

second evaporative cooler 120 to cool the waterflow 10 through the first evaporative cooler 110 in block 2100. Method 2000 further includes receiving the airflow 20 through the second evaporative cooler 120 to cool the waterflow 10 from the first evaporative cooler 110 through the second evaporative cooler 120 in block 2200. Method 2000 further includes deflecting the waterflow 10 from the first evaporative cooler 110 to the first evaporative cooler 110 and allowing the airflow 20 from the second evaporative cooler 120 to the first evaporative cooler 110 by a deflector 130 in block 2300. As described, the first evaporative cooler 110 may be adapted to allow the waterflow 10 from the plurality nozzles 142N to flow downwardly therethrough and the airflow 20 from the deflector 130 to flow upwardly therethrough. In this way, the first evaporative cooler 110 may be adapted to allow a counterflow between the waterflow 10 and the airflow 20. Consequently, the waterflow 10 may be cooled evaporatively as the airflow 20 passes through it. Second evaporative cooler 120 may be adapted to allow the waterflow 10 from the first evaporative cooler 110 to flow downwardly therethrough and the airflow 20 to flow across therethrough. In this way, the second evaporative cooler 120 may be adapted to allow a crossflow between the waterflow 10 and the airflow 20. Consequently, the waterflow 10 may be cooled evaporatively as the airflow 20 passes it. As such, the cooling apparatus 100 may be a two-stage cross-counter flow cooling apparatus 100.

[0034] When the cooling apparatus 100 is in operation, the waterflow 10, which may come from a heat source, e.g. condensers of buildings, has a relatively high temperature and may be channelled into the chamber 140 of the cooling apparatus 100. First evaporative cooler 110 may be adapted to receive the “heated” waterflow 10 therethrough. As the water is being sprayed from the plurality of nozzles 142N, it enters from top side of the first evaporative cooler 110 and exits from its bottom side. At the same time, the second evaporative cooler 120 may be adapted to receive the airflow 20 therethrough from the ambient air. As the airflow 20 from the second evaporative cooler 120 flows from the bottom side of the first evaporative cooler 110 and exits its top side, the airflow 20 evaporatively cools the waterflow 10 therethrough, i.e. counterflow. The downward waterflow 10 is made to contact the upward airflow 20 thus cooling down the waterflow 10 therethrough. The temperature of the waterflow 10 that exits the first evaporative cooler 110 is cooler than the temperature of the “heated” waterflow 10 that enters the first evaporative cooler 110. In turn, the airflow 20 is heated to nearly the temperature of the incoming waterflow 10 and is saturated with water vapour. In this way, the thermal cooling capacity of the first evaporative cooler 110 is maximized. Preferably,