

# CPC COOPERATIVE PATENT CLASSIFICATION

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

### LIGHTING; HEATING

#### F28 HEAT EXCHANGE IN GENERAL (NOTES omitted)

#### F28C HEAT-EXCHANGE APPARATUS, NOT PROVIDED FOR IN ANOTHER SUBCLASS, IN WHICH THE HEAT-EXCHANGE MEDIA COME INTO DIRECT CONTACT WITHOUT CHEMICAL INTERACTION (safety devices in general [F16P](#); fluid heaters having heat generating means [F24H](#); with an intermediate heat-transfer medium coming into direct contact with heat-exchange media [F28D 15/00](#) - [F28D 19/00](#); details of heat-exchange apparatus of general application [F28F](#))

##### 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></p> <p>1/003</p> <p>2001/006</p> <p>1/02</p> <p>1/04</p> <p>1/06</p> <p>1/08</p> <p>1/10</p> <p>1/12</p> <p>1/14</p> <p>2001/145</p> <p>1/16</p> <p><b>3/00</b></p> <p>3/005</p> <p>3/02</p> <p>3/04</p> <p>3/06</p> <p>3/08</p> <p>3/10</p> <p>3/12</p> | <p><b>Direct-contact trickle coolers, e.g. cooling towers</b><br/>(building construction <a href="#">E04H 5/12</a>; enclosed spaces cooled by trickle <a href="#">F25</a>; components parts of trickle coolers <a href="#">F28F 25/00</a>; {indirect-contact cooling towers <a href="#">F28B 1/06</a>})</p> <p>. {comprising outlet ducts for exhaust gases}</p> <p>. {Systems comprising cooling towers, e.g. for recooling a cooling medium}</p> <p>. with counter-current only</p> <p>. with cross-current only</p> <p>. with both counter-current and cross-current</p> <p>. Arrangements for recovering heat from exhaust steam</p> <p>. Arrangements for suppressing noise</p> <p>. Arrangements for preventing clogging by frost</p> <p>. comprising also a non-direct contact heat exchange</p> <p>. . {with arrangements of adjacent wet and dry passages}</p> <p>. Arrangements for preventing condensation, precipitation or mist formation, outside the cooler (<a href="#">F28C 1/14</a> takes precedence)</p> <p><b>Other direct-contact heat-exchange apparatus</b></p> <p>. {one heat-exchange medium being a solid (<a href="#">F28C 3/10</a> takes precedence)}</p> <p>. the heat-exchange media both being gases or vapours</p> <p>. the heat-exchange media both being liquids</p> <p>. the heat-exchange media being a liquid and a gas or vapour (temperators for cooling steam <a href="#">F22</a>)</p> <p>. . with change of state, e.g. absorption, evaporation, condensation (generating steam under pressure <a href="#">F22</a>)</p> <p>. one heat-exchange medium at least being a fluent solid, e.g. a particulate material</p> <p>. . the heat-exchange medium being a particulate material and a gas, vapour, or liquid</p> | <p>3/14</p> <p>3/16</p> <p>3/18</p> | <p>. . . the particulate material moving by gravity, e.g. down a tube</p> <p>. . . the particulate material forming a bed, e.g. fluidised, on vibratory sieves</p> <p>. . . the particulate material being contained in rotating drums</p> |
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