

**CPC****COOPERATIVE PATENT CLASSIFICATION****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**

**F23M 3/00****Firebridges**

F23M 3/02

- modified for circulation of fluids, e.g. air, steam, water

F23M 3/04

- for delivery of gas, e.g. air, steam

F23M 3/06

- into or towards fire

F23M 3/08

- away from fire, e.g. towards smoke outlet

F23M 3/10

- transversely

F23M 3/12

- characterised by shape or construction ([F23M 3/02](#) takes precedence)

F23M 3/14

- with apertures for passage of combustion products

F23M 3/16

- built-up in sections, e.g. using bars or blocks

F23M 3/18

- double; multiple

F23M 3/20

- comprising loose refractory material, wholly or in part

F23M 3/22

- movable; adjustable

**F23M 5/00****Casings; Linings; Walls** ([construction or support of tube walls for steam boilers F22B](#))

F23M 5/02

- characterised by the shape of the bricks or blocks used ([ceramic materials C04B 33/00](#), [C04B 35/00](#))

F23M 5/025

- {[specially adapted for burner openings](#)}

F23M 5/04

- Supports for linings

F23M 5/06

- Crowns or roofs for combustion chambers ([F23M 5/02](#), [F23M 5/04](#) take precedence)

F23M 5/08

- Cooling thereof; Tube walls

F23M 5/085

- {[using air or other gas as the cooling medium](#)}

**F23M 7/00****Doors**

F23M 7/02

- Frames therefor

F23M 7/04

- Cooling doors or door frames

**F23M 9/00****Baffles or deflectors for air or combustion products** ([structurally associated with burners F23D](#)); **Flame shields**

F23M 9/003

- {[in flue gas ducts](#)}

F23M 9/006

- {[Backflow diverters](#)}

F23M 9/02

- in air inlets

F23M 9/04	• with air supply passages in the baffle or shield
F23M 9/06	• in fire-boxes
F23M 9/08	• Helical or twisted baffles or deflectors
F23M 9/10	• Baffles or deflectors formed as tubes, e.g. in water-tube boilers ( <a href="#">interconnection of such tubes in boilers for fluid flow F22</a> )
<b>F23M 11/00</b>	<b>Safety arrangements</b> (structurally associated with burners <a href="#">F23D</a> ; for liquid fuel feeding <a href="#">F23K 5/16</a> ; involving control of combustion <a href="#">F23N 5/24</a> ; structurally associated with igniters <a href="#">F23Q</a> )
F23M 11/02	• Preventing emission of flames or hot gases, or admission of air, through working or charging apertures
F23M 11/04	• Means for supervising combustion, e.g. window ( <a href="#">alarm systems G08B</a> )
F23M 11/042	• • {Viewing ports of windows}
F23M 11/045	• • {by observing the flame}
F23M 11/047	• • {by observing the flue gas ( <a href="#">controlling combustion using gas detectors F23N 5/003</a> )}
<b>F23M 20/00</b>	<b>Details of combustion chambers, not otherwise provided for {, e.g. means for storing heat from flames}</b>
F23M 20/005	• {Noise absorbing means}
<b>F23M 2700/00</b>	<b>Constructional details of combustion chambers</b>
F23M 2700/005	• Structures of combustion chambers or smoke ducts
F23M 2700/0053	• • Bricks for combustion chamber walls
F23M 2700/0056	• • Bricks for water tube combustion chamber walls
F23M 2700/007	• Automatic fire extinguishing devices
F23M 2700/008	• Preventing outwards emission of flames or hot gases
<b>F23M 2900/00</b>	<b>Special features of, or arrangements for combustion chambers</b>
F23M 2900/05001	• Preventing corrosion by using special lining materials or other techniques
F23M 2900/05002	• Means for accommodate thermal expansion of the wall liner
F23M 2900/05003	• Details of manufacturing specially adapted for combustion chambers
F23M 2900/05004	• Special materials for walls or lining
F23M 2900/05005	• Sealing means between wall tiles or panels
F23M 2900/05021	• Wall blocks adapted for burner openings
F23M 2900/09061	• Moving baffles, e.g. rotating baffles, for creating vortices
F23M 2900/09062	• Tube-shaped baffles confining the flame ( <a href="#">flame tubes forming part of the burner head F23D 2900/11403</a> )
F23M 2900/11021	• Means for avoiding accidental fires in rooms where the combustion device is located
F23M 2900/11041	• Means for observing or monitoring flames using photoelectric devices, e.g. phototransistors
F23M 2900/13001	• Energy recovery by fuel cells arranged in the combustion plant
F23M 2900/13002	• Energy recovery by heat storage elements arranged in the combustion chamber

- F23M 2900/13003     • Energy recovery by thermoelectric elements, e.g. by Peltier/Seebeck effect, arranged in the combustion plant
- F23M 2900/13004     • Energy recovery by thermo-photo-voltaic [TPV] elements arranged in the combustion plant