

CPC**COOPERATIVE PATENT CLASSIFICATION****F23M**

CONSTRUCTIONAL DETAILS OF COMBUSTION CHAMBERS, NOT OTHERWISE PROVIDED FOR (construction or support of tube walls for steam boilers F22B; generating combustion products of high pressure or high velocity F23R)

F23M 3/00

Firebridges (baffles non confining the fire [F23M 9/06](#))

- [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 (casings, linings, or walls of heat-treatment chambers of ovens, kilns, or retorts F27D)

- [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 specially adapted for combustion chambers (in general E06B; for flues or smoke-boxes [F23J 13/08](#))

- [F23M 7/02](#) . Frames therefor
- [F23M 7/04](#) . Cooling doors or door frames

F23M 9/00**Baffles or deflectors for air or combustion products; 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 ([interconnection of such tubes in boilers for fluid flow F22](#))

F23M 11/00**Safety arrangements ([by controlling combustion F23N 5/24](#))**

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 ([alarm systems G08B](#))

F23M 11/042

- .. {Viewing ports of windows}

F23M 11/045

- .. {by observing the flame}

F23M 11/047

- .. {by observing the flue gas ([controlling combustion using gas detectors F23N 5/003](#))}

F23M 99/00**Subject matter not provided for in other groups of this subclass, { e.g. heat storage from flames}**

F23M 99/005

- . { Noise absorbing means}

F23M 2700/00**Constructional details of combustion chambers**

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

F23M 2900/00**Special features of, or arrangements for combustion chambers**

- 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 ([flame tubes forming part of the burner head F23D 2900/11403](#))
- 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