

Title (en)

ELECTRICAL SWITCHING APPARATUS COMPRISING AN IMPROVED ARC-QUENCHING DEVICE

Title (de)

ELEKTRISCHE SCHALTVORRICHTUNG MIT VERBESSERTER LICHTBOGENLÖSCHEINRICHTUNG

Title (fr)

DISPOSITIF DE COMMUTATION ÉLECTRIQUE ÉQUIPÉE D'UN DISPOSITIF PERFECTIONNÉ D'EXTINCTION D'ARC

Publication

EP 3123491 B1 20200715 (DE)

Application

EP 15712258 A 20150325

Priority

- DE 102014004455 A 20140327
- EP 2015000639 W 20150325

Abstract (en)

[origin: WO2015144309A1] The present invention relates to an electrical switching apparatus 1, in particular a DC contactor. The switching apparatus has at least one switching point and at least one arc-quenching device assigned to said switching point. The arc-quenching device comprises at least one quenching element and at least one permanent magnet 3 for influencing an arc occurring during the switching operation. The arc is blown by a magnetic field produced by the permanent magnet into the quenching element. In accordance with the invention, provision is made for the at least one permanent magnet to at the same time form the quenching element and to be arranged and polarized in such a way that the arc is attracted by the permanent magnet and, as a result, is sucked onto the permanent magnet and quenched thereby. Preferably, the permanent magnets are in the form of cylindrical bar magnets and are fitted on the switching apparatus 1 by means of a holder 7 that can be clipped on. In a further variant, the permanent magnets consist of hard ferrite. Preferably, the permanent magnets are surrounded by a protective sleeve consisting of ceramic.

IPC 8 full level

H01H 9/34 (2006.01); **H01H 9/36** (2006.01); **H01H 9/44** (2006.01); **H01H 73/18** (2006.01)

CPC (source: CN EP KR RU US)

H01H 9/34 (2013.01 - CN EP KR RU US); **H01H 9/36** (2013.01 - EP KR US); **H01H 9/443** (2013.01 - CN EP KR US);
H01H 33/596 (2013.01 - EP KR US); **H01H 50/546** (2013.01 - EP US); **H01H 73/18** (2013.01 - EP KR US); **H01H 9/36** (2013.01 - CN);
H01H 33/596 (2013.01 - CN); **H01H 73/18** (2013.01 - CN)

Citation (examination)

CA 790138 A 19680716 - MAGGI ERNESTO

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2015144309 A1 20151001; CN 106663555 A 20170510; CN 106663555 B 20181123; DE 102014004455 A1 20151015;
DE 102014004455 B4 20211007; EP 3123491 A1 20170201; EP 3123491 B1 20200715; ES 2815273 T3 20210329; JP 2017510033 A 20170406;
JP 6591432 B2 20191016; KR 101846768 B1 20180406; KR 20160137616 A 20161130; RU 2016133465 A 20180427;
RU 2016133465 A3 20180427; RU 2663880 C2 20180813; UA 117617 C2 20180827; US 2017178831 A1 20170622; US 9947489 B2 20180417

DOCDB simple family (application)

EP 2015000639 W 20150325; CN 201580016074 A 20150325; DE 102014004455 A 20140327; EP 15712258 A 20150325;
ES 15712258 T 20150325; JP 2016555832 A 20150325; KR 20167029808 A 20150325; RU 2016133465 A 20150325;
UA A201610731 A 20150325; US 201515129614 A 20150325