



[54] FINGERPRINT ACTUATION OF CUSTOMIZED VEHICLE FEATURES

[75] Inventors: Shi-Ping Hsu, Pasadena; Bruce W. Evans; Arthur F. Messenger, both of Redondo Beach; Denes L. Zsolnay, Rolling Hills Estates, all of Calif.

[73] Assignee: TRW Inc., Redondo Beach, Calif.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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[52] U.S. Cl. 340/825.31; 340/825.3; 340/825.34; 340/430; 340/539; 340/825.69; 382/115; 382/124; 382/125; 382/126

[58] Field of Search 340/825.31, 825.3, 340/825.34, 430, 539, 825.69; 382/115, 224, 126, 124, 125

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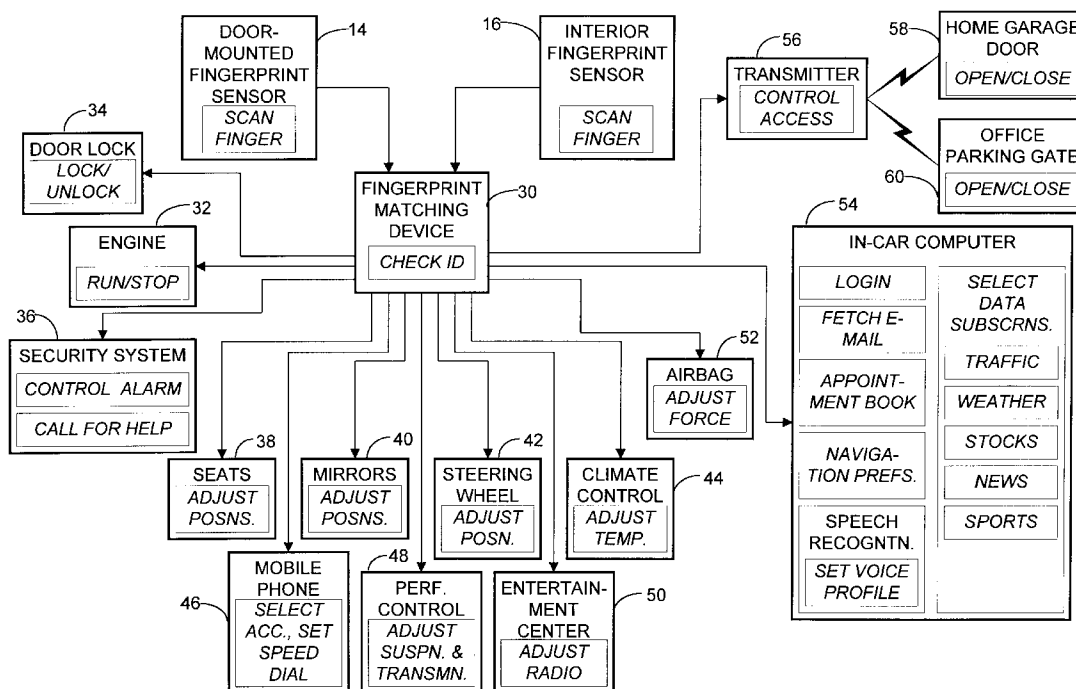
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Primary Examiner—Michael Horabik
Assistant Examiner—Yves Dalencourt
Attorney, Agent, or Firm—Michael S. Yatsko

[57] ABSTRACT

Apparatus, and a corresponding method for its use, for gaining access to and operating a vehicle, such as a car (10), by means of at least one fingerprint sensor (16) installed inside the vehicle at a convenient location and, optionally, outside the vehicle (at 14), in or near a door handle (12). Once an authorized user's identify has been verified in a fingerprint matching device (30), various vehicle subsystems are automatically adjusted to the identified user's preferred settings, which are stored in a memory (98). In addition, starting the vehicle engine is enabled if an interior fingerprint sensor has been used, or the vehicle is unlocked if an exterior fingerprint sensor has been used. Vehicle subsystems that are automatically adjusted to the user preferences include seats (38), mirrors (40), steering wheel (42), climate control (44), airbag (52), telephone (46), radio (50) and onboard computer (54), as well as performance control features (48) such as suspension and transmission adjustment. Door locks (34) and security system features (36) are also automatically controlled, as is a radio transmitter (56) that is automatically customized to open the user's home garage door or office parking entry gate. Features of a number of different fingerprints are stored in the device to allow for operation of the vehicle (10) by different family members, as authorized by a primary user.

26 Claims, 7 Drawing Sheets



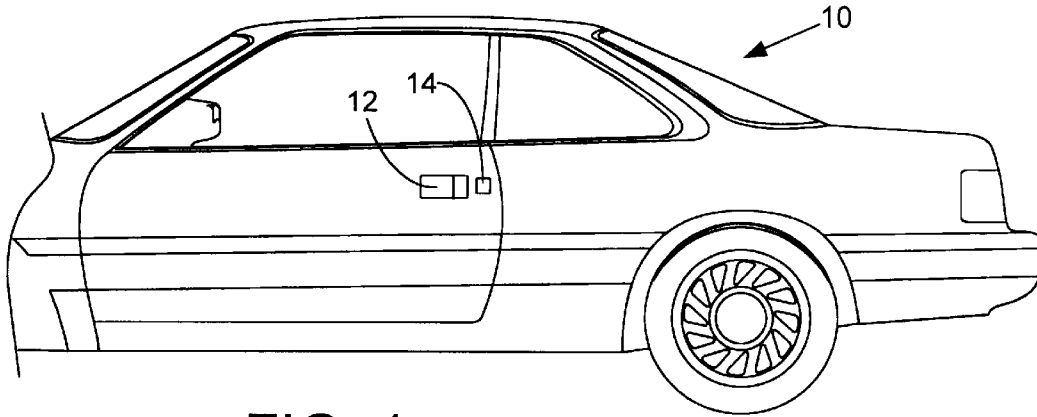


FIG. 1

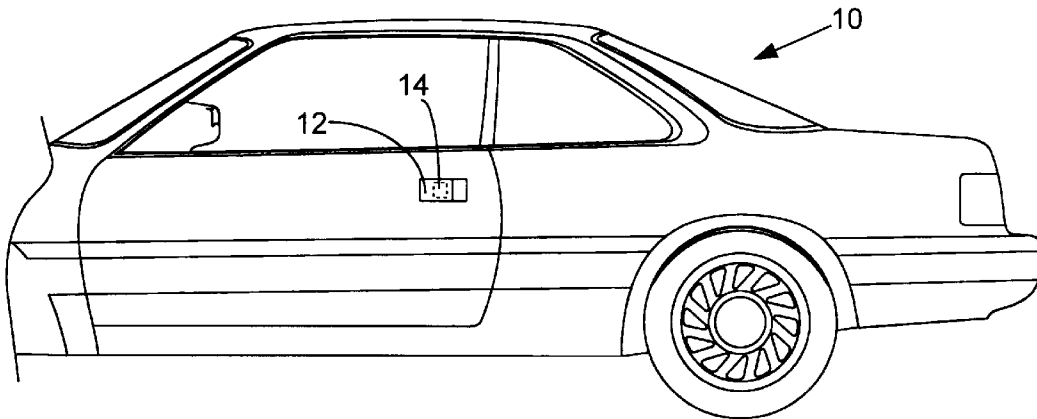


FIG. 2

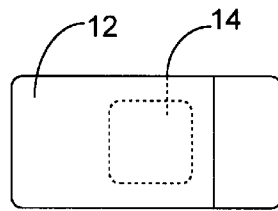


FIG. 3

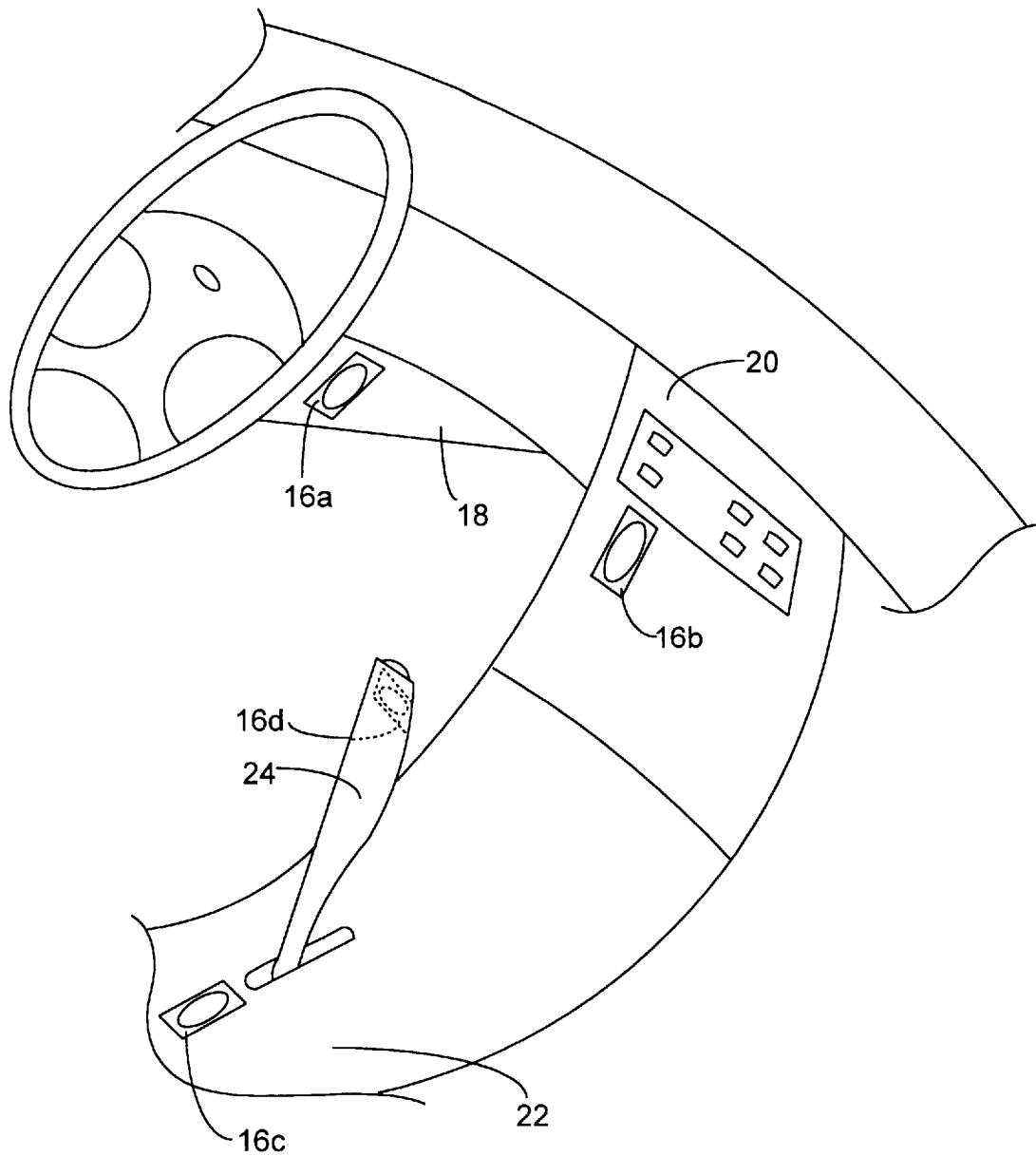


FIG. 4

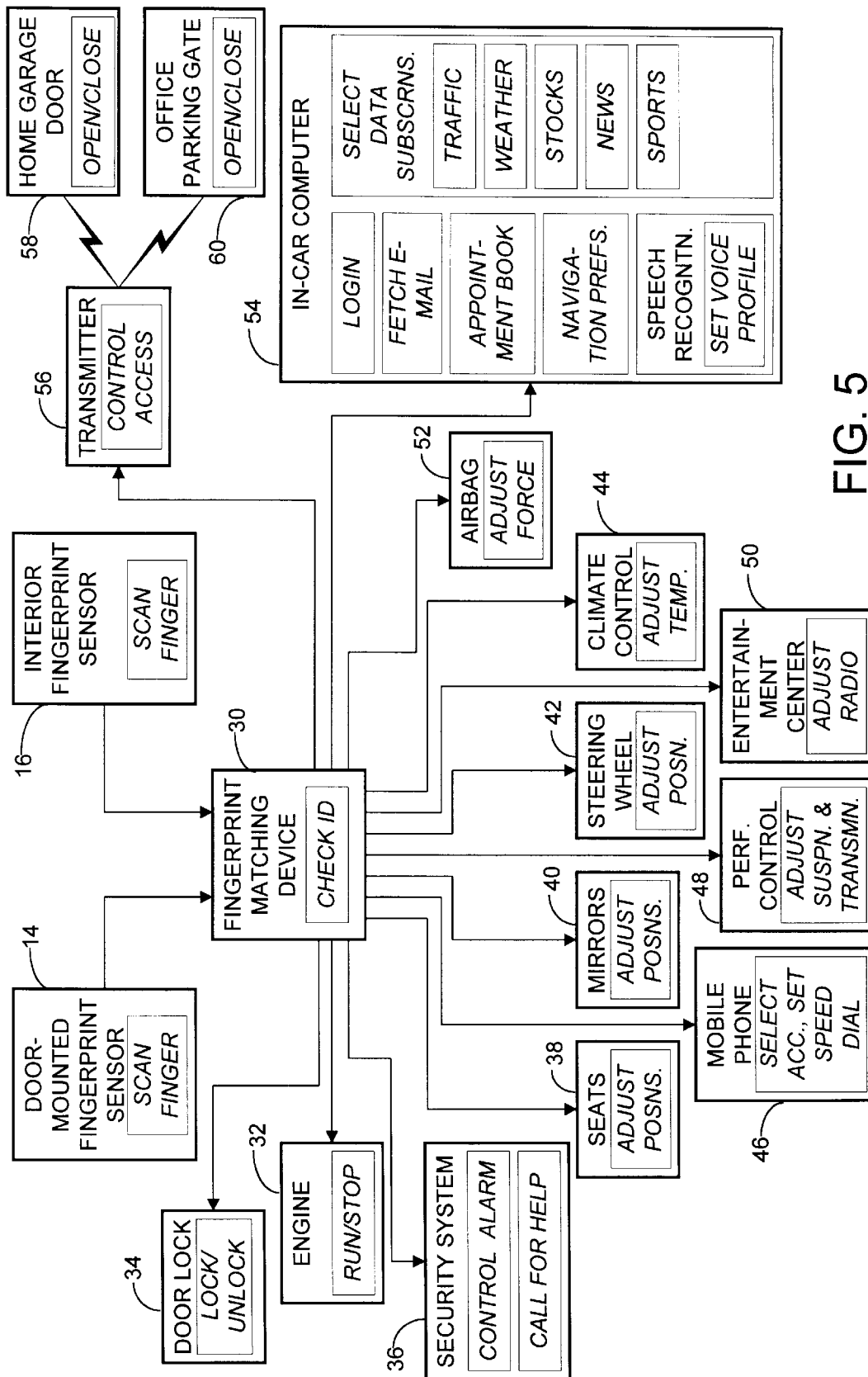


FIG. 5

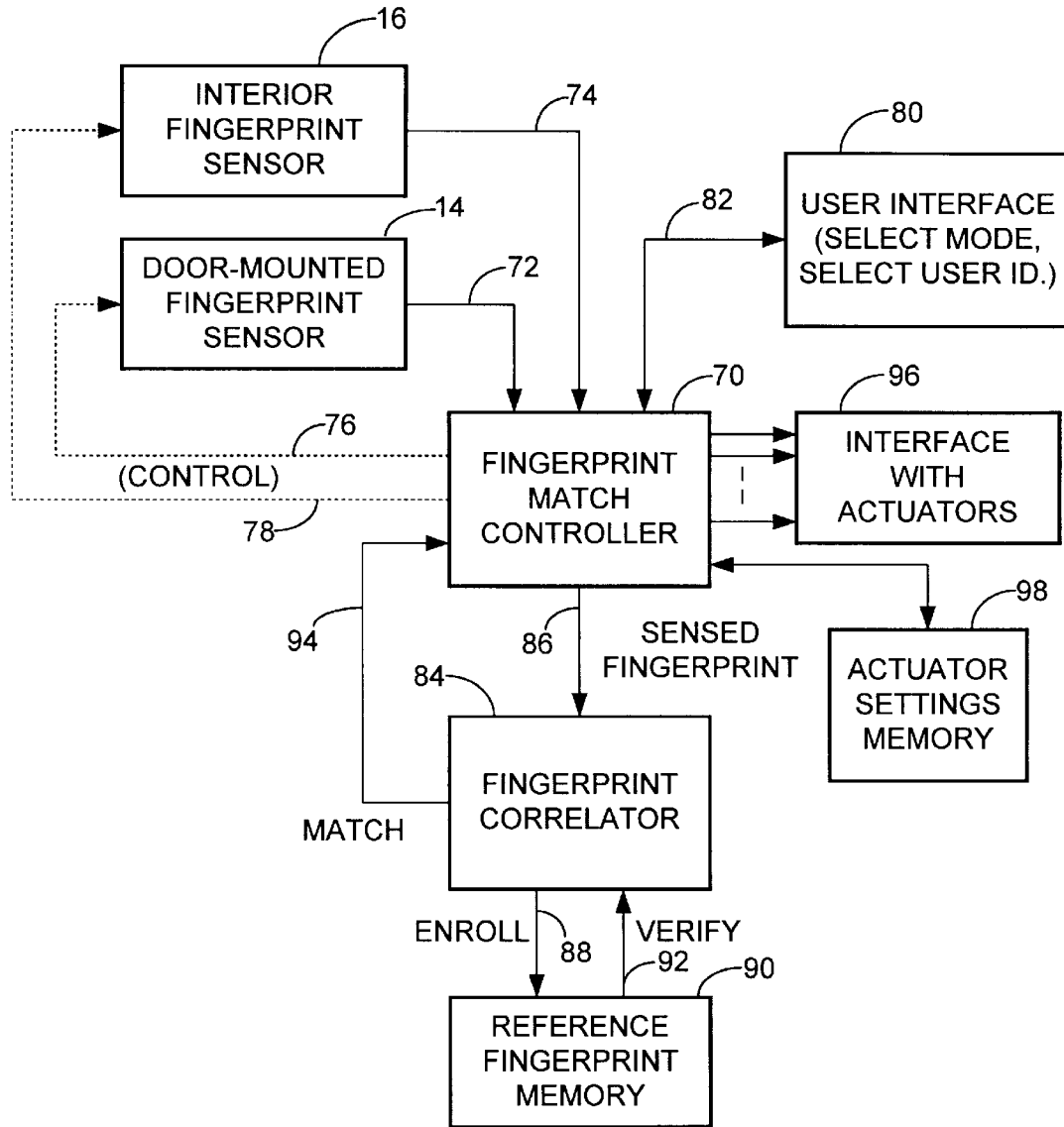


FIG. 6

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