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(54) Title: PORTABLE WATER PURIFICATION APPARATUS

(57) Abstract

A water purification apparatus (10) positionable on an existing dispenser (158) has a valve control member (154) positionable in the water plenum of the dispenser to control release of purified water from the apparatus to the dispenser. A feedwater tank (26) receives supply water which is fed to a water level control tank (52) to maintain the water level in the boiler (60) of the apparatus above the heating element. The control tank includes a partition separating a main reservoir (68) from a de-foamer control chamber (70) within which anti-foaming agent may be added. Water exiting the reservoir enters the boiler where it evaporates and the vapors enter a condenser (114) where the vapor condenses into water. The condenser (114) is coiled into a number of convolutions about a central opening (115) and has external heat exchanger fins (116). An end cap assembly (118, 126, 130, 134, 136) closes the central opening (124) except for a small portion through which air is blown by a fan so that substantially all of the air flows over the fins. The boiler is a cylindrical container having a peripheral lip (96) about an open end on which a lid (94) having a steam outlet tube (100) is positioned. The lid is secured in sealing relationship with the lip by a coil spring (104) urged by a bar (106) having clamps (108) which grasp the peripheral lip (96).

