

**(12) United States Patent
Izawa**

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(54) **LIGHTING-DIRECTION CONTROL UNIT FOR VEHICLE LAMP**

5,907,196 * 5/1999 Hayami et al. 307/10.8
6,049,171 * 4/2000 Stam et al. 315/82

(75) Inventor: **Makoto Izawa**, Shizuoka (JP)

* cited by examiner

(73) Assignee: **Koito Manufacturing Co., Ltd.**, Tokyo (JP)

Primary Examiner—Don Wong
Assistant Examiner—Chuc D Tran
(74) *Attorney, Agent, or Firm*—Fish & Richardson P.C.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(57) **ABSTRACT**

A lighting-direction control unit **1** for a lamp of a vehicle incorporates a vehicle-height detecting means **2** for detecting change in the height of an axle of front wheels or that of rear wheel of the vehicle. In response to a signal representing the detected height of the vehicle, the pitch angle of the vehicle is obtained to change the lighting direction of a lamp **6** to correspond to the change in the attitude of the vehicle. A means **3** for detecting the change rate of acceleration for obtaining the change rate of acceleration with respect to time in the direction in which the vehicle runs is provided. When the change rate with respect to time is high, a lighting control means **4** transmits a control signal to an operating means **5** in such a manner that the response of the control of the lighting direction of the lamp **6** is quickened. Therefore, delay in the control is prevented when the change in the acceleration is great.

(21) Appl. No.: **09/488,349**

(22) Filed: **Jan. 20, 2000**

(30) **Foreign Application Priority Data**

Jan. 22, 1999 (JP) 11-014167

(51) **Int. Cl.**⁷ **B60Q 1/26**

(52) **U.S. Cl.** **315/80; 701/49**

(58) **Field of Search** 315/80, 77, 78,
315/79, 82; 307/10.8, 10.1; 701/49, 36,
37, 48; 250/208.1, 214 AL

(56) **References Cited**

U.S. PATENT DOCUMENTS

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11 Claims, 8 Drawing Sheets

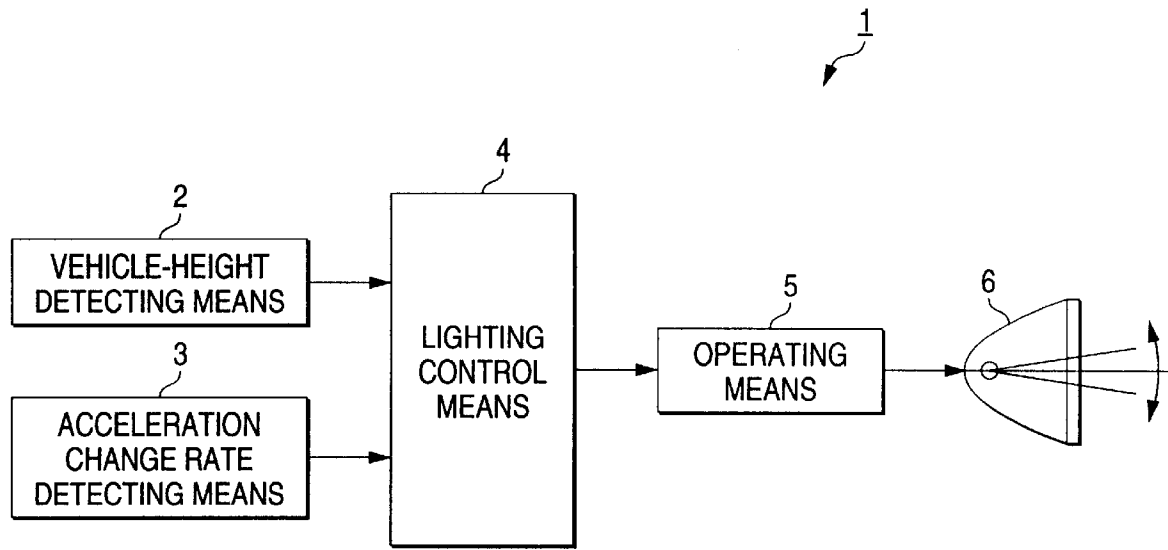


FIG. 1

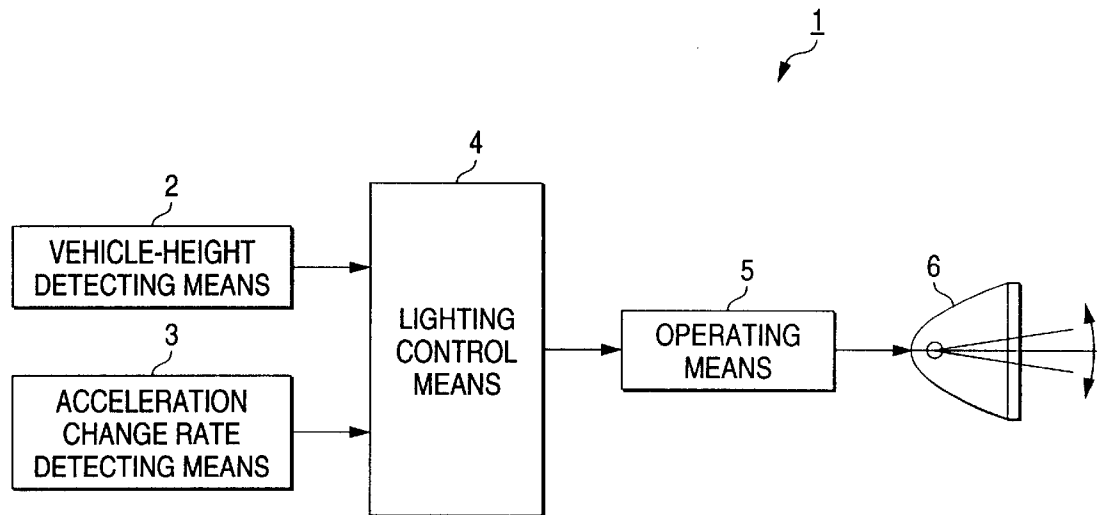


FIG. 2

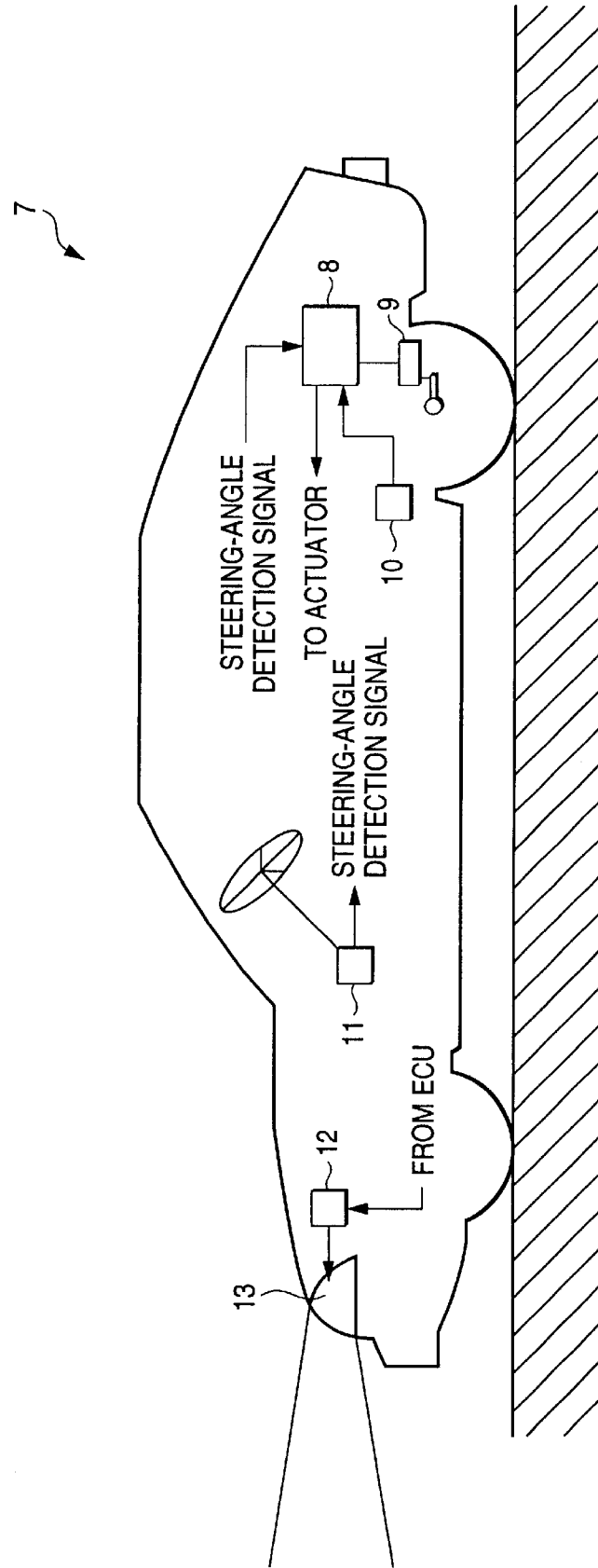


FIG. 3

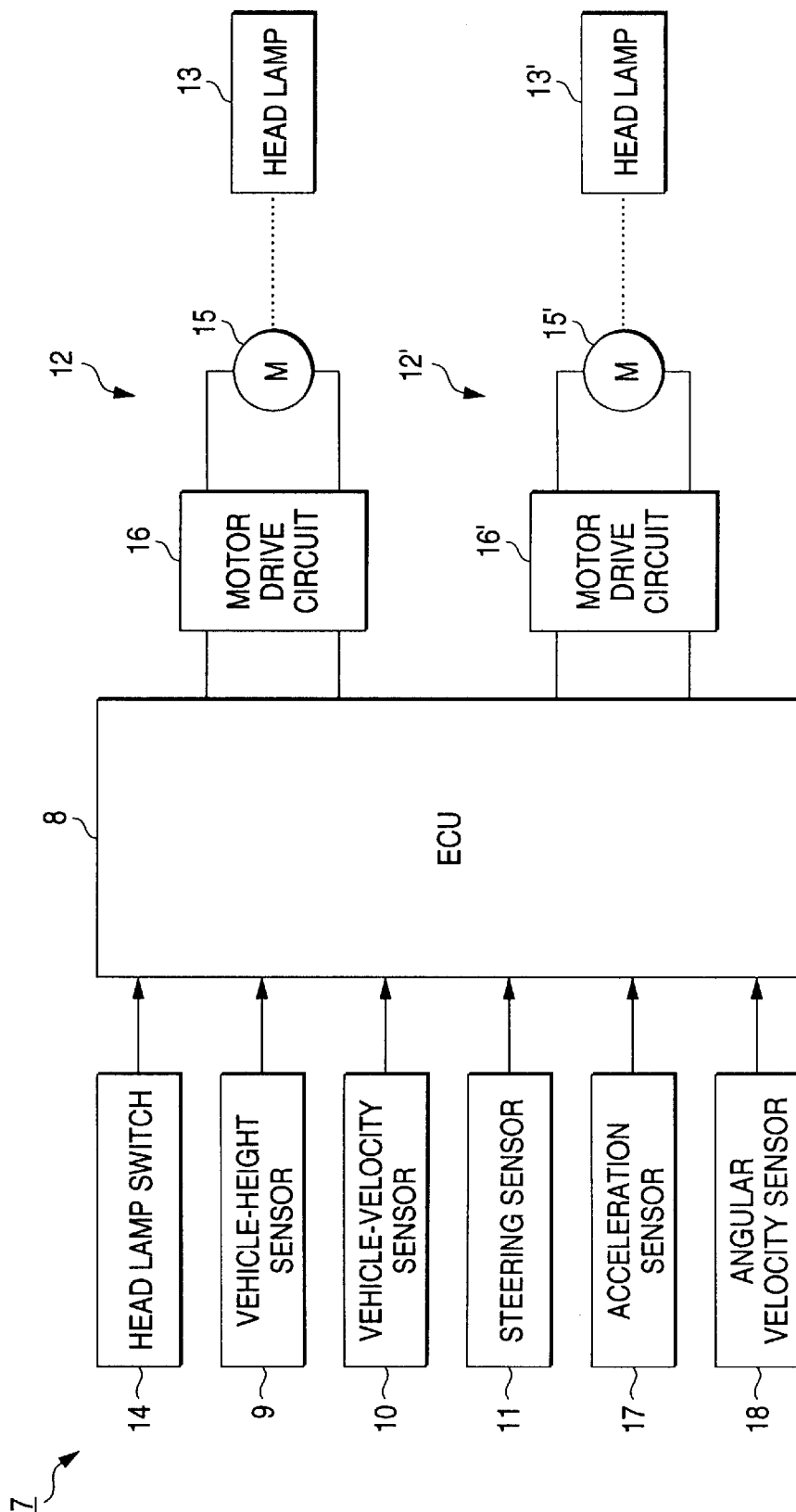
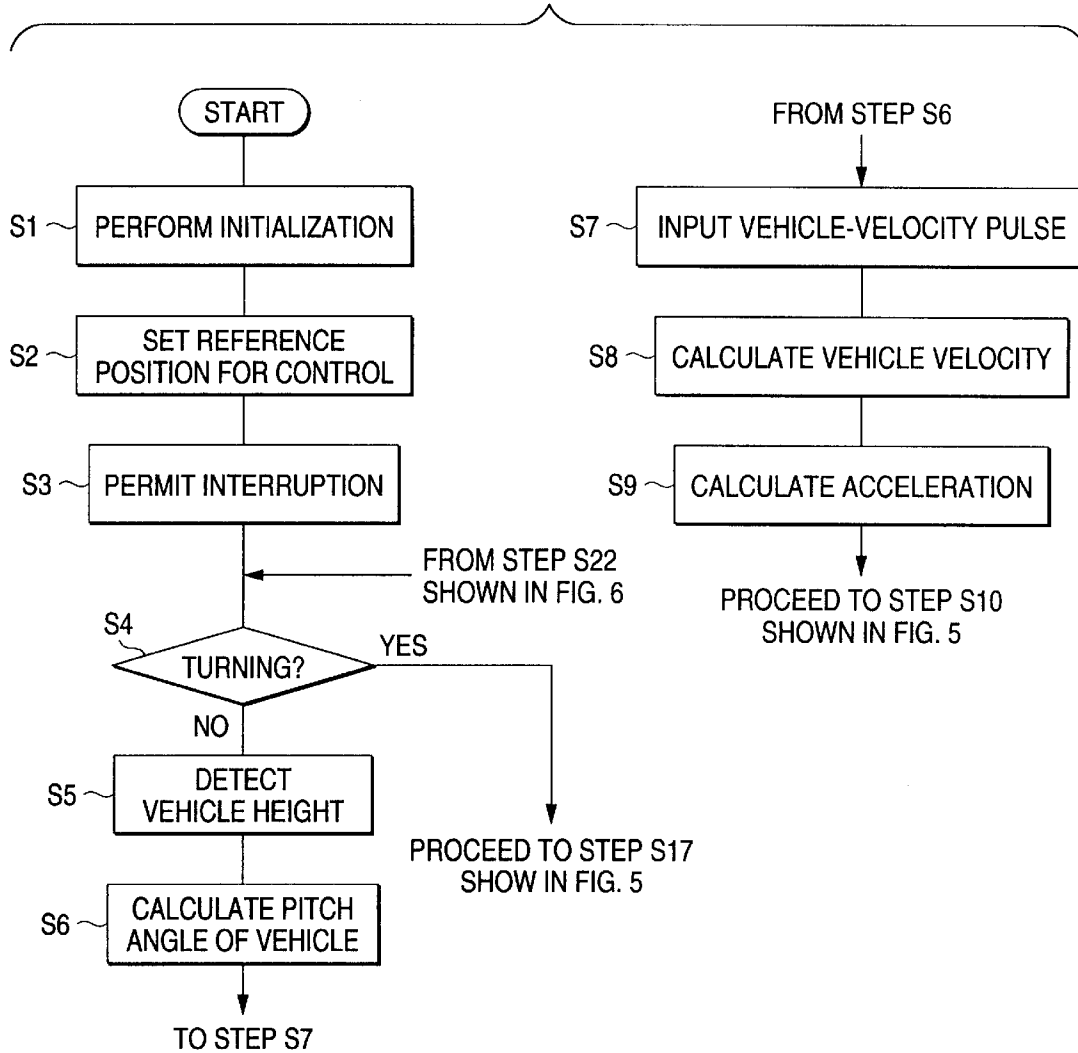


FIG. 4



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