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(71) Applicant: **Schneider Electric Industries SAS**
92500 Rueil-Malmaison (FR)

(72) Inventors:
- **Kumar m.c., Harsha**
  38050 Grenoble cedex 09 (FR)
- **Sonkar, Pavankumar s**
  38050 Grenoble cedex 09 (FR)
- **Bahirat, Himanshu**
  38050 Grenoble cedex 09 (FR)
- **Sinjonia, Manish**
  38050 Grenoble cedex 09 (FR)
- **Kumar, Randhir**
  38050 Grenoble cedex 09 (FR)
- **Perrone, Michel**
  38050 Grenoble cedex 09 (FR)

(74) Representative: **Colette, Marie-Françoise et al**
Schneider Electric Industries SAS
Service Propriété Industrielle
WTC - 38EE1
5, place Robert Schuman
38050 Grenoble Cedex 09 (FR)

(54) A compact circuit breaker mechanism.

(57) The present invention describes a compact operating mechanism with cams for a switching device with, preferably, a tripolar insulating rod. The said mechanism is so designed that the force on and the speed of the said tripolar insulating rod is continually increasing with time till the end of the operation. The said mechanism consists of cams mounted on a shaft which is rotated under the influence of springs which have crossed their dead points. This shaft with cams then moves against rollers mounted on the cranks of a slider and crank arrangement of links, where the function of the slider is being served by the tripolar insulating rod. All the operations after the closing springs have crossed their dead points are high speed in nature. A latching arrangement is used to keep the mechanism in closed position till opening.

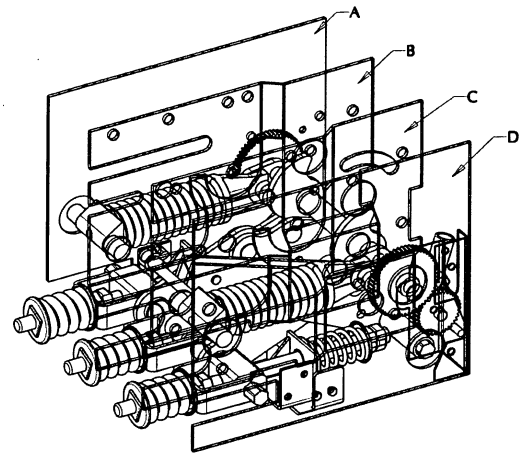

Figure 1

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EUROPEAN SEARCH REPORT

Application Number
EP 09 35 4039

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 5 004 875 A (MOODY G LAWRENCE [US] ET AL) 2 April 1991 (1991-04-02) * abstract; figures * * column 3, line 10 - column 6, line 29 *	1,3,6,11	INV. H01H3/30 ADD. H01H3/42
A	EP 0 088 215 A2 (MITSUBISHI ELECTRIC CORP [JP]) 14 September 1983 (1983-09-14) * abstract; figures * * page 14, line 25 - page 21, line 2 *	1,4-6,11	H01H3/46
A	US 4 095 676 A (HOWE FRANCIS M ET AL) 20 June 1978 (1978-06-20) * abstract; figures * * column 2, line 10 - line 59 *	1,4,11	
A	US 2008/237016 A1 (GIBSON PERRY R [US] ET AL) 2 October 2008 (2008-10-02) * abstract; figures * * paragraph [0026] - paragraph [0045] *	1,2,4	
A	US 2008/116049 A1 (SCHAFER BRADLEY J [US] ET AL) 22 May 2008 (2008-05-22) * abstract; figures * * paragraph [0042] - paragraph [0042] *	1,2	TECHNICAL FIELDS SEARCHED (IPC) H01H

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	17 June 2014	Serrano Funcia, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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17-06-2014

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5004875 A	02-04-1991	NONE	
EP 0088215 A2	14-09-1983	AU 547680 B2	31-10-1985
		AU 1075483 A	04-08-1983
		DE 3378865 D1	09-02-1989
		EP 0088215 A2	14-09-1983
		IN 157465 A1	05-04-1986
		JP H021000 Y2	11-01-1990
		JP S58113943 U	04-08-1983
		US 4497992 A	05-02-1985
		ZA 8300416 A	26-10-1983
US 4095676 A	20-06-1978	NONE	
US 2008237016 A1	02-10-2008	CN 101471205 A	01-07-2009
		CN 201364860 Y	16-12-2009
		EP 2001031 A1	10-12-2008
		US 2008237016 A1	02-10-2008
US 2008116049 A1	22-05-2008	NONE	

EPO FORM P0459

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