

# 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	. in air inlets
3/02	. modified for circulation of fluids, e.g. air, steam, water		<b><u>WARNING</u></b>
3/04	. . for delivery of gas, e.g. air, steam		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	. . . into or towards fire		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	. . . away from fire, e.g. towards smoke outlet		
3/10	. . . transversely		
3/12	. characterised by shape or construction		
3/14	. . with apertures for passage of combustion products	9/04	. with air supply passages in the baffle or shield
3/16	. . built-up in sections, e.g. using bars or blocks	9/06	. in fire-boxes
3/18	. . double; multiple	9/08	. Helical or twisted baffles or deflectors
3/20	. . comprising loose refractory material, wholly or in part	9/10	. Baffles or deflectors formed as tubes, e.g. in water-tube boilers
3/22	. movable; adjustable		
<b>5/00</b>	<b>Casings; Linings; Walls</b>	<b>11/00</b>	<b>Safety arrangements</b>
5/02	. characterised by the shape of the bricks or blocks used	11/02	. Preventing emission of flames or hot gases, or admission of air, through working or charging apertures
5/025	. . {specially adapted for burner openings}	11/04	. Means for supervising combustion, e.g. windows
5/04	. Supports for linings	11/042	. . {Viewing ports of windows}
5/06	. Crowns or roofs for combustion chambers	11/045	. . {by observing the flame}
5/08	. Cooling thereof; Tube walls	11/047	. . {by observing the flue gas (controlling combustion using gas detectors <a href="#">F23N 5/003</a> )}
5/085	. . {using air or other gas as the cooling medium}		
<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	. Frames therefor		
7/04	. Cooling doors or door frames	20/005	. {Noise absorbing means}
<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	. Structures of combustion chambers or smoke ducts
9/003	. {in flue gas ducts}	2700/0053	. . Bricks for combustion chamber walls
9/006	. . {Backflow diverters}	2700/0056	. . Bricks for water tube combustion chamber walls
		2700/007	. Automatic fire extinguishing devices
		2700/008	. Preventing outwards emission of flames or hot gases
		<b>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
- 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