E. HERSEY.

Portable Water-Heater.

No. 208,174. Patented Sept. 17, 1878.

FIG. 1.

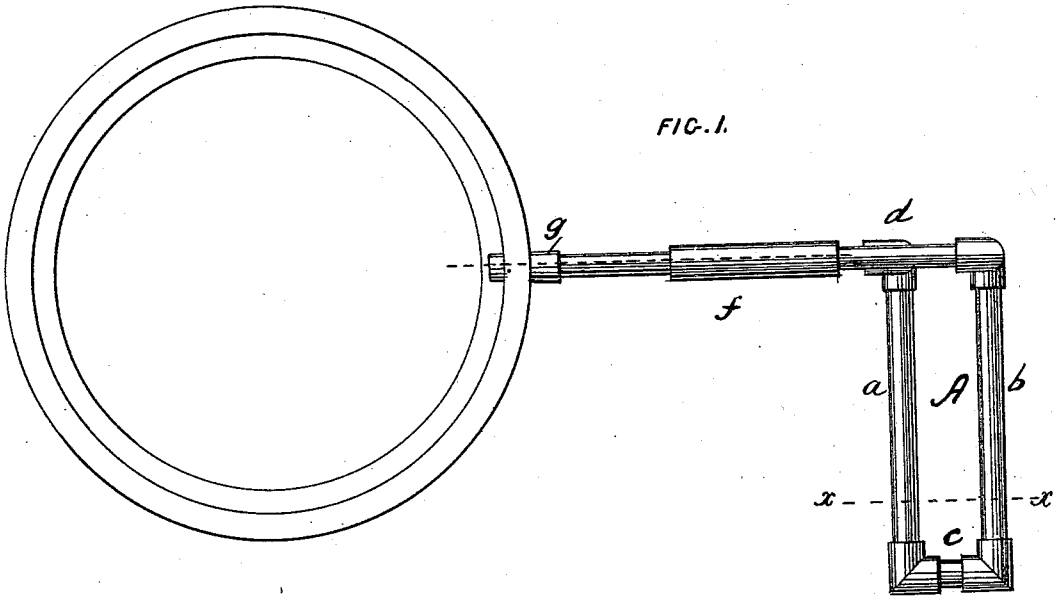


FIG. 2.

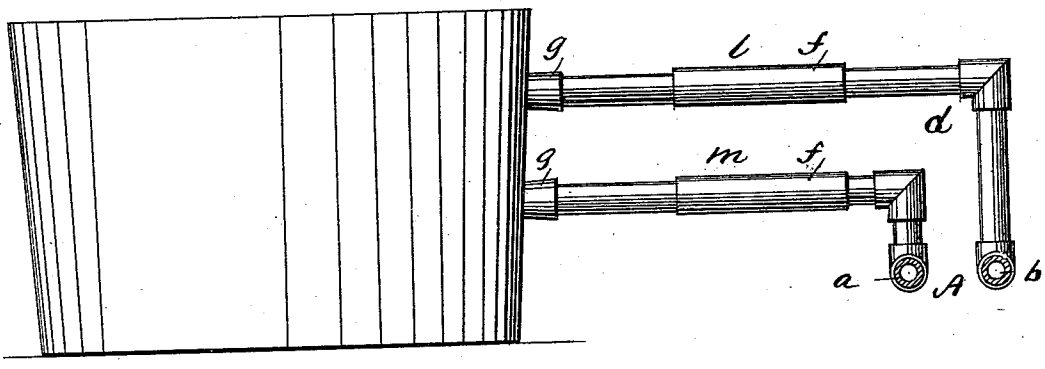
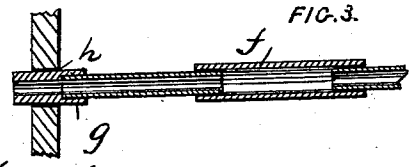


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

EDMUND HERSEY, OF HINGHAM, MASSACHUSETTS.

IMPROVEMENT IN PORTABLE WATER-HEATERS.

Specification forming part of Letters Patent No. **208,174**, dated September 17, 1878; application filed July 27, 1878.

To all whom it may concern:

Be it known that I, EDMUND HERSEY, of Hingham, in the county of Plymouth and State of Massachusetts, have invented a certain new and useful Improved Portable Water-Heater, of which the following is a full, clear, and exact description.

This improved water-heater is composed of pipes arranged and constructed to be portable, and to be easily attached to and detached from any vessel containing the water which it is desired to heat, and to be readily placed within and removed from the fire-chamber of a stove or furnace, or other heating apparatus, and, when so situated, to lead therefrom to the said water-vessel located outside of and separate from such heating apparatus; and, also, it is further arranged and constructed with flexible connecting or communicating pipes, which run between the water-vessel and the heating apparatus, but outside of the same, all substantially as hereinafter described.

In the accompanying plate of drawings of my improved portable water-heater, Figure 1 is a plan view; Fig. 2, a vertical cross-section on line *x x*, Fig. 1; and Fig. 3, a detail view in section.

In the drawings, A represents a coil of pipe, made of metal or of other material capable of withstanding the heat and action of a fire in the fire-pot of a stove, furnace, or other heating apparatus. This coil of pipe A consists of two parallel lines, *a* and *b*, which, at one end, *c*, are in communication with each other, and at the other end, *d*, are each provided with a flexible extension, *f*, which terminates with tubular wooden plugs *g*. The wooden plugs *g* are firmly pressed into holes *h* in the side of the vessel containing the water to be heated, and open into the water, and, from such connection of the pipes with the water-vessel, the pipes lead to and lie by their coiled portion A within the fire-chamber of the stove, furnace, or other heating apparatus in connection with which they are used.

With the coil of pipes connected and arranged as above described, and the water in the vessel above the pipes, the water lies and circulates through the coil of pipes, and by the fire in the stove, &c., it is heated and thus expanded, forcing it out through the upper run, *l*, of pipe, and drawing in a fresh supply of colder water from the water-vessel through the lower run, *m*, of pipe, and so on, thus keeping up a circulation of the water of the water-vessel through the coil of pipes situated to be acted upon by the heat, heating the water very rapidly, with economy of fuel, &c.

The flexible pipes may be of any length to suit the exigencies of the connection desired to be made between the water-vessel and the stove, &c.; and obviously, as the water-heater is portable, it is adapted to almost every possible emergency and occasion—as, for instance, to a washing-machine, keeping the water hot and boiling during the washing operation; again, to steam vegetables in a box or barrel outside of the house in which the stove is situated, &c.

The plugs *g*, instead of being made of wood, can be of iron or other metal, or any suitable material. Wood, however, is preferable, as, owing to its great expansion by the heated water, a close and tight connection between the pipes and the water-vessel is made.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the portable coil A and the portable water-vessel, of the pipes connecting the opposite ends of said coil with said vessel at different levels, and the flexible sections *f f*, forming portions of said connecting-pipes, and adapting said vessel and coil to be located in different positions with respect to each other, substantially as and for the purpose set forth.

EDMUND HERSEY.

Witnesses:
EDWIN W. BROWN,
GEO. H. EARL.