

# 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	<ul style="list-style-type: none"> <li>in air inlets</li> </ul>
3/02	<ul style="list-style-type: none"> <li>modified for circulation of fluids, e.g. air, steam, water</li> </ul>		<b><u>WARNING</u></b>
3/04	<ul style="list-style-type: none"> <li>for delivery of gas, e.g. air, steam</li> </ul>		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	<ul style="list-style-type: none"> <li>into or towards fire</li> </ul>		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	<ul style="list-style-type: none"> <li>away from fire, e.g. towards smoke outlet</li> </ul>		
3/10	<ul style="list-style-type: none"> <li>transversely</li> </ul>		
3/12	<ul style="list-style-type: none"> <li>characterised by shape or construction</li> </ul>		
3/14	<ul style="list-style-type: none"> <li>with apertures for passage of combustion products</li> </ul>	9/04	<ul style="list-style-type: none"> <li>with air supply passages in the baffle or shield</li> </ul>
3/16	<ul style="list-style-type: none"> <li>built-up in sections, e.g. using bars or blocks</li> </ul>	9/06	<ul style="list-style-type: none"> <li>in fire-boxes</li> </ul>
3/18	<ul style="list-style-type: none"> <li>double; multiple</li> </ul>	9/08	<ul style="list-style-type: none"> <li>Helical or twisted baffles or deflectors</li> </ul>
3/20	<ul style="list-style-type: none"> <li>comprising loose refractory material, wholly or in part</li> </ul>	9/10	<ul style="list-style-type: none"> <li>Baffles or deflectors formed as tubes, e.g. in water-tube boilers</li> </ul>
3/22	<ul style="list-style-type: none"> <li>movable; adjustable</li> </ul>		
<b>5/00</b>	<b>Casings; Linings; Walls</b>	<b>11/00</b>	<b>Safety arrangements</b>
5/02	<ul style="list-style-type: none"> <li>characterised by the shape of the bricks or blocks used</li> </ul>	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>
5/025	<ul style="list-style-type: none"> <li>{specially adapted for burner openings}</li> </ul>	11/04	<ul style="list-style-type: none"> <li>Means for supervising combustion, e.g. windows</li> </ul>
5/04	<ul style="list-style-type: none"> <li>Supports for linings</li> </ul>	11/042	<ul style="list-style-type: none"> <li>{Viewing ports of windows}</li> </ul>
5/06	<ul style="list-style-type: none"> <li>Crowns or roofs for combustion chambers</li> </ul>	11/045	<ul style="list-style-type: none"> <li>{by observing the flame}</li> </ul>
5/08	<ul style="list-style-type: none"> <li>Cooling thereof; Tube walls</li> </ul>	11/047	<ul style="list-style-type: none"> <li>{by observing the flue gas (controlling combustion using gas detectors <a href="#">F23N 5/003</a>)}</li> </ul>
5/085	<ul style="list-style-type: none"> <li>{using air or other gas as the cooling medium}</li> </ul>		
<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	<ul style="list-style-type: none"> <li>Frames therefor</li> </ul>		
7/04	<ul style="list-style-type: none"> <li>Cooling doors or door frames</li> </ul>	20/005	<ul style="list-style-type: none"> <li>{Noise absorbing means}</li> </ul>
<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	<ul style="list-style-type: none"> <li>Structures of combustion chambers or smoke ducts</li> </ul>
		2700/0053	<ul style="list-style-type: none"> <li>Bricks for combustion chamber walls</li> </ul>
		2700/0056	<ul style="list-style-type: none"> <li>Bricks for water tube combustion chamber walls</li> </ul>
		2700/007	<ul style="list-style-type: none"> <li>Automatic fire extinguishing devices</li> </ul>
		2700/008	<ul style="list-style-type: none"> <li>Preventing outwards emission of flames or hot gases</li> </ul>
9/003	<ul style="list-style-type: none"> <li>{in flue gas ducts}</li> </ul>	<b>2900/00</b>	<b>Special features of, or arrangements for combustion chambers</b>
9/006	<ul style="list-style-type: none"> <li>{Backflow diverters}</li> </ul>		

## 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