

# CPC COOPERATIVE PATENT CLASSIFICATION

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

### LIGHTING; HEATING

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

#### F28B STEAM OR VAPOUR CONDENSERS (condensation of vapours [B01D 5/00](#); steam engine plants having condensers [F01K](#); liquefaction of gases [F25J](#); details of heat-exchange and heat-transfer arrangements 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.

##### 1/00 Condensers in which the steam or vapour is separate from the cooling medium by walls, e.g. surface condenser

- 1/02 . using water or other liquid as the cooling medium
- 1/04 . . employing moving walls
- 1/06 . using air or other gas as the cooling medium

##### NOTE

This group covers also air cooled heat exchangers for which the use as condenser is not explicitly specified, but the configuration is similar to air cooled condensers, e.g. dry cooling towers

- 9/10 . for extracting, cooling, and removing non-condensable gases

##### 11/00 Controlling arrangements with features specially adapted for condensers ([control arrangements in general G05](#))

- 2001/065 . . {with secondary condenser, e.g. reflux condenser or dephlegmator}

- 1/08 . . employing moving walls

##### 3/00 Condensers in which the steam or vapour comes into direct contact with the cooling medium

- 3/02 . by providing a flowing coating of cooling liquid on the condensing surface
- 3/04 . by injecting cooling liquid into the steam or vapour ([F28B 3/08](#) takes precedence)
- 3/06 . by injecting the steam or vapour into the cooling liquid ([F28B 3/08](#) takes precedence)
- 3/08 . with rotatable members

##### 5/00 Condensers employing a combination of the methods covered by main groups [F28B 1/00](#) and [F28B 3/00](#); Other condensers

##### 7/00 Combinations of two or more condensers, e.g. provision of reserve condenser

##### 9/00 Auxiliary systems, arrangements, or devices

- 9/005 . {for protection against freezing}
- 9/02 . for feeding steam or vapour to condensers
- 9/04 . for feeding, collecting, and storing cooling water or other cooling liquid
- 9/06 . . with provision for re-cooling the cooling water or other cooling liquid
- 9/08 . for collecting and removing condensate