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United States Patent [19]

Borcherts et al.

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[54] **SYSTEM AND METHOD FOR AUTOMATICALLY STEERING A VEHICLE WITHIN A LANE IN A ROAD**

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[21] Appl. No.: **722,661**

[22] Filed: **Jun. 28, 1991**

[51] **Int. Cl.**[5] **H04N 7/18**

[52] **U.S. Cl.** **358/103**; 364/424.02; 364/426.04

[58] **Field of Search** 358/103, 105; 364/424.01, 424.02, 426.01, 426.04; 180/179

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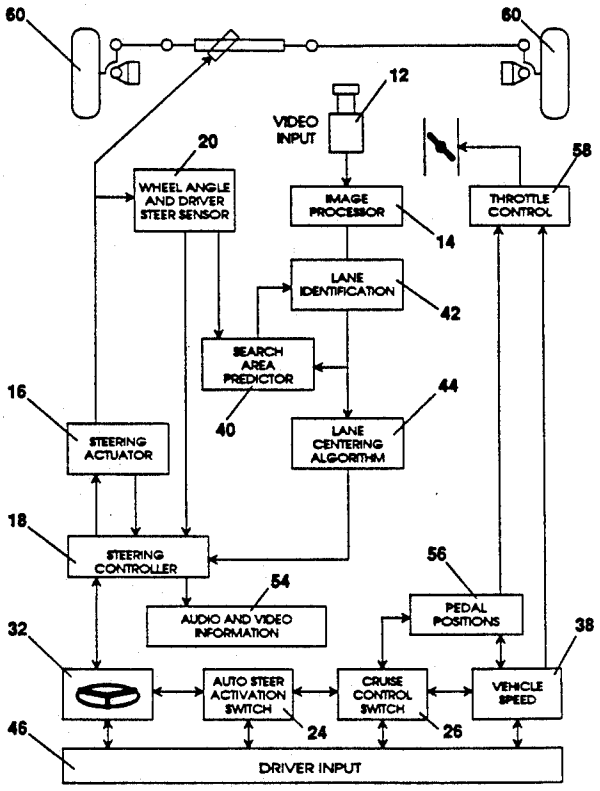
[57] **ABSTRACT**

An automatic vehicle steering system is provided for automatically steering a vehicle along a lane in a road. A video sensor is included for generating a plurality of frames of video images of the road. A computer processor analyzes the frames to determine the lane boundaries of the road and the position of the vehicle. The system advantageously utilizes engagement of a cruise control switch and a steering control switch to initiate processing of the image data and automatic steering of the vehicle. In such manner, the reliability and efficiency of the system is increased while at the same time minimizing complexity and cost.

27 Claims, 16 Drawing Sheets



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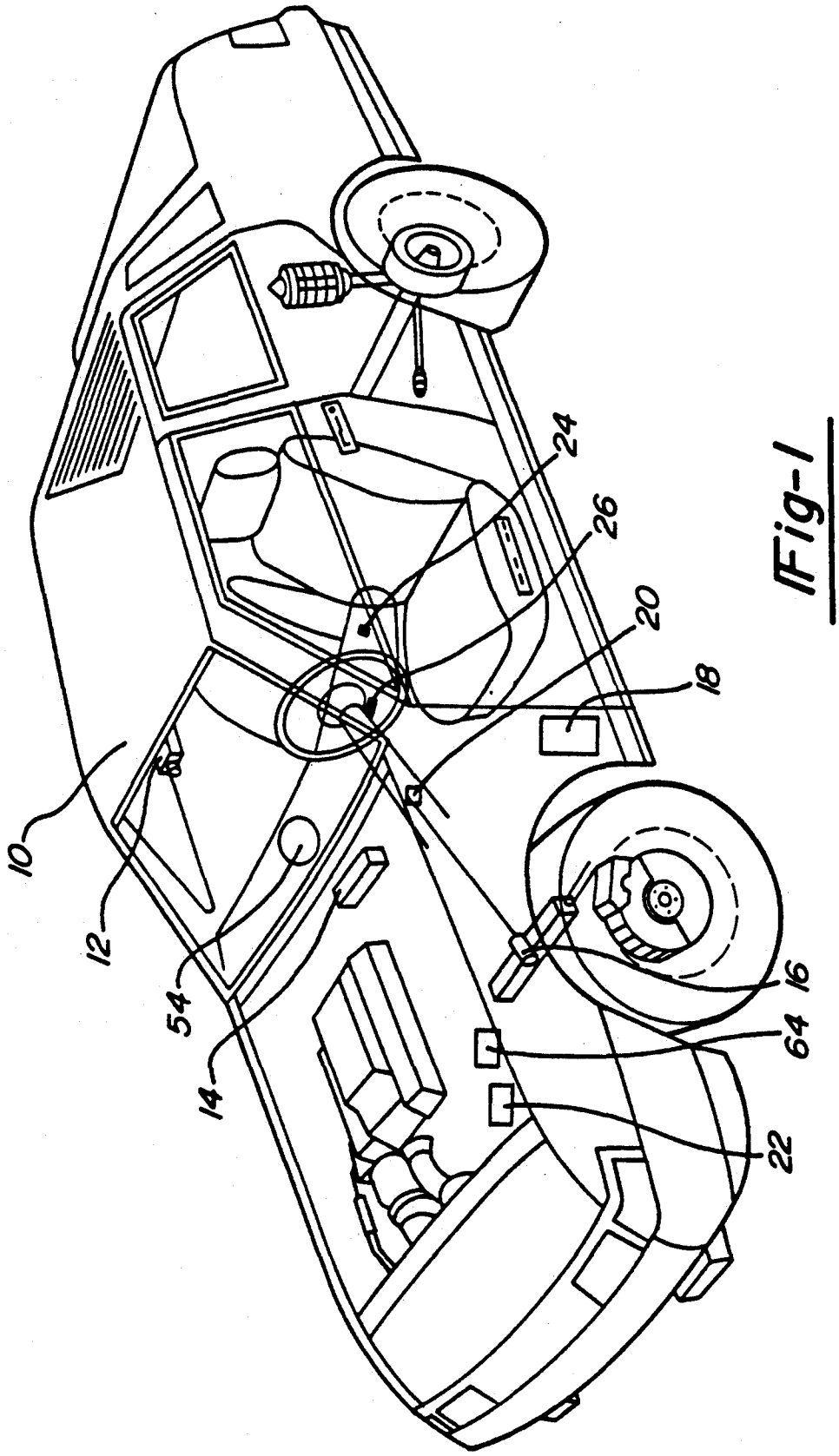

Fig-1

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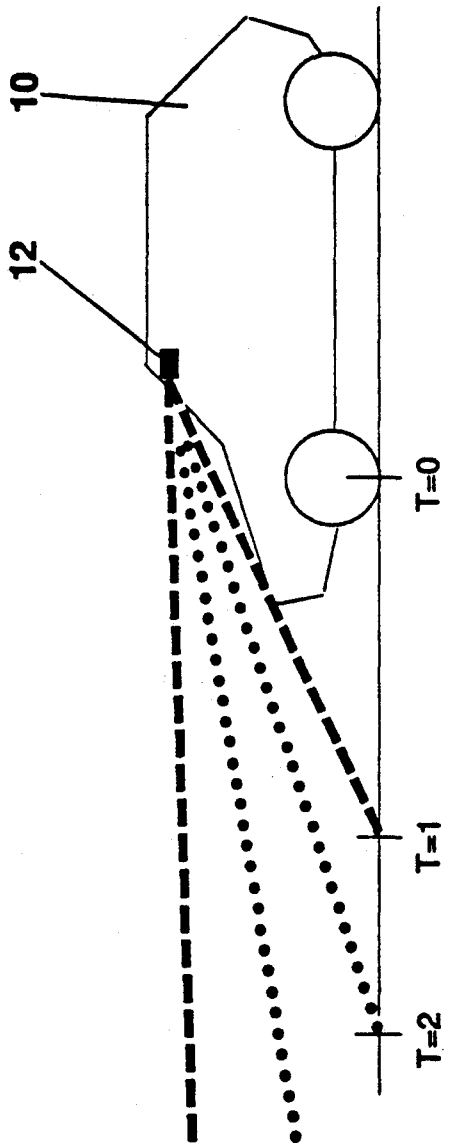

Figure 2A.

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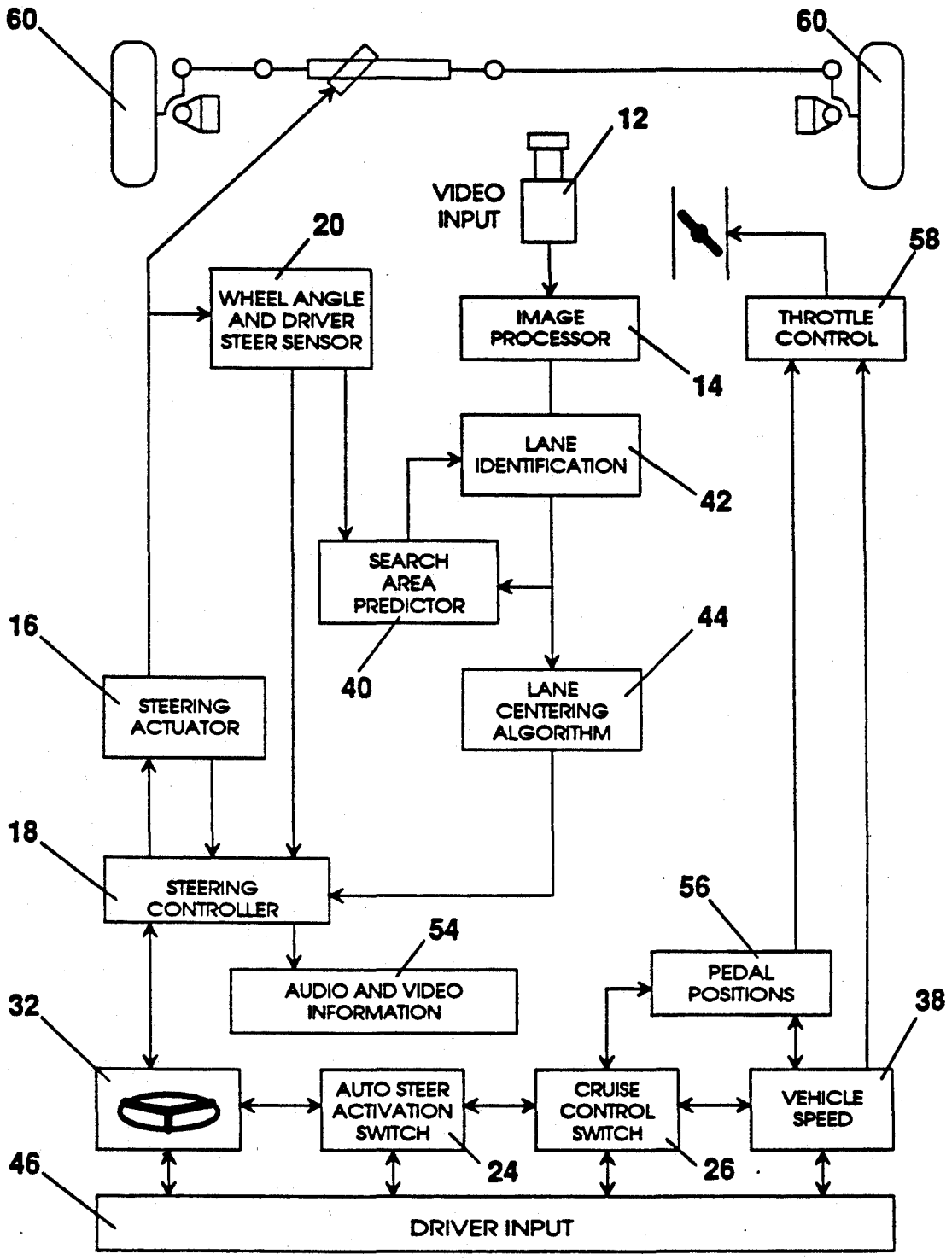

Figure 3.

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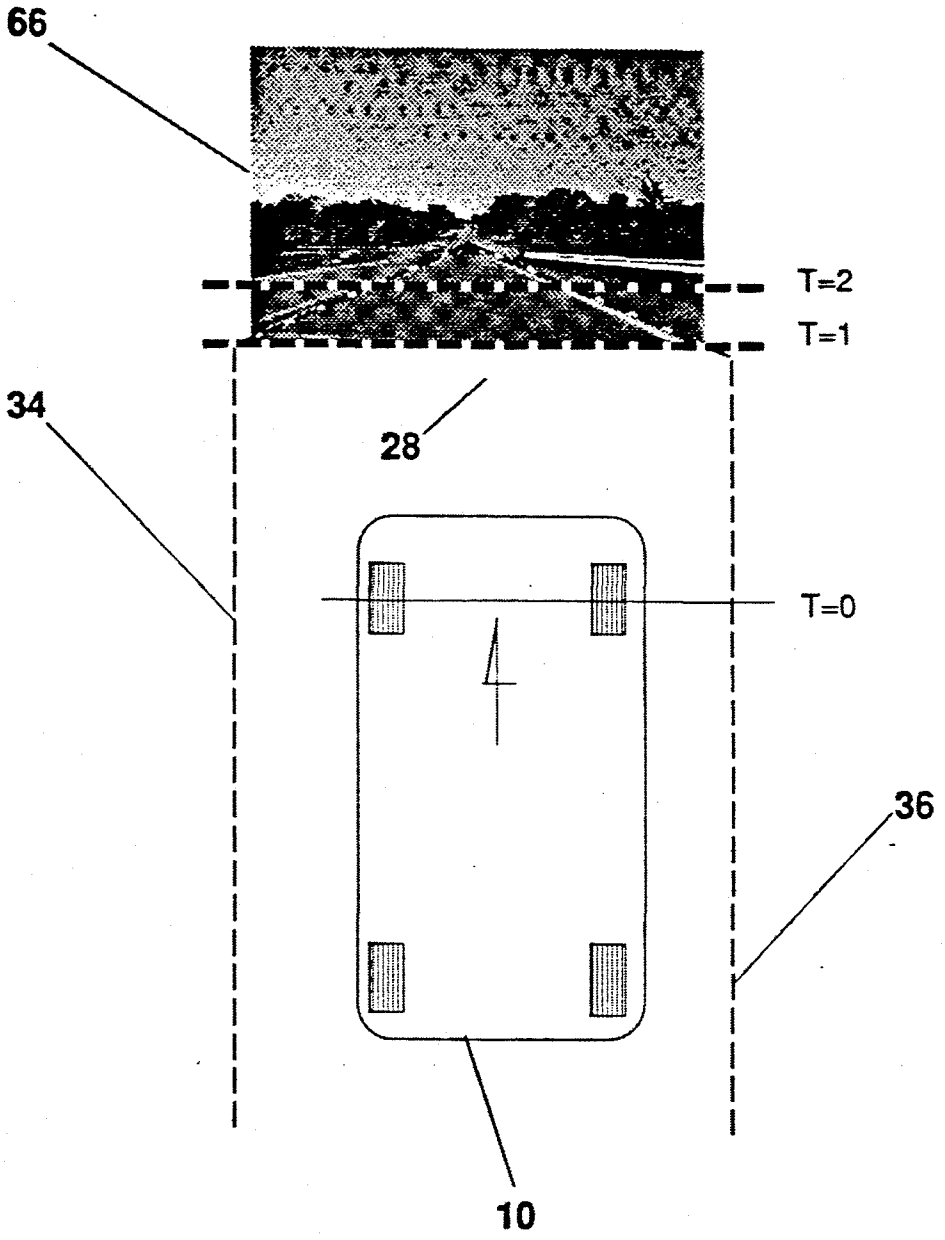

Figure 2B.

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