

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### METALLURGY

## C23 COATING METALLIC MATERIAL; COATING MATERIAL WITH METALLIC MATERIAL; CHEMICAL SURFACE TREATMENT; DIFFUSION TREATMENT OF METALLIC MATERIAL; COATING BY VACUUM EVAPORATION, BY SPUTTERING, BY ION IMPLANTATION OR BY CHEMICAL VAPOUR DEPOSITION, IN GENERAL; INHIBITING CORROSION OF METALLIC MATERIAL OR INCRUSTATION IN GENERAL

(NOTES omitted)

## C23G CLEANING OR DE-GREASING OF METALLIC MATERIAL BY CHEMICAL METHODS OTHER THAN ELECTROLYSIS

**1/00** Cleaning or pickling metallic material with solutions or molten salts (with organic solvents [C23G 5/02](#))

- 1/02 . with acid solutions
- 1/025 . . {acidic pickling pastes}
- 1/04 . . using inhibitors
- 1/06 . . . organic inhibitors

### NOTE

In groups [C23G 1/061](#) - [C23G 1/068](#) an invention is classified in the last appropriate place

- 1/061 . . . . {nitrogen-containing compounds}
- 1/063 . . . . {heterocyclic compounds}
- 1/065 . . . . {sulfur-containing compounds}
- 1/066 . . . . {phosphorus-containing compounds}
- 1/068 . . . . {compounds containing a C=C bond}
- 1/08 . . Iron or steel

### NOTE

In groups [C23G 1/081](#) - [C23G 1/088](#) an invention is classified in the last appropriate place

- 1/081 . . . {solutions containing H<sub>2</sub>SO<sub>4</sub>}
- 1/083 . . . {solutions containing H<sub>3</sub>PO<sub>4</sub>}
- 1/085 . . . {solutions containing HNO<sub>3</sub>}
- 1/086 . . . {solutions containing HF}
- 1/088 . . . {solutions containing organic acids}
- 1/10 . . Other heavy metals
- 1/103 . . . {copper or alloys of copper}
- 1/106 . . . {refractory metals}
- 1/12 . . Light metals
- 1/125 . . . {aluminium}
- 1/14 . with alkaline solutions
- 1/16 . . using inhibitors
- 1/18 . . . Organic inhibitors
- 1/19 . . Iron or steel
- 1/20 . . Other heavy metals
- 1/205 . . . {refractory metals}

- 1/22 . . Light metals
- 1/24 . with neutral solutions
- 1/26 . . using inhibitors
- 1/28 . with molten salts
- 1/30 . . using inhibitors
- 1/32 . . Heavy metals
- 1/34 . . Light metals
- 1/36 . Regeneration of waste pickling liquors

**3/00** Apparatus for cleaning or pickling metallic material (with organic solvents [C23G 5/04](#))

- 3/02 . for cleaning wires, strips, filaments continuously
- 3/021 . . {by dipping}
- 3/022 . . . {the objects following a helicoidal path}
- 3/023 . . {by spraying}
- 3/024 . . {by a combination of dipping and spraying}
- 3/025 . . {Details of the apparatus, e.g. linings or sealing means}
- 3/026 . . . {for guiding the objects}
- 3/027 . . {Associated apparatus, e.g. for pretreating or after-treating}
- 3/028 . . . {for thermal or mechanical pretreatment}
- 3/029 . . . {for removing the pickling fluid from the objects}
- 3/04 . for cleaning pipes

**5/00** Cleaning or de-greasing metallic material by other methods; Apparatus for cleaning or de-greasing metallic material with organic solvents

### NOTE

Mixtures of organic solvents are classified according to the major component

- 5/02 . using organic solvents
- 5/024 . . containing hydrocarbons
- 5/028 . . containing halogenated hydrocarbons
- 5/02803 . . . {containing fluorine}
- 5/02806 . . . {containing only chlorine as halogen atom}
- 5/02809 . . . {containing chlorine and fluorine}
- 5/02812 . . . . {Perhalogenated hydrocarbons}

5/02816 . . . . . {Ethanes}  
 5/02819 . . . . . {C<sub>2</sub>Cl<sub>3</sub>F<sub>3</sub>}  
 5/02822 . . . . . {C<sub>2</sub>Cl<sub>4</sub>F<sub>2</sub>}  
 5/02825 . . . . . {containing hydrogen}  
 5/02829 . . . . . {Ethanes}  
 5/02832 . . . . . {C<sub>2</sub>H<sub>3</sub>Cl<sub>2</sub>F}  
 5/02835 . . . . . {C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>F<sub>2</sub>}  
 5/02838 . . . . . {C<sub>2</sub>HCl<sub>2</sub>F<sub>3</sub>}  
 5/02841 . . . . . {Propanes}  
 5/02845 . . . . . {C<sub>3</sub>H<sub>3</sub>ClF<sub>4</sub>}  
 5/02848 . . . . . {C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>F<sub>4</sub>}  
 5/02851 . . . . . {C<sub>2</sub>HCl<sub>2</sub>F<sub>5</sub>}  
 5/02854 . . . {characterised by the stabilising or corrosion  
                   inhibiting additives}  
 5/02858 . . . . . {Hydrocarbons}  
 5/02861 . . . . . {Oxygen-containing compounds}  
 5/02864 . . . . . {Alcohols}  
 5/02867 . . . . . {aliphatic}  
 5/0287 . . . . . {aromatic}  
 5/02874 . . . . . {Aldehydes or ketones}  
 5/02877 . . . . . {Ethers}  
 5/0288 . . . . . {Epoxy compounds}  
 5/02883 . . . . . {Nitrogen-containing compounds}  
 5/02887 . . . . . {Nitro-compounds}  
 5/0289 . . . . . {N-heterocyclics}  
 5/02893 . . . . . {Sulfur-containing compounds}  
 5/02896 . . . . . {Phosphorus-containing compounds}  
 5/032 . . containing oxygen-containing compounds  
 5/036 . . . having also nitrogen  
 5/04 . . Apparatus  
 5/06 . . using emulsions