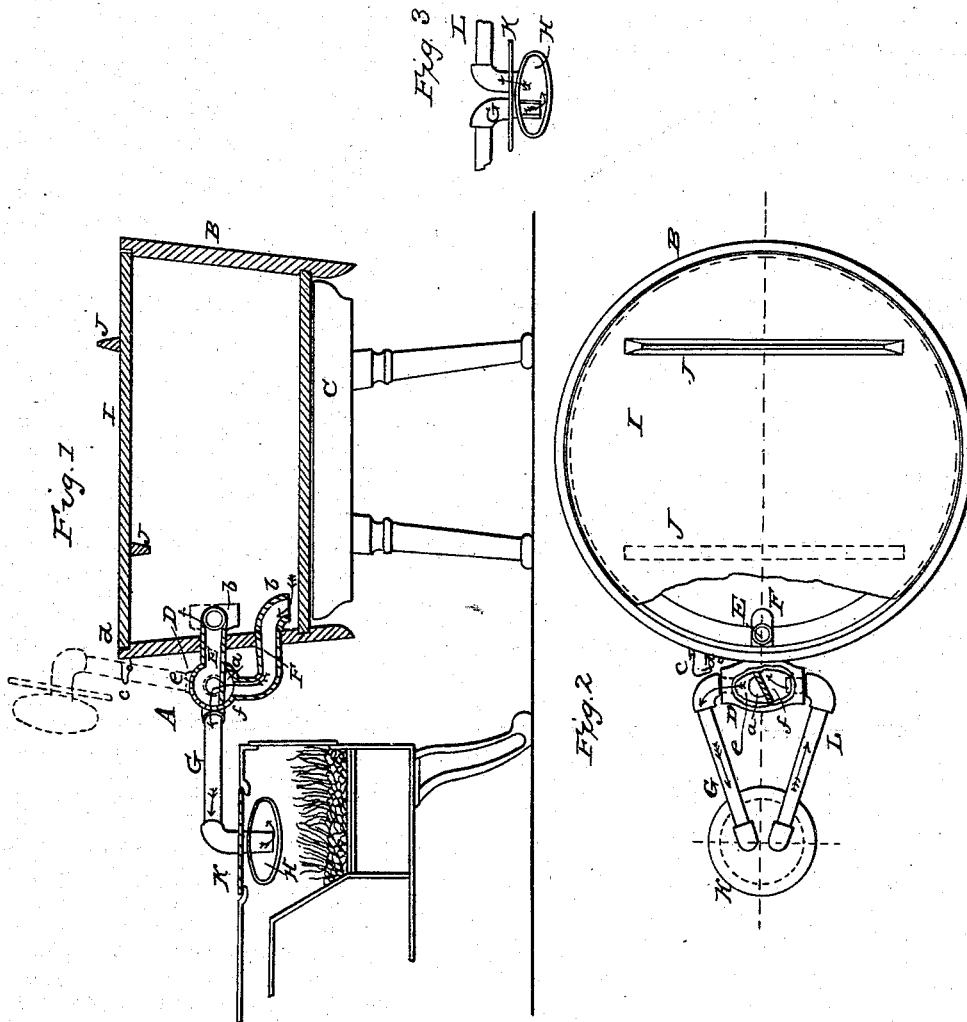


J. KEANE.
Laundry Water Heater.

No. 48,561.

Patented July 4, 1865.



Witnesses.
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JOHN KEANE, OF NEW YORK, N. Y.

LAUNDRY WATER-HEATER.

Specification forming part of Letters Patent No. 48,561, dated July 4, 1865.

To all whom it may concern:

Be it known that I, JOHN KEANE, of the city, county, and State of New York, have invented a new and useful Improvement in Water-Heaters for Laundries and for other Purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of a vertical section of an apparatus made after my invention. Fig. 2 is a plan thereof; and Fig. 3 is a sectional view of the boiler, showing also how the water-circulating pipes are connected with it.

Similar letters of reference indicate like parts.

This invention consists, in general terms, of an apparatus composed of a system of double water-pipes, terminating in one direction in a closed metallic boiler for heating water by placing the boiler in or over a fire, the said pipes terminating at their other ends in a tub or other vessel, wherein heated water is to be received for laundry or other uses.

A is the heating apparatus, and B is a wooden tub, whose sides are pierced to receive the water-circulating tubes E and F. The tub B is to be supported upon a bench, C, or other suitable structure, at any convenient height. The tub B has a cover, I, also of wood, whose periphery is made with a square or straight edge fitting in a rabbet cut in the inner edge of the tub. The said cover has a handle, J, on either side, which also serves as a batten thereto. The object in view in constructing and fitting the cover in this manner is to enable one to use it either side up, so that when it becomes warped by long exposure to heat from one side it may be turned over to expose the opposite side, the square edge enabling the cover to fit the tub either way.

E and F are branch pipes, entering the tub at different elevations, as shown in Fig. 1, for the purpose of obtaining a circulation of water through them, according to the well-known laws of the motions of fluids. The discharge-nozzles *b b* are so attached to the said pipes by screw-thread connections or otherwise as to be adjustable to different positions, according to the height of water in the tub.

D is a short horizontal distributing-pipe, open at each end, which receives both the branch pipes E and F, the branch pipe F entering it in a vertical direction on its lower side and the branch pipe E entering it in a horizontal direction. The short pipe D is divided into two parts by a curved diaphragm, *a*, placed diagonally across the pipe, so as to divide it into two distinct divisions, *e* and *f*. These divisions *f* and *e* communicate, respectively, with the pipes E and F, already mentioned, and also with the pipes G and L, which are connected with the horizontal distributing-pipe D at its opposite ends, as seen in Fig. 2. The pipes G and L are to be connected to said pipe D by means of the ordinary screw-coupling joint, with right and left hand screw-threads, so as to be removable, and their joints are to be so constructed, also, as to be capable of revolving in the ends of the short pipe D, that the water-heating apparatus may be raised and lowered to different elevations, to suit the place of the fire and the height of the tub, and also to enable the attendant to place it vertically against the side of the tub, where it can be fastened by means of a hook, *c*, and eye, *d*. These joints and other joints of the pipes are to be suitably packed, so as to be water and steam tight; but, as this packing is a device well known to mechanics skilled in the art to which this invention relates, it is not necessary to describe it, and for the same reason it is not necessary to describe with particularity the mode of making the revolving joints which connect the pipes G and L with the horizontal pipe D. The pipes G and L are to be made of any desirable length to suit the convenience of the attendants, and their outer ends are turned downward and pass through a fixed circular plate, K, which is intended to cover a boiler-hole of a cooking stove or range when the boiler H is inserted through such a hole into the fire-chamber, and thence into a boiler, H, with closed sides, whose shape may be an oblate spheroid, or any other form. The pipe L merely passes through the upper side of the boiler; but the pipe G extends down nearly to the bottom thereof.

The boiler and other parts of the apparatus A may be made of copper, or brass, or other metal not liable to speedy corrosion, especially when my apparatus is to be used for the pur-

poses of the laundry or in the preparation of food for man or beast.

The operation of the apparatus is as follows: The boiler H having been lowered into the fire-chamber of a cooking stove or range, it is held in proper position therein by the fixed plate K, which also covers the boiler-hole and prevents the escape of the products of combustion. The tub B is to be supplied with water to a height above the nozzle of the upper pipe, E, when the several pipes and the boiler will become filled therewith as soon as it is lowered from its vertical position. The water in the boiler speedily becomes heated, when a circulation ensues therefrom through the pipe L into the division *f*, and through the pipe E and into the tub, the colder water flowing from the tub into the pipe F through the division *e* and pipe G into the boiler.

This apparatus can be separated at pleasure from the vessel B, and it can be applied to any tub, barrel, or other vessel which is furnished with holes to receive the pipes E and F.

One of the advantages of my invention is that one is enabled thereby to use wooden vessels for laundry and culinary purposes, instead of metallic vessels. Another advantage is that one who possesses my apparatus is enabled to save the expense of the water-heating appa-

tus and water-backs in stoves and ranges where the only object is to obtain supplies of hot water for kitchen use.

This apparatus also will be useful to farmers and all others who need a portable device for heating water and cooking feed for stock.

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

1. In water-heating apparatus, connecting the branch pipes E F, which lead to the tub B, with the pipes G and L, which convey the water to the fire, by means of a horizontal pipe, D, which is divided by a diaphragm, as shown, and in whose ends the pipes G and L are capable of turning, substantially as and for the purpose above described.

2. The combination, with boiler H and the circulating-pipes G and L, of a plate, K, whereby the boiler can be used with a cooking stove or range, substantially as above described.

3. Combining the water-heating apparatus above described with a tub or other vessel, B, for laundry or culinary uses, substantially as above described.

JOHN KEANE.

Witnesses:

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