

**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	<ul style="list-style-type: none"> <li>in fire-boxes</li> </ul>
F23M 9/08	<ul style="list-style-type: none"> <li>Helical or twisted baffles or deflectors</li> </ul>
F23M 9/10	<ul style="list-style-type: none"> <li>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>)</li> </ul>
<b>F23M 11/00</b>	<b>Safety arrangements</b> ( <a href="#">structurally associated with burners 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	<ul style="list-style-type: none"> <li>Preventing emission of flames or hot gases, or admission of air, through working or charging apertures</li> </ul>
F23M 11/04	<ul style="list-style-type: none"> <li>Means for supervising combustion, e.g. window (<a href="#">alarm systems G08B</a>)</li> </ul>
F23M 11/042	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{<a href="#">Viewing ports of windows</a>}</li> </ul> </li> </ul>
F23M 11/045	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{<a href="#">by observing the flame</a>}</li> </ul> </li> </ul>
F23M 11/047	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>{<a href="#">by observing the flue gas (controlling combustion using gas detectors F23N 5/003)</a>}</li> </ul> </li> </ul>
<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	<ul style="list-style-type: none"> <li>{<a href="#">Noise absorbing means</a>}</li> </ul>
<b>F23M 2700/00</b>	<b>Constructional details of combustion chambers</b>
F23M 2700/005	<ul style="list-style-type: none"> <li>Structures of combustion chambers or smoke ducts</li> </ul>
F23M 2700/0053	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Bricks for combustion chamber walls</li> </ul> </li> </ul>
F23M 2700/0056	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Bricks for water tube combustion chamber walls</li> </ul> </li> </ul>
F23M 2700/007	<ul style="list-style-type: none"> <li>Automatic fire extinguishing devices</li> </ul>
F23M 2700/008	<ul style="list-style-type: none"> <li>Preventing outwards emission of flames or hot gases</li> </ul>
<b>F23M 2900/00</b>	<b>Special features of, or arrangements for combustion chambers</b>
F23M 2900/05001	<ul style="list-style-type: none"> <li>Preventing corrosion by using special lining materials or other techniques</li> </ul>
F23M 2900/05002	<ul style="list-style-type: none"> <li>Means for accommodate thermal expansion of the wall liner</li> </ul>
F23M 2900/05003	<ul style="list-style-type: none"> <li>Details of manufacturing specially adapted for combustion chambers</li> </ul>
F23M 2900/05004	<ul style="list-style-type: none"> <li>Special materials for walls or lining</li> </ul>
F23M 2900/05005	<ul style="list-style-type: none"> <li>Sealing means between wall tiles or panels</li> </ul>
F23M 2900/05021	<ul style="list-style-type: none"> <li>Wall blocks adapted for burner openings</li> </ul>
F23M 2900/09061	<ul style="list-style-type: none"> <li>Moving baffles, e.g. rotating baffles, for creating vortices</li> </ul>
F23M 2900/09062	<ul style="list-style-type: none"> <li>Tube-shaped baffles confining the flame (<a href="#">flame tubes forming part of the burner head F23D 2900/11403</a>)</li> </ul>
F23M 2900/11021	<ul style="list-style-type: none"> <li>Means for avoiding accidental fires in rooms where the combustion device is located</li> </ul>
F23M 2900/11041	<ul style="list-style-type: none"> <li>Means for observing or monitoring flames using photoelectric devices, e.g. phototransistors</li> </ul>
F23M 2900/13001	<ul style="list-style-type: none"> <li>Energy recovery by fuel cells arranged in the combustion plant</li> </ul>
F23M 2900/13002	<ul style="list-style-type: none"> <li>Energy recovery by heat storage elements arranged in the combustion chamber</li> </ul>
F23M 2900/13003	<ul style="list-style-type: none"> <li>Energy recovery by thermoelectric elements, e.g. by Peltier/Seebeck effect, arranged in the combustion plant</li> </ul>

- F23M 2900/13004 . Energy recovery by thermo-photo-voltaic (TPV) elements arranged in the combustion plant