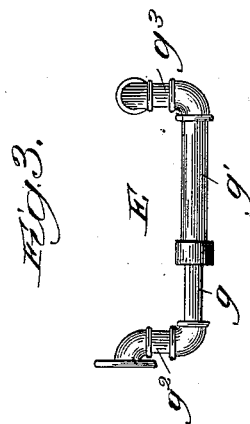
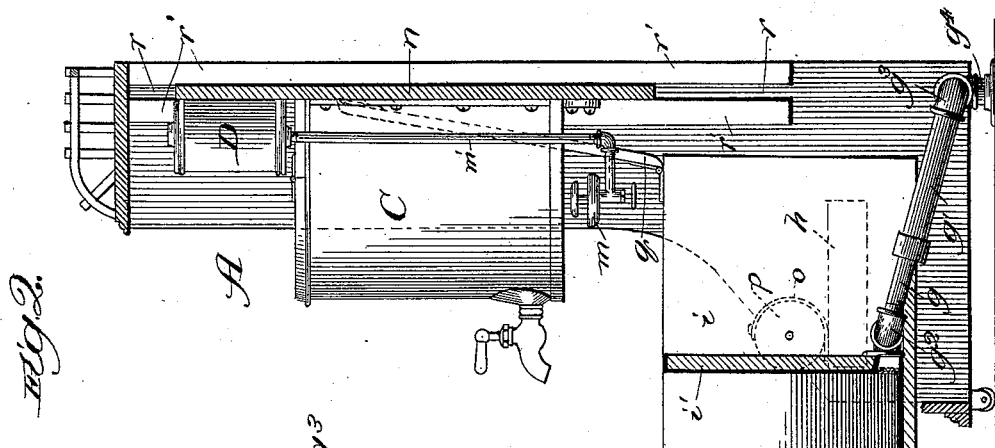
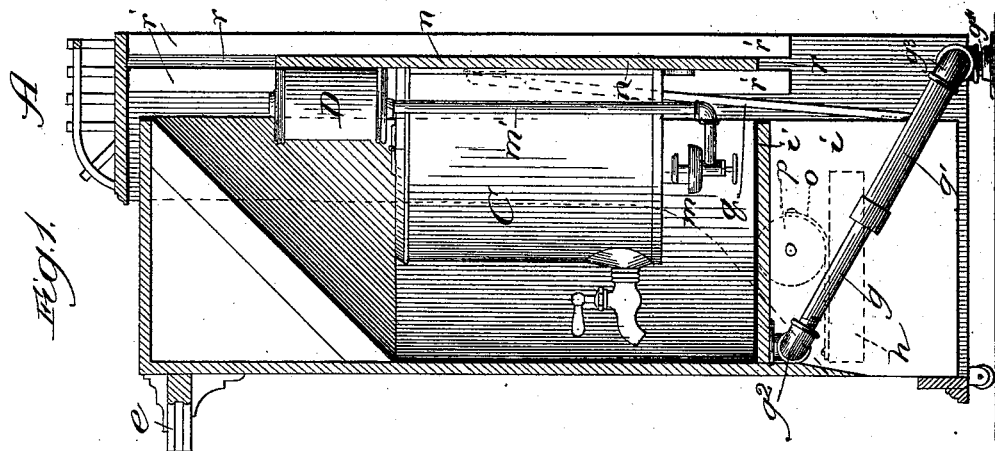


(No Model.)

G. MADDEN.  
FOLDING BATH TUB.

No. 490,914.

Patented Jan. 31, 1893.



Witnesses:  
Carl O. Lloyd  
Efford H. White.

Inventor:  
Gustav Madden.  
By Dyrenforth & Dyrenforth  
Attys.

# UNITED STATES PATENT OFFICE.

GUSTAU MADDEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THOMAS C. MOSELY,  
OF SAME PLACE.

## FOLDING BATH-TUB.

SPECIFICATION forming part of Letters Patent No. 490,914, dated January 31, 1893.

Application filed March 30, 1891. Serial No. 387,007. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAU MADDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Folding Bath-Tubs, of which the following is a specification.

The object of my invention is to provide a construction of folding bath-tub whereby the parts may be folded compactly, the folding and unfolding operations may be performed without undesirable exertion, and the unfolding operation shall, in bringing the tub-portion into position for use, also bring the water-supply tank, heating apparatus and waste-pipe into their relative operative positions.

In the accompanying drawings—Figure 1 is a view in sectional side elevation of a folding bath-tub provided with my improvements and showing it in its folded condition; Fig. 2, a similar view of the same showing it in its unfolded condition; and Fig. 3, a view showing the telescoping waste-pipe detail.

A is the case, constructed to occupy an upright position, as against the side of a wall in a room, and which should be made to represent, with the tub proper B, when the parts are folded together, in the manner hereinafter described, some article of furniture. At opposite sides of the case A are vertical guide-grooves, *r*, which may be produced by a space between two cleats, *r'*, on each side of the case, as represented, or otherwise.

Owing to the nature of the views selected for illustrating my improvement, only one side of the case A is presented to view, so that only one guide-groove *r* can be shown. It will be understood, however, that the opposite side of the case is the same as that presented. Other parts, namely, the links *q*, bearings *p* and their springs *o*, and the cleats *h*, should also be provided in duplicate, though the nature of the views permits but one member of each pair to be shown.

The grooves *r* afford retaining guides for a vertically sliding back, *n*, at the rear of the case A, and to the front side of which, near its upper end, is fastened a supply-tank, D, for the fuel (as gasoline) with which to feed the heater, hereinafter described.

C is the tank for the supply of water to be

heated, suitably supported on the sliding back *n*, which is linked to the tub in the manner hereinafter described, whereby the tank tends to afford with it a counterbalance for the tub.

The heater may comprise a suitable burner, *m*, as shown, extending under the base of the tank C from the lower end of a pipe, *m'*, leading from the tank D.

The tub B has a compartment, *i*, at its rear end, afforded by a partition, *i'*, through which, near its base, the waste-opening *i<sup>2</sup>* is formed. The cleats *h* are provided, to extend horizontally on the opposite inner sides of the case A, in position to afford rests for the bearings *p*, which are preferably of the form, as indicated, of rigid circular projections on opposite sides of the tub behind the plane of the partition *i'*.

The tub should be fastened to the case by means of leather or flat stiff springs *o*, the tendency of which is to straighten, and which are fastened, respectively, each at one end, to the periphery of a circular bearing *p*, and at its opposite end to a cleat, *h*, in such manner as to insure the outward rolling of the tub, when being lowered, by the turning of the bearings on their peripheries. The bars *q* are hinged at their upper ends to the back *n*, near the opposite lateral edges thereof; and at their lower edges to the upper edges of the sides of the tub B.

E is the waste-pipe, which is flexible and may be formed with two telescoping sections, *g* and *g'*, the former having a head, *g<sup>2</sup>*, by which it is fastened, pivotally to the tub at the waste-opening *i<sup>2</sup>*, and the latter having a head, *g<sup>3</sup>*, extending laterally into and pivotally connected with a vertical outlet pipe, *g<sup>4</sup>*.

To unfold the tub B, for use, from the folded position in which it is illustrated in Fig. 1, it may be grasped at a leg, *e*, near its upper end, and pulled downward. Thereby the bearings *p* are rolled in an outward direction on their rests *h*. At the same time the hinged bars *q*, through their connection of the tub and back *n*, raise the latter, and thus elevate the lamp or burner *m* out of the path of the partition *i'* in the tub; and the section *g* of the waste-pipe E is moved into the section *g'*, with which it telescopes, while the entire pipe turns on its pivoted ends.

When the tub is to be folded, it is raised, and in rising, the waste-pipe sections are distended and turned to permit the free movement of the tub, while the back *n* is lowered, carrying with it the tanks and heater it supports, to adjust them compactly.

As will be seen, by rendering the back *n* vertically adjustable, the length of the case A may be comparatively short, since it would, obviously, if the relative dimensions of the other parts remain the same as shown, and which are calculated best to serve the purpose, have to be the longer to permit the tank C and heater to be supported at elevations sufficiently high to avoid obstructing the path of the tub B.

While it is not necessary that the bearings *p* be movable otherwise than on a common axis, as they might be, and then be in the form of journaled bearings, it is preferred to have them change the position of their centers with relation to the rest *h* in the manner described, since thereby, in folding the tub, it may be brought the nearer to the case A, and thus permit the latter to be the narrower and increase the compactness of the device.

Other variations than the change thus suggested may be made in details of the construction without thereby entailing a departure from my invention; hence I do not limit my improvement to the exact details shown and described. Thus, to cite one instance, the bearings *p* might be segmental instead of circular.

What I claim as new and desire to secure by Letters Patent is—

1. In a folding bath-tub, the combination of an upright case A provided near its base with

lateral rests *h* and having vertical guides at its inner sides, a back *n* movably confined in said guides, a water-supply tank C supported on the said back over a suitable heater, a tub B provided at opposite sides near its rear end with rigid circular bearings *p* supporting the tub on the said rests, straps *o* secured at opposite ends respectively to the case and the peripheries of the circular bearings, and links *q* connecting the tub and sliding back, the weight of the back with the apparatus upon it tending to counterbalance the tub, substantially as described.

2. A folding bath-tub comprising, in combination, an upright case A provided near its base with lateral rests *h* and having vertical guides at its inner sides, a back *n* movably confined in said guides, a water-supply tank C supported on the said back over a suitable heater, a tub B having a flexible waste-pipe connected with its waste-opening, the tub being provided at opposite sides near its rear end with rigid circular bearings *p* supporting the tub on the said rests, straps *o* secured at opposite ends respectively to the rests and the peripheries of the circular bearings, and links *q* connecting the tub and sliding back, the weight of the back and the apparatus upon it tending to counterbalance the tub, the whole being constructed and arranged to operate substantially as described.

GUSTAU MADDEN.

In presence of—

GEORGE D. ELLIS,  
G. H. MOSELY.