

# CPC COOPERATIVE PATENT CLASSIFICATION

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

### LIGHTING; HEATING

**F24 HEATING; RANGES; VENTILATING** (protecting plants by heating in gardens, orchards, or forests [A01G 13/06](#); baking ovens and apparatus [A21B](#); cooking devices other than ranges [A47J](#); forging [B21J](#), [B21K](#); specially adapted for vehicles, see the relevant subclasses of [B60](#) - [B64](#); combustion apparatus in general [F23](#); drying [F26B](#); ovens in general [F27](#); electric heating elements and arrangements [H05B](#))  
(NOTE omitted)

## F24T GEOTHERMAL COLLECTORS; GEOTHERMAL SYSTEMS

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>10/00 Geothermal collectors</b></p> <p><b>WARNING</b></p> <p>Group <a href="#">F24T 10/00</a> is impacted by reclassification into groups <a href="#">F24T 10/10</a>, <a href="#">F24T 10/30</a>, <a href="#">F24T 10/40</a>, and <a href="#">F24T 50/00</a>.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>                                                                                                                                                                                                                                          | <p>10/30</p>   | <ul style="list-style-type: none"> <li>• using underground reservoirs for accumulating working fluids or intermediate fluids</li> </ul> <p><b>WARNING</b></p> <p>Group <a href="#">F24T 10/30</a> is incomplete pending reclassification of documents from groups <a href="#">F24T 10/00</a> and <a href="#">F24T 10/10</a>.</p> <p>Group <a href="#">F24T 10/30</a> is also impacted by reclassification into group <a href="#">F24T 10/40</a>.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p> |
| <p>10/10</p> <ul style="list-style-type: none"> <li>• with circulation of working fluids through underground channels, the working fluids not coming into direct contact with the ground</li> </ul> <p><b>WARNING</b></p> <p>Group <a href="#">F24T 10/10</a> is incomplete pending reclassification of documents from group <a href="#">F24T 10/00</a>.</p> <p>Group <a href="#">F24T 10/10</a> is also impacted by reclassification into groups <a href="#">F24T 10/30</a> and <a href="#">F24T 10/40</a>.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p> | <p>10/40</p>   | <ul style="list-style-type: none"> <li>• operated without external energy sources, e.g. using thermosiphonic circulation or heat pipes</li> </ul> <p><b>WARNING</b></p> <p>Group <a href="#">F24T 10/40</a> is incomplete pending reclassification of documents from groups <a href="#">F24T 10/00</a>, <a href="#">F24T 10/10</a>, and <a href="#">F24T 10/30</a>.</p> <p>All groups listed in this Warning should be considered in order to perform a complete search.</p>                                                                              |
| <p>10/13</p> <ul style="list-style-type: none"> <li>• . . using tube assemblies suitable for insertion into boreholes in the ground, e.g. geothermal probes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                | <p>2010/50</p> | <ul style="list-style-type: none"> <li>• {Component parts, details or accessories}</li> </ul> <p><b>WARNING</b></p> <p>Group <a href="#">F24T 50/00</a> is incomplete pending reclassification of documents from group <a href="#">F24T 10/00</a>.</p> <p>Groups <a href="#">F24T 10/00</a> and <a href="#">F24T 50/00</a> should be considered in order to perform a complete search.</p>                                                                                                                                                                |
| <p>10/15</p> <ul style="list-style-type: none"> <li>• . . . using bent tubes; using tubes assembled with connectors or with return headers</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>10/17</p> <ul style="list-style-type: none"> <li>• . . . using tubes closed at one end, i.e. return-type tubes</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>10/20</p> <ul style="list-style-type: none"> <li>• using underground water as working fluid; using working fluid injected directly into the ground, e.g. using injection wells and recovery wells</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                       |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>2010/53</p> | <ul style="list-style-type: none"> <li>• . . {Methods for installation}</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>2010/56</p> | <ul style="list-style-type: none"> <li>• . . {Control arrangements}</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## F24T

**50/00** **Geothermal systems** (for producing mechanical power from geothermal energy {[F03G 7/04](#)})

### **WARNING**

Group [F24T 50/00](#) is incomplete pending reclassification of documents from group [F24T 10/00](#).

Groups [F24T 10/00](#) and [F24T 50/00](#) should be considered in order to perform a complete search.

**2201/00** **Prediction; Simulation**