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(54) **Heat distributor for personal use**

(57) It is a heat distributor for personal use which comprises a reservoir for water or other fluid, arranged into a container. The fluid is electrically heated through electrical resistors arranged into the reservoir and a circulation pump makes the fluid flow from the reservoir, through a tubular flue, into a heat storage member, consisting for example of a portion of tubular element shaped as a spiral. The latter is connected to the above reservoir through a further return flue. The heat is distributed through outside delivery starting from the storage member. Thanks to such device it is possible to easily and safely obtain the heating of surfaces of sofas, beds and the like, for a greater comfort of its user, in particular during winter season.

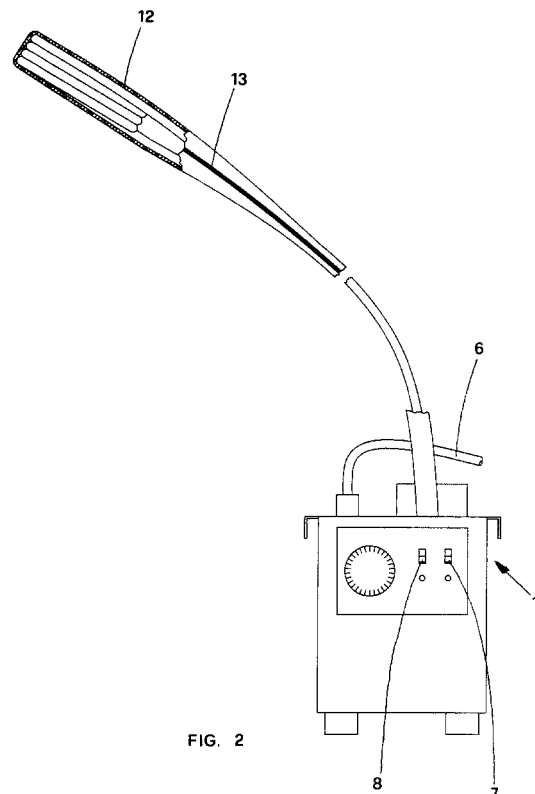


FIG. 2

Description

[0001] The present invention relates to a heat distributor for personal use.

[0002] Everybody knows by direct experience that sometimes we must lay part of our body, or even all our body on cold surfaces, in particular during cold season.

[0003] By way of an example we can mention the case in which we must sit on a sofa or on a chair, or even when we must lie down under the blankets of a bed.

[0004] To try to heat the surfaces of these objects before using them it is possible to use bags filled with hot water, which however exhibit the disadvantage of being susceptible of opening, thus pouring the content onto the surface to be heated, with easily imaginable consequences.

[0005] As an alternative it is possible to use heat pads or electrically heated blankets; however, also such devices exhibit a considerable disadvantage, consisting of the possibility of causing short circuits with consequent risk of combustion of the objects on which they are arranged, or electrocution of the user.

[0006] Purpose of the present finding is that of providing a device capable of distributing heat for personal use, similarly to the devices described above, which should be free from the disadvantages described above and which should be simple from the construction and functional point of view, as well as intrinsically safe.

[0007] This is obtained according to the finding, by providing a boiler which comprises a reservoir for water of other fluid, wherein there is present a member for electrically heating the above fluid contained into the reservoir.

[0008] Moreover, there is present a circulation pump capable of making the fluid flow from the reservoir, through a tubular flue, into a heat storage member, which is connected to the reservoir through a further return flue. In particular, it is provided that the heat is distributed through outside delivery starting from the storage member. The latter shall be advantageously configured as a portion of tubular flue shaped as a spiral, which actually is the element that must be arranged on the surface to be heated for the purpose of obtaining the desired heating effect.

[0009] These and other features of the finding shall be better described in detail hereinafter, with reference to a particular embodiment illustrated by way of as non-limiting example with the help of the attached drawings. In such drawings:

- Figure 1 (Table I) shows an overall axonometric view of the fixed portion of the device of the finding;
- Figure 2 (Table II) shows an overall side view of the device of the finding;
- Figure 3 (Table III) shows a plan view of the mobile element present into the device of the finding.

[0010] In figures 1 and 2 it can be seen that device 1 of the present finding is provided, into a boiler, with a reservoir 2 for water or other fluid advantageously under pressure, from which starts a delivery flue 3 and to which arrives a suction flue 4.

[0011] The circulation of the water or, in any case, of the fluid contained into the reservoir is ensured by a pump 5, which can be arranged both inside and outside the same reservoir.

[0012] Into the reservoir there are present means adapted to determine the heating of the water contained into the tank. Said means shall advantageously consist of usual electrical resistors supplied by the external electric network through cable 6 (figure 2).

[0013] For obvious safety reasons, it is possible to provide for the presence of a voltage-lowering transformer for supplying pump and resistors.

[0014] Observing figures 1 and 2 it can be noted that there is present a first button 7 adapted to function as general switch, as well as a further button 8 which operates on the power supply of the pump.

[0015] On the reservoir control panel it is possible to provide for the presence of an indicator of the level of the fluid contained into the reservoir.

[0016] Through handle 9 it is possible to essentially determine the temperature reached by the water when at steady condition, indicated by an immersion thermostat 9'.

[0017] The reservoir is provided with a plug 5', provided with safety device allowing the steam release in case of overpressure. When at rest, it can concurrently be unscrewed so as to allow the restoration of the fluid level into the reservoir. The boiler can be advantageously arranged on a thermally insulated surface so as to decrease the heat dispersion from the same boiler.

[0018] Observing figures 2 and 3 it can be noted that flue 3 suddenly takes a spiral configuration, at the end of which the same flue continues with suction flue 4, which flows again into the water reservoir.

[0019] The flue portion shaped as a spiral actually functions as heat storage member into a relatively small area.

[0020] Such element can be used for heating the desired surfaces as better specified in the introduction portion of the present description.

[0021] Advantageously, the spiral element and the portions close to it into flues 3 and 4 shall be coated with a fabric sheath or the like (for example, plastic material or other), provided with a series of holes 11 for facilitating the heat disposal and preventing condensate into the same sheath.

[0022] To facilitate the extraction of sheath 10 from flues 3 and 43 and from spiral 12, there shall be advantageously present on one or both sides of the sheath a zip fastener 13 adapted to allow the opening of the same sheath, with in se known methods; this also allows the cleaning of the flues and of the spiral.

[0023] Of course, the zip fastener may be replaced

with snap fasteners or other reversible closing means.

[0024] It is further repeated that the spiral element 12 can be replaced with any other element adapted to serve as storage means of the same heat.

[0025] However, the use of spiral 12 prevents the need of providing for unions and similar elements, with the possibility of fluid leaks caused by bad seal.

[0026] Moreover, it must be noted that the pump used in the device of the finding can be both of the immersion type, arranged into reservoir 2, and arranged outside the same reservoir.

[0027] Moreover, the capacity of the reservoir may be minimised and the thermal power of the heating means may vice versa be very high, for the purpose of having an "instantaneous" operation, as it is called in boilers for thermal-sanitary use.

[0028] From what said above it can be seen that with the device of the finding it is certainly possible to meet the requirements set at the beginning.

[0029] The whole is obtained through an intrinsically simple device from the construction point of view, and easy to use.

previous claims, **characterised in that** the pump (5) is of the immersion type, arranged into the reservoir (2).

- 5 6. DISTRIBUTOR, according to one or more of the previous claims, **characterised in that** the pump (5) is arranged outside the reservoir (2).
7. DISTRIBUTOR, according to one or more of the previous claims, **characterised in that** the capacity of the reservoir (2) is minimised and the thermal power of the heating means is very high, for the purpose of having an operation of the so-called "instantaneous" type.

Claims

1. HEAT DISTRIBUTOR FOR PERSONAL USE, **characterised in that**

it comprises a reservoir (2) for water or other fluid, an electric member for heating the fluid contained into the reservoir, a circulation pump (5) capable of making the fluid flow from the reservoir, through a tubular flue (3) into a heat storage member, which is connected to the reservoir through a further return flue (4), the heat being distributed through outside delivery starting from the above storage member.

2. DISTRIBUTOR, according to claim 1, **characterised in that** the heat storage member consists of a tubular element shaped as a spiral (12).

3. DISTRIBUTOR, according to claim 2, **characterised in that** the spiral element (12) as well as the portions of the tubular elements (3 and 4) close to the above spiral are coated with a sheath which, at the portion where there is present the spiral (12) exhibits holes (11), the sheath being provided with reversible closing and opening means for allowing its extraction from the spiral and from the portions of the tubular elements that it coats.

4. DISTRIBUTOR, according to one or more of the previous claims, **characterised in that** the water or in any case the fluid contained into the reservoir (2) is heated through electrical resistors supplied by an external electric network.

5. DISTRIBUTOR, according to one or more of the

