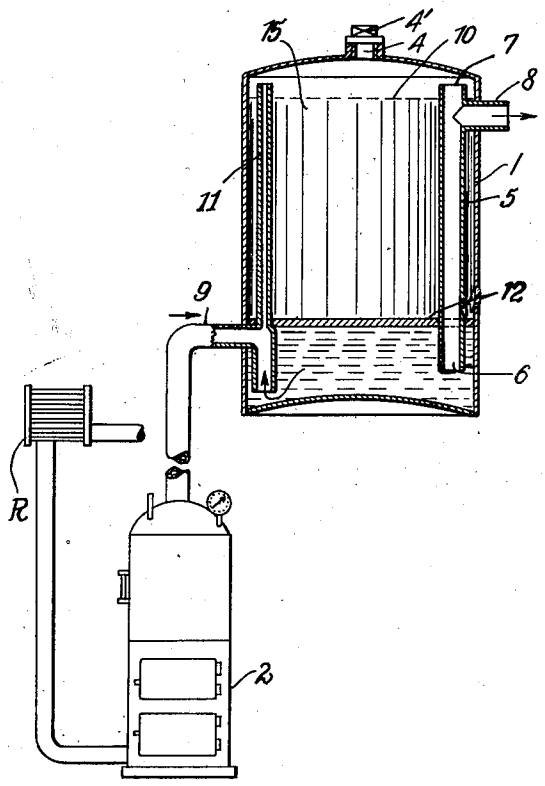
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HOT WATER CONTAINER

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HOT WATER CONTAINER

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1 Claim. (Cl. 237—66)

This invention relates to a hot water container of metal, especially of sheet iron, such as used in the form of an expansion vessel for hot water central heating plants, for hot water reservoirs and for similar purposes. In such containers alteration of the water volume and thereby rising and lowering of the water level occurs for various reasons, for instance by expansion when starting and contraction when stopping the plants, by evaporation or by re-feeding water. Corrosions, which in the course of time destroy the container occur always at the point of separation between water, air and iron, that is at the actual surface of the water level. Such corrosions extend over the whole inner wall of the container owing to the fluctuations of the water level.

These drawbacks are avoided by the invention in a simple and reliable manner by arranging over the water level a quantity of oil preferably lubricating oil (hot steam cylinder oil) not flowing out during the outflowing of water. With this object in view a vertical communicating tube is employed having a lateral branch leading to the overflow conduit. According to the invention the oil layer is prevented from flowing out of the container through this conduit by corresponding construction of the connecting branch of the rising main, if there exists any.

The oil layer produces a protecting oil film on the wall of the container during the rising and sinking of the water level. The oil layer on the water further prevents the water from evaporating so that re-feeding is rarely necessary in such containers.

The application of the invention is especially advantageous for hot water reservoirs. The upper portion of the reservoir is made of a size suitable for taking up the volume variations caused by the fluctuations of temperature and to obtain a self-contained aggregate without expansion vessel. The oil layer not only prevents corrosion phenomena and the like but serves at the same time as a covering so that no lid is necessary. In connection herewith it is no longer necessary to make the reservoir of circular cross section, as it may be of oblong rectangular shape, comparatively high and narrow whereby the water circulation is considerably improved. Such a reservoir can be accommodated either in the walls, for instance between bath-room and kitchen, or on any wall so that the lid can serve as table. For the reservoir according to the invention the flow system is applied, that is a battery through which fresh water flows is mounted in the reservoir. The water in the reservoir is itself heated in any preferred manner and heats the fresh water passing through the battery.

One embodiment of the invention is illustrated by way of example in the accompanying drawing in which:—

The figure shows in section a hot water reservoir according to the invention with specially constructed connecting piece of the rising main and diagrammatically a hot water system with which the container is connected.

Referring to the figure, 1 designates the container, 9 designates the elbow connection with the hot water system diagrammatically shown and designated by reference numeral 2. The tube 5 extends from the lower part of the container below the highest level of the elbow connection 9 to a point near the top thereof. A T-shaped welded connecting tube leads from a point in the tube below its upper end 7, to the exterior of the container. The liquid in the container cannot therefore rise above the level of the tube 8. One branch of the elbow 9 extends downward to near the bottom of the container establishing communication between the heating system and that portion of the container. A vent tube 11 extends from the highest level of the elbow to the upper portion of the container 1 above the level of the tube 8. An aperture 4 for filling in oil has a plug 4' for closing it.

In operation the layer 12 of oil floats on the surface of the water but is never at so high a level as to enter either pipe 7 or 11 since it can rise no higher than the lower portion of the tube 8.

I claim:—

A hot water container for use with a hot water system comprising a metal vessel, an elbow conduit communicating with the lower portion of the interior of said container and with the hot water system, a vent tube communicating the highest point of the elbow with the upper portion of said container, an overflow pipe connected to the container below the top of said vent tube, and an open-ended tube communicating therewith, the upper end of said open-ended tube being above the overflow pipe and the lower end below the highest point of the elbow conduit.

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