

# CPC COOPERATIVE PATENT CLASSIFICATION

## F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

### LIGHTING; HEATING

## F23 COMBUSTION APPARATUS; COMBUSTION PROCESSES (NOTE omitted)

## F23H GRATES (inlets for fluidisation air for fluidised bed combustion apparatus [F23C 10/20](#)); CLEANING OR RAKING GRATES

### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

|              |   |                |   |
|--------------|---|----------------|---|
| <b>1/00</b>  | <b>Grates with solid bars</b> ( <a href="#">double grates F23H 5/00</a> )   | 11/08          | • with several individually-movable grate surfaces  |
| 1/02         | • having provision for air supply or air preheating, e.g. air-supply or blast fittings which form a part of the grate structure or serve as supports  | 11/10          | • with special provision for supply of air from below and for controlling air supply  |
| 1/04         | • having a variable burning surface   | 11/12          | • inclined travelling grates; Stepped travelling grates   |
| 1/06         | • having bars at different levels   | 11/14          | • serving as auxiliary grates   |
| 1/08         | • Vertical grates   | 11/16          | • for multi-layer stoking   |
| <b>3/00</b>  | <b>Grates with hollow bars</b>  | 11/18          | • Details   |
| 3/02         | • internally cooled   | 11/20          | • . . Driving-means   |
| 3/04         | • externally cooled, e.g. with water, steam or air  | 11/22          | • . . Moving fuel along grate; Cleaning of grate  |
| <b>5/00</b>  | <b>Double grates</b>  | 11/24          | • . . Removal of ashes; Removal of clinker  |
| <b>7/00</b>  | <b>Inclined {or stepped} grates</b> ( <a href="#">inclined travelling grates F23H 11/12</a> )   | 11/26          | • . . . by dumping  |
| 7/02         | • with fixed bars   | 11/28          | • . . Replaceable burning-surface   |
| 7/04         | • . . in parallel disposition   | <b>13/00</b>   | <b>Grates not covered by any of groups <a href="#">F23H 1/00-F23H 11/00</a></b>   |
| 7/06         | • with movable bars disposed parallel to direction of fuel feeding  | 13/02          | • Basket grates, e.g. with shaking arrangement  |
| 7/08         | • . . reciprocating along their axes  | 13/04          | • Telescoping grates  |
| 7/10         | • . . rocking about their axes  | 13/06          | • Dumping grates  |
| 7/12         | • with movable bars disposed transversely to direction of fuel feeding  | 13/08          | • Grates specially adapted for gas generators and also applicable to furnaces   |
| 7/14         | • . . reciprocating along their axis  | <b>15/00</b>   | <b>Cleaning arrangements for grates</b> ( <a href="#">not forming part of the grate F23J 1/00</a> ); <b>Moving fuel along grates</b> ( <a href="#">grates with bars rocked about their longitudinal axes and specially adapted for moving fuel along the grate F23H 9/10</a> ; <a href="#">for travelling-grates F23H 11/22</a> ) |
| 7/16         | • . . rocking about their axes  | <b>17/00</b>   | <b>Details of grates</b>  |
| 7/18         | • . . reciprocating in an upward direction  | 17/02          | • End fittings on bars  |
| <b>9/00</b>  | <b>Revolving-grates; Rocking or shaking grates</b> ( <a href="#">inclined grates F23H 7/00</a> )  | 17/04          | • . . of travelling-grates  |
| 9/02         | • Revolving cylindrical grates  | 17/06          | • Provision for vertical adjustment of grate  |
| 9/04         | • Grates rocked as a whole  | 17/08          | • Bearers; Frames; Spacers; Supports  |
| 9/06         | • the bars being rocked about axes transverse to their lengths  | 17/10          | • . . Dead plates; Imperforate fuel supports  |
| 9/08         | • the bars being rocked about their longitudinal axes ( <a href="#">inclined grates with movable bars disposed parallel to the direction of fuel feeding and rocking about their axes F23H 7/10</a> ) | 17/12          | • Fire-bars   |
| 9/10         | • . . and modified to move fuel along the grate   | <b>2700/00</b> | <b>Grates characterised by special features or applications</b>   |
| 9/12         | • the bars being vertically movable in a plane  | 2700/001       | • Grates specially adapted for steam boilers  |
| <b>11/00</b> | <b>Travelling-grates</b>  | 2700/002       | • Inclined grates with longitudinally movable gratebars   |
| 11/02        | • with the bars disposed on transverse bearers  | 2700/003       | • Stepped grates with rotatable or slidable gratebars   |
| 11/04        | • with the bars pivoted at one side   | 2700/004       | • Rotary grates with horizontal axis  |
| 11/06        | • with the bars movable relatively to one another   | 2700/005       | • Rotary grates with vertical axis  |
|              |   | 2700/006       | • Grates of basket-type   |

## F23H

- 2700/007 . Basket grates with shaking arrangement
- 2700/008 . Mobile grates
- 2700/009 . Grates specially adapted for incinerators

### **2900/00** Special features of combustion grates

- 2900/03021 . Liquid cooled grates
- 2900/09041 . Vibrating grates for solid fuels
- 2900/17001 . Specific materials therefor
- 2900/17002 . Detachable or removable worn-out parts