

HIGHLY EFFICIENT WATER HEATER

This technology is an improvement to the design of the conventional water heater resulting in faster hot water and more quantities of hot water provided to the user over the period of use. A smaller water heater may be utilized to provide a families hot water needs. This technology incorporates a thermosyphon concept which encloses a fraction of the heating surfaces and limits the large-scale mixing otherwise unavoidably produced by the heat addition process in conventional systems. With a suitably chosen flow restriction, the thermosyphon effect produces a flow of hot water from this internal small volume which does not immediately mix with the remaining stored volume but is instead transported to the upper levels of the storage vessel. The end result is that, during a discharge, the output from the overall system is the *sum* of both the stored volume *and* the hot water generated at the enclosed heating surface, giving a significant increase in total output. In addition, the system recovers quicker because the hot water generated at the heating surface is not dissipated by large scale mixing in the surrounding storage volume, as it is in the early stages of the charging process for conventional storage water heaters.

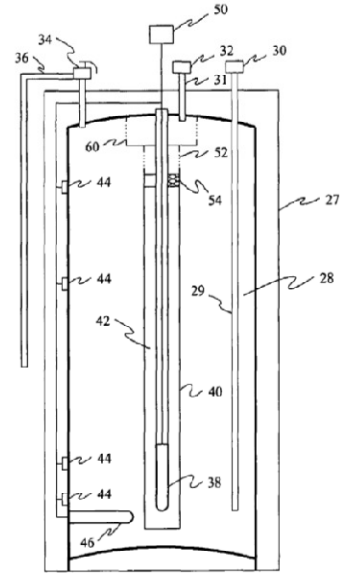


Figure 2 from 7,114,468

POTENTIAL AREAS OF APPLICATIONS:

- Electric water heaters
- Gas water heaters
- Energy efficient water heaters

PATENT STATUS: US Utility Patent No. 7,114,468

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