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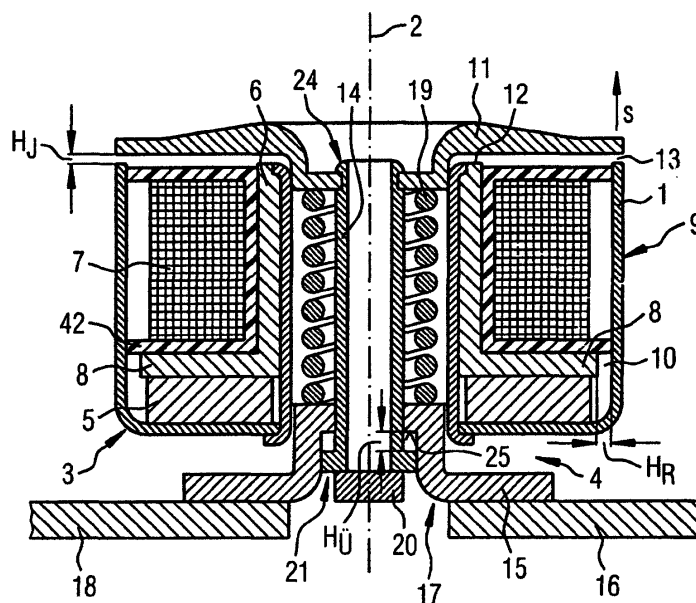
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(54) Magnetic switch

(57) The invention relates to a magnetic switch having a yoke (1) which has the shape of a rotationally symmetrical cup (3) on the base (4) of which is arranged a permanent magnet (5). The flux of the permanent magnet (5) is conducted via a core (6), which has a radial core flange (8), to the plate-shaped armature (11). For the operational air gap effective between the armature

(11) and the core (6) and the yoke (1) and the magnetic resistance W_A thereof, the following relation applies in relation to the marginal air gap (10) formed between the core flange (8) and the yoke (1): $W_A < W_R$. As a result of the rotational symmetry with a yoke (1) having the shape of a cup (3), it is possible to generate a high holding force for the armature (11) with a small structural volume.

FIG 1



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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 883 557 A (PAWLAK ANDRZEJ MARIAN ET AL) 16 March 1999 (1999-03-16) * abstract; figure 1 *	1	H01H51/22
D,A	EP 0 442 311 A (KLOECKNER MOELLER GMBH) 21 August 1991 (1991-08-21) * abstract; figure 1 *	1	
A	JP 01 168011 A (MATSUSHITA ELECTRIC WORKS LTD) 3 July 1989 (1989-07-03) * abstract; figures *	1	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) H01H
Place of search THE HAGUE		Date of completion of the search 26 May 2003	Examiner Janssens De Vroom, P
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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

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26-05-2003

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5883557	A	16-03-1999	NONE		

EP 0442311	A	21-08-1991	DE	4004359 A1	14-08-1991
			DE	59105408 D1	14-06-1995
			EP	0442311 A2	21-08-1991
			ES	2073597 T3	16-08-1995

JP 01168011	A	03-07-1989	JP	2613904 B2	28-05-1997
			DE	3852624 D1	09-02-1995
			DE	3852624 T2	04-05-1995
			EP	0321664 A2	28-06-1989
			US	4855701 A	08-08-1989
