(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 November 2001 (15.11.2001)

PCT

(10) International Publication Number
WO 01/86769 A2

(51) International Patent Classification[7]: H02B

(21) International Application Number: PCT/IB01/00791

(22) International Filing Date: 7 May 2001 (07.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/567,797 9 May 2000 (09.05.2000) US

(71) Applicant: **EATON CORPORATION** [US/US]; Eaton Center, 1111 Superior Avenue, Cleveland, OH 44114 (US).

(72) Inventors: **MARCHAND, François, J.**; 133 Lambeth Drive, Pittsburgh, PA 15241-2319 (US). **DAVIES, Norman**; 162 Sunrise Drive, Irwin, PA 15642 (US). **RINEFIERD, Robert, J.**; 400 Caruthers Lane, Irwin, PA 15642 (US). **CALHOON, Glenn, A.**; 1070 State Rt. 18, Aliquippa, PA 15001 (US). **JENKINS, Walter, O.**; 1990 Crafton Blvd., Pittsburgh, PA 15025 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/86769 A2

(54) Title: POWER CIRCUIT BREAKER WITH AIR GAP BETWEEN MOLDED INSULATIVE CASING AND GROUNDED BARRIER INSULATING OPERATING MECHANISM

(57) Abstract: A compact power circuit breaker has a molded insulative casing providing the structural support and electrical isolation for the pole mechanisms mounted in cavities in the casing and the operating mechanism mounted to the front of the casing. A grounded barrier between the pole mechanisms and the operating mechanism protects the operator actuating push bottons controlling the operating mechanism and accessible through a molded insulative cover. Preferably, the grounded barrier is sandwiched between a rear section of the molded casing containing the pole cavities and a forward section to which the operating mechanism is secured. The grounded barrier is connected to an electrically conductive pan extending under the molded insulative casing which also houses electrically grounded linkages coupling the operating mechanism to the vacuum interrupters of the pole mechanisms. A vented air gap between the rear section of the molded insulative casing and the grounded barrier minimizes erosion of the molded insulative casing in the event of an arc penetrating the casings to the grounded barrier.