

# CPC COOPERATIVE PATENT CLASSIFICATION

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

### LIGHTING; HEATING

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

## F23M CASINGS, LININGS, WALLS OR DOORS SPECIALLY ADAPTED FOR COMBUSTION CHAMBERS, e.g. FIREBRIDGES; DEVICES FOR DEFLECTING AIR, FLAMES OR COMBUSTION PRODUCTS IN COMBUSTION CHAMBERS; SAFETY ARRANGEMENTS SPECIALLY ADAPTED FOR COMBUSTION APPARATUS; DETAILS OF COMBUSTION CHAMBERS, NOT OTHERWISE PROVIDED FOR

### 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>3/00</b> | <b>Firebridges</b>  | 9/02           | • in air inlets   |
| 3/02        | • modified for circulation of fluids, e.g. air, steam, water  |                | <b><u>WARNING</u></b>   |
| 3/04        | • . for delivery of gas, e.g. air, steam  |                | Group <a href="#">F23M 9/02</a> is incomplete pending reclassification of documents from groups <a href="#">F23L 1/00</a> and <a href="#">F23L 9/00</a> . |
| 3/06        | • . . into or towards fire  |                | Groups <a href="#">F23L 1/00</a> , <a href="#">F23L 9/00</a> , and <a href="#">F23M 9/02</a> should be considered in order to perform a complete search.  |
| 3/08        | • . . away from fire, e.g. towards smoke outlet   |                |   |
| 3/10        | • . . transversely  |                |   |
| 3/12        | • characterised by shape or construction  |                |   |
| 3/14        | • . with apertures for passage of combustion products   | 9/04           | • with air supply passages in the baffle or shield  |
| 3/16        | • . built-up in sections, e.g. using bars or blocks   | 9/06           | • in fire-boxes   |
| 3/18        | • . double; multiple  | 9/08           | • Helical or twisted baffles or deflectors  |
| 3/20        | • . comprising loose refractory material, wholly or in part   | 9/10           | • Baffles or deflectors formed as tubes, e.g. in water-tube boilers   |
| 3/22        | • movable; adjustable   |                |   |
| <b>5/00</b> | <b>Casings; Linings; Walls</b>  | <b>11/00</b>   | <b>Safety arrangements</b>  |
| 5/02        | • characterised by the shape of the bricks or blocks used   | 11/02          | • Preventing emission of flames or hot gases, or admission of air, through working or charging apertures  |
| 5/025       | • . {specially adapted for burner openings}   | 11/04          | • Means for supervising combustion, e.g. windows  |
| 5/04        | • Supports for linings  | 11/042         | • . {Viewing ports of windows}  |
| 5/06        | • Crowns or roofs for combustion chambers   | 11/045         | • . {by observing the flame}  |
| 5/08        | • Cooling thereof; Tube walls   | 11/047         | • . {by observing the flue gas (controlling combustion using gas detectors <a href="#">F23N 5/003</a> )}  |
| 5/085       | • . {using air or other gas as the cooling medium}  |                |   |
| <b>7/00</b> | <b>Doors</b>  | <b>20/00</b>   | <b>Details of combustion chambers, not otherwise provided for {, e.g. means for storing heat from flames}</b>   |
| 7/02        | • Frames therefor   |                |   |
| 7/04        | • Cooling doors or door frames  | 20/005         | • {Noise absorbing means}   |
| <b>9/00</b> | <b>Baffles or deflectors for air or combustion products (baffles or deflectors for air or combustion products structurally associated with burners <a href="#">F23D</a>); Flame shields</b> | <b>2700/00</b> | <b>Constructional details of combustion chambers</b>  |
|             |   | 2700/005       | • Structures of combustion chambers or smoke ducts  |
|             |   | 2700/0053      | • . Bricks for combustion chamber walls   |
|             |   | 2700/0056      | • . Bricks for water tube combustion chamber walls  |
|             |   | 2700/007       | • Automatic fire extinguishing devices  |
|             |   | 2700/008       | • Preventing outwards emission of flames or hot gases   |
| 9/003       | • {in flue gas ducts}   | <b>2900/00</b> | <b>Special features of, or arrangements for combustion chambers</b>   |
| 9/006       | • . {Backflow diverters}  |                |   |

## F23M

- 2900/05001 . Preventing corrosion by using special lining materials or other techniques
- 2900/05002 . Means for accommodate thermal expansion of the wall liner
- 2900/05003 . Details of manufacturing specially adapted for combustion chambers
- 2900/05004 . Special materials for walls or lining
- 2900/05005 . Sealing means between wall tiles or panels
- 2900/05021 . Wall blocks adapted for burner openings
- 2900/09061 . Moving baffles, e.g. rotating baffles, for creating vortices
- 2900/09062 . Tube-shaped baffles confining the flame  
([flame tubes forming part of the burner head F23D 2900/11403](#))
- 2900/11021 . Means for avoiding accidental fires in rooms where the combustion device is located
- 2900/11041 . Means for observing or monitoring flames using photoelectric devices, e.g. phototransistors
- 2900/13001 . Energy recovery by fuel cells arranged in the combustion plant
- 2900/13002 . Energy recovery by heat storage elements arranged in the combustion chamber
- 2900/13003 . Energy recovery by thermoelectric elements, e.g. by Peltier/Seebeck effect, arranged in the combustion plant
- 2900/13004 . Energy recovery by thermo-photo-voltaic [TPV] elements arranged in the combustion plant