



ABSTRACT

ELECTRICAL APPLIANCE USING THERMAL CONDUCTOR

In an electrical appliance, a thermal conductor (1) includes a hollow heat-conducting member (11) that has inner and outer walls (111, 112) confining an enclosed chamber (113) therebetween, and a superconductor (12) disposed in the chamber (113). A heat-insulating layer (2) is provided on an outer peripheral surface (1121) of the outer wall (112). A temperature control device (3) includes a thermoelectric unit (31) disposed on and in thermal communication with the outer wall (112) of the heat-conducting member (11). A control unit (32) is connected to the thermoelectric unit (31) and is operable so as to enable the thermoelectric unit (31) to operate in either a heat-absorbing mode, where the thermoelectric unit (31) absorbs heat from the thermal conductor so as to reduce temperature in the heat-conducting member (11), or a heat-radiating mode, where the thermoelectric unit (31) radiates heat to the thermal conductor (1). A power source (37) is connected to the temperature control device (3) for supplying electric power thereto.

Figure 2 is suggested for publication.

