(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 103 988 A3

(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
02.01.2002 Bulletin 2002/01

(51) Int Cl.[7]: **H01B 17/28**

(43) Date of publication A2:
30.05.2001 Bulletin 2001/22

(21) Application number: **00107732.0**

(22) Date of filing: **11.04.2000**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **26.11.1999 IT MI992481**

(71) Applicant: **PASSONI E VILLA FABBRICA ISOLATORI E CONDENSATORI S.p.A.**
20162 Milan (IT)

(72) Inventors:
- **Villa, Giorgio**
  20124 Milan (IT)
- **Villa, Giancarlo**
  20124 Milan (IT)

(74) Representative: **Klausner, Erich et al**
c/o Ufficio Internazionale Brevetti Ing. C. Gregorj S.p.A. Via Dogana 1
20123 Milano (IT)

(54) SEmi-capacitance graded bushing insulator of the type with insulating gas filling, such as SF6

(57) A semi-capacitance graded bushing comprises a conductor (1) fixed in the upper part to a plate (2) of the head (3) and in the lower part by way of a movable contact (4) to the fixed electrode (5) of the gas-insulated bus-duct (6), an insulating capacitance body (7) formed by a winding of insulating material in which are inserted the conductive or semiconductive foils (8), and a tube (9) which is prolonged with respect to the insulating capacitance body (7) to function as an electrode which is duly screened with end rings (10), the insulating capacitance body (7) being supported by the flange (11) which is fixed with respect to the external porcelain (12) by way of a cemented collar (13). A glass fibre-reinforced resin tube (14) is disposed in the interior of the porcelain (12). The whole assembly is filled with insulating gas under pressure, generally SF_6.

The capacitance, having as armatures the conductor (1) and the electrode (9) and as dielectric the gas, is in cascade relationship with the capacitance of the insulating capacitance body (7).

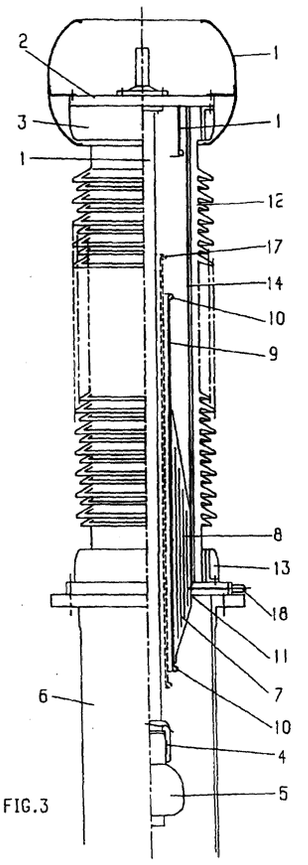

FIG.3

EP 1 103 988 A3

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 10 7732

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 3 647 938 A (GRIMMER ELMER J) 7 March 1972 (1972-03-07) * column 3, line 34 - column 4, line 49; figures 1-3 *	1-6	H01B17/28
A	EP 0 488 764 A (NGK INSULATORS LTD ;MOON STAR CHEMICAL CORP (JP)) 3 June 1992 (1992-06-03) * page 3, line 45 - page 5, line 57; claims 1,9; figure 1 *	1-6	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

H01B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	12 November 2001	Demolder, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 00 10 7732

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

12-11-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3647938 A	07-03-1972	JP 50026158 B	29-08-1975
EP 0488764 A	03-06-1992	JP 1992501 C	22-11-1995
		JP 4209421 A	30-07-1992
		JP 7027739 B	29-03-1995
		AT 135845 T	15-04-1996
		CA 2056651 A1	31-05-1992
		DE 69118122 D1	25-04-1996
		DE 69118122 T2	05-09-1996
		EP 0488764 A2	03-06-1992
		ES 2086499 T3	01-07-1996
		US 5654047 A	05-08-1997

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82