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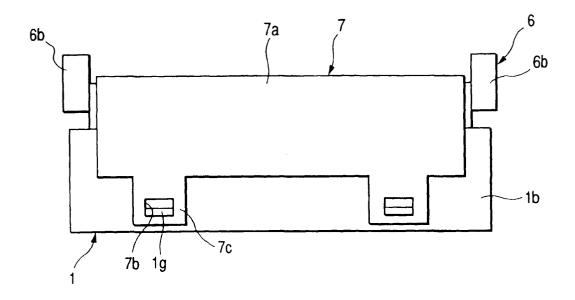
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(54) Switch device and electronic devices using the switch device

(57) According to the construction of the switch device of the present invention, spring means (5) are used, as both a return spring for an operating member (6) and a movable contact, the operating member being for op-

erating a switch portion (S1) and a push switch. Consequently, the switch device of the present invention is smaller in the number of components used, less expensive and superior in productivity as compared with the conventional switch device.

FIG. 1





EUROPEAN SEARCH REPORT

Application Number EP 98 30 8678

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Category	Oration of document with in of relevant pass		to claim	CLASSIFICATION OF THE APPLICATION (Int.CL6)
A	EP 0 278 649 A (BLA 17 August 1988 (198 * abstract; figures	8-08-17)	1	H01H25/00
A	FR 2 733 085 A (ITT 18 October 1996 (19 * abstract; figures	96-10-18)	1	
A	US 4 314 111 A (KOB 2 February 1982 (19 * abstract; figure	82-02-02)	1	
A	DE 24 60 457 A (DEK 24 June 1976 (1976- * figures *		5	
A	DE 94 09 478 U (KEM 28 July 1994 (1994- * figure *	PPI OY) 07-28)	1,5	
				TECHNICAL FIELDS SEARCHED (Int.CL6)
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_	The present search report has	Deen grawn up for all claims Date of completion of the sear	<u> </u>	Examiner
	THE HAGUE	6 March 2000	1	nssens De Vroom, P
X:per Y:per doo	CATEGORY OF CITED DOCUMENTS toularly relevant if taken alone toularly relevant if combined with anot unment of the same category thrological background	E : earlier pate after the fill her D : document L : document o	rinciple underlying the ent document, but publing date official in the application atted for other reasons	Invention Ished on, or
	St ann mant (S) and (s)			

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 98 30 8678

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-03-2000

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0278649	A	17-08-1988	US 4772765 A AU 593144 B AU 7970187 A CA 1275432 A DE 3853728 D DE 3853728 T	20-09-198 01-02-199 18-08-198 23-10-199 14-06-199 21-09-199
FR 2733085	A	18-10-1996	NONE	
US 4314111	A	02-02-1982	NONE	
DE 2460457	Α	24-06-1976	NONE	
DE 9409478	U	28-07-1994	FI 974 U	25-10-199

For more details about this annex: see Official Journal of the European Patent Office, No. 12/82

3