

Title (en)

Multifunction floating ring for plasma torch

Title (de)

Schwimmend befestigter Multifunktionsring für Plasmabrenner

Title (fr)

Bague flottante multifonction pour torche plasma

Publication

**EP 2293655 A1 20110309 (FR)**

Application

**EP 10170565 A 20100723**

Priority

FR 0955991 A 20090903

Abstract (en)

The plasma cutting torch head comprises an upstream end and a downstream end and a metallic ring (3) rotatably and translationally mounted at the upstream end of the torch head, and an electrode, a nozzle and a protective cover (4) at its downstream end. The ring comprises a coupling unit (5) to cooperate with a receiving unit (6) arranged on the torch head for connecting the ring to the head so as to prevent any rotation of the ring around the torch head. The coupling unit is arranged at the peripheral edge of the ring and on the side of the downstream end of the torch head. The plasma cutting torch head comprises an upstream end and a downstream end and a metallic ring (3) rotatably and translationally mounted at the upstream end of the torch head, and an electrode, a nozzle and a protective cover (4) at its downstream end. The ring comprises a coupling unit (5) to cooperate with a receiving unit (6) arranged on the torch head for connecting the ring to the head so as to prevent any rotation of the ring around the torch head. The coupling unit is arranged at the peripheral edge of the ring and on the side of the downstream end of the torch head, and provides expansion of the edge of the ring projecting axially toward the downstream portion of the torch head. The receiving unit comprises a flat side, a housing or a gate to cooperate with one expansion of the wall of the ring for obtaining a blockage of the rotation of the ring on the torch head. The expansions are obtained by machining the material of the ring, cutting or grinding the edge of the ring. The ring further comprises a thread formed on the inner surface to secure the torch head to a torch body (2). The mechanically coupling unit is engaged in the receiving unit to block the rotation of the ring. Independent claims are included for: (1) an assembly formed of a plasma cutting torch head; and (2) a process for plasma arc cutting.

Abstract (fr)

L'invention porte sur une tête (1) de torche de coupage plasma comprenant une extrémité amont (1a) et une extrémité aval (1b), et une bague (3) de fixation mobile en rotation et en translation au moins au niveau de l'extrémité amont (1a) de ladite tête (1) de torche, caractérisée en ce que la bague (3) de fixation comporte en outre des moyens de couplage (5) aptes à et conçus pour coopérer avec des moyens de réception (6) agencés sur la tête (1) de torche pour solidariser la bague (3) à ladite tête (1) de manière à empêcher toute rotation de la bague (3) autour de la tête (1) de torche. Ensemble comprenant un corps de torche (2) auquel est raccordé une telle tête de torche (1) et son utilisation dans un procédé de coupage par jet de plasma.

IPC 8 full level

**H05H 1/34** (2006.01)

CPC (source: EP US)

**H05H 1/3423** (2021.05 - EP US)

Citation (applicant)

- EP 0599709 A1 19940601 - SOUDURE AUTOGENE FRANCAISE [FR]
- GB 2091594 A 19820804 - EUTECTIC CORP
- EP 0801882 A1 19971022 - HYPERTHERM INC [US]
- EP 0941018 A2 19990908 - ESAB GROUP INC [US]

Citation (search report)

- [X] JP S5744467 A 19820312 - NIPPON STEEL CORP, et al
- [X] US 5874707 A 19990223 - IIDA NOBORU [JP], et al
- [X] US 3217133 A 19651109 - RENE MATTMULLER
- [XP] US 2010044351 A1 20100225 - REINKE RALF-PETER [DE], et al

Cited by

CN110303228A; EP3082384A4; WO2021093987A1; EP3082384B1

Designated contracting state (EPC)

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BA ME RS

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