Dec. 30, 1930. G. CRAIG 1,787,146

TEMPERATURE REGULATOR

Filed June 8, 1928

Fig. 1.

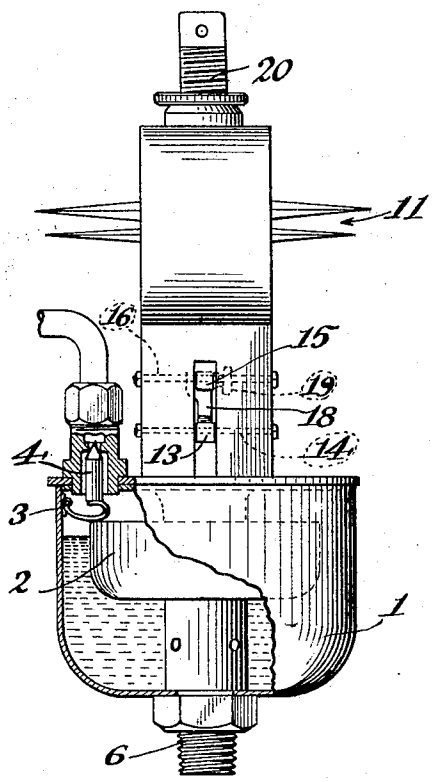
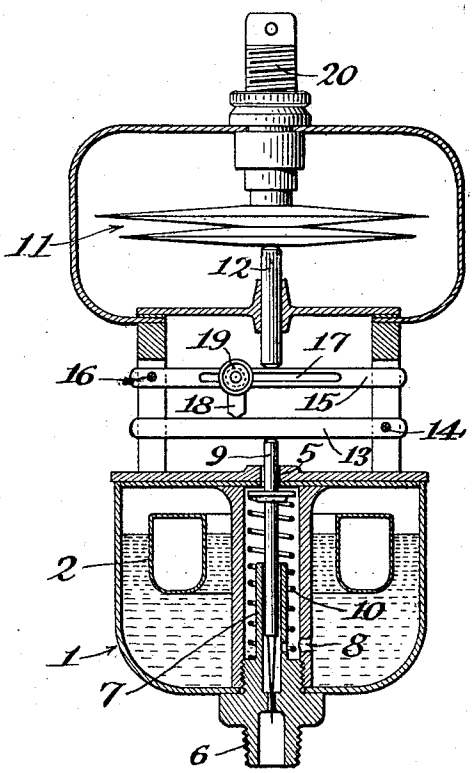


Fig. 2.



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TEMPERATURE REGULATOR

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The invention relates to improvements in temperature regulators, used to regulate the temperature of a room, the oil burning stove controlled by this regulator usually being supplied with kerosene or distillate for fuel.

One form of the invention is illustrated in the accompanying drawing, in which Figure 1 is a side view and Figure 2 is a vertical section taken through the center of my improved temperature regulator.

Figure 1: At 1 is shown a bowl, containing a float, 2, hinged at 3. The purpose of said float is to operate the needle valve 4, which controls the flow of oil to the bowl. The purpose of the above mentioned combination is to maintain an even and unvariable pressure of oil at the point of needle valve 9, on Figure 2, and to prevent leaking of oil around needle valve 9 at point 5.

At 6, Figure 2, is shown a union, which unites the bowl with the upper structure, the lower end being threaded to receive a pipe which leads to a burner. Attached to the upper end of said union is a hollow stem, 7, with holes at 8 to admit oil. Said stem 7 is to be a guide for the needle valve 9 and a spring 10 to raise the needle valve.

At 11, Figure 2, is shown an ether filled thermostat which expands downward as the temperature of a room rises, and pushes down the stem 12, which in turn will gradually close the needle valve 9, thereby diminishing the flow of oil to the burner.

Interposed between the needle valve 9 and the stem 12 are two square metal bars. The lower one, 13, is hinged at one end, 14, and free at the other end. The upper one, 15, is hinged at one end 16 and free at the opposite end, with an oblong opening at the centre as shown at 17.

The pin shown at 18 is adjustable horizontally on the bar 15 and can be retained after adjustment by a small screw, shown at 19, Figure 1. The purpose of these two bars and the movable pin is to adjust the regulator. When the pin 18 is moved to the right the travel of the needle valve 9 will be increased and when moved to the left, it will be decreased.

I am aware that other regulators are made which are operated by ether thermostats, as shown at 11, Figure 2, and an adjusting screw, as shown at 20, Figure 2.

I claim:

1. In a temperature regulator, a bowl adapted to contain liquid, said bowl having an outlet, a spring held needle valve controlling said outlet, a lever fulcrumed at one end and bearing on said needle valve, a second lever arranged above the first mentioned lever, which second mentioned lever is fulcrumed at one end, a pin adjustably mounted on the intermediate portion of the second mentioned lever and adapted to engage the intermediate portion of the first mentioned lever, a push rod bearing on the intermediate portion of the second mentioned lever and a thermostat adapted to engage said push rod.

2. In a temperature regulator, a bowl adapted to contain fluid, said bowl having an outlet, a needle valve for closing said outlet, a spring associated with said needle valve for normally holding the same in open position, a lever bearing on top of the needle valve, a second lever arranged above the first mentioned lever, said second mentioned lever being provided with a longitudinally disposed slot, a depending pin adjustably arranged in said slot and adapted to bear on the intermediate portion of the first mentioned lever and thermostatically actuated means for exerted downward pressure upon the intermediate portion of the second mentioned lever.

3. In a temperature regulator, a bowl provided with an inlet and an outlet, a valve controlling said inlet, a float arranged within the bowl and adapted when elevated to engage and close the valve that controls said inlet, a spring held needle valve controlling the outlet from the bowl, a fulcrumed lever bearing on said needle valve, a second fulcrumed lever arranged above the first mentioned lever, a pin adjustably mounted on the second mentioned lever and adapted to engage on the intermediate portion of the first mentioned lever and thermostatically actuated means for exerting pressure on the intermediate portion of the second mentioned lever.

4. In a temperature regulator, a bowl provided with an inlet and an outlet, a valve controlling said inlet, a float arranged within the bowl and adapted when elevated to engage and close the valve that controls said inlet, a spring held needle valve controlling the outlet from the bowl, a fulcrumed lever bearing on said needle valve, a second fulcrumed lever arranged above the first mentioned lever, a pin adjustably mounted on the second mentioned lever and adapted to engage on the intermediate portion of the first mentioned lever, a push rod adapted to engage the intermediate portion of said second mentioned lever, a bearing for said push rod and a thermostat bearing on top of said push rod.

5. In a temperature regulator, a bowl provided with an outlet, a spring held needle valve controlling said outlet, a pair of posts on top of the bowl on opposite sides of the needle valve, a lever fulcrumed to one of said posts and bearing on said needle valve, a lever fulcrumed to the other one of said posts and arranged above the first mentioned lever, a pin adjustably arranged on the intermediate portion of the second mentioned lever and adapted to engage the intermediate portion of the first mentioned lever, a push rod adapted to engage the intermediate portion of the upper one of the levers and a thermostat adapted to engage said push rod.

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