

# 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>	<b>9/02</b>	<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 (<a href="#">F23M 3/02</a> takes precedence)</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 (<a href="#">interconnection of such tubes in boilers for fluid flow F22</a>)</li> </ul>
3/22	<ul style="list-style-type: none"> <li>movable; adjustable</li> </ul>		
<b>5/00</b>	<b>Casings; Linings; Walls</b> ( <a href="#">construction or support of tube walls for steam boilers F22B</a> )	<b>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> ; <a href="#">structurally associated with igniters F23Q</a> )
5/02	<ul style="list-style-type: none"> <li>characterised by the shape of the bricks or blocks used (<a href="#">ceramic materials C04B 33/00</a>, <a href="#">C04B 35/00</a>)</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>{<a href="#">specially adapted for burner openings</a>}</li> </ul>	11/04	<ul style="list-style-type: none"> <li>Means for supervising combustion, e.g. window (<a href="#">alarm systems G08B</a>)</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>{<a href="#">Viewing ports of windows</a>}</li> </ul>
5/06	<ul style="list-style-type: none"> <li>Crowns or roofs for combustion chambers (<a href="#">F23M 5/02</a>, <a href="#">F23M 5/04</a> take precedence)</li> </ul>	11/045	<ul style="list-style-type: none"> <li>{<a href="#">by observing the flame</a>}</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>{<a href="#">by observing the flue gas (controlling combustion using gas detectors F23N 5/003)</a>}</li> </ul>
5/085	<ul style="list-style-type: none"> <li>{<a href="#">using air or other gas as the cooling medium</a>}</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>	20/005	<ul style="list-style-type: none"> <li>{<a href="#">Noise absorbing means</a>}</li> </ul>
7/04	<ul style="list-style-type: none"> <li>Cooling doors or door frames</li> </ul>		
<b>9/00</b>	<b>Baffles or deflectors for air or combustion products</b> ( <a href="#">structurally associated with burners F23D</a> ); <b>Flame shields</b>		
9/003	<ul style="list-style-type: none"> <li>{<a href="#">in flue gas ducts</a>}</li> </ul>	<b>2700/00</b>	<b>Constructional details of combustion chambers</b>
9/006	<ul style="list-style-type: none"> <li>{<a href="#">Backflow diverters</a>}</li> </ul>	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 . Preventing outwards emission of flames or hot gases

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

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