

Title (en)  
PLASMA ARC WELDING APPARATUS

Publication  
**EP 0372500 A3 19910605 (DE)**

Application  
**EP 89122434 A 19891205**

Priority  
US 28024088 A 19881205

Abstract (en)  
[origin: US4929811A] A plasma arc torch system includes a fault detect circuit for sensing a short between the electrode and the nozzle and disabling the power supply when the short is sensed. A sensing circuit within the torch cable is provided for actuating the fault detect circuit when the cable is severely punctured. The sensing circuit includes a foil embedded within the cable which circumscribes the main conductor to which a drain lead is connected. The drain lead senses a short between the foil and main conductor from a penetrating foreign object and actuates the fault detect circuit. Additionally, the fault detect circuit is effective in combination with a unique continuity interlock circuit disclosed to insure a safe torch. Further, a rectified control circuit is provided to maintain a stable arc preventing erosion of the nozzle and subsequent exposure of the electrode.

IPC 1-7  
**H05H 1/34**; **H05H 1/36**

IPC 8 full level  
**B23K 10/00** (2006.01); **H05H 1/34** (2006.01); **H05H 1/36** (2006.01)

CPC (source: EP KR US)  
**H05H 1/34** (2013.01 - EP US); **H05H 1/3436** (2021.05 - EP KR); **H05H 1/3473** (2021.05 - EP KR); **H05H 1/36** (2013.01 - EP KR US); **H05H 1/3436** (2021.05 - US); **H05H 1/3473** (2021.05 - US)

Citation (search report)

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- [A] PATENT ABSTRACTS OF JAPAN vol. 12, no. 311 (M-734)(3158) 24 August 1988, & JP-A-63 084 774 (DAIHATSU MOTOR CO LTD) 15 April 1988,

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**EP 89122434 A 19891205**; AU 4593889 A 19891205; DK 612489 A 19891205; FI 895806 A 19891204; JP 31634289 A 19891205; KR 890018089 A 19891205; NO 894831 A 19891204; PT 9249289 A 19891205; US 28024088 A 19881205