

Diego Gonzalez

**Search history**

- Search 1: STAC=(Hot and forming and cooling and fluid and liquid and electrode) (Results 73)
- Search 2: STAC=(Hot and forming and cooling and fluid and liquid and electrode and cooper) (Results 0)
- Search 3: STAC=(Hot and forming and cooling and fluid and liquid and electrode and sensor) (Results 9)
- Search 4: STAC=(Hot near form\* and cooling) (Results 9992)
- Search 5: STAC=(Hot near form\* and cooling and electrode) (Results 151)
- Search 6: STAC=(Hot near form\* and cooling and electrode and liquid) (Results 34)

**Title:** Method and transferred arc plasma system for production of fine and ultrafine powders

**Abstract:** The present invention is concerned with a method for the production of fine and ultrafine powders of various materials such as metals, alloys, ceramics, composites etc., through a transferred arc plasma system. The method comprises vaporizing or decomposing the material in the plasma reactor, condensing the vapor in a quench tube comprising two sections, the first one for indirectly cooling or heating the vapor, and the second one for directly cooling the vapor. The powder is recovered in a conventional collection unit. The two step condensation in the quench tube allows a substantial control of powder properties like crystallinity, size distribution and mean particle size.

**Classifications:**

**International (IPC 8-9):** B01J12/00 B01J12/02 B01J19/08 B22F1/00 B22F9/12 B22F9/14 C04B35/626 H05B7/18

H05H1/42 (Advanced/Invention);

B01J19/08 B22F1/00 B22F9/14 (Advanced/Non-invention);

B01J12/00 B01J19/08 B22F1/00 B22F9/02 H05B7/00

H05H1/26 (Core/Invention)

**International (IPC 1-7):** B01J19/08 B22F1/00 B22F9/00 B22F9/12 B22F9/14 H05B7/18 H05H1/42

**CPC:** B01J12/002 B01J12/02 B01J2219/00123 B01J2219/00155

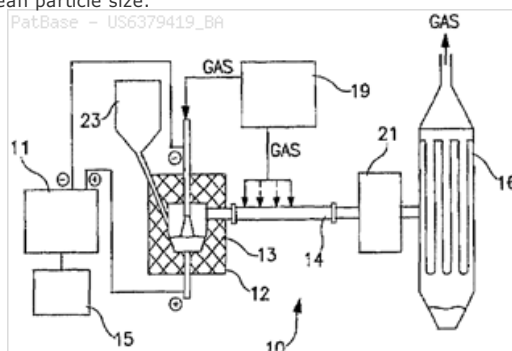
B01J2219/0809 B01J2219/0847 B01J2219/0879 B01J2219/0898

B22F9/12 B22F2999/00

**European:** B01J12/00B B01J12/02 B22F9/12 L01J219/00B2H2 L01J219/00B2P4 L01J219/08D2B2 L01J219/08D2D2 L01J219/08M6

L01J219/08P4 L22F999/00

**US:** 75/10.19 75/346



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| AT240177 E         | 20030515         | AT19990938107T     | 19990816         |
| AU199952752 A1     | 20000314         | AU19990052752      | 19990816         |
| AU199952752 A5     | 20000314         | AU19990052752      | 19990816         |
| CA2340669 AA       | 20010215         | CA19992340669      | 19990816         |
| CA2340669 C        | 20090407         | CA19992340669      | 19990816         |
| DE69907933 D1      | 20030618         | DE19996007933      | 19990816         |
| DE69907933 T2      | 20040401         | DE19996007933T     | 19990816         |
| EP1115523 A1       | 20010718         | EP19990938107      | 19990816         |
| EP1115523 B1       | 20030514         | EP19990938107      | 19990816         |
| JP2002530521 T2    | 20020917         | JP20000566062T     | 19990816         |
| JP2004036005 A2    | 20040205         | JP20030366114      | 20031027         |
| JP2005163188 A2    | 20050623         | JP20050034922      | 20050210         |
| JP3541939 B2       | 20040714         | JP20000566062T     | 19990816         |
| KR100594562 B1     | 20060630         | KR20017002087      | 19990816         |
| KR20010099622 A    | 20011109         | KR20017002087      | 19990816         |
| US6379419 BA       | 20020430         | US19980136043      | 19980818         |
| WO0010756 A1       | 20000302         | WO1999CA00759      | 19990816         |

**Priority:**

US19980136043 19980818

WO1999CA00759 19990816

KR20017002087 20010217

**Probable Assignee:** SHOEI CANADA CORP

**Assignee(s):** (std): ADDONA TONY ; BOULOS MAHER I ; CANADIAN ELECTRONIC POWDERS CO ; CELIK CESUR ; NORANDA INC ; CHEN GANGQIANG ; DAVIS H JOHN

**Assignee(s):** DAVIS H ; SHOEI CANADA CORP ; CANADIAN ELECTRONIC POWDERS CORP ; CANADIAN ELECTRONIC POWDERS CORP ST LAURENT ; CANADIAN ELECTRONIC POWDER ES CORP

**Inventor(s):** (std): ADDONA TONY ; BOULOS MAHER I ; CELIK CESUR ; CHEN GANGQIANG ; DAVIS H JOHN ; DAVIS JOHN ; BOULOS I

**Inventor(s):** DAVIS H ; GANGQIANG CHEN ; H JOHN DAVIS ; MAHER I BOULOS ; TONY ADDONA ; CESUR CELIK

**Agent(s):** FETHERSTONHAUGH AND CO

**Designated states:** AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LR LK LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZA ZW

**Title:** ELECTROCHEMICAL CONSTRUCTION

**Abstract:** An electrochemical cell construction features a novel co-extruded plastic electrode in an interleaved construction with a novel integral separator-spacer. Also featured is a leak and impact resistant construction for preventing the spill of corrosive materials in the event of rupture.

**Classifications:**

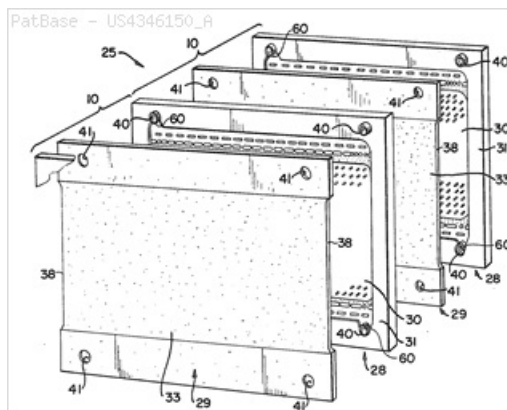
**International (ipc 8-9):** C25B11/02 C25B13/02 C25B9/00 C25B9/20 H01M10/04 H01M10/36 H01M12/08 H01M2/02 H01M2/14 H01M2/18 H01M4/00 H01M4/64 H01M8/02 H01M8/24 (Advanced/Invention); H01M8/02 (Advanced/Non-invention); C25B11/00 C25B13/00 C25B9/00 C25B9/18 H01M10/04 H01M10/36 H01M12/00 H01M2/02 H01M2/14 H01M4/00 H01M4/64 H01M8/02 H01M8/24 (Core/Invention); H01M8/02 (Core/Non-invention)

**International (ipc 1-7):** B32B31/30 C25B11/02 C25B13/02 C25B9/00 H01M10/04 H01M10/36 H01M12/08 H01M2/00 H01M2/02 H01M2/14 H01M2/16 H01M2/18 H01M4/00 H01M4/02 H01M4/42 H01M4/60 H01M4/64 H01M4/96 H01M8/00 H01M8/02 H01M8/04 H01M8/08 H01M8/18 H01M8/24

**CPC:** H01M2/025 H01M2/02 Y10T29/49108 H01M8/0213 H01M8/0273 H01M8/0289 H01M2/18 C25B9/20 C25B13/02 H01M4/64 H01M8/02 H01M10/365 H01M4/8864 H01M8/241 H01M8/2459 H01M8/246 H01M8/2483

**European:** C25B13/02 C25B9/20 H01M10/36B H01M2/02 H01M2/02D H01M2/18 H01M4/64 H01M8/02 H01M8/24C2 T01M8/02C2C T01M8/02D2 T01M8/02E2 Y02E60/12 Y02E60/50

**US:** 204/269 204/295 204/296 264/171 264/173.17 264/177.1 264/177R 29/623.1 427/115 429/101 429/105 429/146 429/149 429/18 429/185 429/21 429/24 429/34 429/39 429/402 429/406 429/42 429/453 429/469 429/508 429/509 429/513 429/523 429/530 429/532 429/72



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| AT63015 E          | 19910515         | AT19820301197T     | 19820309         |
| AT63404 E          | 19910515         | AT19820200847T     | 19820309         |
| AT68914 E          | 19911115         | AT19820200846T     | 19820309         |
| AU198281254 A1     | 19821209         | AU19820081254      | 19820310         |
| AU198547419 A1     | 19860220         | AU19850047419      | 19850912         |
| AU198817742 A1     | 19881006         | AU19880017742      | 19880615         |
| AU551084 B2        | 19860417         | AU19820081254      | 19820310         |
| AU578975 B2        | 19881110         | AU19850047419      | 19850912         |
| AU595456 B2        | 19900329         | AU19880017742      | 19880615         |
| CA1174729 A1       | 19840918         | CA19820397587      | 19820304         |
| CA1183203 A1       | 19850226         | CA19820446962      | 19820304         |
| CA1183203 A2       | 19850226         | CA19840446962      | 19840207         |
| CA1183204 A1       | 19850226         | CA19820446961      | 19820304         |
| CA1183204 A2       | 19850226         | CA19840446961      | 19840207         |
| CA1184972 A1       | 19850402         | CA19810446960      | 19811106         |
| CA1184972 A2       | 19850402         | CA19840446960      | 19840207         |
| DE3280325 D1       | 19910529         | DE19823280325      | 19820309         |
| DE3280334 D1       | 19910613         | DE19823280334      | 19820309         |
| DE3280369 D1       | 19911128         | DE19823280369      | 19820309         |
| EP0066938 A2       | 19821215         | EP19820301197      | 19820309         |
| EP0066938 A3       | 19840425         | EP19820301197      | 19820309         |
| EP0066938 B1       | 19910424         | EP19820301197      | 19820309         |
| EP0203656 A2       | 19861203         | EP19860200846      | 19820309         |
| EP0203656 A3       | 19870318         | EP19860200846      | 19820309         |
| EP0203656 B1       | 19911023         | EP19860200846      | 19820309         |
| EP0203657 A2       | 19861203         | EP19860200847      | 19820309         |
| EP0203657 A3       | 19870311         | EP19860200847      | 19820309         |
| EP0203657 B1       | 19910508         | EP19860200847      | 19820309         |
| JP1833790 C3       | 19940329         | JP19820043688      | 19820318         |
| JP1885514 C3       | 19941122         | JP19910227945      | 19910909         |
| JP4357676 A2       | 19921210         | JP19910227945      | 19910909         |
| JP5030029 B4       | 19930507         | JP19820043688      | 19820318         |
| JP5051154 B4       | 19930730         | JP19910227945      | 19910909         |
| JP57199167 A2      | 19821207         | JP19820043688      | 19820318         |
| US4346150 A        | 19820824         | US19810268675      | 19810601         |
| US4379814 A        | 19830412         | US19810268674      | 19810601         |
| US4396689 A        | 19830802         | US19810268665      | 19810601         |
| US4400448 A        | 19830823         | US19820373392      | 19820430         |
| US4475282 A        | 19841009         | US19830475169      | 19830314         |

**Priority:**

|                        |                        |                        |
|------------------------|------------------------|------------------------|
| US19810268665 19810601 | US19810268666 19810601 | US19810268674 19810601 |
| US19810268675 19810601 | CA19810446960 19811106 | CA19820397587 19820304 |
| CA19820446962 19820304 | CA19820446961 19820304 | EP19860200847 19820309 |
| EP19860200846 19820309 | EP19820301197 19820309 | AU19820081254 19820310 |
| JP19820043688 19820318 | US19820373392 19820430 | US19830475169 19830314 |
| AU19850047419 19850912 |                        |                        |

**Probable Assignee:** EXXON MOBIL CORP

**Assignee(s):** (std): EXXON MOBIL CORP ; EXXON RESEARCH ENGINEERING CO ; EXXONMOBIL RESEARCH AND ENGINEERING CO

**Assignee(s):** GRIMES PATRICK G ; TSIEN HSUE C ; NEWBY KENNETH R ; BELLOWS RICHARD J ; EINSTEIN HARRY ;

ESSO RES AND ENG CO ; EXXON RESEARCH AND ENGINEERING CO ; EXXON RSARCH AND  
ENGINEERING CO ; EXXON RESEARCH AND ENGINEERING COMPANY ; EXXON RES AND ENG CO ;  
EXXON RESEARCH AND ENGINEERING CO A DE CORP ; EXXON RESEARCH AND ENGINEERING CO A  
CORP OF DE ; EXXON RESEARCH AND ENGINEERING CO FLORHAM PARK N J US

**Inventor(s):** (std): BELLOWS RICHARD J ; GRIMES PATRICK G ; KENISU AARU NYUUBII ; NEWBY KENNETH R ; RICHAAADO  
JIEI BIROZU ; SHUU SHII CHEN ; TSIEH HSUE C ; TSIEH HSUE CHU ; SHIYUU SHII CHIEN ;  
RICHIAADO JIEI BIROZU ; PATORITSUKU JII GURAIMUZU ; NEWBY KENNETH RUSS ; KENISU AARU  
NIYUUBII ; HARI AINSUTAIN ; GRIMES PATRICK GERARD ; EINSTEIN HARRY ; BELLOWS RICHARD  
JAMES

**Inventor(s):** BELLOWS RICHARD JAMES WESTFIELD NEW JERSEY US ; EINSTEIN HARRY SPRINGFIELD NEW JERSEY  
US ; GRIMES PATRICK GERARD WESTFIELD NEW JERSEY US ; NEWBY KENNETH RUSS BERKELEY  
HEIGHTS NEW JERSEY US ; TSIEH HSUE CHU CHATHAM NEW JERSEY US ; RICHARD JAMES BELLOWS ;  
PATRICK GERARD GRIMES ; KENNETH RUSS NEWBY ; HARRY EINSTEIN ; HSUE CHU TSIEH

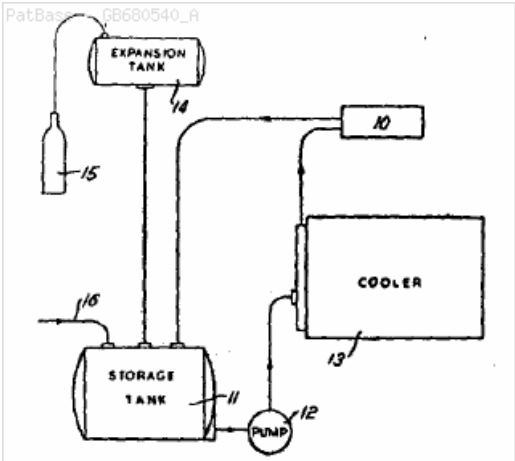
**Agent(s):** WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WATERMARK INTELLECTUAL PROPERTY PTY  
LTD; BORDEN LADNER GERVAIS LLP

**Designated states:** AT CH DE FR GB IT LI SE

**Title:** Improvements in cooling means for electron discharge valves

**Abstract:** 680,540. Cooling electron discharge valves. BRITISH BROADCASTING CORPORATION, and WALKER, H. S. March 30, 1950 [July 4,1949], No. 17641/49. Class 64 (iii). An arrangement for cooling an electrode or other part of an electron discharge valve comprises a cooling circuit through which in normal operation cooling liquid (e.g. distilled water) is repeatedly circulated wholly out of contact with the atmosphere and without replenishment from an external source of cooling liquid, whereby substantially no oxygen and no oxygen-carrying liquid enter the circuit, the circuit including a passage e.g. an anode jacket 10 to enable the cooling liquid to be circulated past the part to be cooled, a circulation pump 12, a cooler 13 and a storage tank 11, means other than the pump being provided for maintaining a pressure in excess of atmospheric in the cooling circuit. In the form shown pressure is maintained in the system by arranging an expansion tank 14 above the cooling circuit. A cylinder 15 of nitrogen is connected to the upper part of the expansion tank and serves to maintain an inert atmosphere above the liquid in the tank. The pressure in the cooling circuit may be increased by adjusting the pressure of gas from the cylinder 15. Small fluid losses occurring in the system e.g. due to leakage or when changing valves, are replaced by pumping distilled water into the system through the pipe 16 which incorporates a non-return valve- Specification 19608/45 (as open to inspection under Sect. 91) is referred to.

**Classifications:**  
**International (IPC 8-9):** H01J19/36 (Advanced/Invention)  
**International (IPC 1-7):** H01J19/74  
**CPC:** H01J19/36 H01J2893/0027  
**European:** H01J19/36 T01J893/00C61T



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| GB680540 A         | 19521008         | GB19490017641      | 19490704         |

**Priority:**  
GB19490017641 19490704  
**Probable Assignee:** HAROLD STEPHEN WALKER  
**Assignee(s):** (std): BRITISH BROADCASTING CORP ; HAROLD STEPHEN WALKER

**Title:** Improved process of and apparatus for the gasification of difficultly gasifiable metallic or non-metallic elements and compounds

**Abstract:** A process for the volatilization of metallic and non-metallic elements and compounds, especially oxides, which are difficult to volatilize, comprises introducing the materials through a hollow electrode into a gasification chamber surrounded by an electric arc formed between the hollow electrode and a co-axial counter-electrode, maintaining an energy density of at least 100 kW. per litre of reaction space in the gasification chamber and removing the resultant gases through the cylindrical sides of the electric arc. In the form shown, an arc is struck between an axially movable hollow electrode 1 and a counter-electrode 11 and the material 10, to be volatilized, passing down the hollow electrode 1, is liquefied in the chamber 18 and volatilized as it joins the "mother" drop 31. The vapour passes out between the arc columns 19 and mixed, at 27, with a rotating stream of gas which enters the system at 24. The rotating gas/vapour mixture passes upward through the pipes of a spiral cooling system 21 where the vapour may condense into small particles and pass out with the gas at 25 or in some cases, e.g. of complex ores, a fractionated condensation may take place at 27 and the fractions, flung outwards by the rotating gas, pass out at 26. In the case of metallic vapours, oxygen may be fed into the chamber formed by the cooling system and the resultant metallic oxide passed out with the gas 21. An image of the chamber formed by the arc may be projected, via a lens system 28, on to a screen 29. The counter-electrode 11 may also be hollow and may be used for introducing materials to be volatilized. According to an example, finely grained silicic acid, introduced at 10, is volatilized at 3,000 DEG C. and the **hot** SiO2 gas **formed** in chamber 18 is suddenly condensed at 27. The condensate in the form of silica particles of 0.01 to 1 micron size leaves at 25 in suspension and is separated.

**Classifications:**

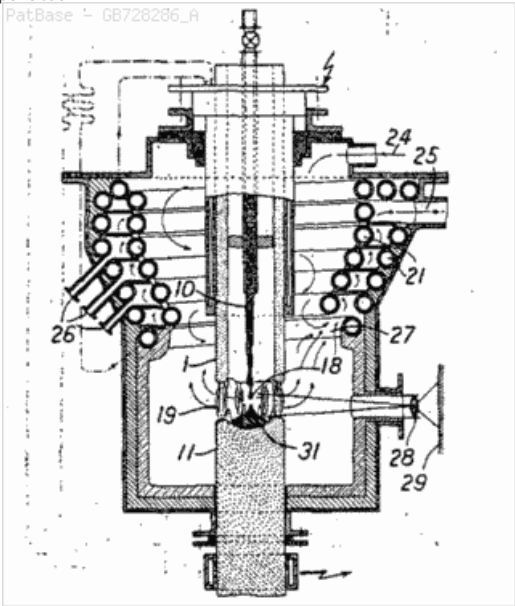
**International (IPC 8-9):** C22B5/16 (Advanced/Invention);

C22B5/00 (Core/Invention)

**International (IPC 1-7):** B01J19/08

**CPC:** C22B5/16

**European:** C22B5/16



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| GB728286 A         | 19550420         | GB19510022058      | 19510920         |

**Priority:**

GB19510022058 19510920

**Probable Assignee:**

WOTSCHKE JOHANNES

**Assignee(s): (std):**

WOTSCHKE JOHANNES

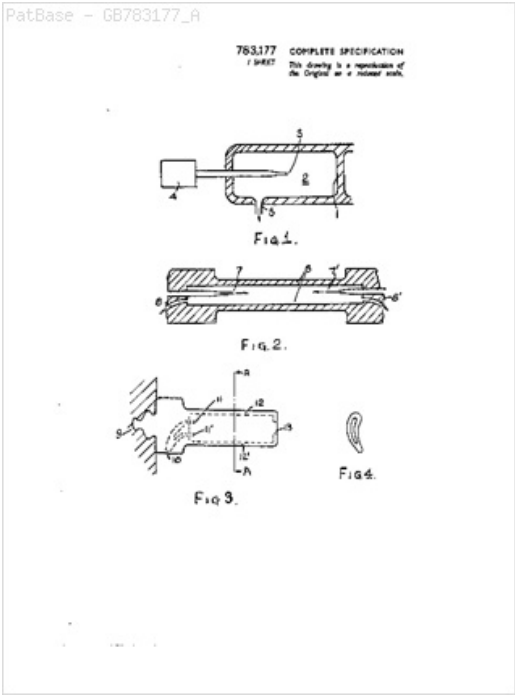
**Assignee(s):**

JOHANNES WOTSCHKE

**Title:** Improvements relating to fluid cooling systems

**Abstract:** 783,177. Heat exchangers. ANDRADE, E. N. DA. C. Oct. 29, 1954 [Oct. 29, 1953], No. 29950/53. Class 64(3) [Also in Group XXVI, XXVII, and XL(a)] Heat is extracted from a hot surface by projecting from an orifice or orifices into a mass of cooling fluid already adjacent the surface, a jet or jets of cool fluid at such velocity as to effect complete turbulence of that mass of fluid. Water, air, or a mixture of gas and liquid may be employed as coolant. For example, if the cooling fluid is water and  $u$  is its velocity when leaving the orifice,  $a$  is the radius of the orifice, and  $\gamma$  the kinematic viscosity of the water, the Reynolds number  $R = u a / \gamma$  must exceed 370, preferably by many times, to produce complete turbulence. The fluid may be introduced through a tube which tapers to a cylindrical orifice, or through a passage which is rectangular or elliptical in cross-section and tapers to a cross-section of similar or different form. In one application Fig. 2, the wall 6 of a tube is cooled by liquid kept in a turbulent state by opposed jets of liquid from orifices 7, 7<1>, which may be slightly out of alignment. Drainage ports 8, 8<1> are provided. The invention may be applied to condensers and heat exchangers in thermal power plant.

**Classifications:**  
**International (ipc 8-9):** F01D5/18 F28F13/02 H01J19/36 (Advanced/Invention)  
**International (ipc 1-7):** F01D5/18 F28F13/00  
**CPC:** F01D5/18 F28D2021/0078 F28F13/02 H01J19/36 H01J2893/0027  
**European:** F01D5/18 F28F13/02 H01J19/36 R28D21/00T250C T01J893/00C61T



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| GB783177 A         | 19570918         | GB19530029950      | 19531029         |

**Priority:**

GB19530029950 19531029

**Probable Assignee:** EDWARD NEVILLE DA COSTA ANDRAD  
**Assignee(s): (std):** EDWARD NEVILLE DA COSTA ANDRAD  
**Assignee(s):** EDWARD NEVILLE DA COSTA ANDRADE

**Title:** Catheter for RF ablation with cooled electrode

**Abstract:** A catheter for radio frequency ablation with a cooled electrode for use in tissue having a surface comprising an elongate member having proximal and distal extremities. A metal conducting electrode secured to the distal extremity of the elongate member and having a chamber therein. A conductor extends through the elongate member from the proximal to the distal extremity for supplying radio frequency energy to the electrode. The elongate member has a lumen in the distal extremity which is in communication with the chamber. A coolant is disposed in the chamber and in contact with the electrode for dissipating heat created in the electrode by the application of radio frequency energy thereto.

**Classifications:**

**International (IPC 8-9):** A61B17/00 A61B18/00 A61B18/12 A61B18/14 (Advanced/Invention);

A61B17/00 A61B18/00 A61B18/12 (Advanced/Non-invention)

**International (IPC 1-7):** A61B17/36 A61B17/39 A61B18/12 A61M25/00 A61N1/05 A61N5/04

**CPC:** A61B18/1492 A61B18/1402 A61B2017/00084 A61B2017/003

A61B2018/00023 A61B2018/00029 A61B2018/00035

A61B2018/00166 A61B2018/00351 A61B2018/00577

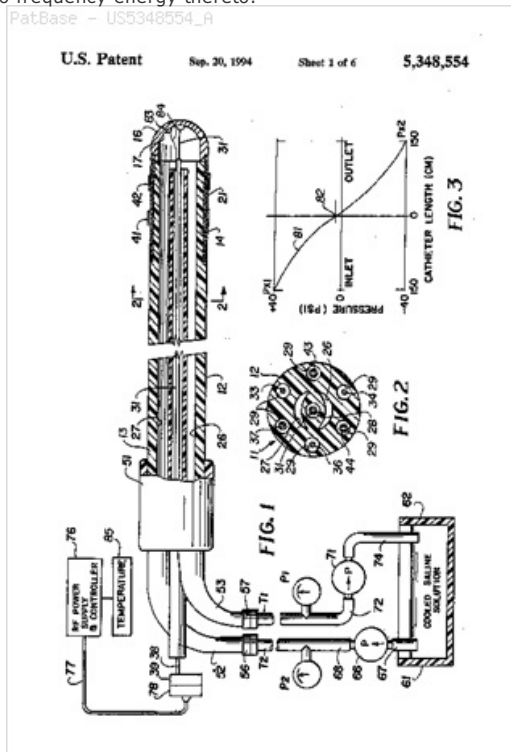
A61B2018/00821

**European:** A61B18/14V K61B17/00C1T K61B17/00E3G

K61B18/00A2C K61B18/00A2E K61B18/00A2E2 K61B18/00B8

K61B18/00F6A K61B18/00G1 K61B18/00H12B5 K61B18/14B

**US:** 606/41 607/105 607/113 607/122 607/99



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| AT206032 E         | 20011015         | AT19930309550T     | 19931130         |
| AU199352019 A1     | 19940616         | AU19930052019      | 19931130         |
| AU673015 B2        | 19961024         | AU19930052019      | 19931130         |
| CA2110309 AA       | 19940602         | CA19932110309      | 19931130         |
| DE69330821 D1      | 20011031         | DE19936030821      | 19931130         |
| DE69330821 T2      | 20020516         | DE19936030821T     | 19931130         |
| EP0608609 A2       | 19940803         | EP19930309550      | 19931130         |
| EP0608609 A3       | 19950524         | EP19930309550      | 19931130         |
| EP0608609 B1       | 20010926         | EP19930309550      | 19931130         |
| JP2562861 B2       | 19961211         | JP19930301999      | 19931201         |
| JP6254103 A2       | 19940913         | JP19930301999      | 19931201         |
| US5348554 A        | 19940920         | US19920983732      | 19921201         |
| US5423811 A        | 19950613         | US19940214785      | 19940316         |
| US5545161 A        | 19960813         | US19940319739      | 19941007         |
| US5658278 A        | 19970819         | US19950381198      | 19950131         |
| US5697927 A        | 19971216         | US19940210032      | 19940316         |

**Priority:**

|                        |                        |                        |
|------------------------|------------------------|------------------------|
| US19920983732 19921201 | CA19932110309 19931130 | US19940210032 19940316 |
| US19940214785 19940316 | US19940319739 19941007 | US19950381198 19950131 |

**Probable Assignee:** BOSTON SCIENTIFIC SCIMED INC

**Assignee(s):** (std): CARDIAC PATHWAYS CORP ; CARDIAC PATHWAYS INC

**Assignee(s):** IMRAN MIR A ; KAADEIATSUKU PASUEIZU CORP ; KAADEIATSUKU PASUEIZU CORP ; SCIMED LIFE SYSTEMS INC ; POMERANZ MARK L ; CARDIAC PATHWAYS CORP SUNNYVALE ; BANK AMERICA VENTURES COLLATERAL AGENT AS ; BOSTON SCIENTIFIC CORP ; BOSTON SCIENTIFIC SCIMED INC

**Inventor(s):** (std): POMERANZ MARK L ; MIA EI IMURAN ; MAAKU ERU POMERANTSU ; IMRAN MIR A

**Inventor(s):** MIR A IMRAN ; MARK L POMERANZ ; MAAKU ERU HOMERANTSU

**Agent(s):** DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; SMART AND BIGGAR

**Designated states:** AT BE CH DE DK ES FR GB GR IT LI LU NL SE

**Title:** PREMIXED, PRESWIRLED PLASMA-ASSISTED PILOT

**Abstract:** A plasma enhanced pilot including a swirler mechanism is configured to be inserted into an existing blank (purge air) or liquid fuel (dual fuel) cartridge space within the centerbody of a lean, premixed land-based gas turbine combustor fuel nozzle.

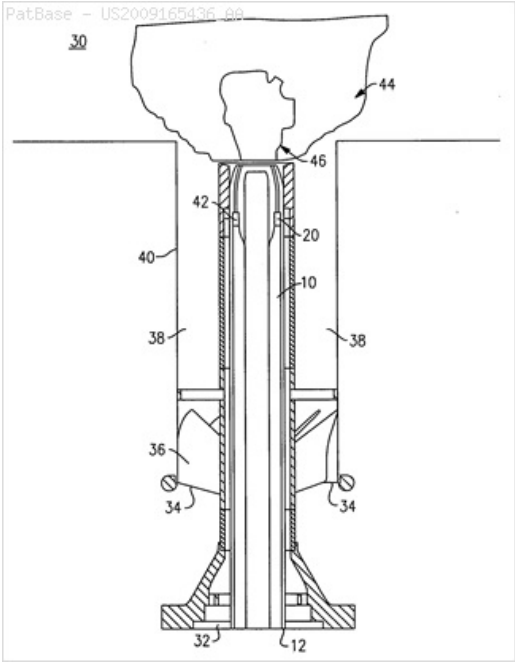
**Classifications:**

**International (ipc 8-9):** F02C7/22 F02C7/266 F23R3/14 F23R3/20 F23R3/28 F23R3/32 F23R3/58 (Advanced/Invention); F02C7/22 F02C7/26 F23R3/02 F23R3/04 F23R3/28 F23R3/30 (Core/Invention)

**CPC:** F23D2207/00 F23R3/286 F23R3/343 F23R2900/00009 F23R2900/03343

**European:** F23R3/28D F23R3/34C R23D207/00 R23R900/00009 R23R900/03343

**US:** 60/39.826 60/39.826P 60/737 60/737S 60/772 60/772S



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| CH698284 A2        | 20090630         | CH20080001960      | 20081212         |
| CN101469870 A      | 20090701         | CN200810189860     | 20081226         |
| DE102008055564 A1  | 20090702         | DE200810055564     | 20081219         |
| JP2009162478 A2    | 20090723         | JP20080323255      | 20081219         |
| US2009165436 AA    | 20090702         | US20070005807      | 20071228         |

**Priority:**

US20070005807 20071228

**Probable Assignee:** GENERAL ELECTRIC CO

**Assignee(s):** (std): GEN ELECTRIC

**Assignee(s):** GENERAL ELECTRIC CO ; GENERAL ELECTRIC COMPANY

**Inventor(s):** (std): YOUNSI ABDELKRIM ; THOMAS HERBON JOHN ; SOLOMON IDELCHIK MICHAEL ; SADDOUGH SEYED GHOLAMALI ; JOHN DEAN ANTHONY ; IDELCHIK MICHAEL SOLOMON ; HERBON JOHN THOMAS ; GHOLAMALI SADDOUGH SEYED ; DEAN ANTHONY JOHN ; BENNETT GROVER ANDREW ; ANDREW BENNETT GROVER ; ABDELKRIM YOUNSI

**Agent(s):** GENERAL ELECTRIC COMPANY,GLOBAL RESEARCH; GENERAL ELECTRIC CO GLOBAL RESEARCH

**Title:** APPARATUS AND METHOD FOR MANUFACTURING COMPOSITE MEMBRANE

**Abstract:** An electrolyte membrane with a backsheet is sent out from an electrolyte membrane unwinding roller, and is separated with its second side sucked on a suction roller by a first press roller. While the electrolyte membrane from which the backsheet has been separated is transported with the electrolyte membrane sucked and supported on the suction roller, an electrode ink is applied to a first side of the electrolyte membrane to form an electrode ink layer, which is dried by blowing **hot** air thereto to **form** a catalyst layer. Thereafter, in a state in which the outer surface of a second press roller disposed close to the suction roller is in contact with and supported on the first side of the electrolyte membrane, a support film is pressed against the second side of the electrolyte membrane by a third press roller and attached thereto to manufacture a catalyst-coated membrane.

**Classifications:**

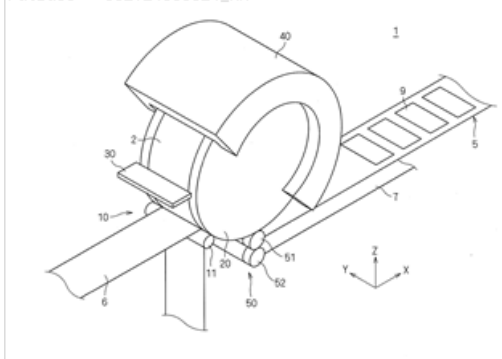
**International (IPC 8-9):** B05D3/00 B29C41/28 B32B3/16 B32B37/00 B32B37/02 B32B38/00 B32B38/16 C08J5/22 H01M2/14 H01M4/88 H01M8/02 H01M8/10 H01M8/1004 H01M8/1069 H01M8/1086 H1M2/14 (Advanced/Invention);

B01D69/12 (Advanced/Non-invention)

**CPC:** B01D69/12 B01D2323/42 H01M4/8828 H01M4/8882 H01M4/881 H01M4/8896 H01M2008/1095 B29D99/005 B32B37/0053 B32B37/203 B32B38/004 B32B38/10 B32B38/164 B32B2309/105 B32B2457/18 Y02P70/56 H01M8/02 H01M8/10

**US:** 156/237 156/390

PatBase - US2014338824\_AA

**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| CA2852565 AA       | 20141120         | CA20142852565      | 20140516         |
| CA2852565 C        | 20161018         | CA20142852565      | 20140516         |
| CA2935992 AA       | 20141120         | CA20142935992      | 20140516         |
| CA2935992 C        | 20180717         | CA20142935992      | 20140516         |
| CN104183857 A      | 20141203         | CN201410210408     | 20140519         |
| CN104183857 B      | 20170922         | CN201410210408     | 20140519         |
| EP2813363 A1       | 20141217         | EP20140168811      | 20140519         |
| JP2014229370 A2    | 20141208         | JP20130105838      | 20130520         |
| JP2015015258 A2    | 20150122         | JP20140189802      | 20140918         |
| JP2017084826 A2    | 20170518         | JP20170018097      | 20170203         |
| JP6311041 B2       | 20180411         | JP20170018097      | 20170203         |
| KR20140136391 A    | 20141128         | KR20140059770      | 20140519         |
| KR20160030920 A    | 20160321         | KR20160026599      | 20160304         |
| US2014338824 AA    | 20141120         | US20140280763      | 20140519         |

**Priority:**

JP20130105838 20130520 CA20142852565 20140516 JP20140189802 20140918  
 KR20160026599 20160304 CA20162852565 20160719 JP20170018097 20170203

**Probable Assignee:** SCREEN HOLDINGS CO LTD

**Assignee(s):** (std): DAINIPPON SCREEN MFG ; SCREEN HOLDINGS CO LTD

**Assignee(s):** SCREEN HOLDINGS CO ; CO LTD SCREEN HOLDINGS ; DAINIPPON SCREEN MFG CO ; DAINIPPON SCREEN MFG CO LTD ; DAINIPPON SCREEN MFG CO LTD-1 TENJINKITAMACHITERANOUCI-AGARU 4-CHOMEHORIKAWA-DORIM KAMIGYO-KU, 602-8585KYOTOJP ; TAKAGI YOSHINORI

**Inventor(s):** (std): TAKAGI YOSHINORI ; YOSHINORI TAKAGI

**Inventor(s):** TAKAGI YOSHINORIJP

**Agent(s):** NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; KILIAN KILIAN AND PARTNER; YOSHITAKE HIDETOSHI; ARITA TAKAHIRO

**Designated states:** AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

**Title:** Static converters of thermal energy, in particular of nuclear origin, into electric energy

**Abstract:** 1,032,775. Discharge apparatus; thermo-electric devices. . March 13, 1963 [March 16, 1962; April 12, 1962; Nov. 6, 1962], No. 10001/63. Headings H1D, H1K and H1X. [Also in Division G6] In apparatus for converting thermal energy into electrical energy, a hot ionized stream of vapour is passed between a pair of electrodes, which are maintained respectively at temperatures below and above the temperature of condensation of the vapour, to develop a potential difference between the electrodes. As shown, a series of pairs of electrodes are disposed on opposite sides of thin ionized vapour jets B n, Fig. 2. Each pair comprises a water-cooled copper electrode A n and a non-cooled graphite electrode C n electrically connected to, but thermally insulated from, the cooled electrode of the adjacent pair of electrodes. The vapour jets are formed by introducing a readily vaporizable and ionizable substance, e.g. potassium chloride/carbonate, suspended in a stream H o of air or oxygen into gas burner flames. In an alternative arrangement, Fig. 5, cylindrical ionized vapour jets are employed between pairs of electrode A n, C n have semi-cylindrical facing surfaces. In Fig. 8, the converter is disposed in the moderator 16 of a nuclear reactor. The ionized vapour jet is obtained from pools 20 of Na, Hg, H<sub>2</sub>O, Cs or K heated by the radiations from the reactor. The non-cooled electrodes G n are of steel coated with uranium 13 or a compound thereof, neutrons from the reactor producing fission reactions in the coating. In a further arrangement for use in a nuclear reactor, a fissionable element 114, Fig. 10, immersed in heavy or light water, or Na or K, produces a plasma jet 115 which condenses on cooled electrode 116 producing a potential difference between electrodes 116, 120. A plurality of such converters, connected in series or in parallel, may be arranged side by side in a reactor. In a more elaborate arrangement, Fig. 11, the plasma jet is directed through a nozzle 120c, connected to a hot rod electrode 139 and is deflected by plate 145 to condense on casing 116a which constitutes the cold electrode. Metal grid 137 prevents liquid droplets from passing through nozzle 120c. Mounting and sealing arrangements are described in detail.

**Classifications:**

**International (IPC 8-9):** G21D7/00 G21D7/04 H01J45/00

H02N3/00 (Advanced/Invention);

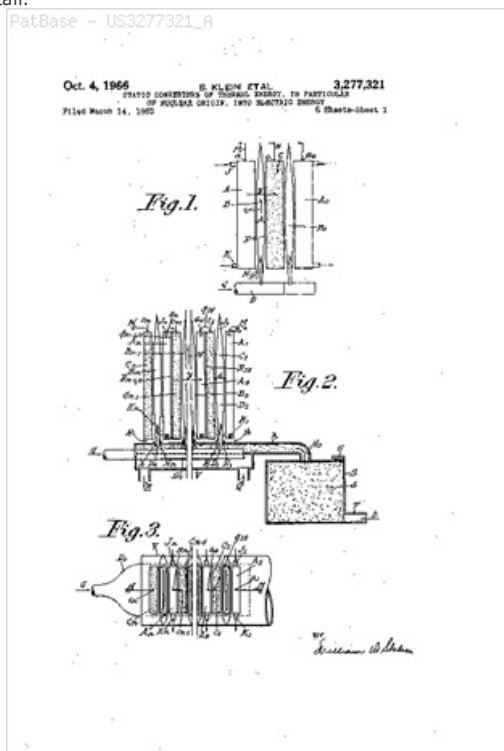
G21D7/00 H01J45/00 H02N3/00 (Core/Invention)

**International (IPC 1-7):** G21D7/00 G21D7/04

**CPC:** G21D7/00 G21D7/04 H01J45/00 H02N3/00 Y02E30/30

**European:** G21D7/00 G21D7/04 H01J45/00 H02N3/00 Y02E30/30

**US:** 310/301 310/306 376/321 976/DIG.315 976/DIG.317



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| DE1764074 B1       | 19710908         | DE19631764074      | 19630315         |
| FR1325092 A        | 19630426         | FR19620891393      | 19620316         |
| FR81576 E          | 19631011         | FR19620894307      | 19620412         |
| FR82861 E          | 19640430         | FR19620914561      | 19621106         |
| GB1032775 A        | 19660615         | GB19630010001      | 19630313         |
| LU43351 A          | 19630514         |                    | 19630314         |
| NL290251 A         | 00000000         |                    | 00000000         |
| US3277321 A        | 19661004         | US19630265093      | 19630314         |

**Priority:**

FR19620891393 19620316 FR19620894307 19620412 FR19620914561 19621106

**Probable Assignee:** COMMISSARIAT ENERGIE ATOMIQUE

**Assignee(s):** (std): COMMISSARIAT ENERGIE ATOMIQUE

**Assignee(s):** COMMISSARIAT A L ENERGIE ATOMIQUE

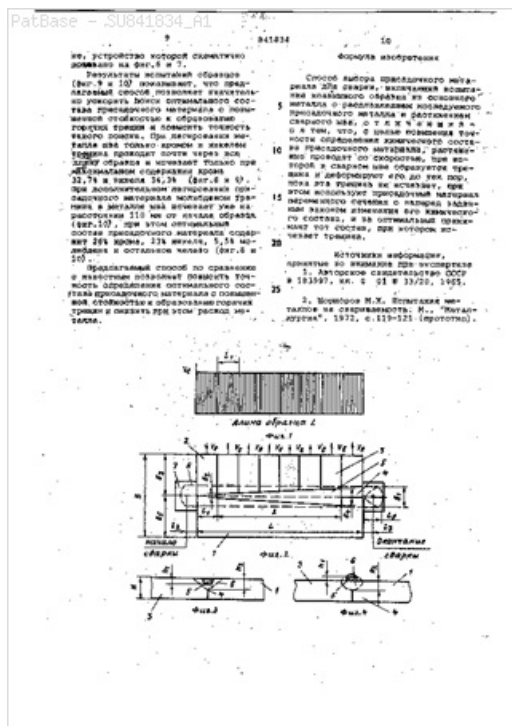
**Inventor(s):** (std): JACKY WEILL ; KLEIN SIEGFRIED ; MAURICE SURDIN ; SIEGFRIED KLEIN ; SURDIN MAURICE ; SURDIN SIEGFRIED KLEIN ET MAUR ; WEILL JACKIE ; WEILL JACKY

**Inventor(s):** SURDIN SIEGFRIED KLEIN ET MAURICE

## Title: METHOD OF CHOOSING ADDITION MATERIAL FOR WELDING

**Abstract:** Source: SU841834T **Machine translation:** Invention relates to welding, namely, the method of selecting the filler material-enhanced resistance to cracking during welding of steels and alloys, and can be used in chemical, engineering and other industries. One of the main problems arising in the welding of austenitic steels and alloys, is to select a combination of the basic materials and welding, which provides defect-free of the weld metal, satisfying guide their properties requirements of regulations relevant to him is emym conditions m kbnstruksii operation. most correctly said problem is solved by a homogeneous chemical composition of the weld, ie provide the weld metal composition of the weld metal. However in many cases this solution is not feasible and is associated with the fact that for suppressing the majority of austenitic steels and alloys reproduction osnovnog material composition of the weld metal leads to obrzovaniyu hot cracks during welding crystallization. Therefore, when selecting the filler materials for welding austenitic steels and alloys are often forced to be oriented to receive the weld chemical composition is significantly different from the base metal. A method of selecting prisadoch0 tion of wire for welding, characterized in that, prior to manufacture of the metal from a welding wire directly after it is molded in melt kok.ile a V-shaped 5 lattice and by the presence of cracks); terzhn x lattice after their cooling judged on suitability mbtgshla for making welding wire FI.Nedostatkom this method is 0 absence in the evaluation of the effect of chemical composition of the base (welded) metal. also known a method of selecting a filler material by testing 5 weld metal constant composition on composite samples of keyboards from the study material. During the welding process the samples to successively deform razlich0-tion velocity across 1appravleni welding and criteria as resistance of the weld metal crack formation gorychih take the lowest (critical strain rate / at which the weld metal, the hot crack zarozhdaets T2. Disadvantage of this method is its complexity so as to determine the optimal composition of the weld metal fabrication required Tse logo row wires with various conditions PTO posledukytsim them tested by this technique. Besides not provided sufficient reli choice of filler material. object of the invention - to increase the accuracy of determining the chemical sostav.a filler material ensuring present Recipients: ix welds without declination to tion **formation of hot** cracks. posed object is achieved in that the tensile rovod g at a rate at which a weld seam on razuets crack and deform eg5 up until this crack does not disappear no, this time with the filler material AC-sectional with preassigned law changes its chemical composition and optimal range tion take one composition that disappears crack...; "Figure 1 is a diagram of the deformation velocity distribution along the length keyboard sample and individual keys; Figure 2 - one of possible variants of a key sample, general view) on fig.Z and 4 -. possible positions for the filler material at the junction with the keys plastinoyJ Figure 5 - Possible solution Keyboard sample image in Figure 6) - device for testing or keyboard design; Figure 7 is the same as the cut on 8 - law distribution legirukgtsh eleMeytov weld length n) 9 and 10 - Test results arr; well: ztsov on pre Agay Momo method. In the figures, denoted 1 is a unibody fixed plate of the metal of the core length L, width and thickness, and 85) the movable plate (key) from the core 2 of metal capable to deform (stretch) to skorootyu Vg, length Ij,, width and thickness in and key 3 tion of the foundations | metal portion of the filler material; 4 junction between the plate and the cells ishami 1 2 and 3, the analyzed material PRISAD pb 5 minutes alternating sections with a length of 1, the initial width Ld, finite width b and thickness continuously hj,,; weld width b C, the penetration depth h and length Lt srarochyoy bath;; excretory plates 7, 8 and 9 clamps for attachment wo vetstvenyo fixed plate 1 and 2 keys to podvizhyyh 3} arm 10 freely on povorachivanadiys rigidly fixed axis 11; podp tnik 12 roller 13 is secured to the lever emye 10, wedge 14 mounted in the slide 15, dvizhugchems on the screw 16 in the guide 17; svorochna burner 18, anchoring the console 19 on the slide 15 and displaceable on the screw 16 at a speed equal to the speed of movement of the wedge 14, i.e., ("H; ling guide determines the rate of deformation Vg 2 and W keys, the return spring 20. Dimensions filler material 5 is assigned such that, when combined molten filler material and base metal arc welding is a continual change soderzkayi given legirukldih elements according to previously established law changes chemical composition of the weld metal used three ehom2 1 mm to provide convenience for manufacturing narrow part of the filler material, 9 b to provide maximum Changes in ownership interests of the base and filler material, and their complete fusion. Filler 5 made of sheet, forgings, casting and other assortment of metal. nc-, use of casting to produce blanks 5 filler material does not limit quantitative content Heiii neobhodimnh alloying elements, as for its manufacture of. pour enough only machining and forging and rolling operations are eliminated. length keys C should provide preparation and testing on each key-oyredelennogo range of weld metal and determined by the size of the weld pool Lg. The number of keys is selected in dependence on the length of filler material 5. Length L of the plate 1 is selected in accordance with the length of filler material 5 and the length of R, the extreme of the keys 2 of the base metal. For obespecheyy stable border penetration, 2h. Dimensions and the total width in the sample must provide the possibility of placing the clamps 8 and 9 on the plate 1 Iklavishah 2, 3, and perform welding seam B. Thickness H of the sample depends on the depth of penetration osnovHOM h and can be assigned from the ratio of H: l, 5h Dimensions outlet plates dolzhsh provide the necessary conditions start and end welding seam 6.All sample sizes are selected and refined by taking into account the technical characteristics of the test setup. The rate of deformation (stretching) V keys 2 and 3, which informs them by force transmission with wedge 14 through the rollers 13 and the levers 10, rasschityvayutds given the size of the test device (Fig. 7 and b) by the known formulas,, proposed method is carried out as follows., Selects base material and interesting range of changes in the content of alloying elements in it. Assign a thickness H of the base metal and solid plate thickness selected set rezhim.svarki, determined dimensions of the weld pool and the law changes in content sva; polar seam alloying components in this mode. Then, taking into account the technical characteristics of the test installation device selected basic dimensions of the test piece: size 1, b, b, and h investigated ppict ochного mother 5 in accordance with the chosen law altering the composition of the weld size 1 and B keys 2 and 3 and the total number of keys oblie dimensions L and the sample width B - whole plate 1, the size of terminal plates 7. After selecting sample sizes t production manufacturing its parts: 1 plate, 2 keys., and 3, 5 and filler material outlet timbers: Tin 7. Quantity manufactured parts set depending on the number of sets of samples separable test program, thus it is necessary to provide sets of samples to determine the critical strain rate () of the base metal without an additive, of the material. In cases recess filler materkapa 5 in the base metal (fig.Z) assembled in SG set of samples at the junction. 1 with the plate 3 is made of keys amino shaped filler mater groove 5 constant depth equal to the thickness h prisal.ochного mate rial (Figs. 2 and 3). /. Finished samples were tested in sets of installation, the apparatus shown schematically in Figures 6 and 7. First test kits for detecting samples V parent metal. For this to ICP test device sequentially set plate 1 and 2 key sample and securely fastened their jaws th 8.K fixed plate and a movable clamping levers 9 to TO. Signature tnikl with rollers 12, 13 is replaced by a different-sized podp tnikami wedges 14, and instead of the wedge 14 in the slide 15 are roller 13. When running-roller wedges during welding sample for a given mode on each key produced different strain rate / p such that considerably accelerates the identification for the base metal under the conditions similar to test samples with filler material. After a residence Uz P for the parent metal, whereby the weld metal zarozhdaets the hot crack, producing tons of test samples with filler material. The test samples used, the mobile deformable portion which vpolnenav as keys. Keyboard execution specimen deformation provides weld 6 under the same conditions over the whole length sample (Figure 2). Shastavl kschie specimen (plate klavishi.2 1 and 3 are set and secured and also, as in the test of the base metal, without filler material. Touching keys between themselves and at the interface with plate 4 1 carried out without apparent gap. At the junction between the keys 3 and plate 1 is placed filler material 5. When Settings and mount the sample must be provided on each side prisadochno material 5 at least one key Ziz base metal without filler material. Signature tnikl 12 with rollers 13 and the wedge 14 is set on its place (Figures 6 and 7). Wedge 14 is selected so that during running they rollers 13 provide a constant rate of deformation of the keys 2 and Vg 3 (Figure 1) which at least be greater than 2-3 percent Y, RDL of the base metal. Uveliche.nie strain rate g compared with neobhdimb to provide a stable formation and development of cracks in the welding process and the deformation of the sample, as in barely zarozhdayuscha with crack due to the presence of microscopic inhomogeneity distribution of alloying elements in the weld metal and the possible fluctuations of the welding head can znut or disappear altogether. However, increasing Vg should not be too large so as not to distort the test results. welding seam used on a given mode start on the output plate 7 at a distance from the edge of the sample. Length 1a. 30-50 mm is selected on the basis of establishing a stable welding process. Deformation (tensile) button 2 is started at the intersection of the axis of the electrode edges burner 18 keys (6). At this time, the wedge 14 to its shorter end comes into contact with the roller 13. Key 2 The stretching in the welding process with a velocity Vg V) (, p causes the **formation of hot** cracks in the weld metal, which upon subsequent nepreravnom deformation propagates from the weld filler material. Deformation following klavishi.3 started after completion of the deforming press exit 2 at the long end of the wedge 14. sorikosnoveni of the roller 13 adjacent keys zheraspolzhenii though the edge of the electrode axis keys 3. such sequence derivatives in t deformation of available keys of the sample during the welding seam 6. Complete weld seam 6, after completion of the deformation of the last button 2 on the output of the sample well plate at a distance D from the edge of the sample. Having two keys at the extreme end of the sample is necessary for more precise fixing seam portion free from

**Classifications:**  
**International (IPC 8-9):** B23K9/00 (Advanced/Invention);  
 B23K9/00 (Core/Invention)  
**International (IPC 1-7):** B23K9/00



**Family:**

| Publication number | Publication date | Application number | Application date |
|--------------------|------------------|--------------------|------------------|
| SU841834 A1        | 19810630         | SU19792747044      | 19790404         |
| SU841834 T         | 19810630         | SU19792747044      | 19790404         |

**Priority:**

SU19792747044 19790404

**Probable Assignee:** MAILBOX R 6476 CO

**Assignee(s):** (std): MAILBOX R 6476 CO ; NIKOLAEV VALENTIN B ; ROSHCIN VLADISLAV V ; TRIFONOV SERGEJ A ;  
VOLODIN EVGENIJ G ; GAVRILYUK VALERIJ S

**Assignee(s):** GAVRILYUK VALERIJ S SU ; VOLODIN EVGENIJ G SU ; ROSHCIN VLADISLAV V SU ; NIKOLAEV  
VALENTIN B SU ; TRIFONOV SERGEJ A SU

**Inventor(s):** (std): GAVRILYUK VALERIJ S ; NIKOLAEV VALENTIN B ; ROSHCIN VLADISLAV V ; TRIFONOV SERGEJ A ;  
VOLODIN EVGENIJ G

**Inventor(s):** VOLODIN EVGENIJ G SU ; TRIFONOV SERGEJ A SU ; ROSHCIN VLADISLAV V SU ; NIKOLAEV  
VALENTIN B SU ; GAVRILYUK VALERIJ S SU