

Title (en)  
PLASMA TORCH AND OPERATING METHOD

Publication  
**EP 0134961 B1 19890118 (DE)**

Application  
**EP 84107737 A 19840704**

Priority  
DE 3328777 A 19830810

Abstract (en)  
[origin: US4580031A] Plasma burner having a frontal face from which a plasma jet is to be projected, for producing a long initial firing arc, having first and second concentrically arranged electrodes extending perpendicularly to the frontal face, and a nozzle surrounding the electrodes, the first electrode being centrally arranged to constitute an auxiliary electrode and having a cylindrical main portion, an electrode tip at its front end and a conically tapered portion located between the main portion and the electrode tip and tapering toward the electrode tip, the second electrode being annular and surrounding the first electrode to constitute a nozzle electrode, and having a central channel composed, successively, in the direction toward the frontal face, of a first cylindrical section, a conically tapered section and a second cylindrical section smaller in diameter than the first cylindrical section, the central channel and the first electrode together forming an annular channel. The diameter of the first cylindrical section is 1.2 to 2.5 times the diameter of the cylindrical portion. The tapered portion and the tapered section each have a cone angle of 20 DEG to 80 DEG . The distance between the electrode tip and the plane of the transition between the conically tapered section and the second cylindrical section of the central channel, taken with reference to the direction in which the conically tapered portion tapers is such that the ratio of that distance to the diameter of the second cylindrical section is between -1 and +2.

IPC 1-7  
**H05H 1/34**

IPC 8 full level  
**H05H 1/26** (2006.01); **B23K 10/00** (2006.01); **H05H 1/32** (2006.01); **H05H 1/34** (2006.01)

CPC (source: EP US)  
**H05H 1/34** (2013.01 - EP US); **H05H 1/3478** (2021.05 - EP); **H05H 1/3478** (2021.05 - US)

Cited by  
FR2720592A1; EP0706308A1; FR2725582A1; WO9720453A1

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**EP 0134961 A2 19850327; EP 0134961 A3 19860611; EP 0134961 B1 19890118**; DE 3328777 A1 19850228; DE 3328777 C2 19900125; FI 82350 B 19901031; FI 82350 C 19910211; FI 843034 A0 19840801; FI 843034 A 19850211; JP S6065500 A 19850415; US 4580031 A 19860401; ZA 846165 B 19850424

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