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(54) Title of the Invention: **Heating system for heating potable water**
Abstract Title: **Heating system for heating potable water**

(57) The present invention provides a heating system for heating potable water. Accordingly, the heating system (100) includes: (i) a boiler or storage tank (120a) with at least one liquid diffuser (130); and (ii) at least one heating element (140) for hot water production; characterised in that the liquid diffuser (130) comprises: a dome-shaped body (132); a plate (150) covering a base of the body (132) to enclose a hollow space between the body (132) and the plate (150), wherein the plate (150) has a central hole (152) and a plurality of arcuate cut-offs (154) along a circumference of the plate (150), forming a plurality of arcuate openings along intersection between the base of the body (132) and the plate (150). It should be noted that the liquid diffuser (130) of the present invention enables ambient or cold water from the inlet (200) to be uniformly introduced into the tank (120a) in a consistent downstream flow (220) of reduced velocity, such that formation of turbulence or forced convection flow within the tank (120a) can be minimised, and hence preserving smooth, divided layers (240) between the hot and cold water to form a stratified tank (120b).

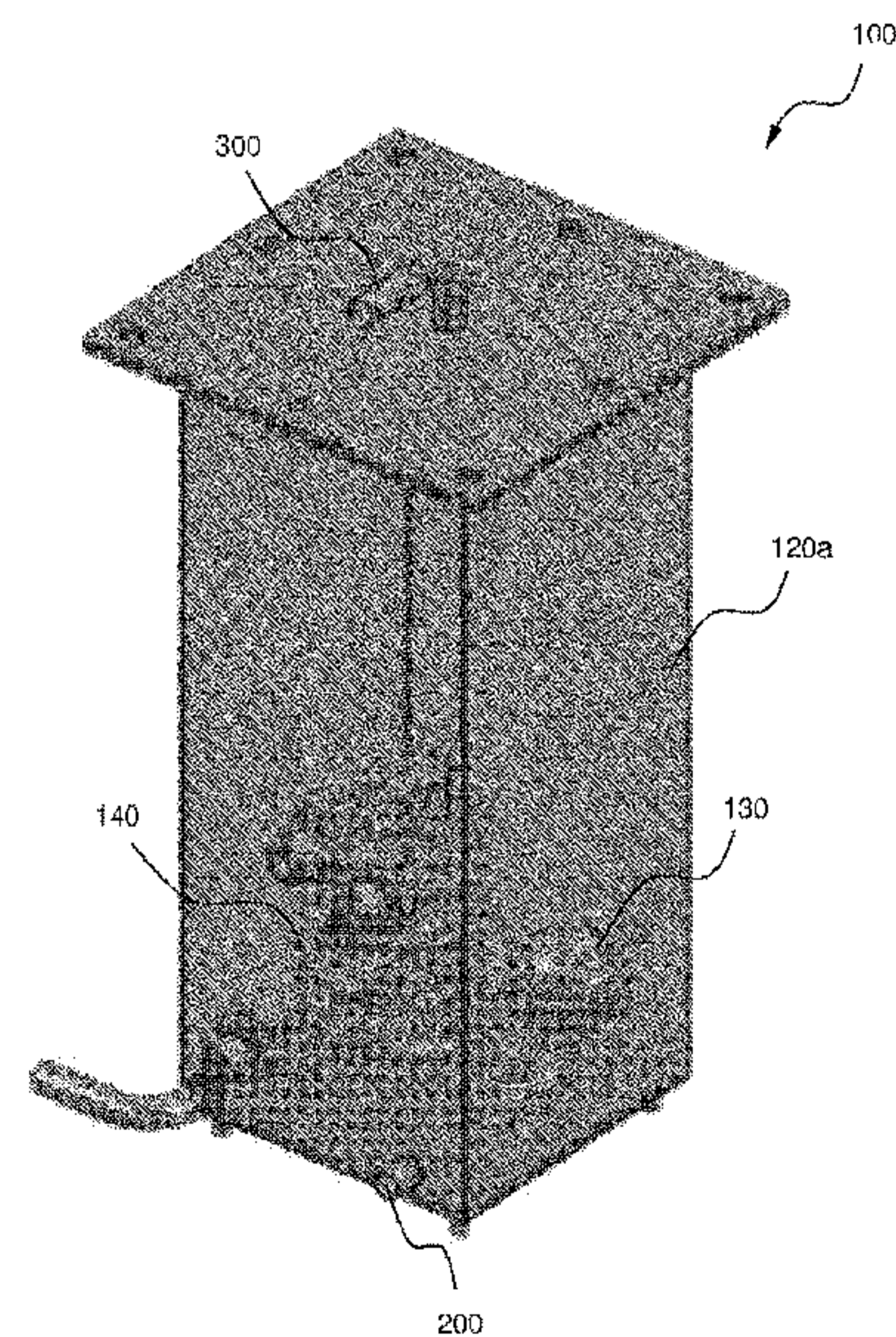


FIG. 1

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