

# CPC COOPERATIVE PATENT CLASSIFICATION

## C CHEMISTRY; METALLURGY

(NOTES omitted)

### CHEMISTRY

#### C10 PETROLEUM, GAS OR COKE INDUSTRIES; TECHNICAL GASES CONTAINING CARBON MONOXIDE; FUELS; LUBRICANTS; PEAT

#### C10K PURIFYING OR MODIFYING THE CHEMICAL COMPOSITION OF COMBUSTIBLE GASES CONTAINING CARBON MONOXIDE

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|-------|---|-------|--|
| 1/00  | <b>Purifying combustible gases containing carbon monoxide</b> (isolation of hydrogen from mixtures containing hydrogen and carbon monoxide <a href="#">C01B 3/50</a> )                    | 1/12  | . . . alkaline-reacting {including the revival of the used wash liquors}   |
| 1/001 | . {working-up the condensates (recovering of NH <sub>3</sub> and NH <sub>4</sub> salts <a href="#">C01C 1/00</a> ; working-up or purifying tars and tar-oils <a href="#">C10C 1/00</a> )} | 1/121 | . . . . {containing NH <sub>3</sub> only (possibly in combination with NH <sub>4</sub> salts)}   |
| 1/002 | . {Removal of contaminants}   | 1/122 | . . . . {containing only carbonates, bicarbonates, hydroxides or oxides of alkali-metals (including Mg)}   |
| 1/003 | . . {of acid contaminants, e.g. acid gas removal}   | 1/123 | . . . . {containing alkali-, earth-alkali- or NH <sub>4</sub> salts of inorganic acids derived from sulfur}  |
| 1/004 | . . . {Sulfur containing contaminants, e.g. hydrogen sulfide}   | 1/124 | . . . . {containing metal compounds other than alkali- or earth-alkali carbonates, hydroxides- or oxides- or salts of inorganic acids derived from sulfur}   |
| 1/005 | . . . {Carbon dioxide}  | 1/125 | . . . . . {containing Fe compounds}  |
| 1/006 | . . . {Hydrogen cyanide}  | 1/126 | . . . . . {containing As-, Sb-, Sn compounds}  |
| 1/007 | . . {of metal compounds}  | 1/127 | . . . . . {containing Cu compounds}  |
| 1/008 | . . . {Alkali metal compounds}  | 1/128 | . . . . {containing organic oxygen transferring compounds, e.g. sulfoxides}  |
| 1/02  | . Dust removal  | 1/14  | . . . . . organic  |
| 1/022 | . . {by baffle plates}  | 1/143 | . . . . . {containing amino groups}  |
| 1/024 | . . {by filtration}   | 1/146 | . . . . . {alkali-, earth-alkali- or NH <sub>4</sub> salts}  |
| 1/026 | . . {by centrifugal forces ( <a href="#">cyclones B04C</a> )}   | 1/16  | . . with non-aqueous liquids   |
| 1/028 | . . {by electrostatic precipitation ( <a href="#">separating dispersed particles from gases or vapour by electrostatic effect in general B03C 3/00</a> )}                                 | 1/165 | . . . {at temperatures below zero degrees Celsius}   |
| 1/04  | . by cooling to condense non-gaseous materials {( <a href="#">C10K 1/001</a> takes precedence)}   | 1/18  | . . . hydrocarbon oils {( <a href="#">C10K 1/165</a> takes precedence)}  |
| 1/043 | . . {adding solvents as vapour to prevent naphthalene- or resin deposits}   | 1/20  | . by treating with solids; Regenerating spent purifying masses {( <a href="#">separation by adsorption B01D 53/02</a> ; <a href="#">separation by chemical reaction B01D 53/34</a> ; <a href="#">refining of hydrocarbon oils with acids C10G 17/02</a> , <a href="#">C10G 27/02</a> , <a href="#">C10G 29/12</a> )} |
| 1/046 | . . {Reducing the tar content}  | 1/205 | . . {Methods and apparatus for treating the purifying masses without their regeneration ( <a href="#">recovering of sulfur C01B 17/00</a> ; <a href="#">recovering of cyanide compounds C01C 3/00</a> )}   |
| 1/06  | . . combined with spraying with water {( <a href="#">C10K 1/001</a> takes precedence)}  | 1/22  | . . Apparatus, e.g. dry box purifiers  |
| 1/08  | . by washing with liquids; Reviving the used wash liquors ( <a href="#">gas washers B01D</a> )  | 1/24  | . . . Supporting means for the purifying material  |
| 1/085 | . . {two direct washing treatments, one with an aqueous liquid and one with a non-aqueous liquid}   | 1/26  | . . Regeneration of the purifying material {contains also apparatus for the regeneration of the purifying material}  |
| 1/10  | . . with aqueous liquids {(alkaline reacting aqueous liquids <a href="#">C10K 1/12</a> )}   | 1/28  | . . Controlling the gas flow through the purifiers   |
| 1/101 | . . . {with water only}   | 1/30  | . . with moving purifying masses   |
| 1/102 | . . . {containing free acid}  | 1/32  | . with selectively adsorptive solids, e.g. active carbon   |
| 1/103 | . . . {alkali- or earth-alkali- or NH <sub>4</sub> salts or inorganic acids derived from sulfur}  | 1/34  | . by catalytic conversion of impurities to more readily removable materials  |
| 1/105 | . . . {containing metal compounds other than alkali- or earth-alkali carbonates, -hydroxides, oxides, or salts of inorganic acids derived from sulfur}                                    |       |  |
| 1/106 | . . . . {containing Fe compounds}   |       |  |
| 1/107 | . . . . {containing As-, Sb-, Sn compounds}   |       |  |
| 1/108 | . . . . {containing Cu compounds}   |       |  |

**3/00**     **Modifying the chemical composition of combustible gases containing carbon monoxide to produce an improved fuel, e.g. one of different calorific value, which may be free from carbon monoxide**

- 3/001     . {by thermal treatment}
- 3/003     . . {Reducing the tar content}
- 3/005     . . . {by partial oxidation}
- 3/006     . . . {by steam reforming}
- 3/008     . . . {by cracking}
- 3/02     . by catalytic treatment
- 3/023     . . {Reducing the tar content}
- 3/026     . . {Increasing the carbon monoxide content, e.g. reverse water-gas shift [RWGS]}
- 3/04     . . reducing the carbon monoxide content {, e.g. water-gas shift [WGS]}
- 3/06     . by mixing with gases