CPC - COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

METALLURGY

C21 METALLURGY OF IRON

C21C PROCESSING OF PIG-IRON, e.g. REFINING, MANUFACTURE OF WROUGHT-IRON OR STEEL; TREATMENT IN MOLTEN STATE OF FERROUS ALLOYS

(refining metals in general C22B 9/00)

1/00 Refining of pig-iron; Cast iron
1/02 . Dephosphorising or desulfurising
1/025 . [Agents used for dephosphorising or desulfurising]
1/04 . Removing impurities other than carbon, phosphorus or sulfur
1/06 . Constructional features of mixers for pig-iron
1/08 . Manufacture of cast-iron
1/10 . Making spheroidal graphite cast-iron
1/105 . {Nodularising additive agents}
3/00 Manufacture of wrought-iron or wrought-steel
5/00 Manufacture of carbon-steel, e.g. plain mild steel, medium carbon steel or cast steel [or stainless steel]
5/005 . [Manufacture of stainless steel]
5/02 . Crucible furnace process [{C21C 5/005 takes precedence}]
5/04 . Manufacture of hearth-furnace steel, e.g. Siemens-Martin steel [{C21C 5/005 takes precedence}]
5/06 . Processes yielding slags of special composition
5/28 . Manufacture of steel in the converter [{C21C 5/005 takes precedence}]
5/285 . {Plants therefor}
5/30 . Regulating or controlling the blowing
5/305 . {Afterburning}
5/32 . Blowing from above [{C21C 5/35 takes precedence}]
5/34 . Blowing through the bath [{C21C 5/35 takes precedence}]
5/35 . Blowing from above and through the bath
5/36 . Processes yielding slags of special composition
2005/363 . . . [Slag cements]
2005/366 . . . [Foam slags]
5/38 . Removal of waste gases or dust
5/40 . Offtakes or separating apparatus for converter waste gases or dust
5/42 . Constructional features of converters
5/44 . Refractory linings
5/441 . . . [Equipment used for making or repairing linings]
5/443 . . . . [Hot fettling; Flame gunning]
5/445 . . . . [Lining or repairing the taphole]
2005/446 . . . . [Dry linings]
2005/448 . . . . [Lining wear indicators]
5/46 . . . . Details or accessories
5/4606 . . . . [Lances or injectors]
5/4613 . . . . [Refractory coated lances; Immersion lances]
5/462 . . . . [Means for handling, e.g. adjusting, changing, coupling]
2005/4626 . . . . [Means for cooling, e.g. by gases, fluids or liquids]
5/4633 . . . . [Supporting means]
5/464 . . . . [Trunnion bearings]
5/4646 . . . . [Cooling arrangements]
5/4653 . . . . [Tapholes; Opening or plugging thereof]
5/466 . . . . [Charging device for converters]
2005/4666 . . . . [for charging with organic contaminated scrap]
5/4673 . . . . [Measuring and sampling devices]
2005/468 . . . . [Means for determining the weight of the converter]
5/4686 . . . . [Vehicles for supporting and transporting a converter vessel]
5/4693 . . . . [Skull removal; Cleaning of the converter mouth]
5/48 . . . . Bottoms or tuyères of converters
5/50 . . . . Tilting mechanisms for converters
5/52 . . Manufacture of steel in electric furnaces
2005/5223 . . . [with post-combustion]
5/5229 . . . [in a plasma heated furnace]
2005/5235 . . . [with bottom electrodes]
5/5241 . . . [in an inductively heated furnace]
5/5247 . . . [processing a moving metal stream while exposed to an electromagnetic field, e.g. in an electromagnetic counter current channel]
5/5252 . . . [in an electrically heated multi-chamber furnace, a combination of electric furnaces or an electric furnace arranged for associated working with a non electric furnace]
2005/5258 . . . [with crater formed by down-melting of scrap or charge through electrode or lance]
Manufacture of alloyed steels including ferro-alloys

Charging of the electric furnace

{ with liquid or solid rest, e.g. pool, "sumpf"

{ with organic contaminated scrap

{ Measuring or sampling devices

{ General arrangement or layout of the electric melt shop

Processes yielding slags of special composition

Manufacture of steel by other methods (making liquid steel by direct processes C21B 13/00 { C21C 5/005 takes precedence)

{ starting from scrap

{ Preheating of scrap (apparatus for preheating scrap in general F27D 13/002)

{ operating in a continuous way

Treating molten ferrous alloys, e.g. steel, not covered by groups C21C 1/00 - C21C 5/00

(treating molten metals during moulding B22D 1/00, B22D 2/00; remelting ferrous metals C22B)

{ Adding metallic additives

{ Lead

{ Boron

{ Adding carbon material

{ being plastics, organic compounds, polymers

{ by injecting powdered material

{ into the falling stream of molten metal

{ using exothermic reaction compositions

{ using cored wires

{ with introduction of alloying or treating agents under a compacted form different from a wire, e.g. briquette, pellet

{ by introducing material into a current of streaming metal

{ Treating in a ladle furnace, e.g. up-/reheating of molten steel within the ladle

{ Treating and handling under pressure

{ Treatment of slags covering the steel bath, e.g. for separating slag from the molten metal

{ Duplex process; Two stage processes

Removing impurities by adding a treating agent

{ Deoxidising, e.g. killing

{ Dephosphorising; Desulfurising

{ Agents used for dephosphorising or desulfurising

{ of stainless steel

{ Treatment with gases (C21C 7/006, C21C 7/004, C21C 7/008 take precedence)

{ Use of slags or fluxes as treating agents (C21C 7/006, C21C 7/004, C21C 7/008 take precedence)

{ Handling in a vacuum

Exhaust gas

{ Treatment of the exhaust gas

{ Recirculation of the exhaust gas

{ Energy from waste gas used in other processes

Recycling of waste material

Specific additives; Means for adding material different from burners or lances