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United States Patent [19]**Willner et al.**[11] **Patent Number:** **5,874,906**[45] **Date of Patent:** **Feb. 23, 1999**[54] **DATA ENTRY SYSTEM**[75] Inventors: **Michael A. Willner**, Mason Neck, Va.;
Scott M. Arnel, Syosset, N.Y.[73] Assignee: **Wilnel, Inc.**, Mason Neck, Va.[21] Appl. No.: **934,648**[22] Filed: **Sept. 22, 1997**[51] **Int. Cl.⁶** **H03K 17/94**[52] **U.S. Cl.** **341/22; 341/26; 345/161;**
345/160; 345/168; 463/36; 463/37; 463/38[58] **Field of Search** 341/20, 22; 400/485,
400/489, 100; 345/160, 168, 161; 463/38,
36, 37[56] **References Cited****U.S. PATENT DOCUMENTS**

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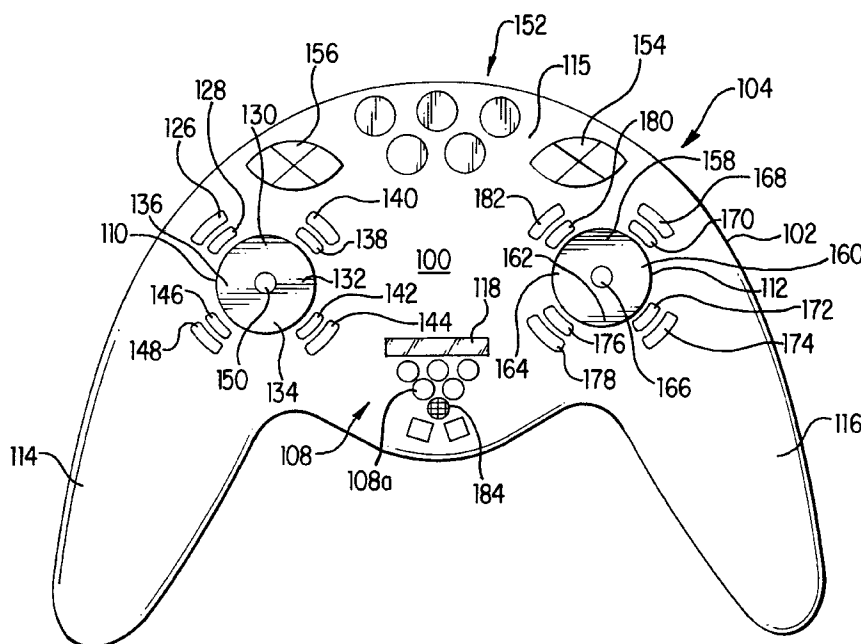
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Primary Examiner—Michael Horabik*Assistant Examiner*—Albert K. Wong*Attorney, Agent, or Firm*—Rosenberg, Klein & Bilker[57] **ABSTRACT**

A data entry system (100, 100') has an ergonomic base (102, 102') including upper surface controls (104, 104') which generate a first set of electrical signals, and side surface controls (106, 106') which generate a second set of electrical signals when operated independently. A third set of electrical signals are generated when the side surface controls (106, 106') are operated in combination with the upper surface controls (104, 104'). Data entry system (100, 100') further includes mode selection controls (108) for establishing the first, second and third sets of electrical signals as device control signals responsive to a first mode being selected and respective sets of alphanumeric and keyboard control signals responsive to a second mode being selected.

15 Claims, 7 Drawing Sheets

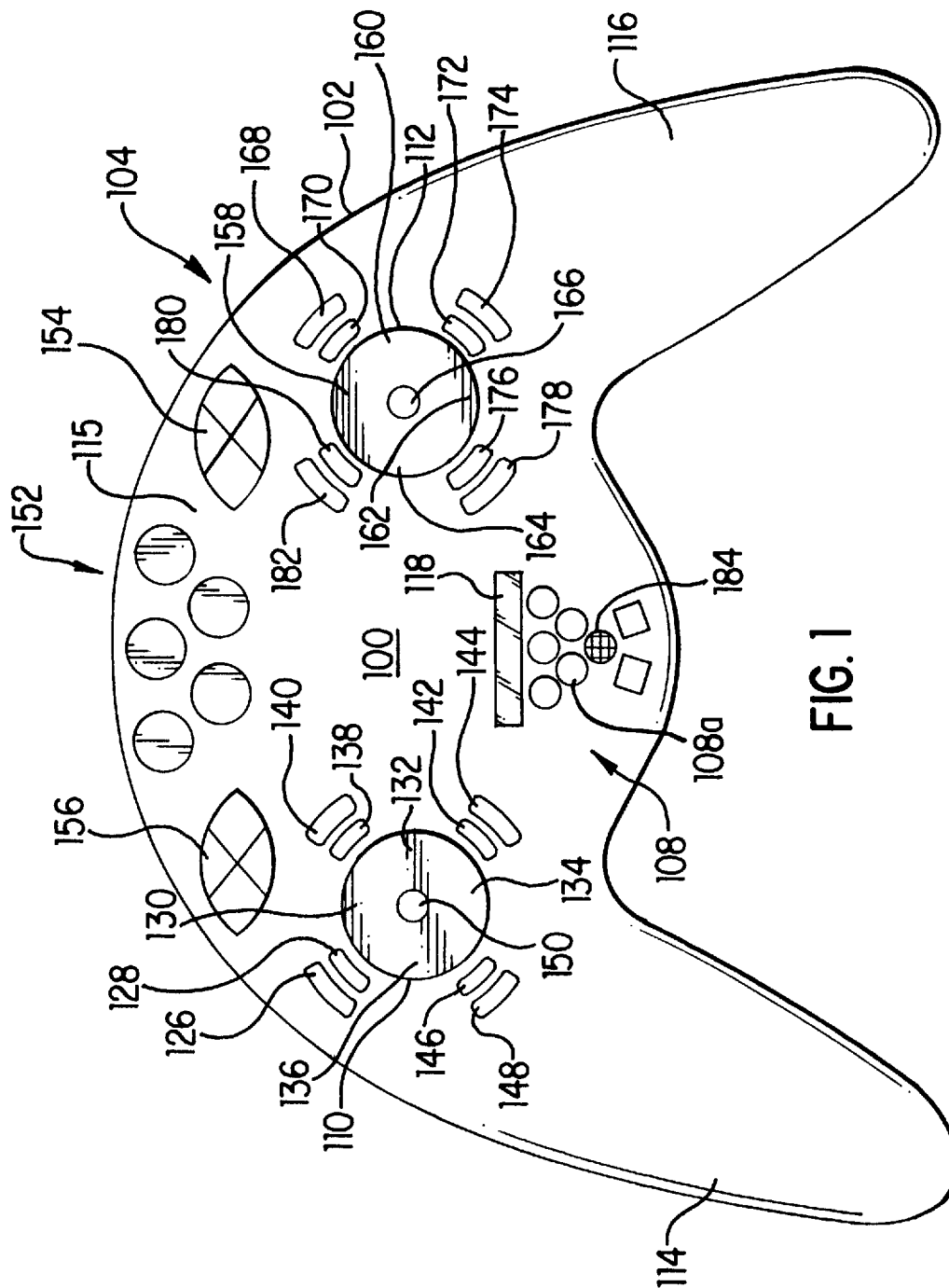


FIG. 1

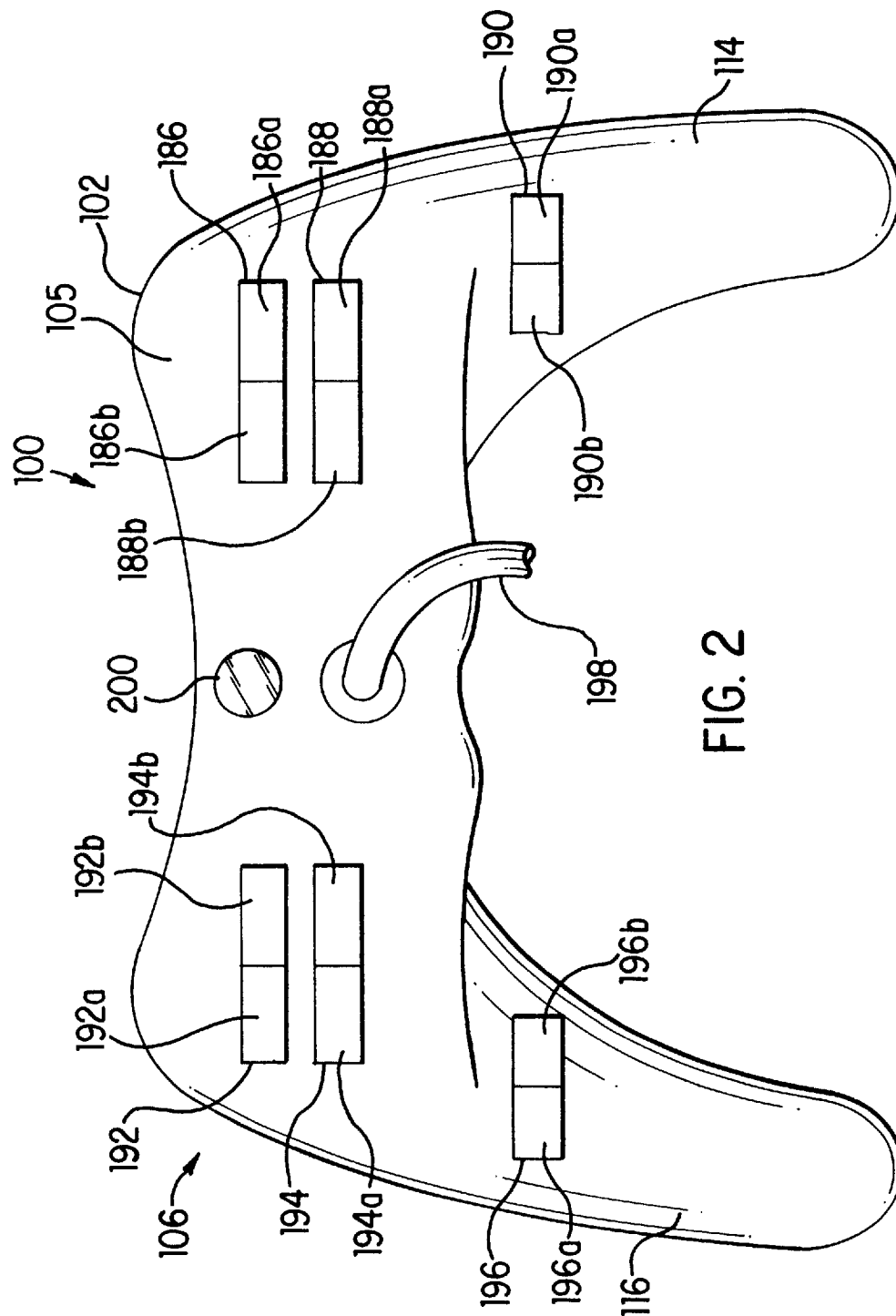


FIG. 2

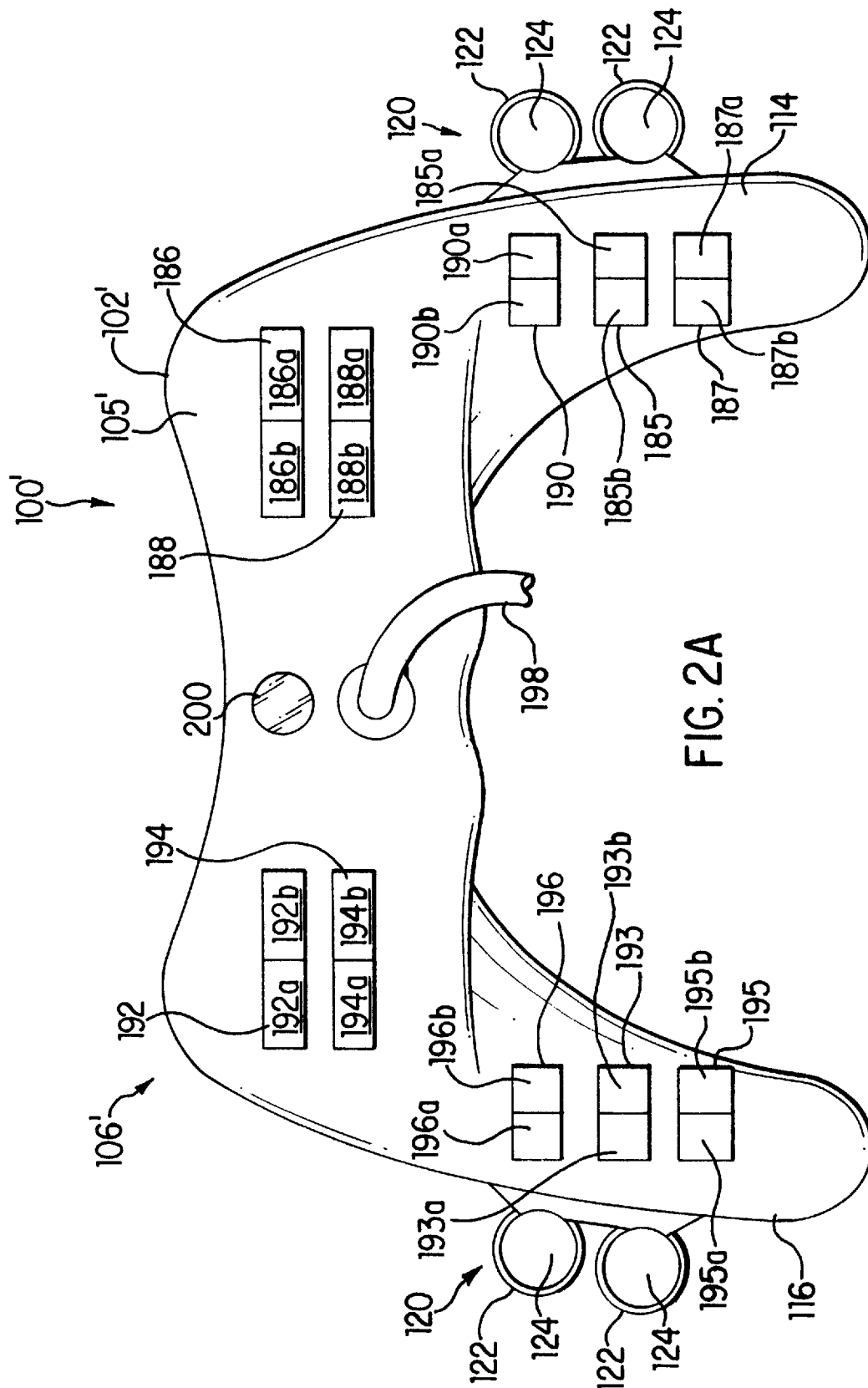


FIG. 2A

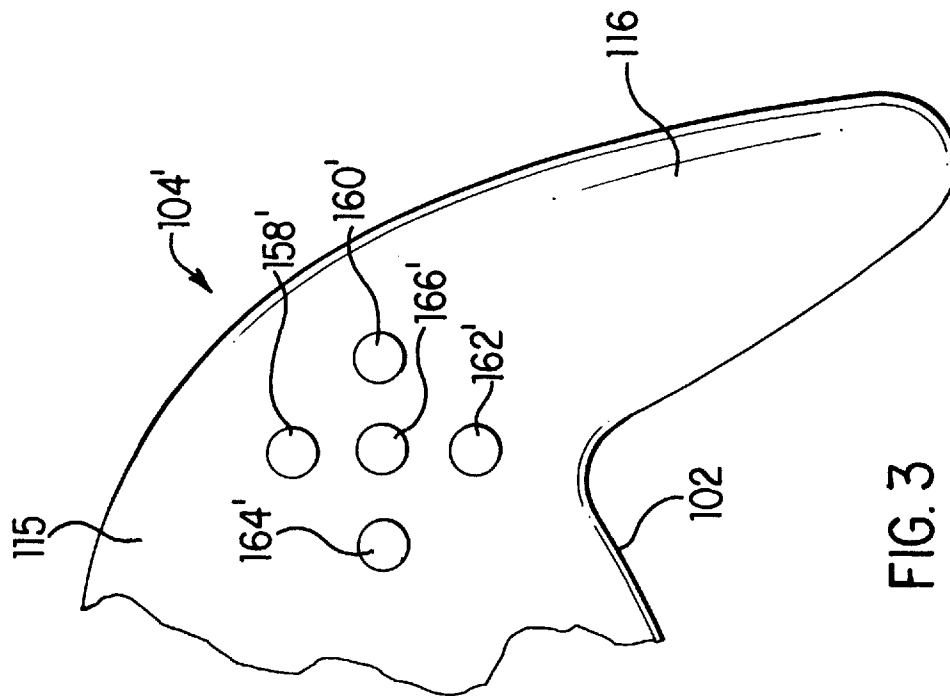


FIG. 3

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