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Produkcyjno-Handlowo-Uslugowe "CENTRUM"

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(54) **Heated bathtub serving as a radiator**

(57) The present invention is a heated bathtub that also fulfils the role of a radiator, that is, one device with the twin function of bathtub and radiator. The heated bathtubs of the present invention can be heated in the conventional way, via connection to the building's central

heating system, or by means of a Na noTHERM mat, or by a heating coating, powered by electricity. Thus, the heat obtained is used for heating both the bathroom and the bathwater.

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Description

[0001] The present invention is a heated bathtub that also fulfils the role of a radiator.

[0002] The primary fitting of every bathroom is a bathtub and radiator, providing heating on cold days. A separate bathtub and radiator is the standard solution in the building industry. Both fittings are independent of one another and occupy separate spaces in a bathroom. Part of a bathroom's space is needed for a bathtub, usually a fitted one that is mounted against a wall. This creates a dead space, which due to lack of access cannot be used for other purposes, such as storage for cleaning agents or other infrequently used items.

[0003] Radiators, on the other hand, tend to be mounted over or next to bathtubs, require connection to a heat source and also take up space. As a result, the bathroom space is not very well economically used.

[0004] The present invention is a heated bathtub that also fulfils the role of a radiator, that is, one device with the twin function of bathtub and radiator. This solution has a number of economic advantages, including freeing bathroom space to be used in other ways. Despite the long-standing need for a solution to the problem of lack of space in the bathroom, combination bathtub-heaters are not used in the building industry.

[0005] The heated bathtub of the invention can be heated in 3 ways. First, in the traditional way by connection to the building's central heating system, in the same way as a conventional radiator, via a built-in connector. The heat source is then the hot water produced in the building's boiler room by burning liquid or solid fuel, and water flowing through the piping wrapped around the perimeter and across the bottom of the bathtub provides heating to the bathroom. In the case of acrylic baths or baths made of other acrylic-based material (abs, hips, acrylic-abs), as well as steel and cast iron, this piping is laminated (fixed) to the tub using a glass fibre resin. Powdered aluminium is added to the resin, which allows for better heat penetration from the piping to the bathtub. In the case of tubs made of conglomerates or solids, the pipes are embedded in the bathtub's structure during manufacturing. The present invention also has a mechanical temperature control gauge (as on a conventional radiator) or, optionally, an electronic temperature control with a liquid crystal display. The bathtub-heaters of the present invention are also equipped with heating systems to maintain the water temperature in the bathtub. As such, there is no longer a need for conventional bathroom radiators in bathrooms fitted with these heated bathtubs. Our design fulfils all major bathtub usage requirements and fulfils all the tasks of a conventional bathroom radiator.

[0006] Another significant aspect of the present invention is the use of a NanoTHERM mat, or electrically-heated coating. NanoTHERM mats or heating coating are connected to the electricity supply at the bottom of the bathtub.

[0007] In the case of acrylic baths or baths made of other acrylic-based material (abs, hips, acrylic-abs), as well as steel and cast iron, the heating mats are laminated (fixed) to the bathtub using a glass fibre resin. Powdered aluminium is added to the resin, which allows for better heat penetration from the heating mat to the bathtub. In the case of tubs made of conglomerates or solids, the heated mat is embedded in the bathtub's structure during manufacturing. The heated bathtubs of the present invention also have electronic temperature control gauge with a liquid crystal display.

[0008] The bathtub-heaters of the present invention are also equipped with heating systems to maintain the water temperature in the bathtub, as well as to heat the bathroom itself. As such, there is no longer a need for conventional bathroom radiators in bathrooms fitted with these heated bathtubs. Our design fulfils all major bathtub usage requirements and fulfils all the tasks of a conventional bathroom radiator.

Claims

1. A heated bathtub, wherein the bathtub functions as a heater and as a radiator in the bathroom (or other room).
2. The heated bathtub of Claim 1, wherein the bathtub's heat is supplied by a connection to the building's central heating system, or by gas heating, through a system of connectors and pipes, and that has a mechanical or electronic temperature regulator with an LCD display.
3. The heated bathtub of Claim 1, wherein the bathtub's piping elements are made of acrylic or other acrylic-based material such as abs, hips, acrylic-abs, or of cast iron or steel, and are fixed to the bathtub using glass fibre resin.
4. The heated bathtub of Claim 3, wherein aluminium powder is added to the glass fibre resin.
5. The heated bathtub of Claim 1, wherein the bathtub is made of a conglomerate or a solid material, and the piping elements are embedded in the main structure of the bathtub during the manufacturing process.
6. The heated bathtub of Claim 1, wherein the bathtub is lined with a NanoTherm mat or has a heating coating.



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Place of search Munich		Date of completion of the search 6 August 2015	Examiner García Moncayo, O
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**ANNEX TO THE EUROPEAN SEARCH REPORT
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The members are as contained in the European Patent Office EDP file on
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