

Title (en)
Circuit breaker pole with wide arc extinguishing chamber

Title (de)
Elektrischer Lastschalterpol mit breiter Lichtbogenlöschkammer

Title (fr)
Pôle pour disjoncteur électrique muni d'une chambre d'extinction d'arc large

Publication
EP 1115131 A1 20010711 (FR)

Application
EP 00410151 A 20001207

Priority
FR 0000200 A 20000107

Abstract (en)
The circuit breaker has fixed and moving contacts together with extinction chamber The 3-phase circuit-breaker layout conforms to established pattern, with 3 single-pole units side-by-side, each with its own fixed contacts, the corresponding moving contacts being ganged on a transverse rotatable bar, ensuring all poles open and close together. When closed, the main current-carrying moving contacts bear, under spring pressure, on bars, part of the fixed contact system (28), that run across the front of an insulating plate (90) forming the floor of the arc extinction chamber (24). A fixed arcing contact (30), centred on the bars and associated with a similar moving contact, is connected to a fan-shaped arcing plate (34) fixed to this floor. This plate's rear edge, deep in the chamber, has a rim of gas-emitting material (92) and lies below a parallel array of flat metal separators (78), regularly spaced, parallel to the chamber floor. Plate front edges are alternately notched (82) to one side and the other of the plate centers. As the circuit breaker's main contacts open, the current transfers to the fixed arcing contact (30) and its moving counterpart, which open slightly later, striking an arc that extends from the fan-shaped plate (34,84 up over the separators, regaining the moving arcing contact via a projecting arcing plate (98) on the chamber top. Arc gases escape (74) via the chamber back-plate (72).

Abstract (fr)
Un pôle de disjoncteur électrique comprend une chambre d'extinction d'arc 24 avec deux flasques latéraux 68, une paroi postérieure 72, des séparateurs 78, une ouverture antérieure 76, une corne d'arc inférieure 34 reliée électriquement à l'organe de contact fixe et une corne d'arc supérieure 96. La partie postérieure 84 de la corne d'arc inférieure a une largeur importante. Elle est bordée par un pourtour 92 un matériau gazogène s'interposant entre le rebord de la partie postérieure 84 et les flasques latéraux 68. Cette disposition favorise la coupure des arcs d'intensité faible, sous une tension élevée. <IMAGE>

IPC 1-7
H01H 9/36; **H01H 9/46**

IPC 8 full level
H01H 9/36 (2006.01); **H01H 9/46** (2006.01)

CPC (source: EP US)
H01H 9/36 (2013.01 - EP US); **H01H 9/46** (2013.01 - EP US); **H01H 9/302** (2013.01 - EP)

Citation (search report)

- [A] EP 0403328 A1 19901219 - HAGER ELECTRO [FR]
- [A] DE 3142883 A1 19830511 - SCHIELE KG [DE]
- [A] FR 2604026 A1 19880318 - MITSUBISHI ELECTRIC CORP [JP]

Cited by
CN109586176A; EP2048678A3; CN106469623A; EP2048678A2

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DE

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EP 1115131 A1 20010711; **EP 1115131 B1 20060816**; CA 2330194 A1 20010707; CA 2330194 C 20080318; DE 60030084 D1 20060928; DE 60030084 T2 20070118; FR 2803687 A1 20010713; FR 2803687 B1 20020222; US 6288621 B1 20010911

DOCDB simple family (application)
EP 00410151 A 20001207; CA 2330194 A 20010104; DE 60030084 T 20001207; FR 0000200 A 20000107; US 75517401 A 20010108