

# CPC COOPERATIVE PATENT CLASSIFICATION

## F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING (NOTE omitted)

### LIGHTING; HEATING

## F22 STEAM GENERATION (NOTE omitted)

## F22G SUPERHEATING OF STEAM (steam separating arrangements in boilers [F22B 37/26](#))

### 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.

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| <p><b>1/00</b>     <b>Steam superheating characterised by heating method</b> (exothermal chemical reactions not involving a supply of free oxygen gas, apparatus or devices for using the heat therefrom <a href="#">F24V 30/00</a>)</p> <p>1/005     . {the heat being supplied by steam}</p> <p>1/02     . with heat supply by hot flue gases from the furnace of the steam boiler</p> <p>1/04     . . by diverting flow or hot flue gases to separate superheaters operating in reheating cycle, e.g. for reheating steam between a high-pressure turbine stage and an intermediate turbine stage</p> <p>1/06     . with heat supply predominantly by radiation</p> <p>1/08     . . from heated brickwork or the like</p> <p>1/10     . with provision for superheating by throttling</p> <p>1/12     . by mixing steam with furnace gases or other combustion products</p> <p>1/14     . using heat generated by chemical reactions</p> <p>1/16     . by using a separate heat source independent from heat supply of the steam boiler, e.g. by electricity, by auxiliary combustion of fuel oil</p> <p>1/165     . . {by electricity (steam generation in boilers heated electrically, in general, <a href="#">F22B 1/28</a>)}</p> <p><b>3/00</b>     <b>Steam superheaters characterised by constructional features; Details of component parts thereof</b> (general aspects of enclosed heat-exchangers <a href="#">F28D</a>)</p> <p>3/001     . {Steam tube arrangements not dependent of location (characterised by location <a href="#">F22G 7/00</a>)}</p> <p>3/002     . . {with helical steam tubes}</p> <p>3/003     . {Superheater drain arrangements}</p> <p>3/004     . {Steam tubes with steam flowing in opposite directions in one pipe, e.g. Field tubes (<a href="#">F22G 3/005</a> takes precedence)}</p> <p>3/005     . {Annular steam tubes, i.e. the steam being heated between concentric tubes with the heating fluid flowing in inner and around outer tube}</p> <p>3/006     . {Steam superheaters with heating tubes (<a href="#">F22G 3/005</a> takes precedence)}</p> <p>3/007     . {Headers; Collectors, e.g. for mixing}</p> <p>3/008     . {Protection of superheater elements, e.g. cooling superheater tubes during starting-up periods, water tube screens}</p> | <p>3/009     . {Connecting or sealing of superheater or reheater tubes with collectors or distributors}</p> <p><b>5/00</b>     <b>Controlling superheat temperature</b> (control systems for steam boilers <a href="#">F22B</a>; regulating or controlling in general <a href="#">G05</a>)</p> <p>5/02     . Applications of combustion-control devices, e.g. tangential-firing burners, tilting burners</p> <p>5/04     . by regulating flue gas flow, e.g. by proportioning or diverting</p> <p>5/06     . by recirculating flue gases</p> <p>5/08     . . preventing furnace gas backflow through recirculating fan</p> <p>5/10     . by displacing superheater sections</p> <p>5/12     . by tempering the superheated steam, e.g. by injected water sprays (spray mixers <a href="#">B01F 5/18</a>)</p> <p>5/123     . . {Water injection apparatus}</p> <p>5/126     . . . {in combination with steam-pressure reducing valves}</p> <p>5/14     . . by live steam</p> <p>5/16     . by indirectly cooling or heating the superheated steam in auxiliary enclosed heat-exchanger</p> <p>5/18     . by by-passing steam around superheater sections</p> <p>5/20     . by combined controlling procedures</p> <p><b>7/00</b>     <b>Steam superheaters characterised by location, arrangement, or disposition</b></p> <p>7/005     . {for locomotive boilers (<a href="#">F22G 7/065</a>, <a href="#">F22G 7/105</a> take precedence)}</p> <p>7/02     . in fire tubes</p> <p>7/04     . in jackets around fire tubes</p> <p>7/06     . in furnace tubes</p> <p>7/065     . . {for locomotive boilers}</p> <p>7/08     . in fire-boxes</p> <p>7/10     . in smoke-boxes</p> <p>7/105     . . {for locomotive boilers}</p> <p>7/12     . in flues</p> <p>7/14     . in water-tube boilers, e.g. between banks of water tubes</p> <p>7/145     . . {of inclined type, i.e. the water-tube sets being inclined with respect to the horizontal plane}</p> |
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