F22G COOPERATIVE PATENT CLASSIFICATION

F MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

(LIGHTING; HEATING)

F22 STEAM GENERATION

(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.

1/00 Steam superheating characterised by heating method (exothermal chemical reactions not involving a supply of free oxygen gas, apparatus or devices for using the heat therefrom F24V 3/00)

1/02 . (the heat being supplied by steam)

1/04 . by diverting flow or hot flue gases from the furnace of the steam boiler

1/06 . with heat supply predominantly by radiation

1/08 . from heated brickwork or the like

1/10 . with provision for superheating by throttling

1/12 . by mixing steam with furnace gases or other combustion products

1/14 . using heat generated by chemical reactions

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

1/165 . (by electricity (steam generation in boilers heated electrically, in general, F22B 1/28))

3/00 Steam superheaters characterised by constructional features; Details of component parts thereof (general aspects of enclosed heat-exchangers F28D)

3/001 . (Steam tube arrangements not dependent of location (characterised by location F22G 7/00))

3/002 . . (with helical steam tubes)

3/003 . [Superheater drain arrangements]

3/004 . (Steam tubes with steam flowing in opposite directions in one pipe, e.g. Field tubes (F22G 3/005 takes precedence))

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]

3/006 . (Steam superheaters with heating tubes (F22G 3/005 takes precedence))

3/007 . [Headers; Collectors, e.g. for mixing]

3/008 . [Protection of superheater elements, e.g. cooling superheater tubes during starting-up periods, water tube screens]

3/009 . (Connecting or sealing of superheater or reheater tubes with collectors or distributors)

5/00 Controlling superheat temperature (control systems for steam boilers F22B: regulating or controlling in general G05)

5/02 . Applications of combustion-control devices, e.g. tangential-firing burners, tilting burners

5/04 . by regulating flue gas flow, e.g. by proportioning or diverting

5/06 . by recirculating flue gases

5/08 . preventing furnace gas backflow through recirculating fan

5/10 . by displacing superheater sections

5/12 . by attemperating the superheated steam, e.g. by injected water sprays (spray mixers B01F 5/18)

5/123 . . [Water injection apparatus]

5/126 . . . [in combination with steam-pressure reducing valves]

5/14 . by live steam

5/16 . by indirectly cooling or heating the superheated steam in auxiliary enclosed heat-exchanger

5/18 . by by-passing steam around superheater sections

5/20 . by combined controlling procedures

7/00 Steam superheaters characterised by location, arrangement, or disposition

7/005 . (for locomotive boilers (F22G 7/065, F22G 7/105 take precedence))

7/02 . in fire tubes

7/04 . in jackets around fire tubes

7/06 . in furnace tubes

7/065 . . . [for locomotive boilers]

7/08 . in fire-boxes

7/10 . in smoke-boxes

7/105 . . . [for locomotive boilers]

7/12 . in flues

7/14 . in water-tube boilers, e.g. between banks of water tubes

7/145 . . . [of inclined type, i.e. the water-tube sets being inclined with respect to the horizontal plane]