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- (71) **Applicant (for all designated States except US):** ISKRA
ZASČITE d.o.o. [SI/SI]; Stegne 35, SI-1000 Ljubljana (SI).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** BURGER, Miran
[SI/SI]; Merčnikova ulica 5/a, 1111 Ljubljana (SI).
VUKOTIČ, Milenko; Clevelandska 43, 1111 Ljubljana (SI).
JURIČEV, Igor; Smrekarjeva 19, 6310 Izola (SI).
- (74) **Agent:** FLAK, Antonija; Kotnikova 32, p.p. 2706,
SI-1001 Ljubljana (SI).
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(54) **Title:** EXCESS VOLTAGE CIRCUIT-BREAKER WITH A ROTATIONAL DISC AND AN ELECTRONIC ASSEMBLY TO IMPROVE OPERATION RELIABILITY

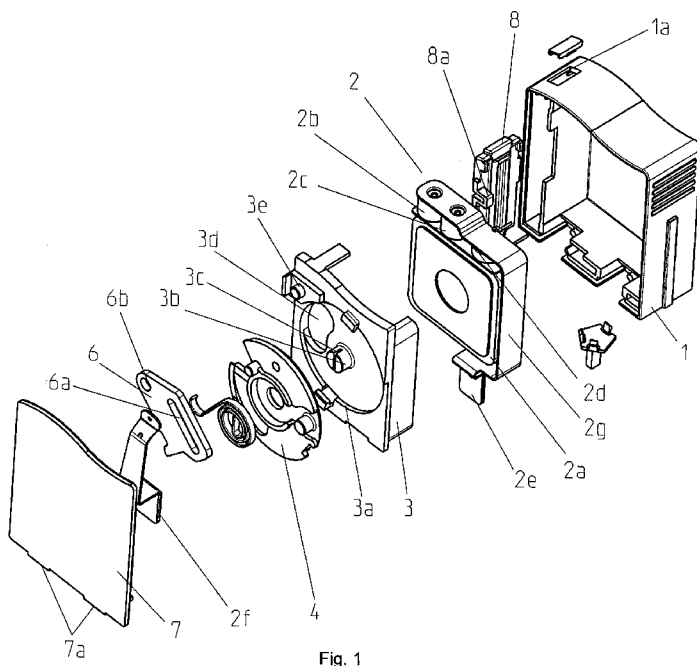


Fig. 1

(57) **Abstract:** The excess voltage circuit breaker with a rotational disc and an electronic assembly to improve operation liability solves a problem of construction of electronic and mechanical disconnection of a connection terminal of an excess voltage protective element based on e. g. spark gaps, varistors, semi-conductors like diodes, thyristors and similar elements in case of occurrence of electric arc and electric thermal overloads. The essence of the excess voltage circuit breaker of the invention lies in an electronic assembly of a component (2) which comprises a resistor (PTC) with positive thermal coefficient which is connected in parallel to a gas circuit breaker (GDT). The resistor (PTC) is a resistor (2d) in the embodiment. The circuit breaker (GDT) comprises two gas circuit breakers (2b and 2c), wherein the common exit point of the resistor (2d) and the circuit breaker (GDT) is via thermal member (V), which is simultaneously a connection electrode (2f) arranged on a varistor (2a) body. The electronic assembly of the component (2) functions in a way that in case of rapid transition events a branch with the gas circuit breaker (GDT) is operable and in case of sporadically increased voltages the branch via the resistor (2d) is operable. The resistor (2d) with positive thermal coefficient limits the current through the varistor (2a). The varistor (2a) in low ohmic state allows high current to run through the varistor (2a) thus enabling the operation of external over-current protection. The movement of the connection electrode (2f) triggers the movement of the rotational disc (4), the spring (5), the latching plate (6) which changes the state of the indicator (8).

ment to run through the varistor (2a) thus enabling the operation of external over-current protection. The movement of the connection electrode (2f) triggers the movement of the rotational disc (4), the spring (5), the latching plate (6) which changes the state of the indicator (8).

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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 196 23 541 A1 (ABB RESEARCH LTD [CH]) 18 December 1997 (1997-12-18) column 2, line 68 - column 5, line 36 figures 1,2c -----	1-4
A	US 2003/086235 A1 (BENNETT ROBERT J [US] ET AL) 8 May 2003 (2003-05-08) paragraph [0047] - paragraph [0056]; figures 9-12 -----	1-4
A	DE 10 2008 013448 A1 (DEHN & SOEHNE [DE]) 7 May 2009 (2009-05-07) cited in the application paragraphs [0042], [0046] - paragraph [0053]; figure 2a -----	1-4
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