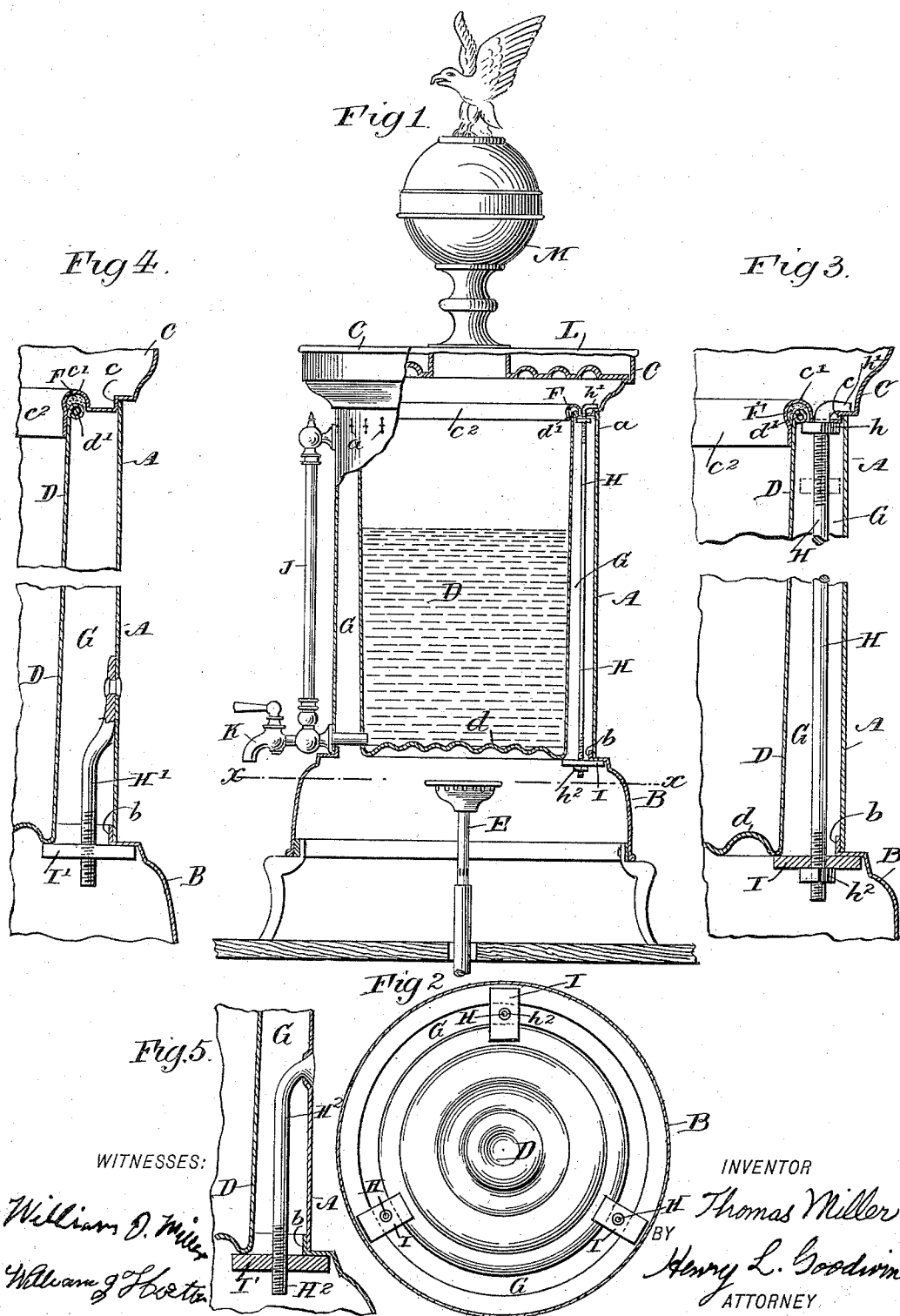


(No Model.)

T. MILLER.
HOT WATER URN.

No. 488,320.

Patented Dec. 20, 1892.



WITNESSES:

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HOT-WATER URN.

SPECIFICATION forming part of Letters Patent No. 488,320, dated December 20, 1892.

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To all whom it may concern:

Be it known that I, THOMAS MILLER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Hot-Water Urn, of which the following is a full, clear, and exact description.

My invention relates to that class of urns commonly used in hotels, restaurants and families for producing and holding hot water, or other hot fluids.

The invention has for its principal object to improve the construction of the urn described in my prior patent No. 301,511, dated July 8, 1884, in such manner as to allow ready removal and renewal of the water or fluid receptacle when it is burned out or worn out, whereby the entire apparatus is made more durable and serviceable. Other incidental advantages are also attained.

The invention will first be described and then will be particularly defined in claims hereinafter set forth.

Reference is to be had to the accompanying drawings, forming a part of this specification and in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1, is a central vertical sectional view of my improved hot water urn having the preferred construction. Fig. 2, is a bottom plan view thereof, in horizontal section on the line $x-x$, in Fig. 1. Fig. 3, is a broken detail view of upper and lower parts of one side of the urn, drawn to a larger scale; and Figs. 4 and 5, are enlarged detail views illustrating modifications of the clamp bolt fastenings of the fluid receptacle.

I will first describe the preferred construction of urn shown in Figs. 1 to 3, inclusive, of the drawings. In this urn, the outer shell or drum A, the base piece B, and the head piece C, constitute the urn casing and these three parts are preferably slipped loosely one on the other, the ends of the shell A, then abutting shoulders of the parts B, C, and lying outside of vertical flanges b , c , thereof to center all three parts relatively with each other. These three parts, A, B, C of the casing may be soldered or otherwise rigidly fastened together, but the separable arrangement is preferred not only on account

of the more convenient access given to the upper fastenings of the removable fluid receptacle D, which is sustained preferably by bolt clamps within the casing, but also because of the opportunity the loose or unsoldered joints of the parts A, B, C, give for renewing any one or more of these parts should it or they be accidentally disfigured or damaged in use. The fluid receptacle D, is preferably made of sheet metal vitrified or enameled to make it proof against rust or sedimentary deposits which would contaminate the water or fluid it contains and also to make it more durable and cleanly in use. The receptacle bottom d , is preferably corrugated to increase its heating surface directly above the burner or lamp E, and the top of the receptacle preferably has a continuous out-turned marginal bead or flange d' , which underlies the part c' , of the head piece, and between which parts c' , d' , a packing F, of asbestos or other suitable material, is preferably interposed to more certainly prevent passage of steam or hot water over the top of the receptacle D, and into the hot air space G, between the shell A, and said receptacle, and whereby disagreeable drip upon the urn table or support is obviated. I prefer also to tool or press the thinned edge of the pendent inner flange c^2 , of the head piece in quite closely to the inner face of the fluid receptacle to promote a better steam tight joint and to also protect the packing from injurious effects of the rising steam. I hold the fluid receptacle to and within the urn casing and above the heating burner by means of what I term "bolt clamps" which may have various forms and may engage the casing and receptacle in various ways to effect secure support of the receptacle from the casing while allowing the receptacle to be easily and quickly removed for renewal, cleaning or other purpose.

In the preferred arrangement of the bolt clamps I use long bolts H, preferably three of them, and which after being threaded for quite a distance, say an inch or two, at the upper ends, and after receiving a nut h , on said thread, are passed upward through the head-piece C, of the casing and are then heated and upset or bent at the extremity to form a head h' , which clasps or overlies the

head piece. After the inverted fluid receptacle is laid upon the inverted head piece, with the packing F, interposed, the bolt nuts h , will be run along the threads from the dotted position shown in Fig. 1, and until the nuts clamp the bead or flange d' , of the fluid receptacle and press it snugly to the packing which meanwhile is in view of the workman who thus, while he screws up the nuts, may easily adjust the packing to assure a substantial steam-tight joint between the fluid receptacle and the head piece. The shell or drum A, of the urn casing then will be slipped onto the head piece flange c , and outside of the bolts, and the base piece B, then will be slipped onto or within the shell, whereupon the main lower clamps will be applied to the bolts in a manner to engage the casing and the fluid receptacle to hold the latter securely within the casing while binding the three parts A, B, C of the casing firmly together. The clamps consist preferably of independent plates I, which are slipped loosely onto the lower threaded ends of the bolts H, and bridge the hot air space G, between the fluid receptacle and casing which parts are engaged by opposite ends of the clamps. The nuts h^2 , now are turned onto the bolts until they bind hard upon or against the clamp plates and thus complete the assembling of the parts A, B, C, D, in the very simple and substantial manner shown in the drawings.

It will be understood that should it be preferred to solder, rivet or otherwise permanently fasten the head piece C, to the shell A, of the casing, the upper bolt nuts h , will in this case be dispensed with and reliance will then be placed solely on the lower bolt clamps which engage the casing and the fluid receptacle to hold the latter securely in place. The separable construction of the parts A, C, and the use of the upper bolt clamp nuts h , is preferred in practice as the fluid receptacle is then more securely clamped directly from or at the upper and lower parts of the casing by clamping nuts or devices on the bodies of the bolts and a better steam tight joint is obtained between the fluid receptacle and head piece. The base piece B, may be soldered or otherwise rigidly fastened to the shell or body of the casing without changing the operation of the bolt clamps, whether the bolts have lower clamps alone or both the upper and lower clamps above mentioned.

The modified arrangements of the bolt clamps illustrated in Figs. 4 and 5 of the drawings, show that it is not necessary to extend the fluid receptacle sustaining bolts clear upward to the casing head piece C, which however in these instances must be soldered or otherwise rigidly fastened to the shell A, of the urn casing. Fig. 4, shows that the upper ends of short bolts H' , may be riveted to the shell A, and receive on their lower threaded ends suitable nut plates I, which have sufficient diameter or length to allow their opposite parts to directly clamp the casing and the

fluid receptacle. Like nut plates I' , are shown upon the short bolts H^2 , in Fig 5, said bolts having heads resting loosely within counter-sinks of the bolt holes made in the shell.

Threaded clamp plates I' , which form their own nuts, may of course be used on the longer bolts H, shown in Figs. 1 and 2 of the drawings, and the extra nuts h^2 then would be dispensed with, and on the other hand, the clamp plates I, with the extra nuts h^2 , may be used with the shorter bolts H' or H^2 , at pleasure.

To renew the fluid receptacle D, of an urn having rigidly connected shell and head piece A, C, and in which the upper bolt clamps or nuts h , are not used, it is only necessary to invert the urn and unscrew the lower bolt clamps nuts h^2 , or the clamps I' , if the latter be used, and then lift out the receptacle and substitute a new one and again apply the bolt clamping devices. To renew the fluid receptacle D, of an urn having long bolts H, with upper clamping nuts h , thereon, the urn will be inverted and the lower clamps will first be removed and the parts B, A, of the casing will then be lifted off, and the nuts h , now accessible, will be run back on the bolt threads until the bead or flange d' , of the fluid receptacle may pass the nuts, as the receptacle is lifted from the head piece, whereupon a new receptacle will be applied at the old or a new packing F, and the nuts will again be run along the bolts to clamp the bead or flange d' , of the new receptacle. The shell A, and base piece B, will then be replaced and the lower clamps I, h^2 , or clamp nuts I' , if used, will be applied to the bolts and the urn is again complete and ready for use. The glass water gage J, and discharge faucet K, and their fittings, must of course be removed and replaced when a new fluid receptacle is substituted for an old one in the manner above described.

The operation of the urn is substantially the same as formerly, that is to say, the hot products from the burner E, after direct action on the bottom of the receptacle D, pass upward into the space G, between the receptacle and shell A, which latter has suitable apertures a , at or near its top for escape of surplus hot products. The top or cover L, of the head piece C, is adapted to receive glasses or other vessels for the purpose of warming them before use, and said top or cover with its ornamental milk heating cup M, may at any time be removed to give access to the fluid receptacle D, for filling or cleaning it, as will readily be understood.

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

1. An urn having a casing, a removable or interchangeable fluid receptacle abutting the upper part of the casing, and fastenings engaging the casing and receptacle and sustaining the latter within the casing, substantially as described.

2. An urn having a casing, a removable or interchangeable fluid receptacle, and fasten-

ings comprising bolt clamps engaging the casing and receptacle and sustaining the latter within the casing, substantially as described.

3. An urn having a casing, a removable or interchangeable fluid receptacle therein and providing a hot air space between them, and fastenings comprising bolt clamps within said hot air space and engaging the casing and fluid receptacle and holding the latter in place, substantially as described.

4. An urn made with a casing having a detachable or loose head piece, a removable or interchangeable fluid receptacle having an upper bead or flange, and bolt clamps engaging the casing head piece and the upper bead or flange of the fluid receptacle, and also engaging the lower parts of the casing and receptacle, substantially as described.

5. An urn made with a casing having a detachable head piece, a removable or interchangeable fluid receptacle having an upper bead or flange, a packing interposed between the fluid receptacle and head piece, and bolt clamps engaging the casing head piece and the upper bead or flange of the fluid receptacle and compressing the packing to make a tight joint, said bolt clamps also engaging lower parts of the casing and receptacle, substantially as described.

6. An urn made with a casing having a shell or drum, a detachable head piece and a detachable base piece fitted thereto; a remov-

able or interchangeable fluid receptacle, and fastenings comprising bolt clamps engaging the head and base pieces of the casing and the fluid receptacle and holding the parts together, substantially as described.

7. An urn made with a casing having on its head piece a pendent flange c^2 , a removable or interchangeable fluid receptacle fitted to the head piece and its flange c^2 , and fastenings engaging the casing and receptacle and sustaining the latter within the casing, substantially as described.

8. An urn made with a casing having on its head piece a pendent flange c^2 , a removable or interchangeable fluid receptacle fitted to the head piece and its flange c^2 , a packing interposed between the head piece and fluid receptacle and behind the flange c^2 , and fastenings engaging the casing and receptacle and sustaining the latter within the casing, substantially as described.

9. The combination, in an urn, of a casing comprising detachable parts A, B, C, a removable or interchangeable fluid receptacle D, and bolt clamps H, h , I, h^2 , binding the parts together, substantially as described, for the purposes set forth.

THOMAS MILLER.

Witnesses:

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WILLIAM J. HORTON.