Nov. 13, 1928.

1,691,577

J. LANG

BATH APPARATUS

Filed March 29, 1928

Fig. 1

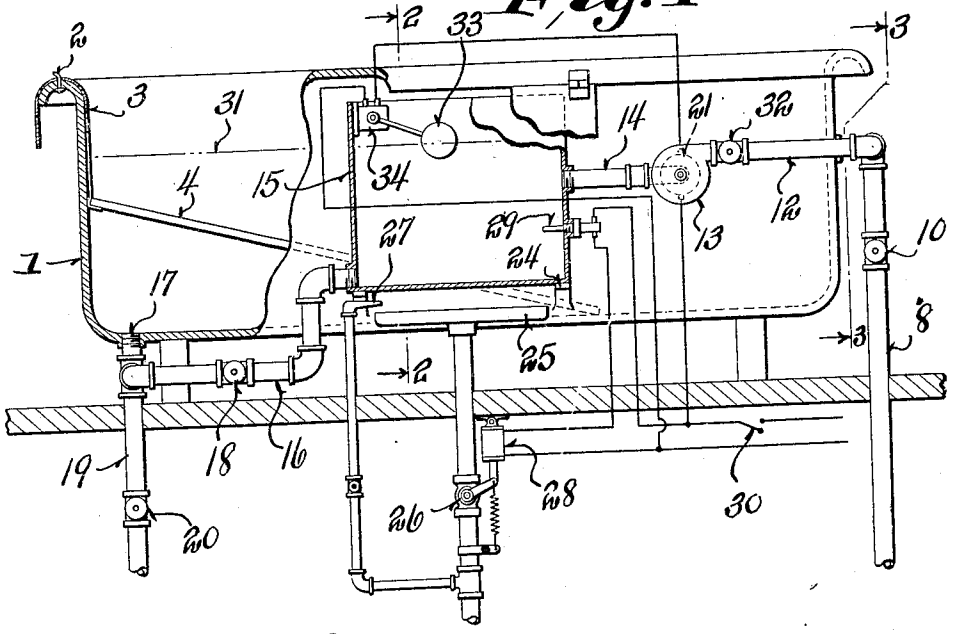


Fig. 2

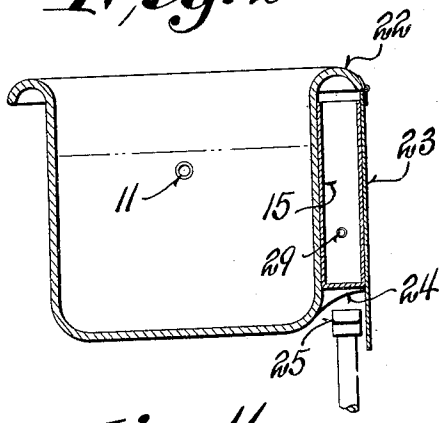


Fig. 3

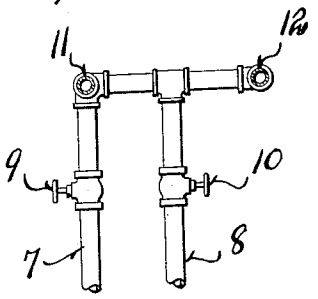
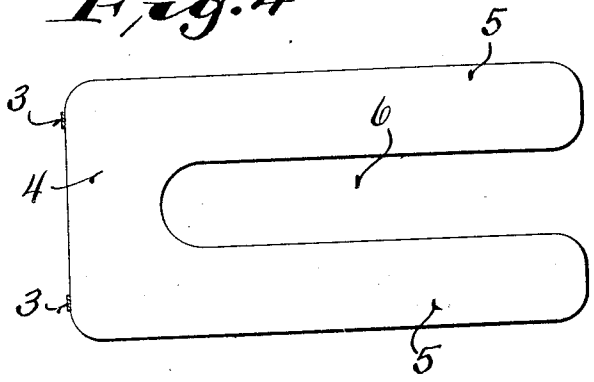


Fig. 4



Inventor:
John Lang
By Young & Young
Attorneys.

Patented Nov. 13, 1928. 1,691,577

UNITED STATES PATENT OFFICE.

JOHN LANG, OF WAUWATOSA, WISCONSIN.

BATH APPARATUS.

Application filed March 29, 1928. Serial No. 265,534.

This invention relates to a bath apparatus.

Objects of this invention are to provide a novel type of bath apparatus which is so constructed that treating fluid is continuously circulated through the tub and is automatically maintained at the correct temperature so as to provide for the treating of patients with a treating solution in constant circulation and at a constant predetermined temperature.

Further objects are to provide a bath apparatus for treating patients, which is so constructed that the moving solution produces a massage action on the body, and in which a support is provided permitting the exposure of the spine and adjacent parts of the body to the action of the water.

Further objects are to provide a device which may be associated with a tub approximating a conventional tub and which will provide for the comfort of the patient while he is being treated.

An embodiment of the invention is shown in the accompanying drawings in which:

Figure 1 is a side elevation of the apparatus with parts broken away and in section;

Figure 2 is a transverse sectional view on the line 2—2 of Figure 1;

Figure 3 is a sectional view on the line 3—3 of Figure 1;

Figure 4 is a plan view of the body support for the patient with the supporting straps in section.

Referring to the drawings, it will be seen that a tub 1 is provided and is equipped with a pair of projecting prongs 2 which enter apertures in straps 3. The straps 3, as may be seen from Figures 1 and 4, are attached to a body support 4 which has a pair of portions 5 providing a space 6 between them. The support 4 is positioned within the tub with the rear part thereof elevated so that the patient may lie upon the support and have his body held in a slanting manner with the spine exposed through the space 6.

Means are provided for initially filling the tub with hot and cold water, for instance, by means of the pipes 7 and 8 controlled by the valves 9 and 10. These pipes communicate with the inlet pipe 11 leading into the tub, as is apparent from Figures 2 and 3. A pipe 12 communicates with the inlet pipe and extends to the outlet end of a rotary pump 13. The inlet portion of the pump is connected by means of a pipe 14 with a heating tank 15. The tank 15 is supplied by means of a pipe 16 leading to the outlet pipe 17 from the tub. The pipe 16 is controlled by means of a valve 18. Further, a discharge pipe 19 leading to the outlet pipe 17 of the tub is provided and has a control valve 20.

The pump 13 may be driven in any suitable manner, as by means of an electric motor whose outline is indicated by the dotted lines 21 in Figure 1.

The heating tank 15 is mounted below the beaded or rolled upper edge 22 of the tub, as shown in Figure 2, and a hinged flap 23 is carried by the beaded edge and extends downwardly to a point below the heating tank 15. This heating tank may be supported in any suitable manner as by means of the brackets 24 extending outwardly from the tub, as shown most clearly in Figures 1 and 2. Below the heating tank, a gas burner 25 is positioned and is controlled by an electromagnetically operated valve 26. A pilot burner 27 is positioned adjacent the burner 25 so as to ignite the gas whenever the valve 26 is opened.

The magnet 28 of the valve 26 is controlled by means of a thermostat 29 located within the heating tank 15 so as to maintain the temperature of the water in the tank 15 at a constant temperature. In view of the fact that this water is in constant circulation, it is at once apparent that the entire body of water is maintained at a substantially constant temperature.

The circuit for the magnet 28 is also controlled by a manually operable switch 30 so that it may be opened whenever it is desired to discontinue the heating of the tank, as for example, after a treatment is finished.

In using the apparatus, the waste valve 20 is closed and the tub is filled to approximately the level indicated by the line 31 in Figure 1. This filling of the tub may be with either hot or cold water through the pipes 7 and 8, as required. The exact temperature desired may be easily obtained for the initiation of the treatment. Thereafter, the thermostat 29 is set for the desired temperature and will maintain the temperature of the water constant.

The motor 21 is then started and the discharge valve 32 (see Figure 1) and the inlet valve 18 are opened, so that water freely circulates from the tub through the heating tank and back into the tub without requiring the addition of any further supply of water from

the hot and cold supply pipes 7 and 8. The desired chemical or treating medicine may be added at any portion in the system so as to modify the action of the water in the exact manner desired to secure the medicinal treatment required. Thereafter, the apparatus is left in operation with the patient reclining upon the slanting support 4 and with his spine exposed through the opening 6.

The patient thus gets the benefit of the heat treatment from the water and the medicinal treatment from the medicament employed and also the massage action due to the flowing water as it sweeps around his body.

It is to be noted particularly that the outlet pipe is located directly beneath the patient so that the drift of water is towards the patient and thus all portions of his body are swept over by the travelling water. Thus, the solution is kept constantly agitated and in constant motion over the patient's body, while at the same time the temperature is maintained constant.

It is to be distinctly understood that other types of heaters may be employed instead of the gas burner illustrated. For instance, in certain installations, it may be preferable to use an electric heater controlled by the thermostat.

Further, it is desirable to provide a float 33 controlling an electric switch 34 connected in the motor circuit and thus controlling the motor, as indicated in Figure 1. The purpose of this construction is to prevent the motor from withdrawing too much water from the heating tank 15 at any one time, and instead to maintain a substantially constant level within such tank.

It will be seen further that the apparatus is relatively simple, is automatic in its action, and may be set to the exact requirements of the individual case.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

1. A bath apparatus comprising a tub adapted to receive a patient, and means for circulating a fluid through the tub, said tub having an adjustable inclined support for holding the patient in an inclined position, said support having a cut-away portion to expose the spine and the associated regions of the patient's body.

2. In a bath apparatus, the combination of a tub, means for maintaining the temperature of the liquid carried within the tub at a constant value, and a circulatory pump for causing a constant circulation of water through the tub, said means for maintaining constant temperature comprising a heating tank communicating with the tub, and a thermostatically controlled burner for heating said tank.

3. In a bath apparatus, the combination of a tub, a heating tank carried by the tub and having a pipe leading into the tank and communicating with the lower portion of the tub, a driven pump having its intake communicating with said tank and its outlet opening into said tub, a burner located below said tank, a pilot light for said burner, an electromagnetic valve for controlling said burner, and a thermostat controlling said valve and located within said tank.

4. In a bath apparatus, the combination of a tub, a heating tank carried by the tub and having a pipe leading into the tank and communicating with the lower portion of the tub, a driven pump having its intake communicating with said tank and its outlet opening into said tub, a burner located below said tank, a pilot light for said burner, an electromagnetic valve for controlling said burner, and a thermostat controlling said valve and located within said tank, and a flap hingedly carried by said tub and overhanging said tank and said burner.

5. A bath apparatus comprising a tub adapted to receive a patient and adapted to contain a treating fluid, pipes for hot and cold water having manually operable valves for controlling the initial filling of the tub, a discharge pipe, a valve controlling the discharge through said last mentioned pipe, a heating tank associated with said tub and communicating with said discharge pipe, a circulating pump communicating at its intake end with said tank and at its outlet end with said tub, heating means associated with said tank, and a thermostat positioned within said tank for controlling said heating means.

6. In a bath apparatus, the combination of a tub, means for maintaining the temperature of the liquid carried within the tub at a constant degree, comprising a heating tank communicating with the tub and a thermostatically controlled burner for heating said tank, a motor driven circulatory pump for causing circulation of water through the tub, and a float controlled switch mounted within said tank for controlling said motor driven pump.

In testimony that I claim the foregoing I have hereunto set my hand at Wauwatosa, in the county of Milwaukee and State of Wisconsin.

JOHN LANG.