Dec. 28, 1948. LE ROY L. WERNER 2,457,190

PORTABLE SHOWER UNIT

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Fig. 2.

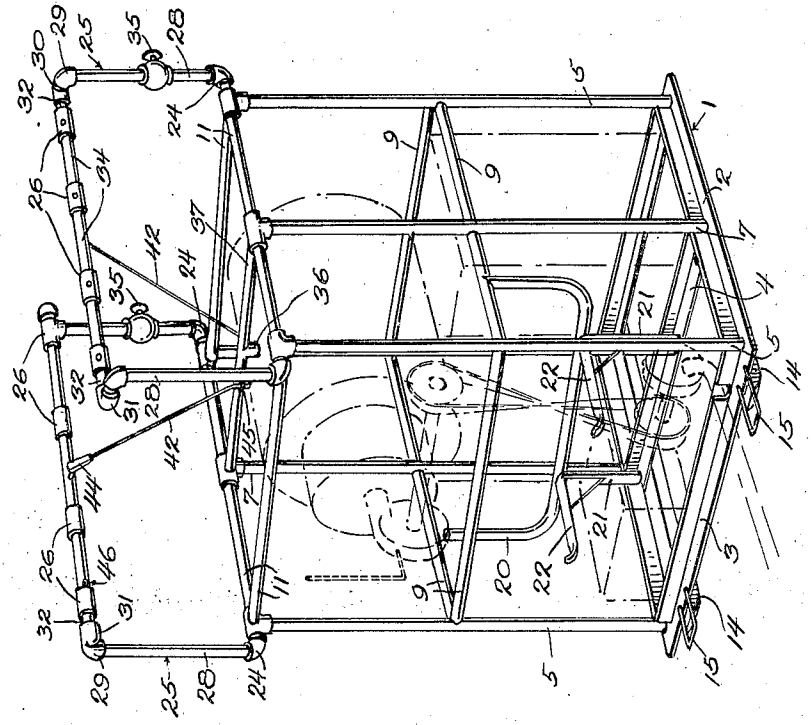
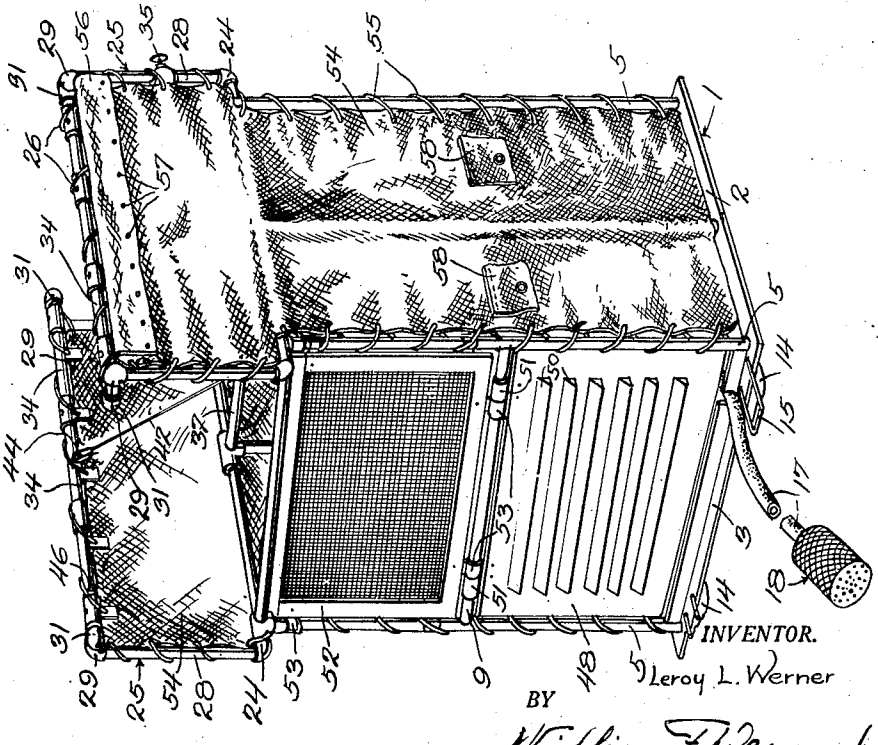


Fig. 1.



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Fig. 3

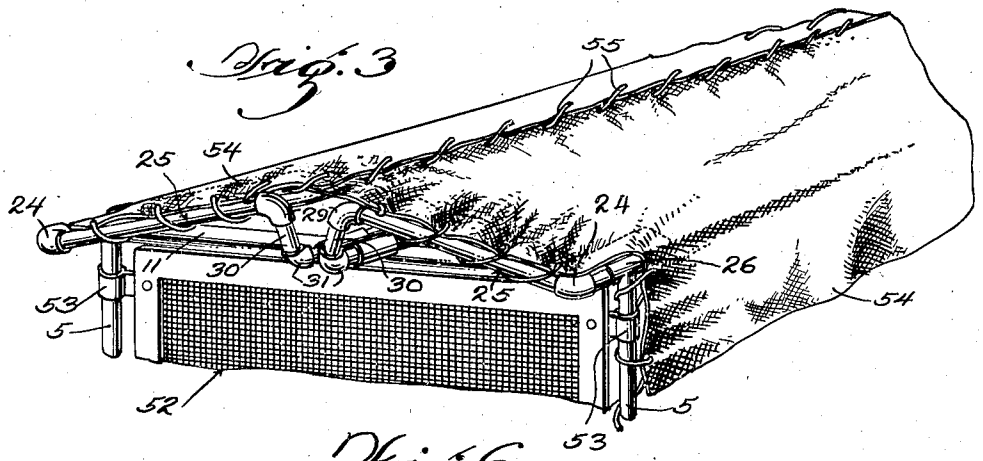


Fig. 6

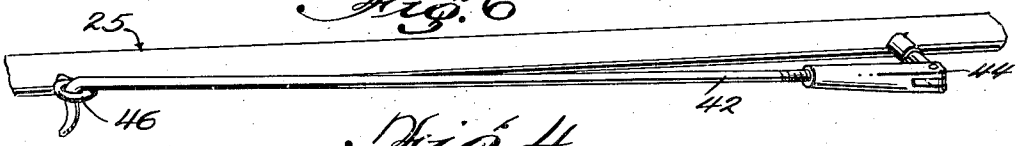


Fig. 4

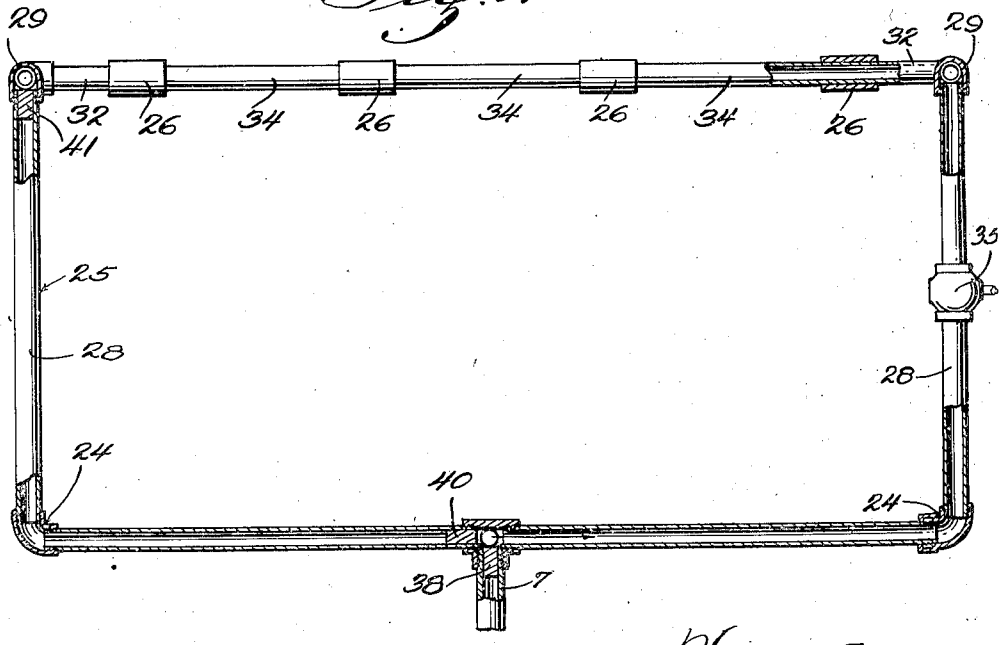
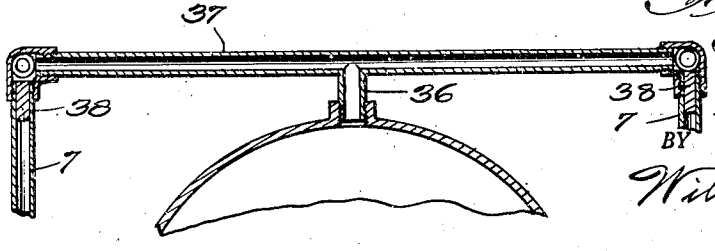


Fig. 5



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UNITED STATES PATENT OFFICE

2,457,190

PORTABLE SHOWER UNIT

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Application October 22, 1945, Serial No. 623,839

8 Claims. (Cl. 4—156)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to bathing apparatus and more particularly to a unitary portable shower bath structure of self-contained character for pumping and heating water and supplying the same to a plurality of shower nozzles.

It is an object of the invention to provide a shower bath in the form of a compact unit which is conveniently transported and easily put into condition for operation wherever water may be found available.

A further object of the invention is to provide bathing apparatus in the form of a self-contained unit capable of heating a large volume of water and delivering the same to a number of shower nozzles so that the apparatus can be used by a large number of individuals in a minimum of time.

A further object of the invention is to provide a portable bathing apparatus in the form of a compact unit having means for the protection of the operating parts and machinery thereof against spray from the shower nozzles when the same are in use, and the same means also being adapted to protect the unit from adverse influence of the weather when placed in condition for transportation or storage.

A still further object of the invention is to provide bathing apparatus in the form of a shower unit of simple design and rugged construction capable of withstanding the rough usage which such apparatus is likely to receive in use.

The above and other objects of invention are accomplished by the provision of the herein described shower bath unit comprising water pumping and heating mechanism and shower nozzles, all compactly united and mounted on a supporting frame, and provided with a fabric cover adapted to form a spray curtain when the apparatus is in operation and to function as protective covering for the sides and top of the unit when the same is in condition for transportation or storage.

The invention will best be understood from the following description of the same constituting a specification thereof, taken with the accompanying drawings wherein:

Figure 1 is a perspective view of the portable shower unit in condition for operation;

Figure 2 is a perspective view of the supporting framework of the portable shower unit with the enclosing ends and protective covering removed;

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Figure 3 is a perspective view of a portion of the top of the portable shower unit, showing the manner in which the pivotal frame sections may be moved down upon the top of the unit and how the protective covering forms a roof therefor while the unit is in inoperative condition;

Figure 4 is an elevational view of one of the pivotal frame sections in raised position, separated from the supporting framework, and partly in section;

Figure 5 is a fragmentary transverse section showing the manner in which the pivotal frame sections are connected to the hot water supply tank, and

Figure 6 is a fragmentary perspective view of a portion of one of the pivotal frame sections, showing in its inoperative position the brace by which the pivotal frame is adapted to be secured in its raised position.

As shown in the drawings the supporting frame of the portable shower unit has a base 1 of rectangular form comprising side members 2 and end members 3 and one or more connecting members 4. The side and end members 2 and 3 are preferably angles having one flange extending vertically and the other flange extending horizontally outwardly to form an outwardly extending ledge about the sides and ends of the base. Upright members 5 are secured to the base 1 at each corner of the same preferably by welding, and intermediate upright members 7 are secured to the base in a similar manner. Mediate the ends of the upright members 5 and 7 the same are connected by horizontal bracing members 9 welded thereto, and at their upper ends the upright members are connected by horizontal members 11 forming a rectangular top portion. The upright members 5 and 7 the bracing members 9 and the horizontal members 11 are all preferably of iron piping of suitable size and strength to withstand the strains to which such a structure is likely to be subjected and the connections between the members are all preferably welded. The supporting frame is provided with any convenient means by which it is adapted to be moved about, such as the runners 14 and links 15. A floor or bottom, not shown, may be formed on the frame by welding metal sheets to the base members 2, 3 and 4 to fill in the spaces therebetween.

Upon the supporting frame and preferably wholly within the confines thereof, are mounted the water pumping and heating means by which hot water is furnished for operation of the shower unit. The water pumping and heating apparatus may be of conventional design and are indicated

generally by the broken line portions of Figure 2. The water heating means preferably employs gasoline for fuel and the unit is preferably operated by a gasoline engine. It is considered unnecessary to describe in detail any particular pumping and heating apparatus in conjunction with the shower unit since the present invention may be used with any of a great variety of such apparatus.

For convenience in obtaining water from any available source close to the place where the shower unit is located, a water intake hose 17 may be provided which is furnished with the intake screen device 18. A U-shaped member 20 preferably of iron piping is secured at its ends to the horizontal bracing members 9 at the sides of the supporting frame, and is additionally supported from the connecting member 4 of the base 1 by the upright brackets 21. The brackets 21 have horizontally extending portions 22 upon which the hose 17 may be coiled.

At the corners of the rectangular top portion of the supporting frame, swivel couplings 24 are provided, by which at least one pivotal frame section 25, carrying shower nozzles or heads 26, are secured to the top of the supporting frames at the opposite sides thereof. As best seen in Figure 4, each of the pivotal frames 25 comprises short sections of piping 28 connected to the swivel couplings 24 and to the elbows 29; end sections 30 connecting elbows 29 and elbows 31; sections 32 connecting the elbows 31 with adjacent nozzle portions 26, and sections 34 extending between the nozzle sections 26. The shower nozzles may be located at suitably spaced intervals, as shown especially in Figure 4, and any number of such nozzles may be employed depending upon the length of the unit. The nozzles may be of any convenient type, preferably of a spray type as commonly employed in shower baths.

For the sake of economy one of the swivel couplings 24 of each pivotal frame section 25 may be a standard swivel coupling such as is commonly used in piping structures, while the other swivel coupling 24 may be merely a standard elbow which is threaded on the pipe section 32 tightly enough to permit the limited pivoting of the frame 25 without leaking. Thus only two standard couplings are required for each shower unit.

A hand valve 35 of usual type is provided in one of the sections 28 of each frame 25 for controlling the flow of water to the nozzles.

Water is supplied to the nozzles 26 through portions of the pivotal frames 25 which are connected with the pumping and heating apparatus by the pipe 36 and the horizontal pipe 37 which extends across the top of the supporting framework.

As seen in Figures 4 and 5, the upright members 7 are closed at the top by plugs 38, and the horizontal members 11 of the top of the supporting frame are closed off by plugs 40 and 41, and the flow of water is thus restricted to the most direct path to the nozzles and prevented from entering other parts of the framework.

The pivotal frame sections 25 are held in their upright positions, as will be seen in Figures 1 and 2, by means of the pivotally movable hook-like braces 42 pivoted to the frame sections 25 at 44 and hooking into the eyes 45 located on the pipe section 37. When not in use the braces 42 lie against the frame sections 25 and are hooked into the eyes 46, as shown in Figure 6.

Doors 48 having ventilating openings or louvers 50 therein are pivotally secured by hinges 51 to the horizontal bracing members 9 at each end of the shower unit, and screens or grillwork panels 52 are fastened to the same members 9 by straps 53 and fit into the spaces formed by the horizontal members 11 and braces 9, as can best be seen in Figure 1.

Curtains 54, which are preferably formed of tough waterproof canvas or like material, are secured to the upright members 5 and to the pivotal frame sections 25, as shown in Figures 1 and 3 and serve as a protective covering for the sides and top of the unit. Any convenient form of fastening may be employed for securing the curtains 54 in place, such as the rope 55 shown or similar lashing means. Flaps 56 are provided at the top of one of the sections of curtain 54, which flaps have holes or grommets 57 along the free margins for a purpose later to be pointed out.

Flaps 58 are provided on the curtains 54 covering holes therein which are positioned opposite the horizontal bracing members 9, so that the latter may be grasped through the curtains for lifting the entire unit when it is desired to move the same for short distances.

As best seen in Figure 3, the short pipe sections 30 extend inwardly of the general plane of the pivotal frame sections 25, so that the nozzles 26 are offset from the aforesaid plane. In the closed condition of the unit, as seen in Figure 3, the pivotal frame sections 25 are pivoted downwardly upon the top of the supporting frame and the flaps 56 laced together in overlapping relation The upper sides of the pivotal frame sections 25 being inwardly offset from the main planes thereof, as previously pointed out, rest upon the top of the supporting frame, forming a closed top or roof sloping from the center to the sides of the unit and providing protection for the pump and heating apparatus against rain and other adverse weather conditions.

The pipe sections 28 extend outwardly beyond the horizontal members 11 at the ends of the unit thus forming with curtains 54, overhanging eaves serving to prevent the entrance of rain through the grillwork panels 52.

In making use of the portable shower unit, the same is transported in its closed condition to some desired location, the flaps 56 of curtains 54 are unlaced and the pivotal frame sections 25 raised and secured in place by hooking the braces 42 in eyes 45. The door 48 is opened and the hose 17 is uncoiled from the members 22 and the screen device 18 dropped into any convenient water supply. The pumping and heating apparatus are then put into operation, and the unit is ready for use. Nozzles 26 spray the water in an outwardly direction to bathers standing outside near the sides of the unit.

It will be noted that upon operation of the hand valves 35 more or less hot water can be delivered to the nozzles 26 and in thus using the shower unit the interior thereof is well protected against spray from the nozzles by the curtains 54.

When it is desired to transport the unit to some other location, the screen device 18 is withdrawn from the water supply, the hose coiled away inside the unit and door 48 is closed. The braces 42 are unhooked from eyes 45 and hooked into the eyes 46. The pivotal frame sections are then moved down upon the top of the unit and the flaps 56 over lapped and laced. The unit is then in condition for storage or transportation.

It will thus be seen that the invention provides a convenient and easily transportable shower bath

unit of rugged construction well protected under all weather conditions and under the conditions of storage and use to which it may be subjected.

Having thus clearly shown and described the invention, what is claimed and desired to secure by Letters Patent is:

1. A portable shower unit comprising a supporting frame and a nozzle-carrying frame section forming the top of said unit, said section being movable into position for delivering bathwater to points outside said supporting frame.

2. A portable shower unit comprising a supporting frame and at least one pivoted nozzle-carrying frame section forming the top of said unit.

3. A portable shower unit comprising a supporting frame having fabric covered sides, and at least one pivoted nozzle-carrying frame section forming an extension of at least one of said sides and adapted to form the top of said unit.

4. A portable shower unit comprising a supporting frame, at least one pivoted nozzle-carrying frame section surmounting at least one side of said frame, fabric coverings on said side and frame section, said frame section being adapted to form the top of said unit.

5. A portable shower unit comprising a supporting frame, at least one pivoted frame section extending above and beyond at least one side of said frame, fabric coverings on said side and frame section, said frame section being adapted to form a top and overhanging eave for said unit.

6. A portable shower unit comprising a supporting frame, at least one pivoted frame section surmounting at least one side of said frame fabric coverings on said side and frame section, said frame section in one position forming a top for said unit and in another position forming with said side a shower curtain for said unit.

7. A portable shower unit comprising a supporting frame, at least one pivoted frame section surmounting said unit and forming in one position a top therefor, said section in another position forming an upward extension of a side of said unit.

8. A portable shower unit comprising a supporting frame, at least one pivoted frame section surmounting at least one side of said frame, fabric coverings on said side and frame section, said frame section forming in one position a top and overhanging eave for said unit and in another position extending above and beyond said side to form therewith a shower curtain for said unit.

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