



(12) **United States Patent**
Soma

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- (54) **INPUT DEVICE FOR GAME MACHINE**
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- (73) Assignee: **Alps Electric Co., Ltd., Tokyo (JP)**
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

5,026,058	A	*	6/1991	Bromley	.....	273/93	C	X
5,485,171	A	*	1/1996	Copper et al.	.....	345/160	X	X
5,531,443	A		7/1996	Cruz				
5,644,113	A	*	7/1997	Date et al.	.....	200/5	R	X
5,645,277	A	*	7/1997	Cheng	.....	273/148	B	
5,700,194	A	*	12/1997	Hsien	.....	463/37	X	
5,716,274	A		2/1998	Goto et al.				
5,759,100	A	*	6/1998	Nakanishi	.....	463/37	X	
5,874,906	A	*	2/1999	Willner et al.	341/22	X	
6,153,843	A	*	11/2000	Date et al.	200/339	X	

(21) Appl. No.: **09/431,814**

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(30) **Foreign Application Priority Data**

Nov. 4, 1998 (JP) 10-313796

(51) **Int. Cl.**⁷ **A63F 13/00**; A63F 9/24;
G06F 17/00; G06F 19/00

(52) **U.S. Cl.** **463/38**; 463/36; 463/37;
463/46; 463/47; 273/148 R; 273/148 B;
345/156; 345/184

(58) **Field of Search** 463/38, 36, 37,
463/46, 47; 273/148 R, 148 B, 459, 460,
461; 345/154, 156, 157, 184, 161

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,401,304	A	*	8/1983	Hamano	.....	273/85	G	X
4,469,330	A		9/1984	Asher				
4,820,908	A	*	4/1989	Wei	.....	235/245	R	X
4,849,583	A	*	7/1989	Meyer	.....	200/6	A	X
4,864,272	A	*	9/1989	Cecchi et al.	.....	338/128		
4,949,080	A	*	8/1990	Mikan	.....	340/711	X	

FOREIGN PATENT DOCUMENTS

JP	0 90 50 344	2/1997
JP	10-134662	5/1998

* cited by examiner

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(57) **ABSTRACT**

In the input device, which inputs signals to a game machine using a computer, one or more operating members are provided on each of plural outer surfaces of housing members, a filmy substrate having flexibility is bent in conformity with the insides of the plural surfaces of the housing member, contact portions adapted to perform ON-OFF operation in response to operations of the operating members are formed respectively on the bent surfaces of the substrate, and when the operating members are operated, signals corresponding respectively to operations of the operating members are inputted to the game machine.

20 Claims, 4 Drawing Sheets

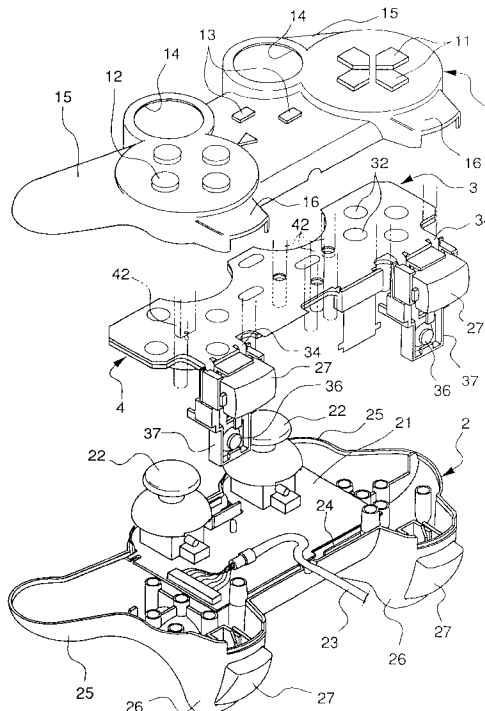


FIG. 1

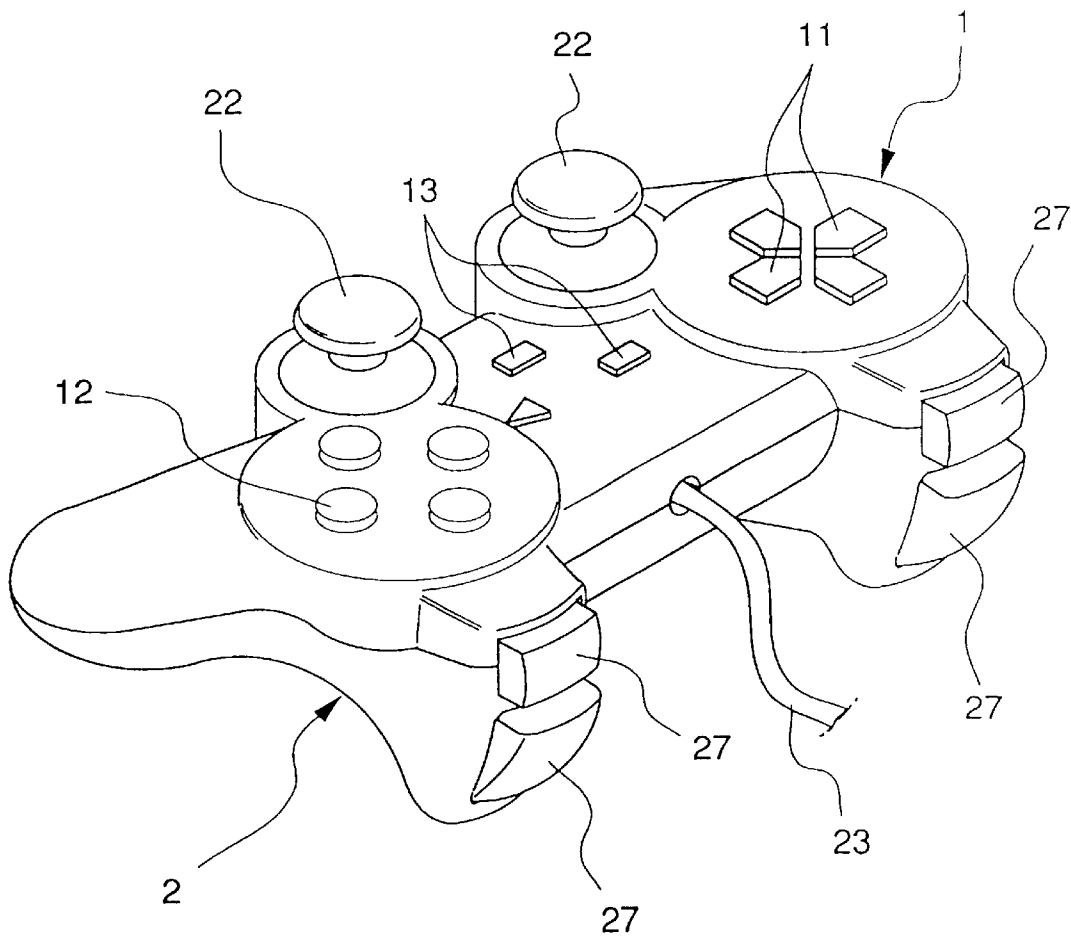


FIG. 2

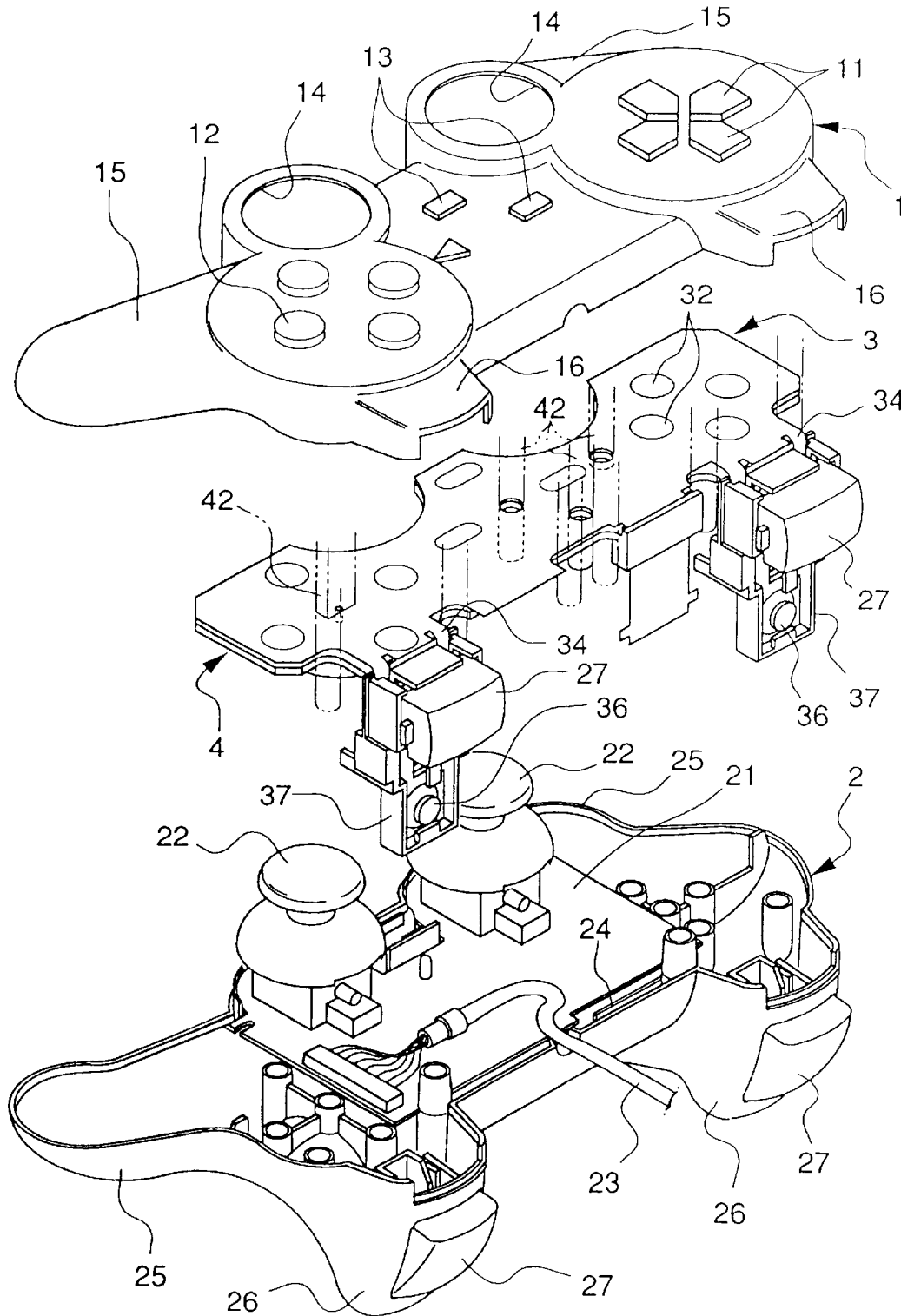


FIG. 3

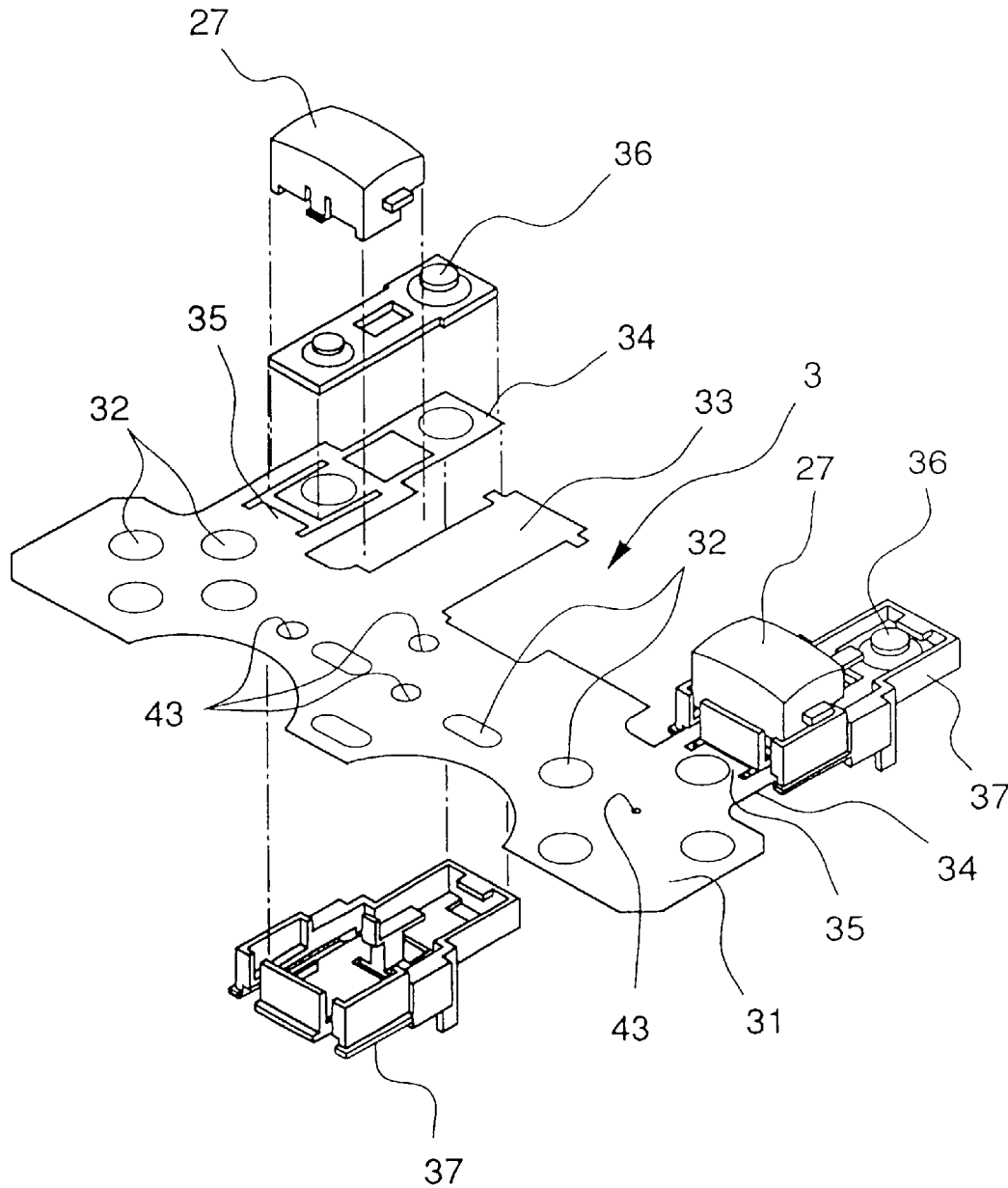
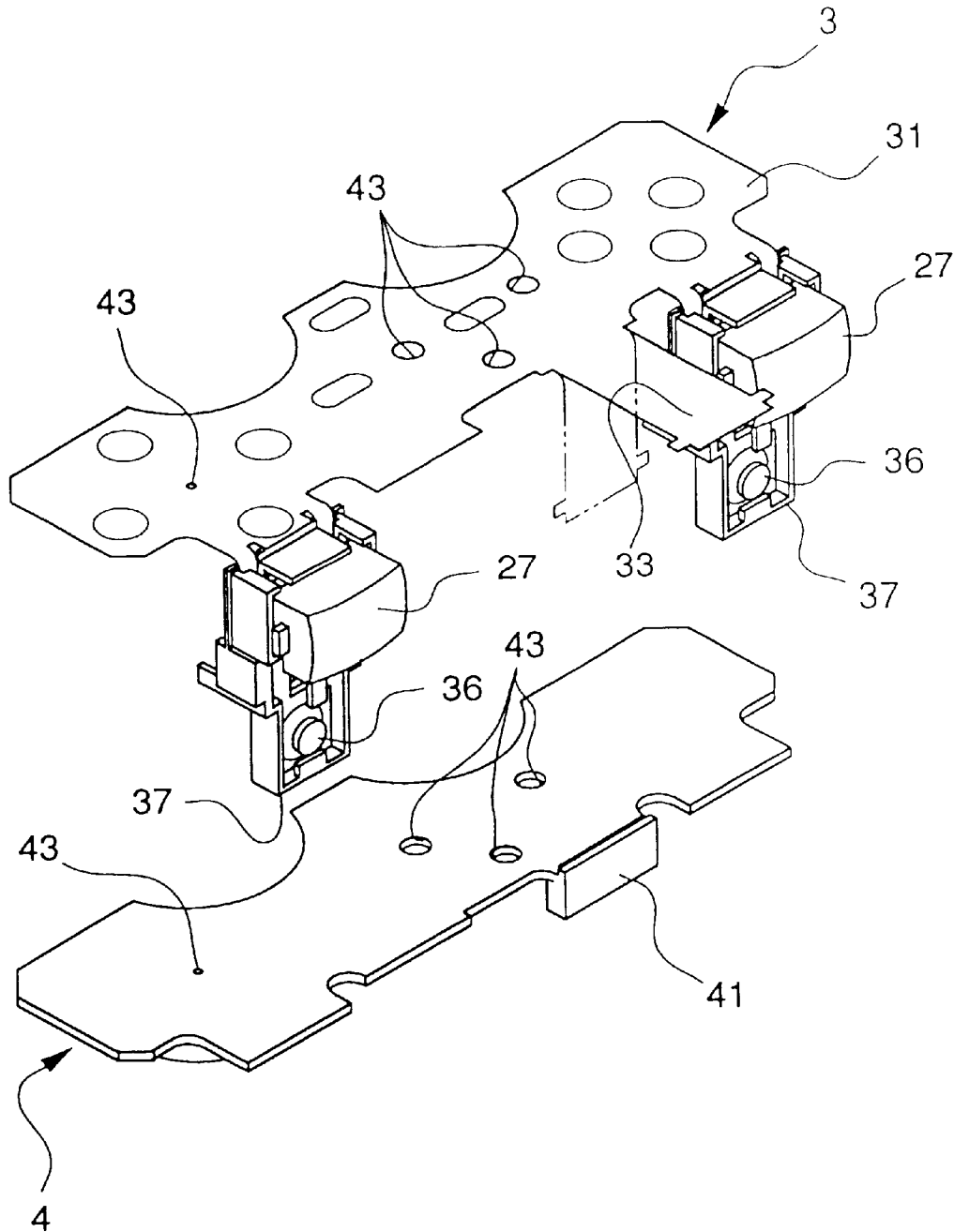


FIG. 4



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