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# United States Patent [19]

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Ulrich et al.

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## [54] INTERACTIVE EXERCISE APPARATUS

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[73] Assignee: **CyberGear, Inc.**, Cambridge, Mass.

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[22] Filed: **Feb. 1, 1994**

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### Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 12,305, Feb. 2, 1993, abandoned.

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[51] Int. Cl.<sup>6</sup> ..... **A63B 21/00**

Citation; Virtual Reality Gallery at SIGGRAPH'1991 1 page.

[52] U.S. Cl. .... **482/4**; 482/1; 482/3; 482/6; 482/57; 482/901

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[58] Field of Search ..... 482/1-8, 52, 53, 482/57, 72, 900-902; 434/157, 247

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*Attorney, Agent, or Firm*—Testa, Hurwitz & Thibault

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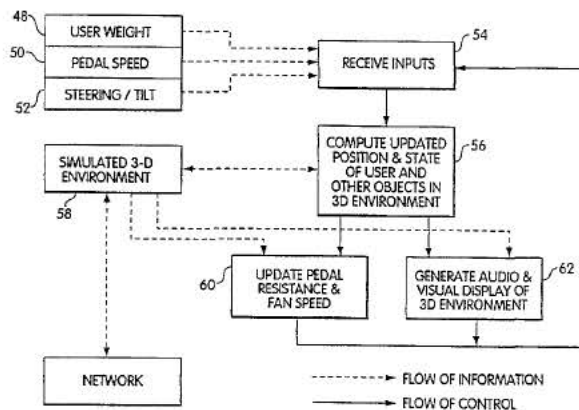
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### [57] ABSTRACT

An interactive exercise apparatus engages a user's mind and body. The apparatus comprises an exercise mechanism and a steering mechanism for manipulation by the user to achieve exercise and to indicate a direction of motion. A simulated environment is generated by a computer and displayed on a display system for the user. The user manipulates the exercise mechanism and the steering mechanism to freely navigate through the simulated environment. The computer monitors the exercise mechanism and the steering mechanism to determine user position in the simulated environment. The display is periodically updated by the computer to provide a continuous visual display of the user's position as the user travels through the simulated environment. A plurality of the interactive exercise apparatus can be networked together to allow group participation in the simulated environment.

24 Claims, 12 Drawing Sheets



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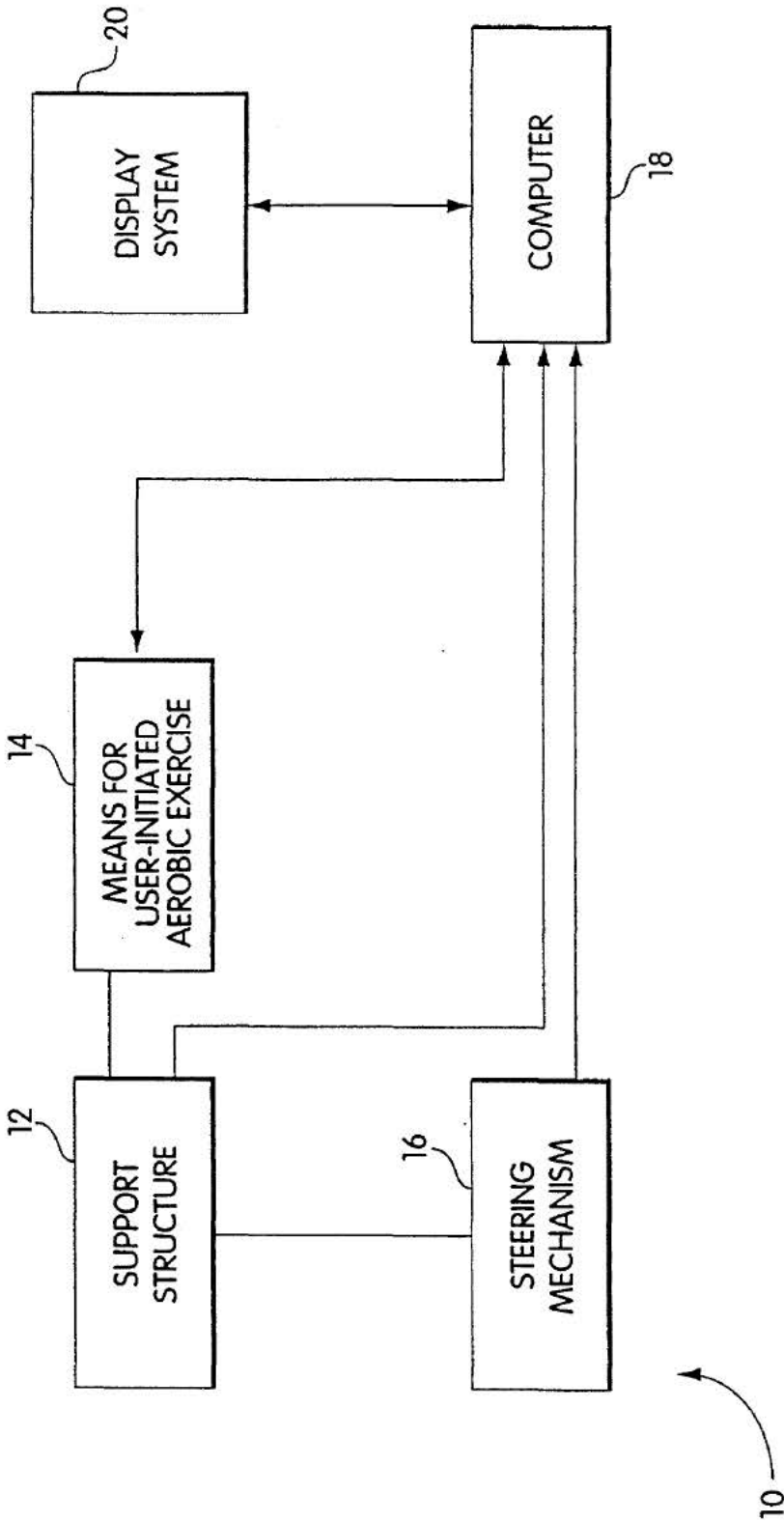


Fig. 1

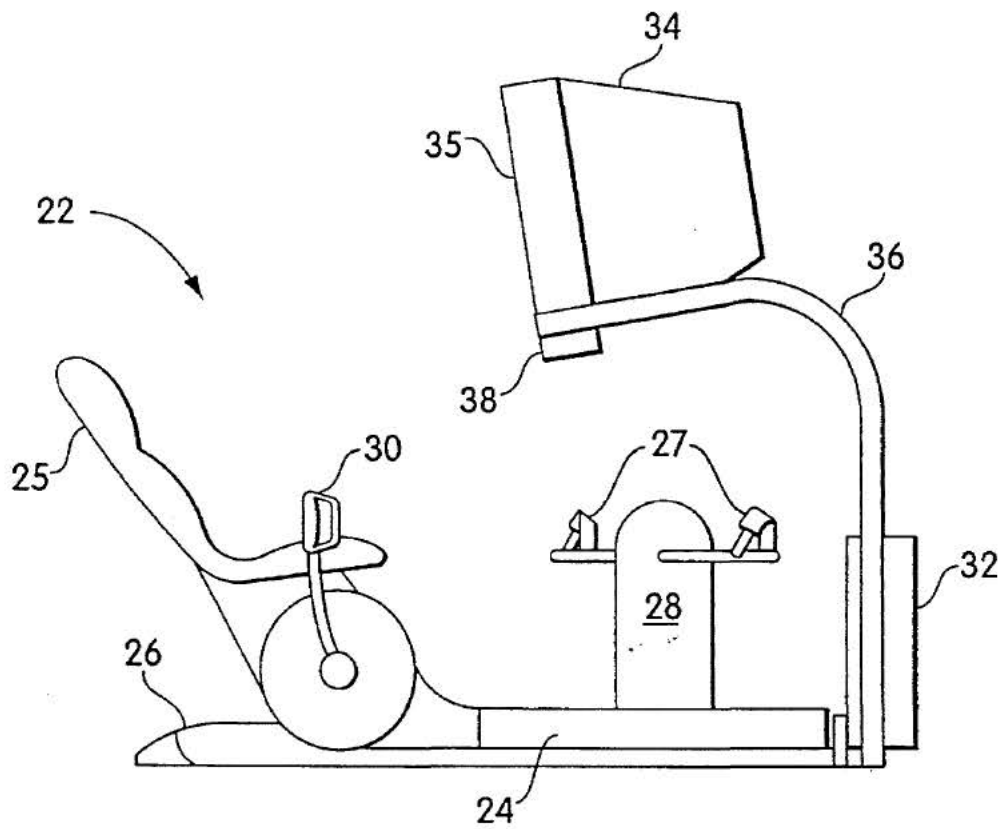


Fig. 2A

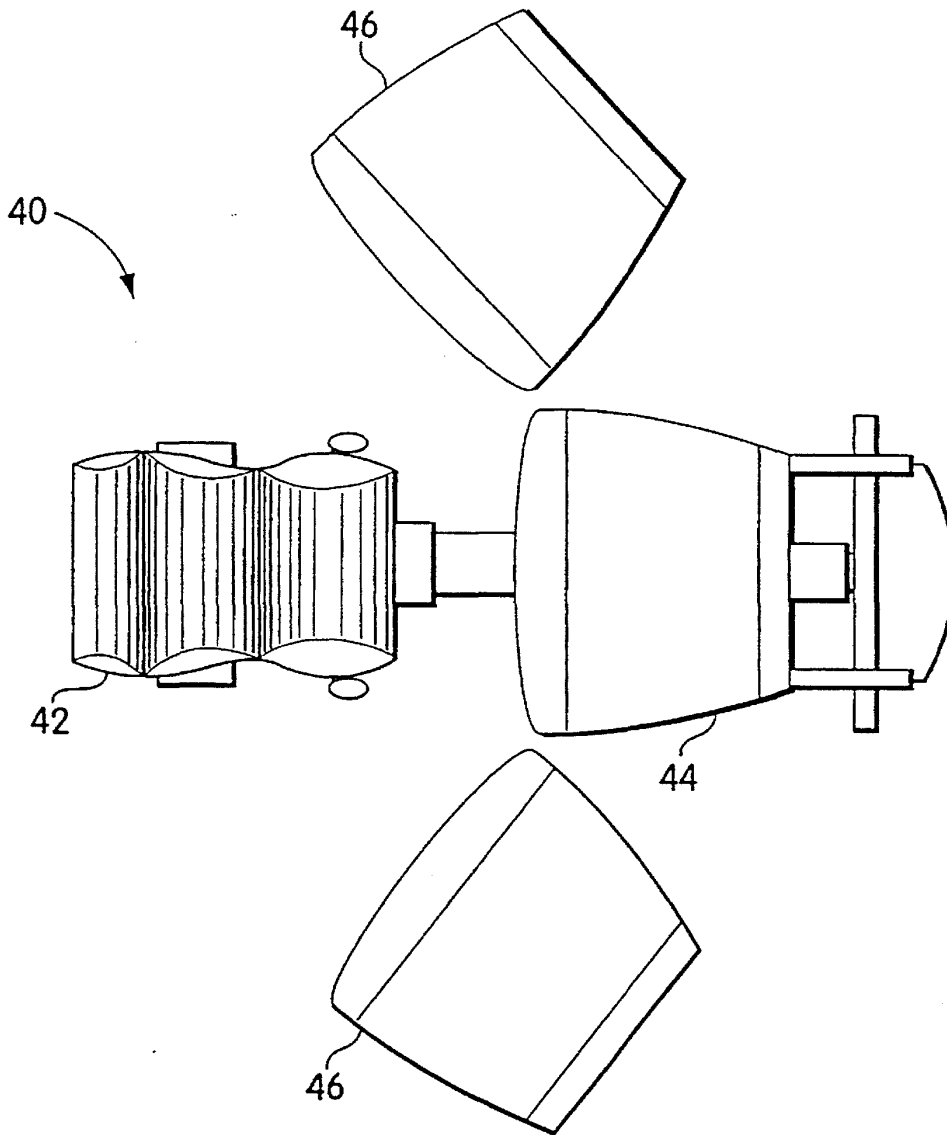


Fig. 2B

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