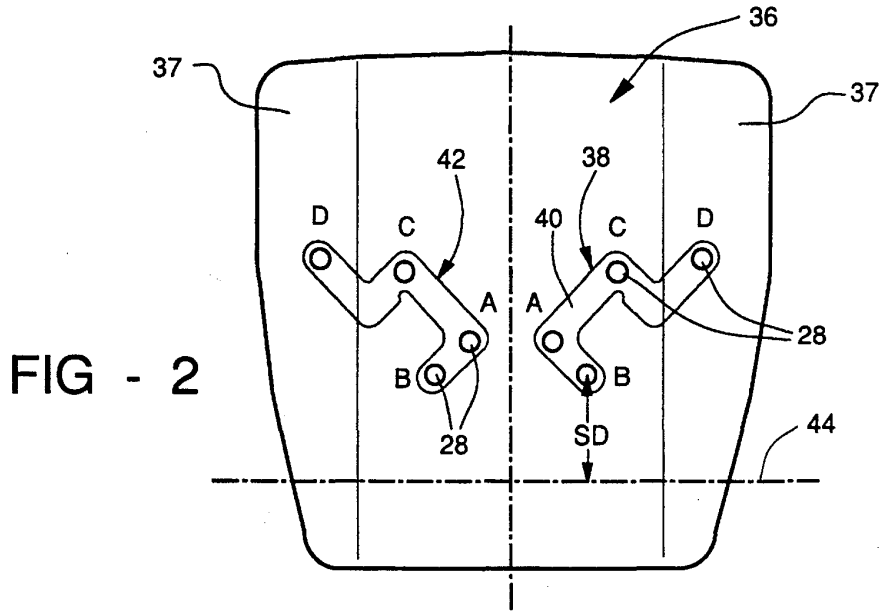


FIG - 2

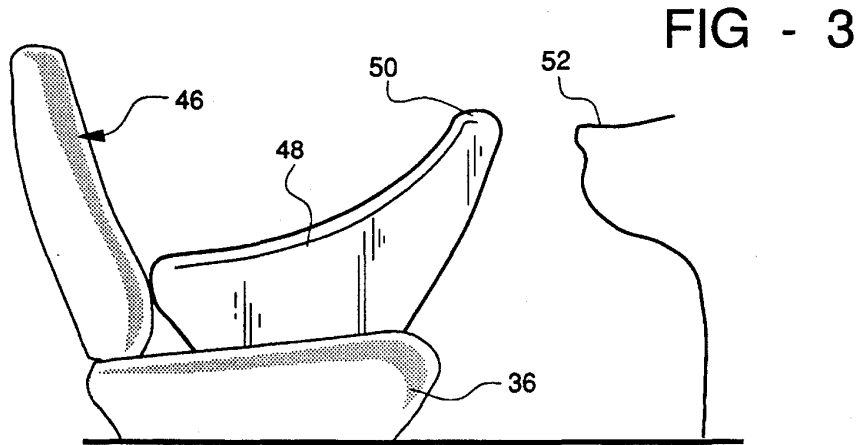


FIG - 3

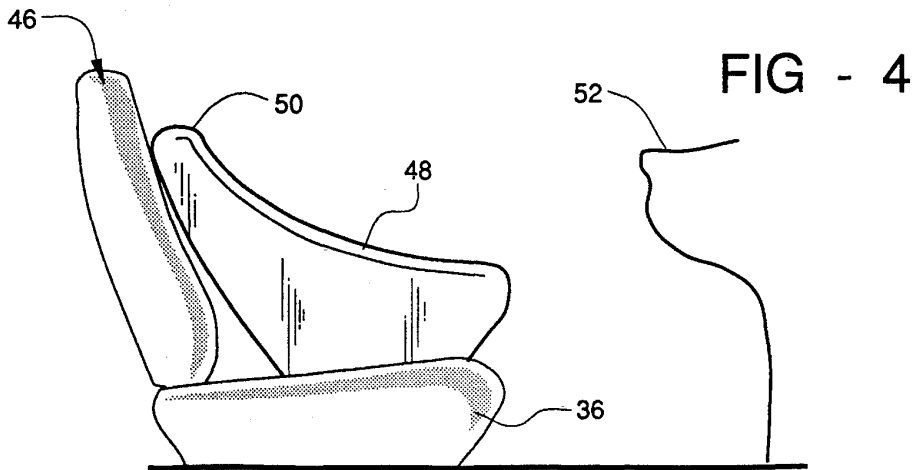


FIG - 4

FIG - 5A

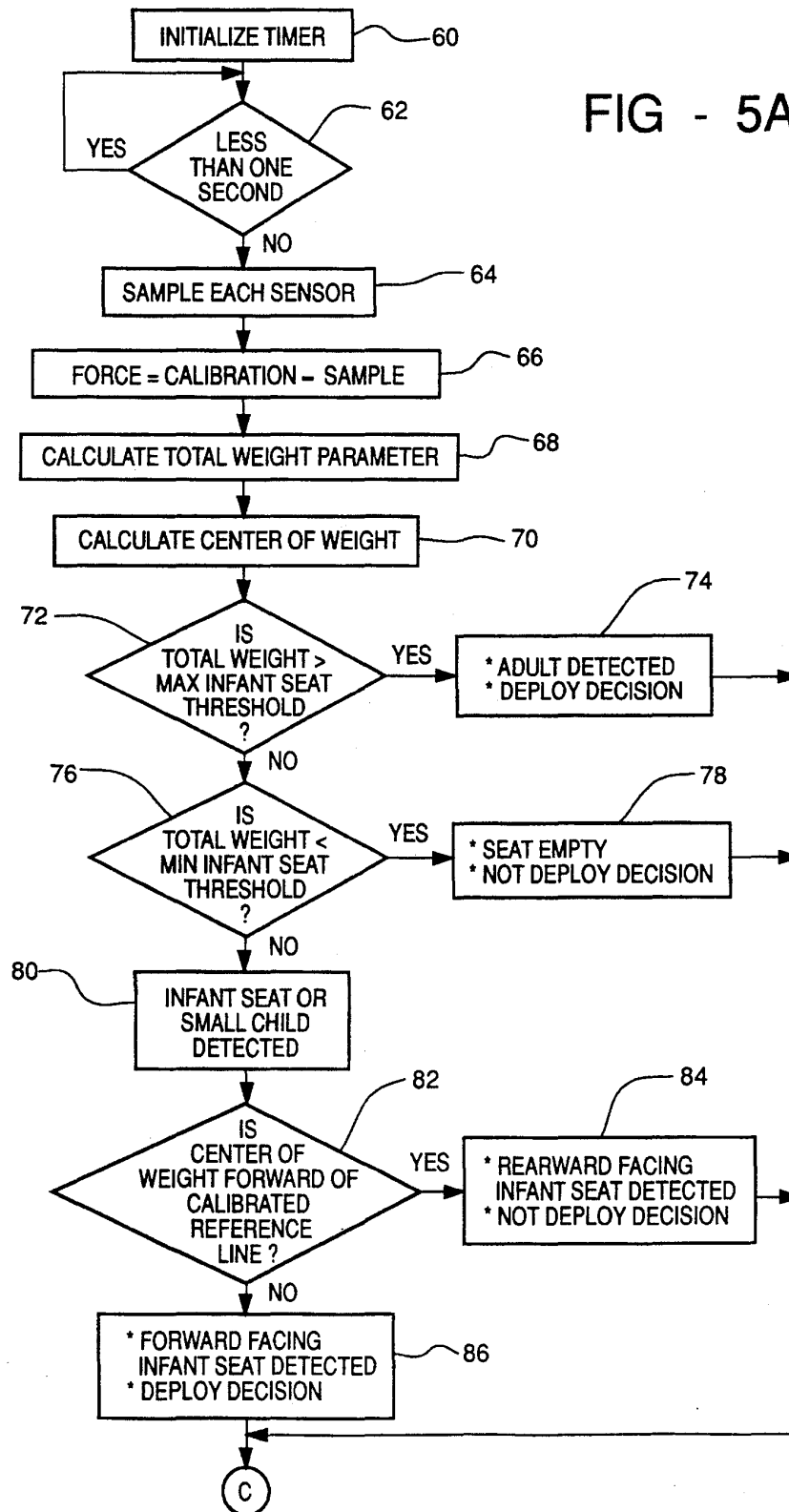
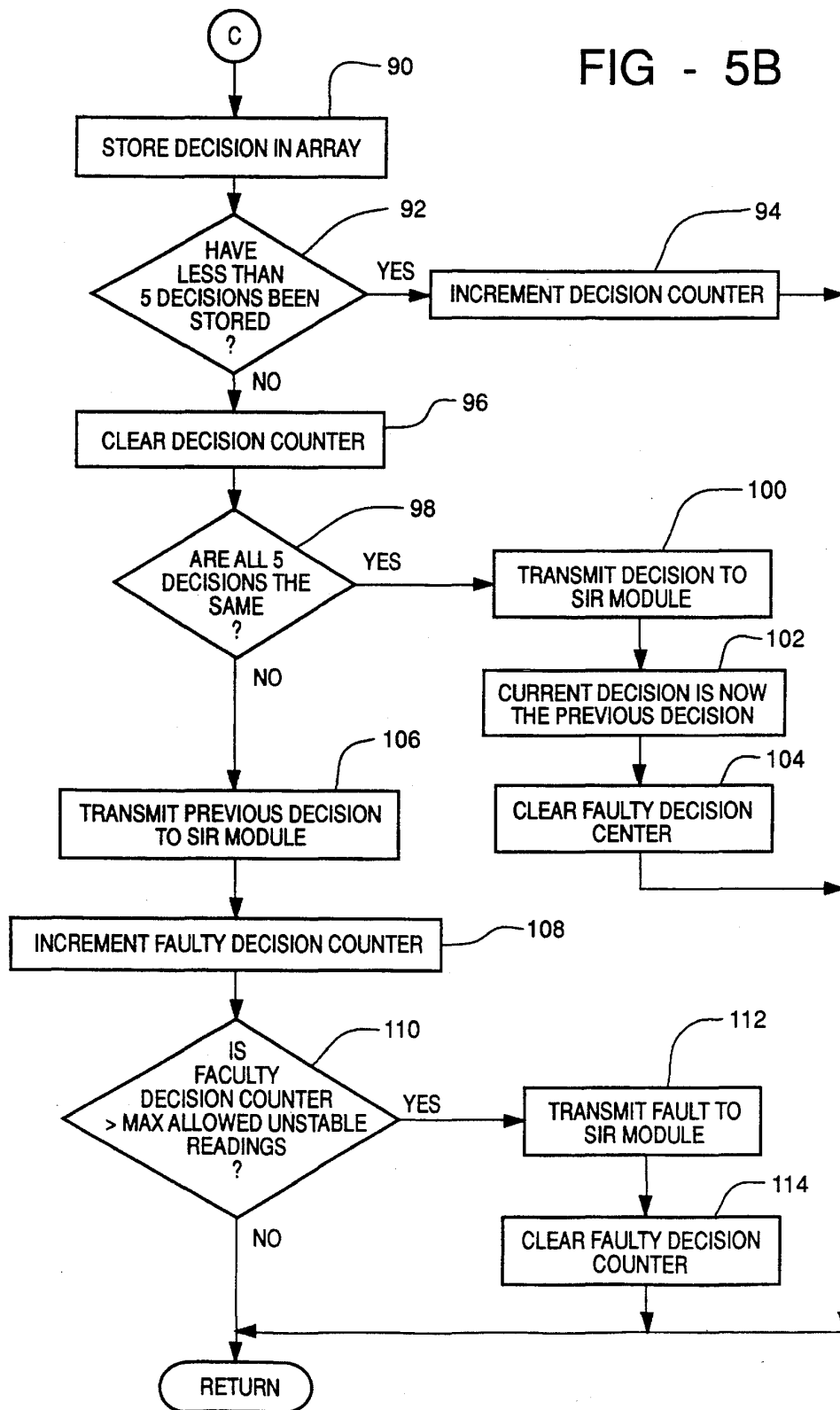


FIG - 5B



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