

United States Patent [19]

[11] **Patent Number:** 5,652,484

Shafer et al.

[45] **Date of Patent:** Jul. 29, 1997

[54] **AIR CONTROL SYSTEM FOR AN AIR BED**

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[21] **Appl. No.:** 536,330

[22] **Filed:** Sep. 29, 1995

Related U.S. Application Data

[63] **Continuation-in-part of Ser. No. 332,833, Nov. 1, 1994, Pat. No. 5,509,154.**

[51] **Int. Cl.⁶** A47C 27/10; H04Q 7/06

[52] **U.S. Cl.** 318/16; 5/935; 5/618;
5/713

[58] **Field of Search** 318/16; 5/448,
5/449, 453, 455, 456, 461, 464, 480, 935

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Primary Examiner—Bentsu Ro
Attorney, Agent, or Firm—Patterson & Keough, P.A.

[57] **ABSTRACT**

An automatic control system for controlling the firmness of a fluid supported mattress of a bed assembly. The control system includes a motorized fluid pump, a control unit for operating the pump to adjust the firmness of the air mattress, a hand held remote control unit for actuating the control unit, and a transceiver system for transmitting information signals between the hand held unit and the control unit. The air control system provides for independent control of both bladders in a two bladder air mattress from a single unit, and allows a user to consistently set the firmness of each mattress air bladder to a desired value. The air control system includes an air pump specially designed to minimize transmission of motor noise into the environment.

26 Claims, 18 Drawing Sheets

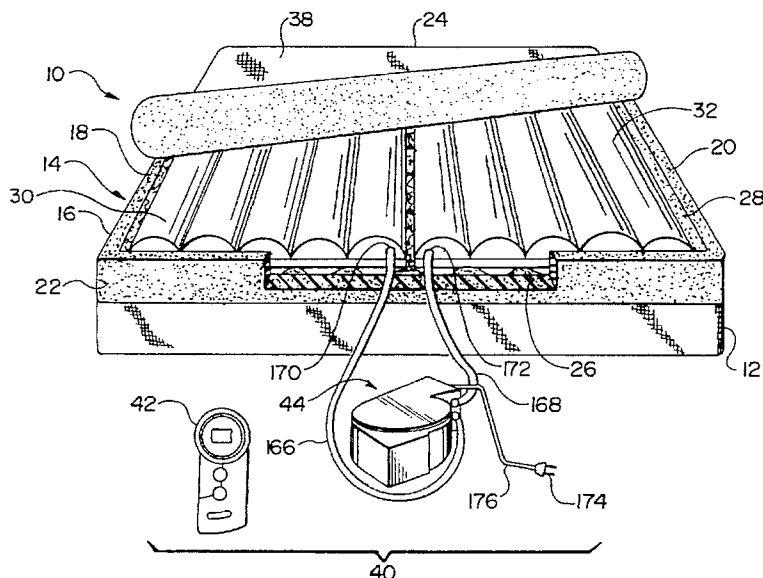


Fig. 1

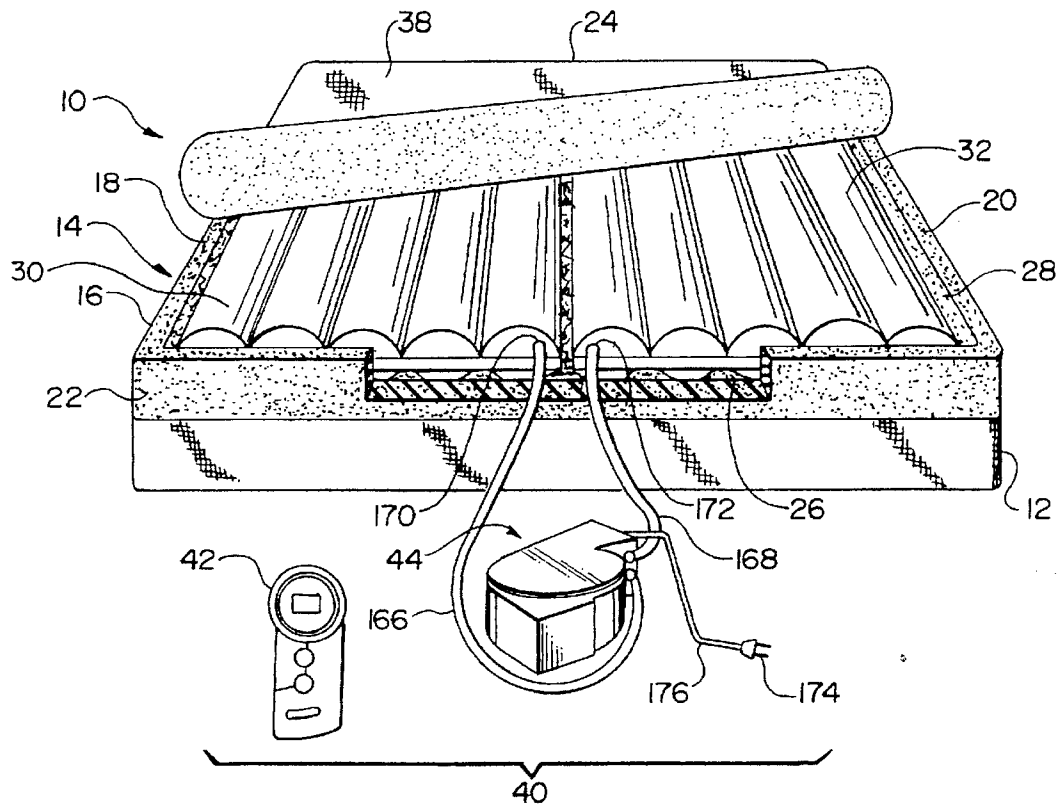


Fig. 2a

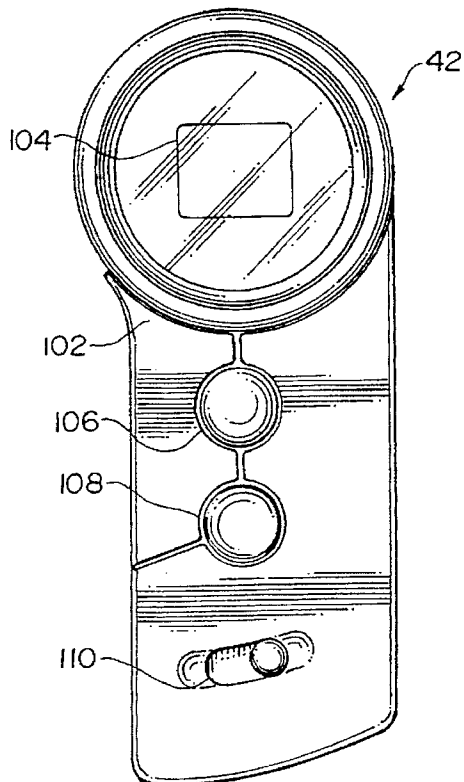


Fig. 2b

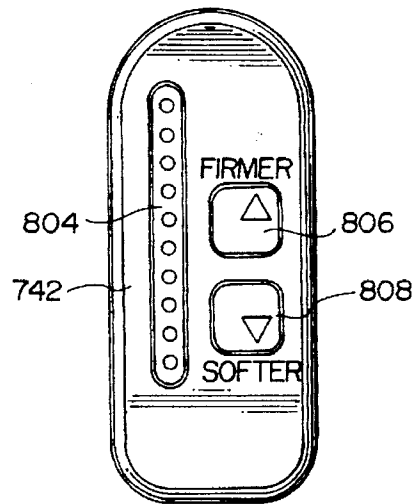


Fig. 3

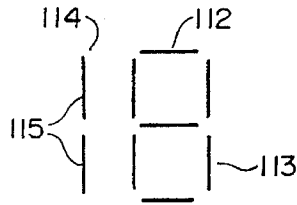


Fig. 4

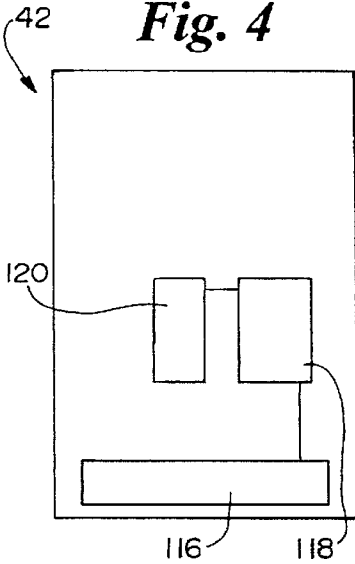


Fig. 5

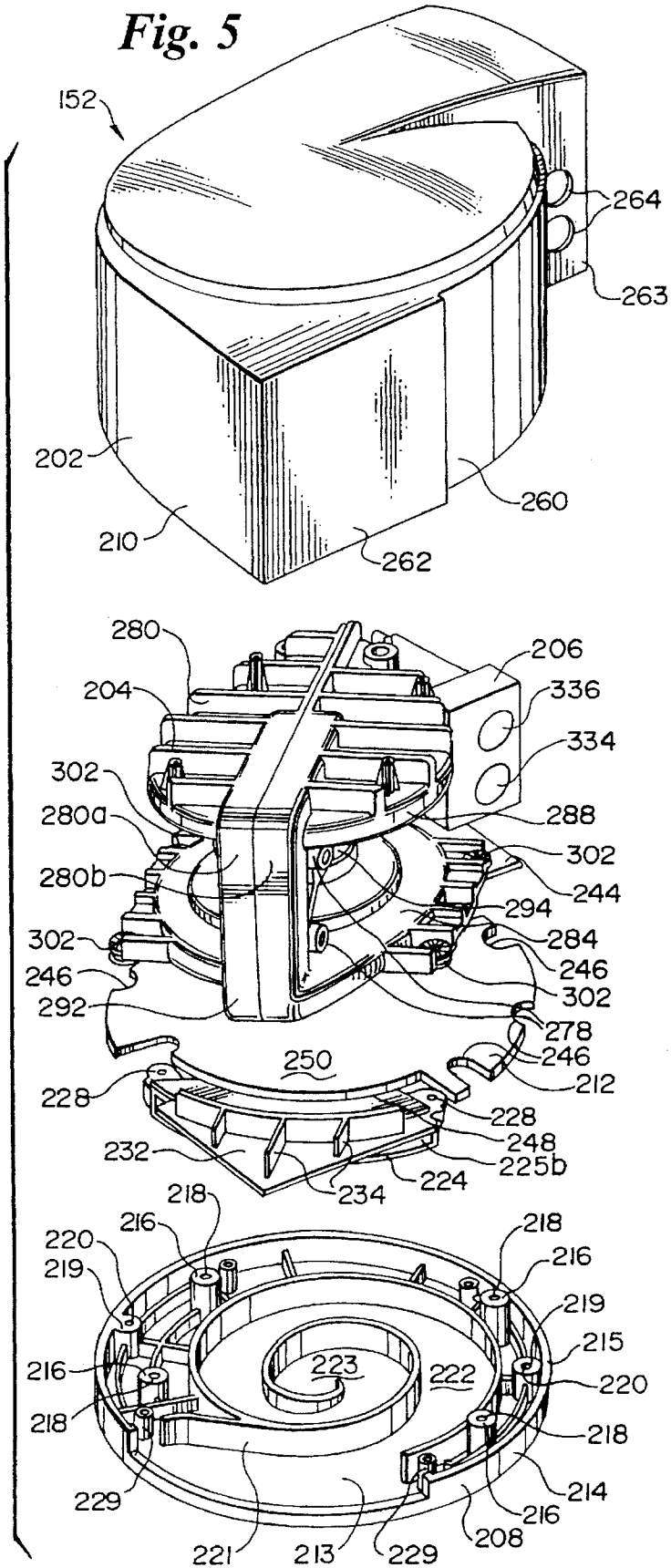


Fig. 6

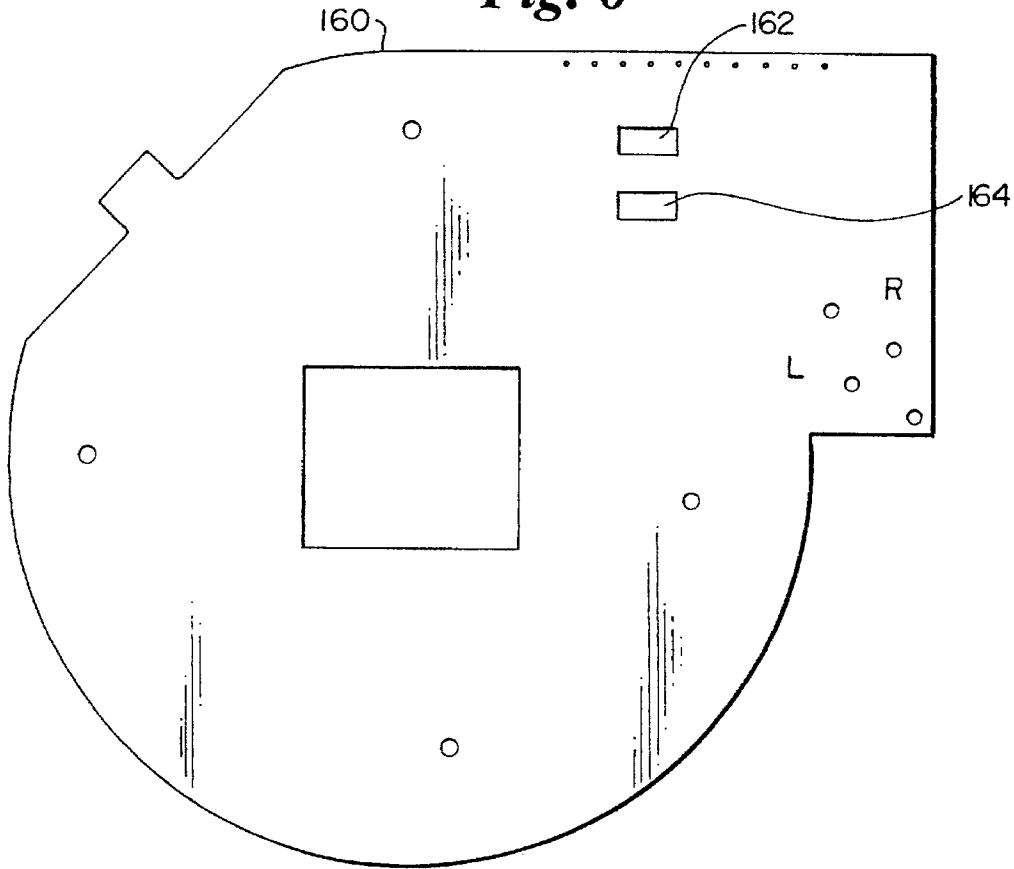


Fig. 7

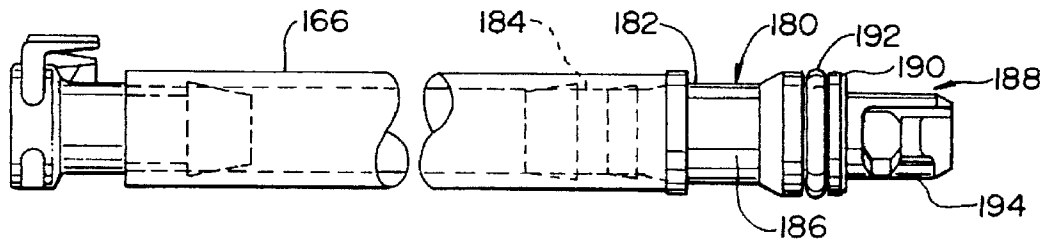


Fig. 8

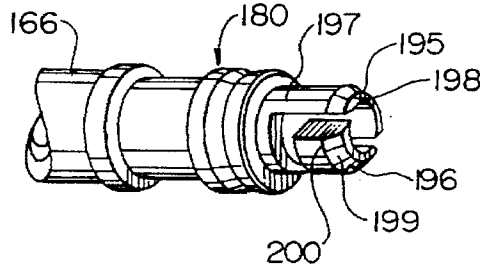


Fig. 9

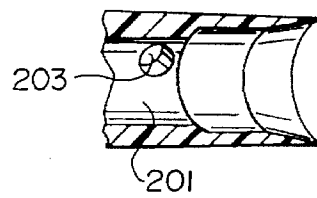


Fig. 10

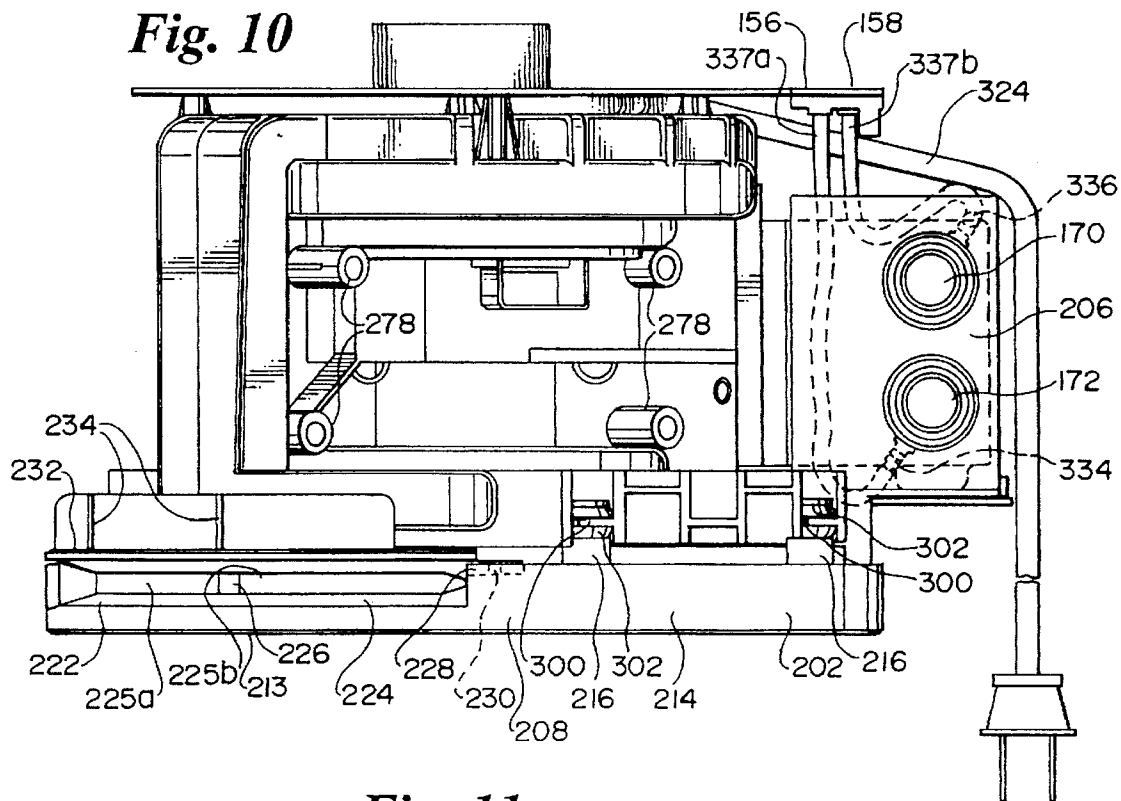
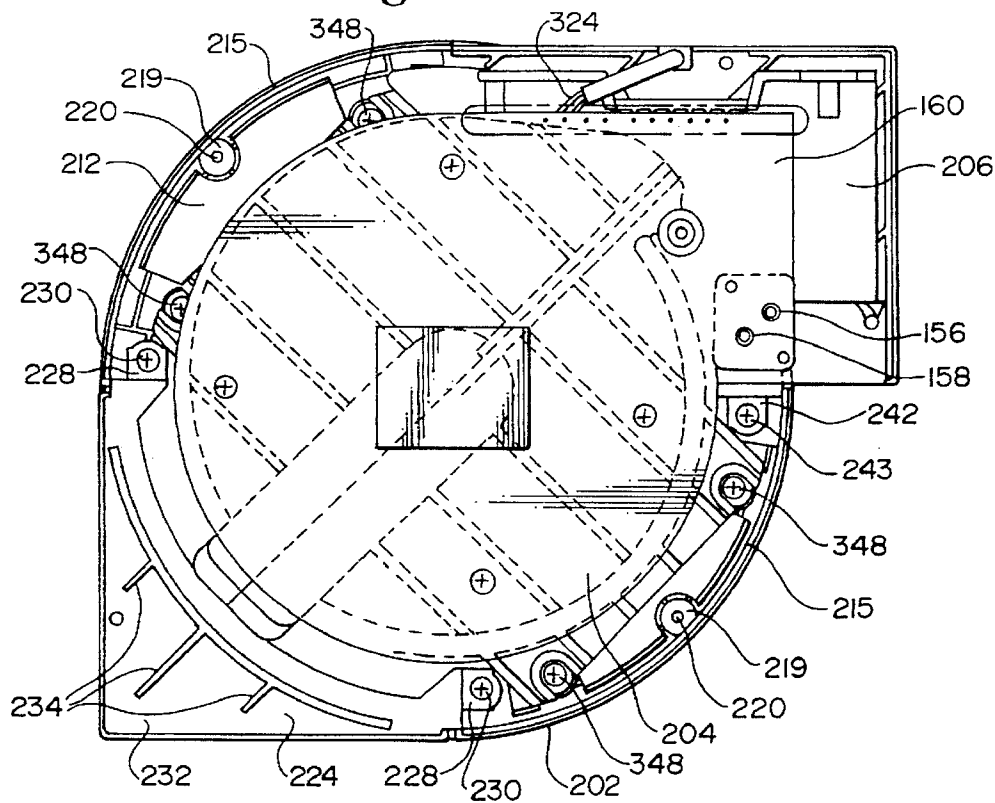


Fig. 11



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