



United States Patent [19]

Date et al.

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[54] **HAND HELD CONTROL KEY DEVICE INCLUDING MULTIPLE SWITCH ARRANGEMENTS**

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[73] Assignee: **Sega Enterprises, Ltd.**, Tokyo, Japan

[*] Notice: This patent is subject to a terminal disclaimer.

[21] Appl. No.: **08/851,694**

[22] Filed: **May 6, 1997**

Related U.S. Application Data

[60] Division of application No. 08/414,316, Mar. 31, 1995, Pat. No. 5,644,113, which is a continuation-in-part of application No. 08/367,577, Jan. 3, 1995, abandoned.

[51] Int. Cl.⁷ **H01H 3/00**; H01H 13/70; A63F 9/00

[52] U.S. Cl. **200/339**; 200/5 A; 200/341; 273/148 B; 463/37; 345/169

[58] Field of Search 200/5 R, 5 A, 200/6 A, 512, 329-345; 345/156-158, 160, 161, 168, 169; 364/709.01-709.16; 273/148 B; 463/36-39

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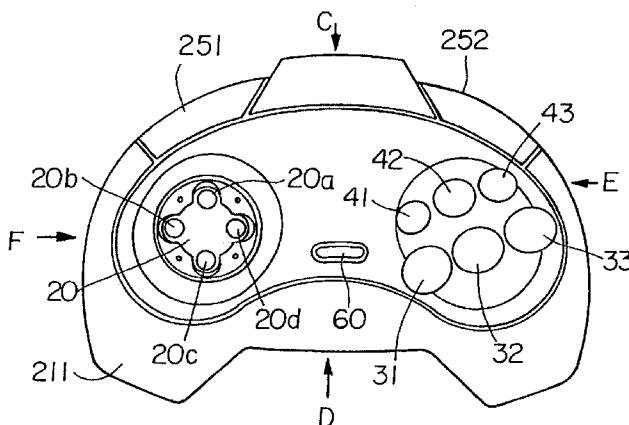
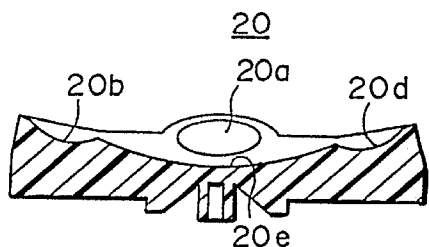
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[57] ABSTRACT

A control-key device is provided for use as a controller for a video game including a direction specifying key mounted on a housing which an operator manipulates to control the play of a video game, where the surface of said direction specifying key comprises a combination of concave portions to facilitate use of the direction specifying key. The unit preferably comprises a push button and a housing including a hole through which the push button protrudes. The housing extends along a plane wherein said plane intersects a plane perpendicular to an axis of said push button at a predetermined angle, and said plane of said housing also extending parallel to a plane defined by the surface of said push button. In a preferred embodiment, the push button is mounted in a manner such that the push button has a rotation axis and a plurality of operating surfaces, where each of said plurality of operating surfaces includes a projection that forms a surface perpendicular to the rotational direction defined by said rotation axis.

6 Claims, 15 Drawing Sheets



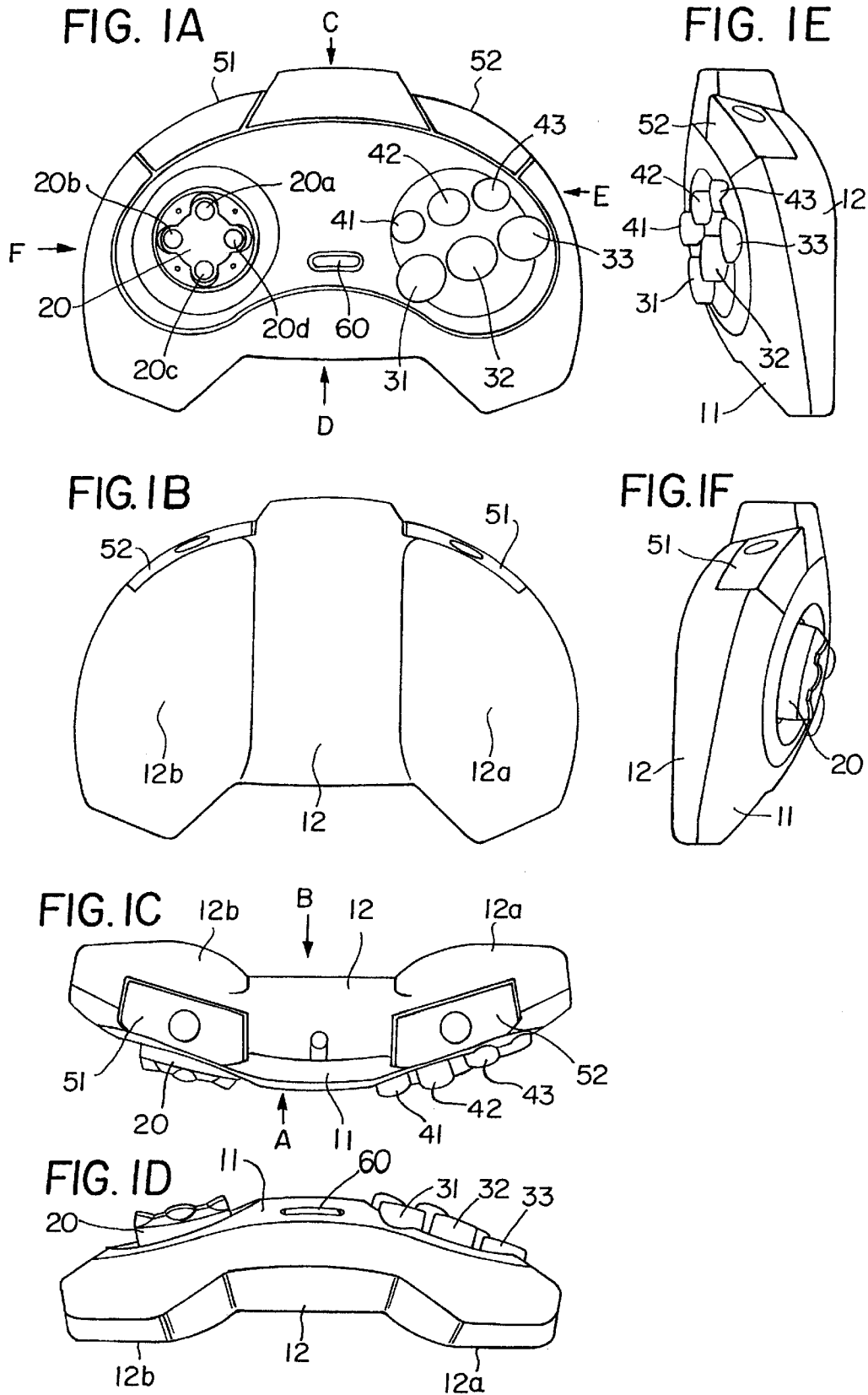


FIG. 2

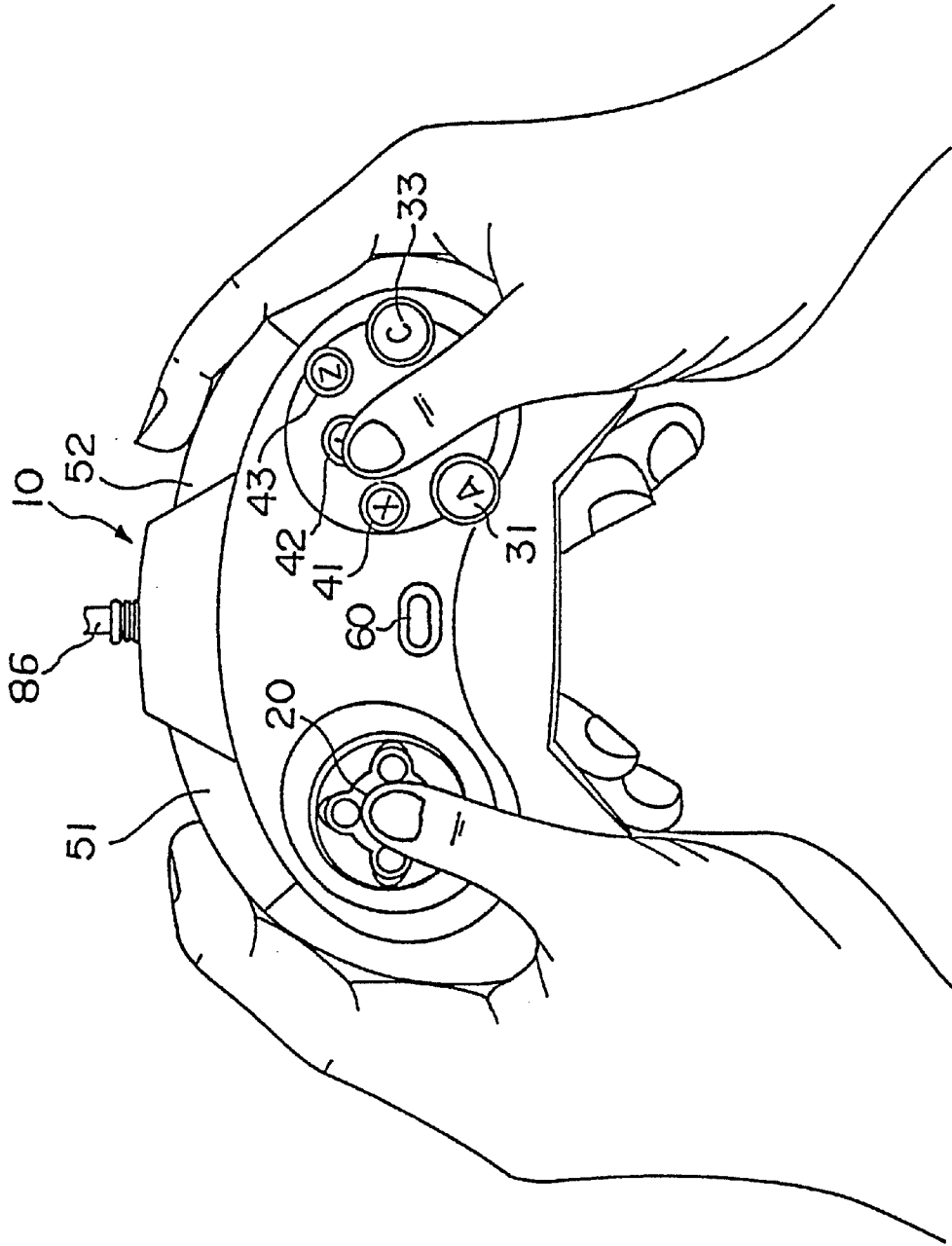
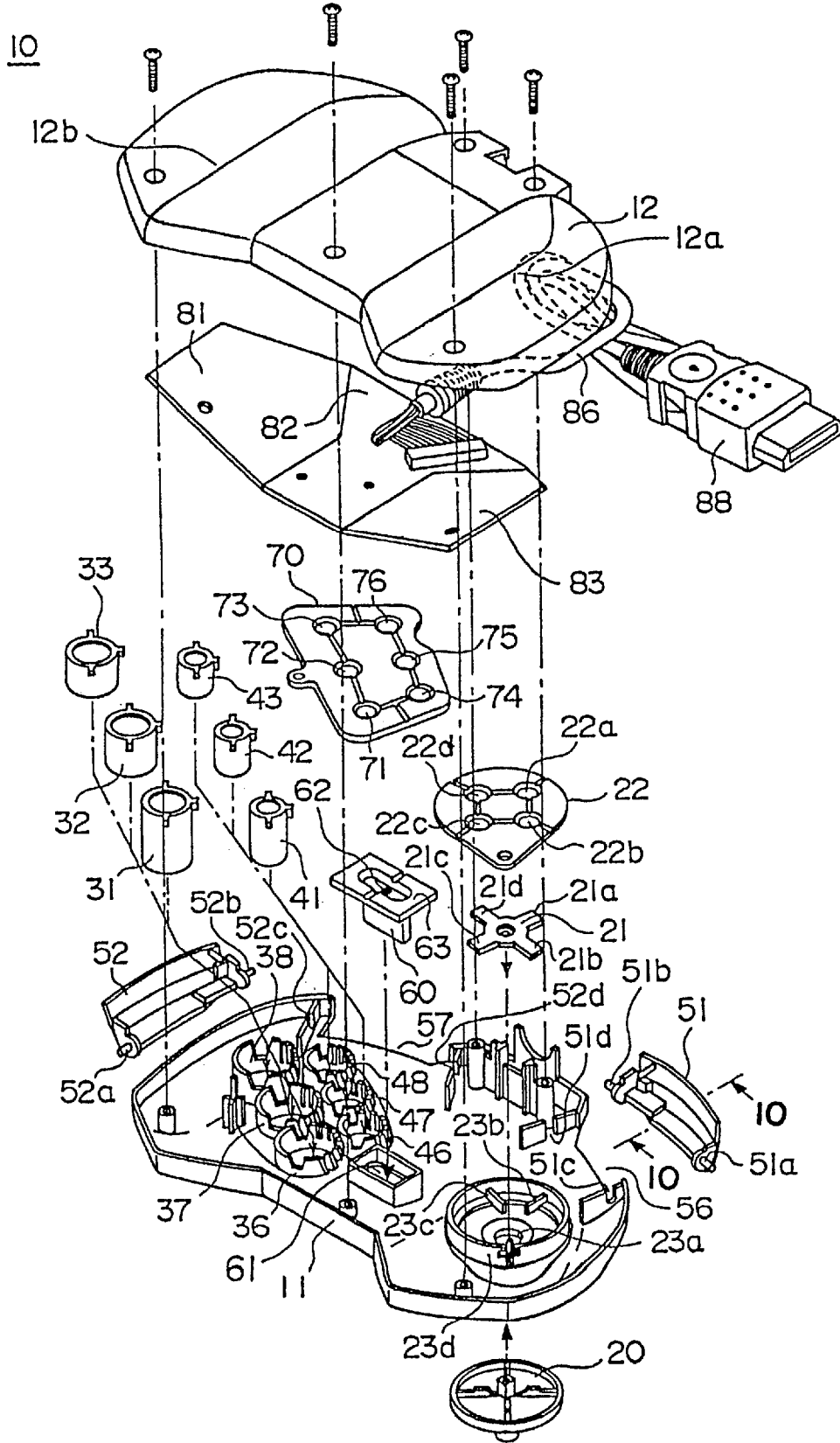
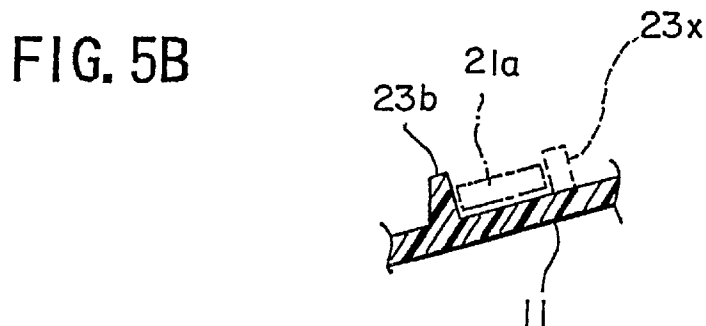
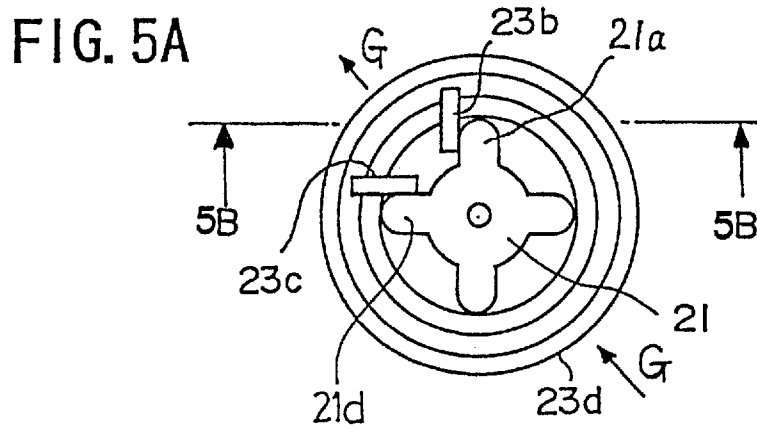
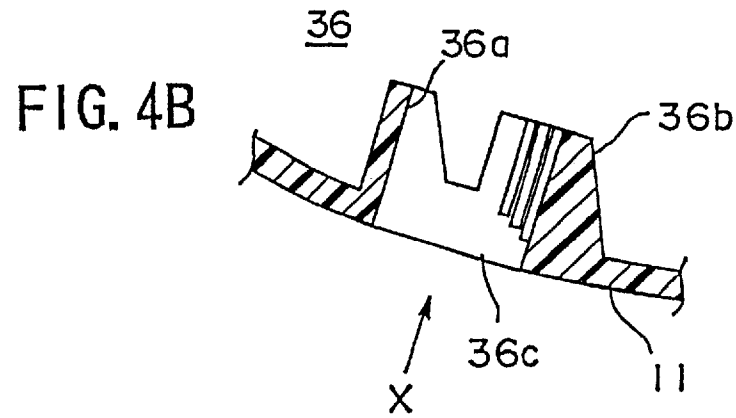
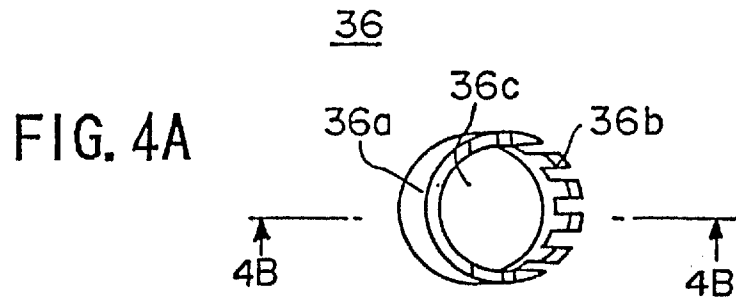


FIG. 3





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