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United States Patent [19]

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Socci et al.

[45] Date of Patent: **Jun. 29, 1999**

[54] **HEAD GEAR FOR DETECTING HEAD MOTION AND PROVIDING AN INDICATION OF HEAD MOVEMENT**

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[21] Appl. No.: **08/957,073**

[22] Filed: **Oct. 24, 1997**

[51] Int. Cl.⁶ **A61B 5/00**

[52] U.S. Cl. **600/595**

[58] Field of Search 600/587, 595;
273/26 R; 33/511, 512

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Declaration In Support Of An IDS, by Roger Socci Jan. 1998.

Primary Examiner—Max Hindenburg
Attorney, Agent, or Firm—Hunton & Williams

[57] ABSTRACT

Apparatus and method for using head gear to sense the motion of the wearer's head and output a signal indicative of the motion. Sensors are used to detect head motion about two mutually perpendicular axes. The sensor signal is fed into a microprocessor to compute a feedback signal indicative of the deviation of the motion from a desired, pre-programmed path. The feedback signal is delivered to an indicator to alert the wearer of the head motion. The device is adaptable to monitor head motions for various athletic, sporting and safety applications.

31 Claims, 6 Drawing Sheets

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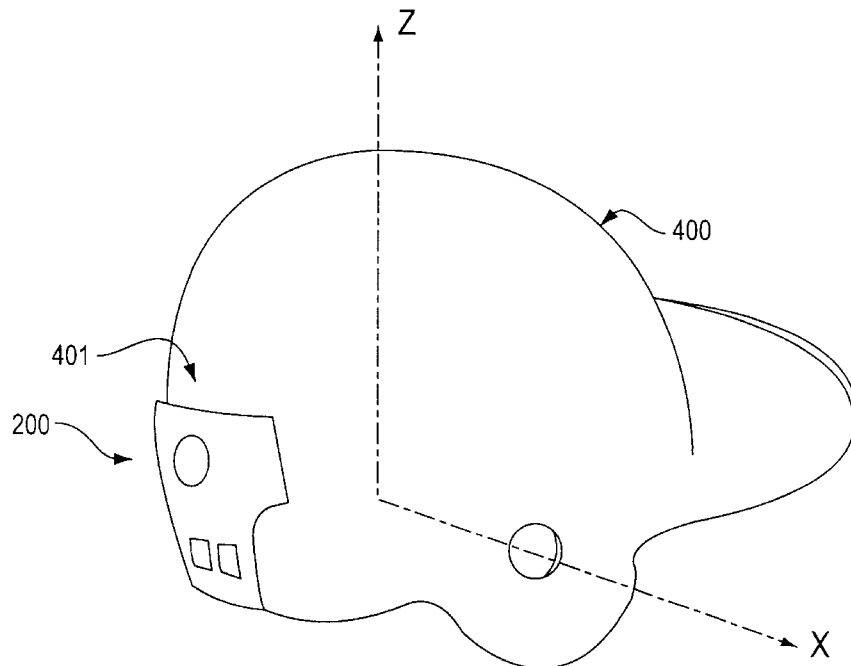


FIG. 1

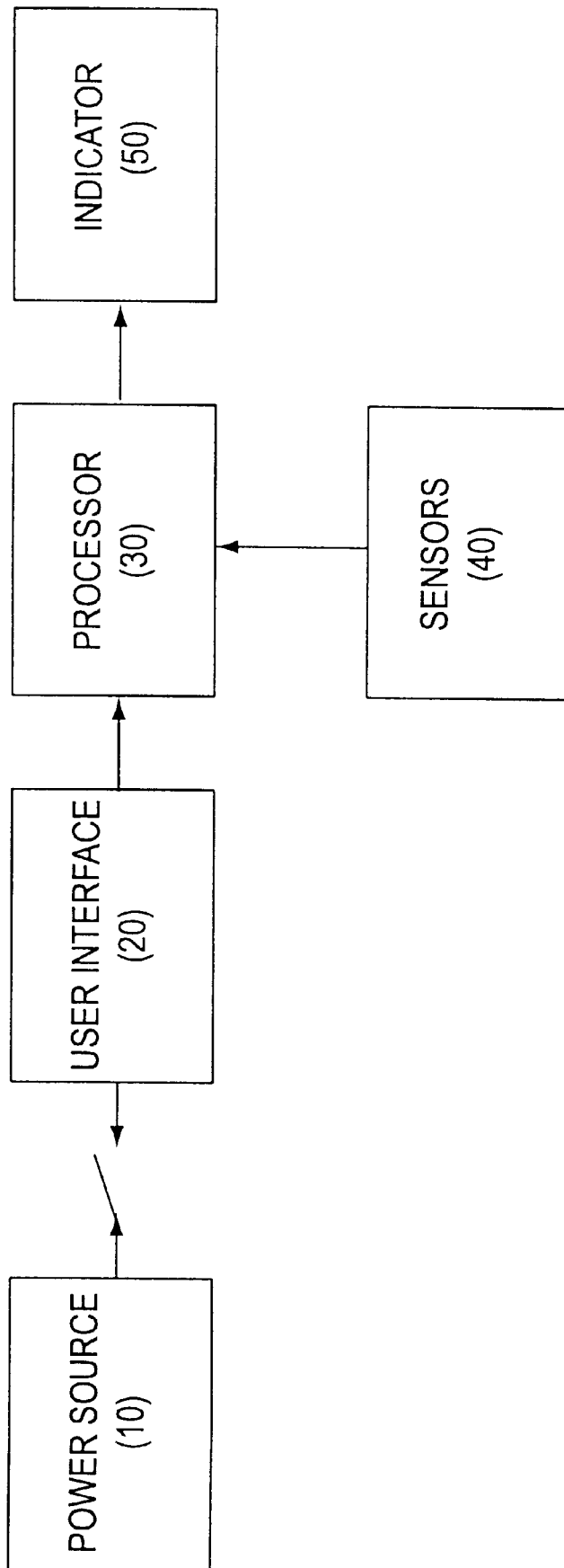
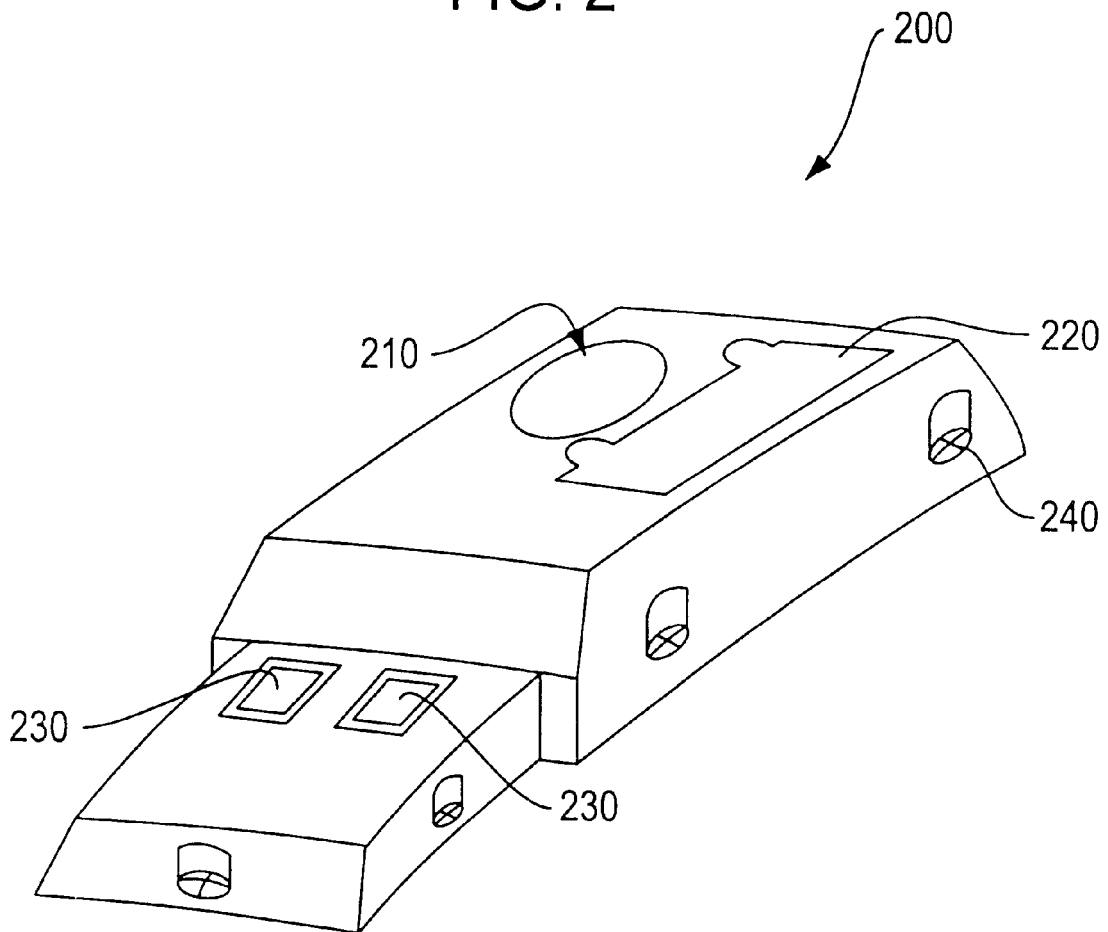


FIG. 2



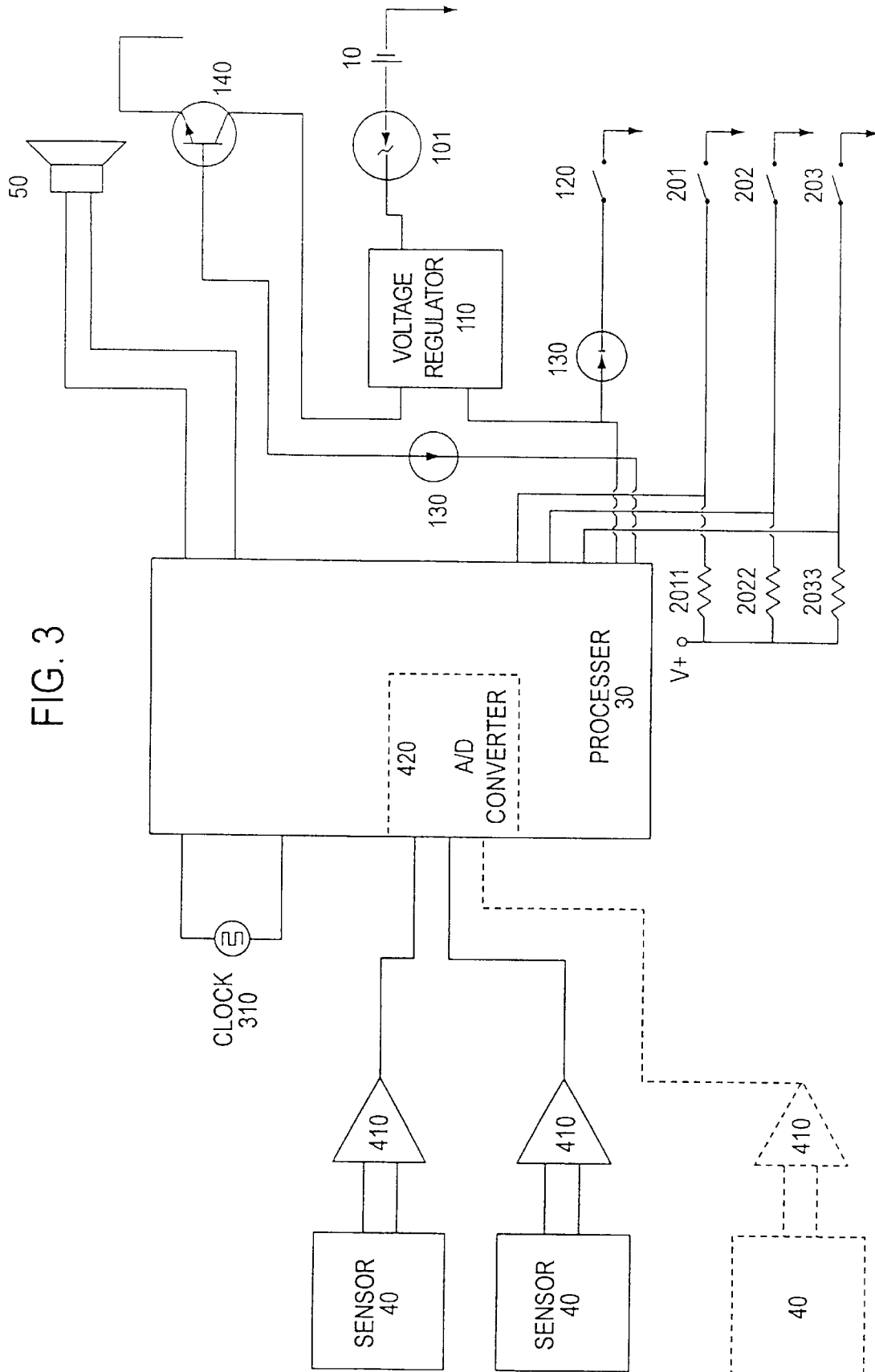
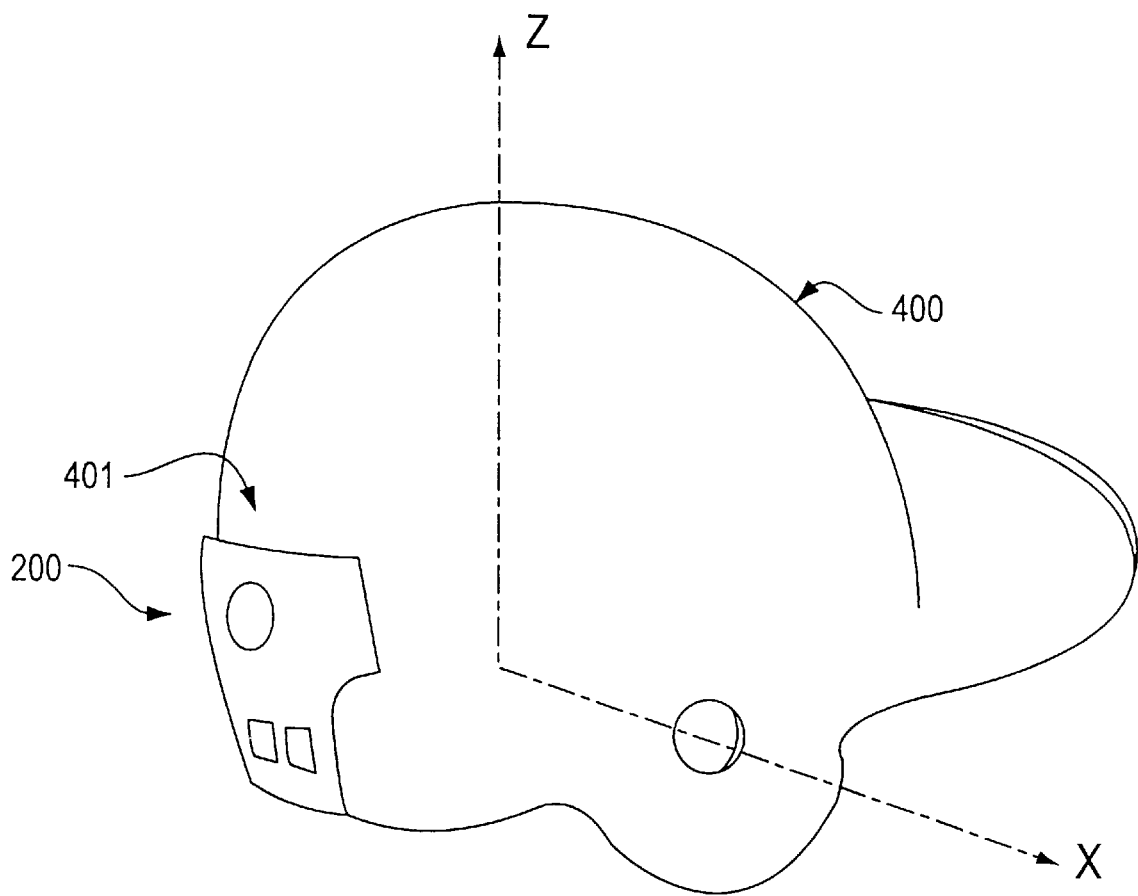


FIG. 4



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