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[Continued on next page]

(54) Title: HEAT TRACING APPARATUS INCLUDING A THERMOELECTRIC GENERATOR

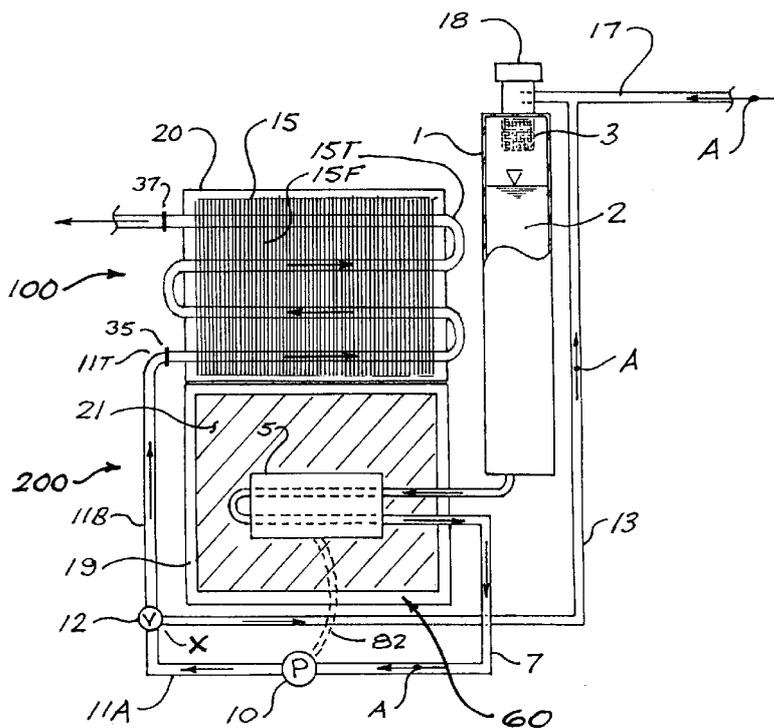


FIG. 3

(57) Abstract: In a heat tracing system using heat from a radiant heater to heat a circulating fluid, thermoelectric generation modules are used to generate electricity for powering a circulating pump. Thermoelectric power generation modules are sandwiched between a heat-absorbing plate and a heat sink, and this assembly is positioned with the heat-absorbing plate adjacent to a radiant heater. A conduit loop passes through the heat sink, such that a fluid circulating through the conduit is heated from heat drawn from the heater into the heat sink. Due to the temperature differential between the hot and cold sides of the thermoelectric modules, the modules produce electricity to power the pump circulating the fluid through the conduit loop. Supplementary heat exchanger components may be provided for additional fluid-heating capacity, and thereby increasing the amount of heat available for the heat tracing loop.

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