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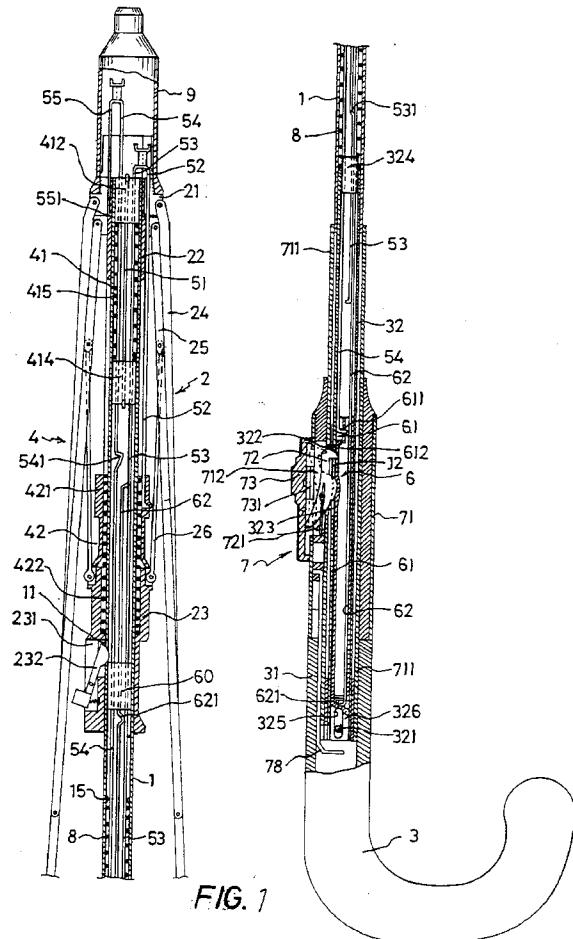
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**54) Automatically opening and closing umbrella.**

57 An umbrella having a tubular shaft 1, a set of rib assembly 2 expandable and collapsible by a runner mechanism, a handle 3 arranged to be slidable in relation to the shaft 1, an umbrella-opening energy accumulating mechanism 4 including an upper energy accumulating device 41 and a lower energy accumulating device 42, a linkage mechanism 6 capable of linking and controlling the umbrella-opening energy accumulating mechanism 4, an actuating mechanism 6 worked by an operating mechanism 7 and an umbrella-closing coil spring 8 disposed between the inside lower end of said shaft 1 and the front end of said intermediate shaft 32. The invention has for its purpose to provide a self opening and closing umbrella capable of being opened or closed without having to consume any extra energy and with a little strength, while at the same time the umbrella will in no way collapse accidentally.



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## EUROPEAN SEARCH REPORT

Application Number

EP 92 81 0377

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	FR-A-2 185 372 (KABUSHIKI KAISHA IDEAL) * page 7, line 21 - page 9, line 37; figures 1-3 *	1-5	A45B25/16
D,A	US-A-4 534 374 (SAN-TONG DAY) * column 2, line 1 - column 5, line 63; figures *	1-3,6	
A	EP-A-0 151 847 (SAN-TONG DAY) * page 7, line 6 - page 9, line 18; figures *	1-3	
A	EP-A-0 425 071 (FU TAI UMBRELLA WORKS LTD.) * column 2, line 21 - column 6, line 13; figures 1-3 *	1-3	
A	US-A-3 625 236 (GONZABURO HAYANO) * column 4, line 19 - column 6, line 23; figures 1-3,9-11 *	1	
A	FR-A-380 266 (L. VIREY) * the whole document *	1,4	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A45B
<p>The present search report has been drawn up for all claims</p>			
Place of search THE HAGUE	Date of completion of the search 07 JANUARY 1993	Examiner RAVEN P.	
CATEGORY OF CITED DOCUMENTS		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	
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			