

US007326101B2

US 7,326,101 B2

Feb. 5, 2008

(12) United States Patent Engel et al.

(54) SWITCHING ARRANGEMENTS AND ACCESSORIES CAPABLE OF ACTIVATION BY AIR

(76) Inventors: Robert W. Engel, 548 N. Hollyburne
La., Thousand Oaks, CA (US) 91360;
Robert Stephen Lee, 690 Bluegrass
St., Simi Valley, CA (US) 93065; Steve
G. Fouke, 14014 Panay Way, #283,
Marina Del Rey, CA (US) 90292; John
Rey Hollis, 21540 Encina Rd.,
Topanga, CA (US) 90290; William
John Kelley, 1952 Corbett Highlands
Pl., Arroyo Grande, CA (US) 93420

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 749 days.

(21) Appl. No.: 10/357,536

(22) Filed: Feb. 3, 2003

(65) Prior Publication Data US 2003/0232567 A1 Dec. 18, 2003

Related U.S. Application Data

- (60) Provisional application No. 60/353,882, filed on Feb. 2, 2002.
- (51) Int. Cl. A63H 33/40 (2006.01)

See application file for complete search history.

(56) References Cited

(10) Patent No.:

(45) Date of Patent:

U.S. PATENT DOCUMENTS

929,316	A		7/1909	Masulla
983,608	A		2/1911	Dayton
1,370,337	A		3/1921	Megerlin
1,984,843	A		12/1934	Schoenfeld
3,220,253	A		11/1965	Parker
3,613,303	A		10/1971	Allen
3,848,249	A		11/1974	Meiri
4,373,290	A		2/1983	Goldfarb et al.
4,579,281	A	*	4/1986	Karterman 239/33
5,092,808	A		3/1992	Takasaka et al.
5,545,071	A	*	8/1996	Shiraishi 446/143

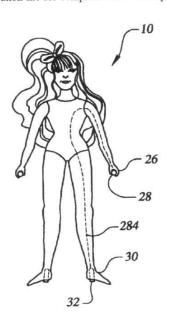
* cited by examiner

Primary Examiner—Eugene Kim Assistant Examiner—Urszula M Cegielnik (74) Attorney, Agent, or Firm—O'Connell Law Firm

(57) ABSTRACT

A switching arrangement capable of being actuated by an application of an air current with a playset component, a movable member for receiving an application of an air current relative to the playset component wherein the movable member for receiving an application of the air current is movable in response to the application of the air current, and an arrangement for actuating a response to a movement of the movable member for receiving an application of the air current. The switching arrangement can be electrical or non-electrical. Where the switching arrangement is electrical, it can cause an electrical signal to be produced in response to a sensed movement of the movable member.

22 Claims, 21 Drawing Sheets



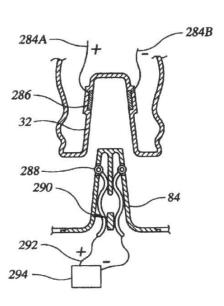
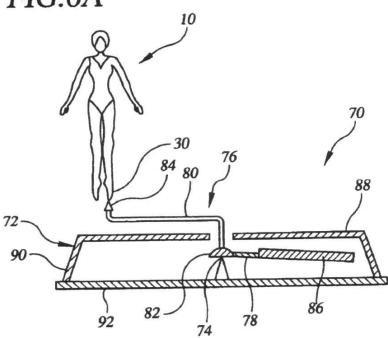
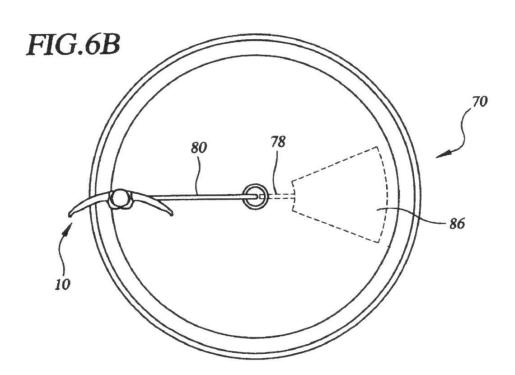


FIG.6A





Feb. 5, 2008

