

Title (en)  
Spark plug and ignition apparatus using same

Title (de)  
Zündkerze und damit ausgestattete Zündvorrichtung

Title (fr)  
Bougie d'allumage et allumage muni de celle-ci

Publication  
**EP 1231687 A2 20020814 (EN)**

Application  
**EP 02002968 A 20020211**

Priority  
JP 2001035932 A 20010213

Abstract (en)  
A power-saving type of ignition apparatus is provided with a spark plug of which electrodes (30, 40) are regulated in their shapes to lower an amount of energy required for its ignition. To face to a tip (31) of a center electrode (30) extending from a mounting bracket (10), a cylindrical protrusion (41) is built on one surface (43) of an earth electrode (40). The protrusion extends toward the center electrode to form a discharge gap (50) between the protrusion and the tip of the center electrode. Both of the tip of the center electrode and the protrusion of the earth electrode are 2.3 [mm] or less in each diameter (D1, D2), thus an amount of energy required for ignition being limited to 17 [mJ] or less.

IPC 1-7  
**H01T 1/22**; **H01T 13/20**

IPC 8 full level  
**H01T 13/20** (2006.01); **H01T 13/32** (2006.01); **H01T 13/39** (2006.01)

CPC (source: EP)  
**H01T 13/20** (2013.01); **H01T 13/32** (2013.01); **H01T 13/39** (2013.01)

Citation (applicant)  
JP S52362237 A

Citation (third parties)  
Third party :

- EP 0989646 A1 20000329 - NGK SPARK PLUG CO [JP]
- US 6147441 A 20001114 - OSAMURA HIRONORI [JP]
- JP H04209968 A 19920731 - NGK SPARK PLUG CO
- EP 1001502 A2 20000517 - NGK SPARK PLUG CO [JP]
- EP 1026394 A2 20000809 - HITACHI LTD [JP]

Cited by  
DE102006000151B4; EP1628375A4; EP2197077A3; WO2004107517A1; US7279827B2

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
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