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Gesink et al.

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- [54] **LEARNING AND ASSESSMENT AID FOR A SEVERELY VISUALLY IMPAIRED INDIVIDUAL**
- [75] Inventors: **John Gesink**, Kalamazoo; **David Guth**, Portage; **Bernard Fehr**, Okemos, all of Mich.
- [73] Assignee: **Board of Trustees of Western Michigan University**, Kalamazoo, Mich.
- [21] Appl. No.: **837,660**
- [22] Filed: **Apr. 22, 1997**
- [51] Int. Cl.⁶ **G08B 13/00**
- [52] U.S. Cl. **434/112; 434/116; 704/271**
- [58] Field of Search **434/112, 116; 135/72; 704/271, 270; 367/116, 107**

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[57] ABSTRACT

A learning and assessment aid (10) for helping visually impaired individuals develop desirable ambulatory motion habits. The learning aid includes a housing (14) designed to be attached to an article of clothing worn by the individual. Internal to the housing is an inertial transducer (16) that monitors the rotation of the housing and the individual. The individual enters commands to the learning aid through a keypad (20) in response to audible instructions generated over a speaker (22). To foster desirable turning motions, the learning aid informs of the extent to which the individual turns. To foster straight-line walking, the learning aid generates a message over the speaker whenever the individual rotates more than a pre-set individual-entered maximum veer.

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25 Claims, 13 Drawing Sheets

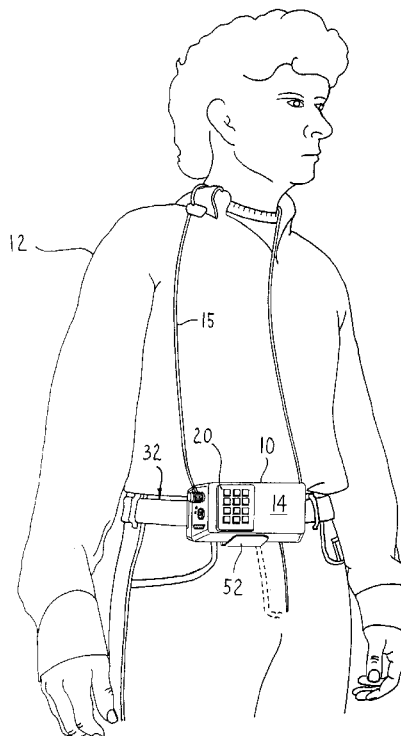


FIG. 1

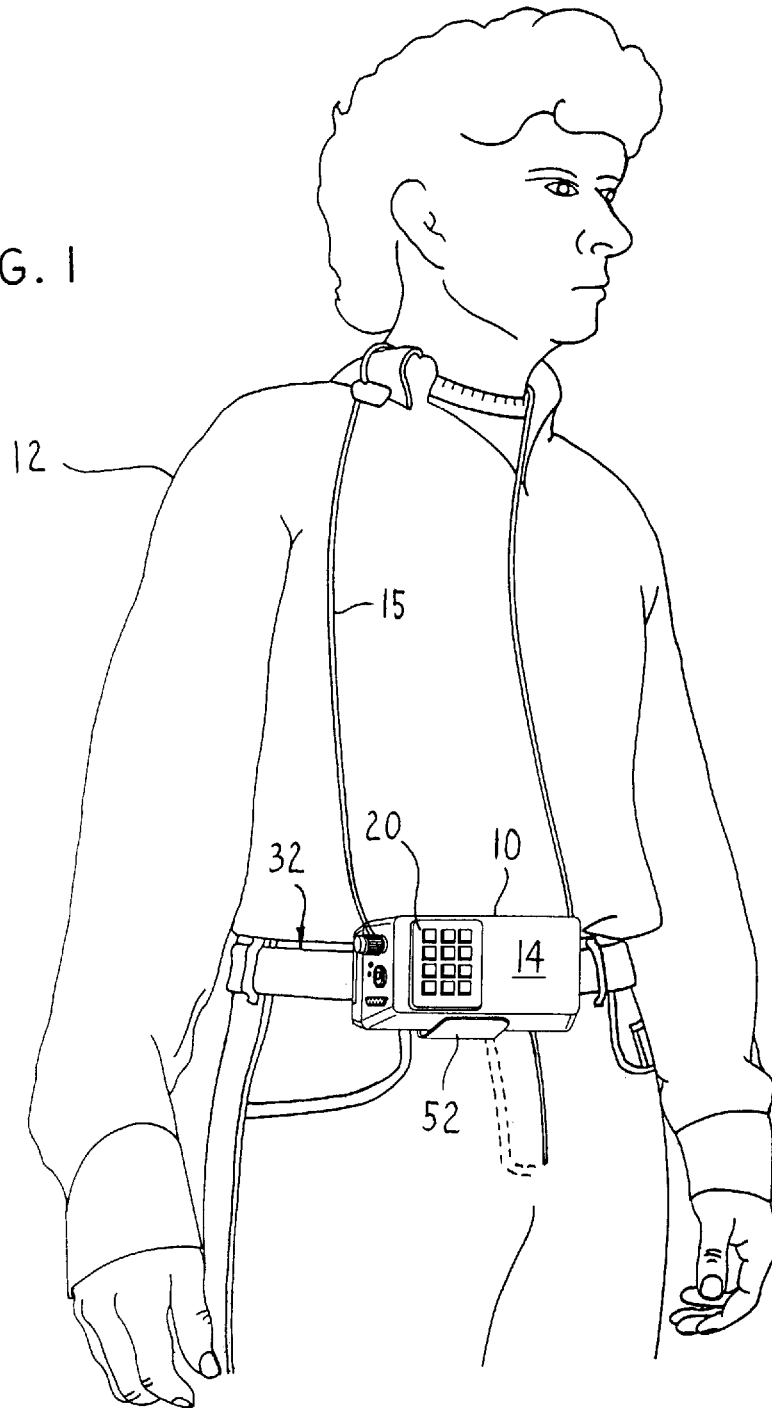
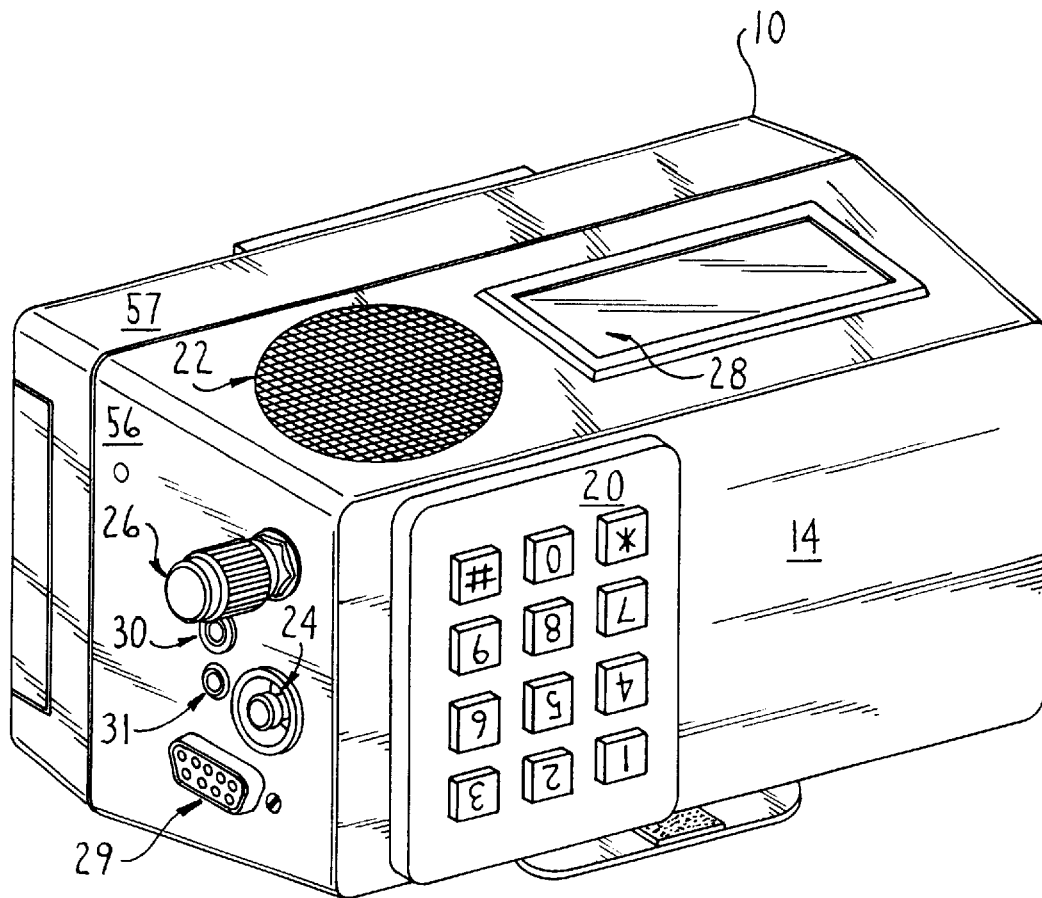


FIG. 2



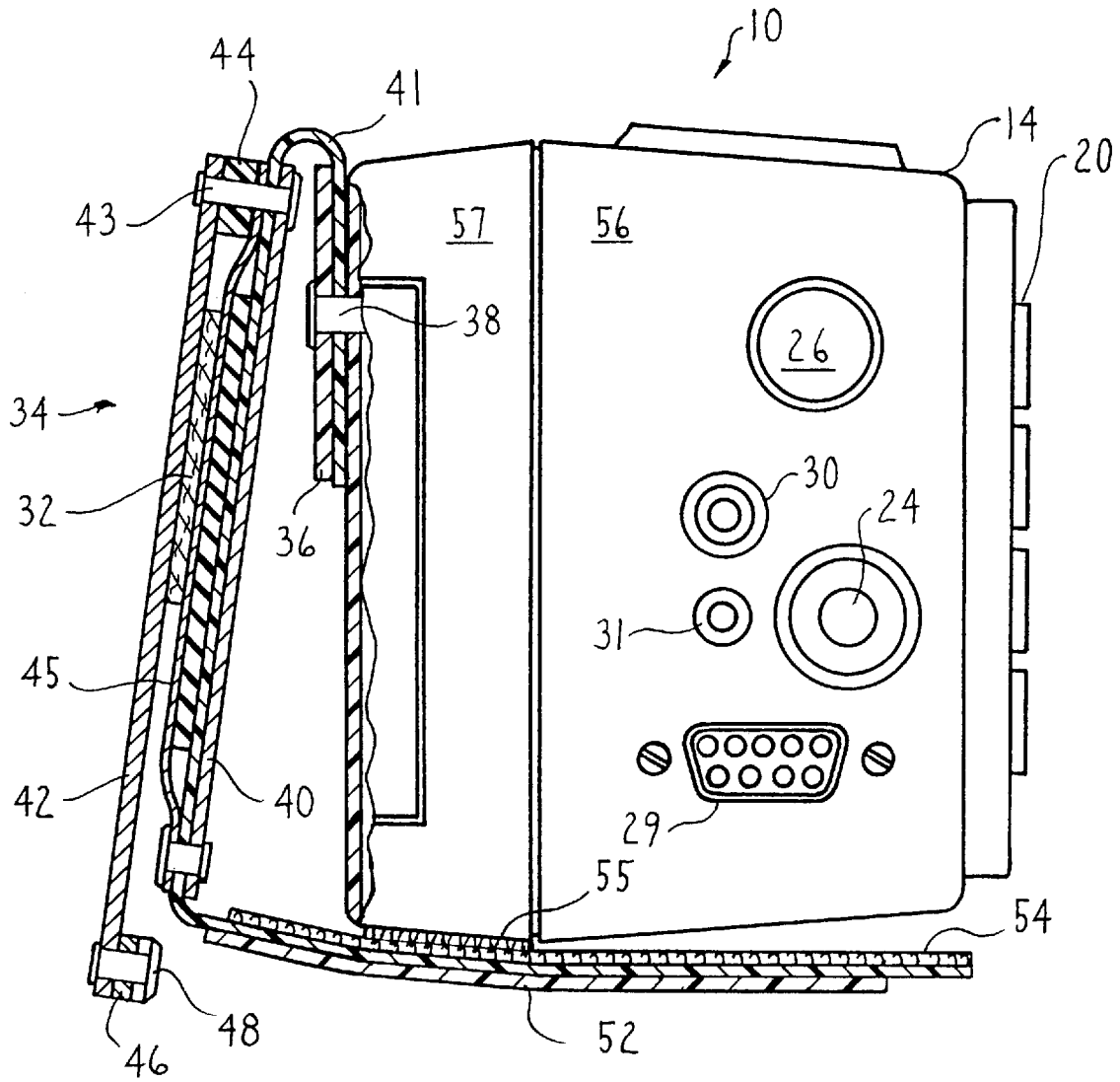
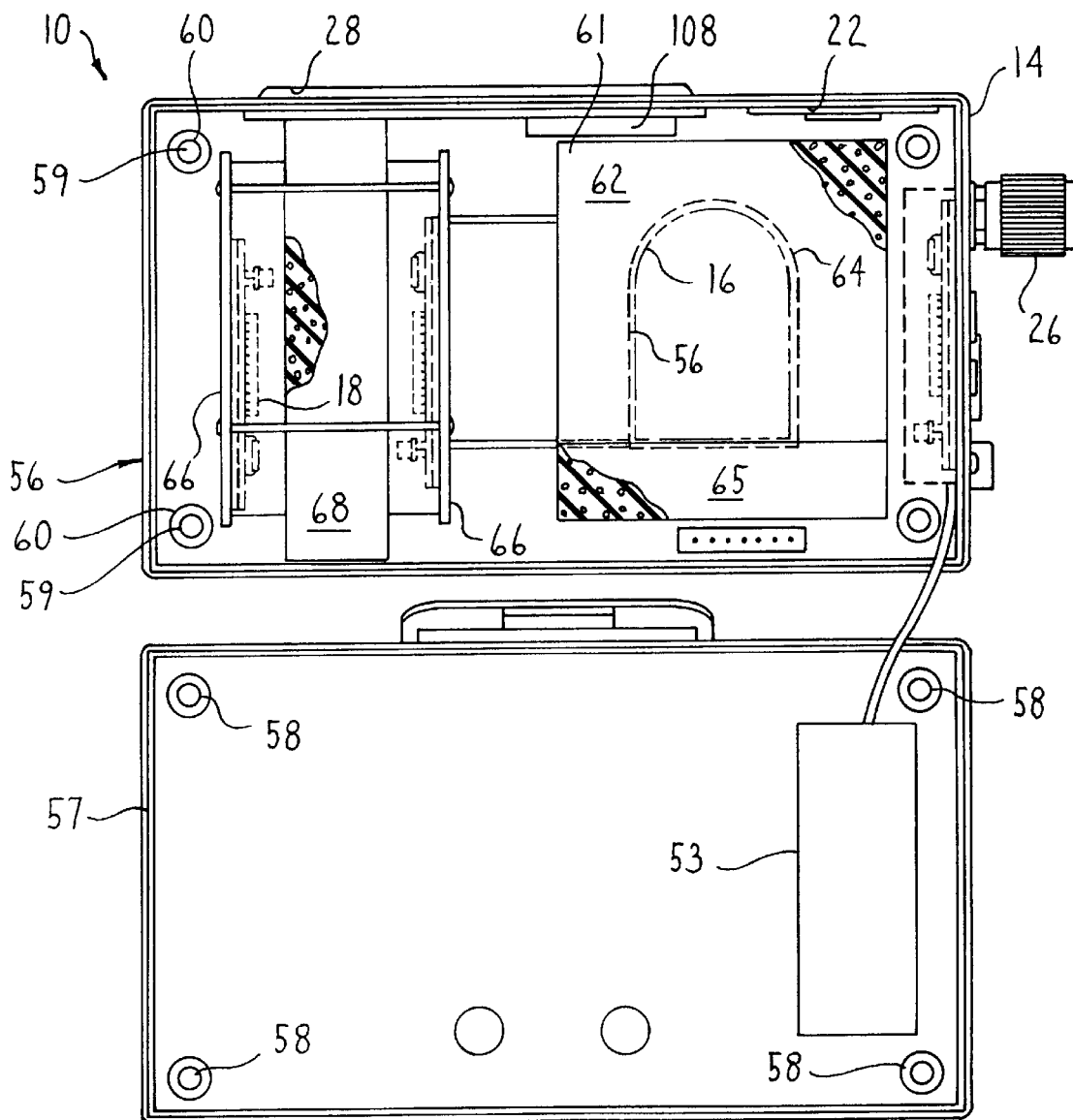


FIG. 3

FIG. 4



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