

May 2, 1939.

A. B. STOUT

2,156,361

STEAM BATH CABINET

Filed Feb. 25, 1938

2 Sheets-Sheet 1

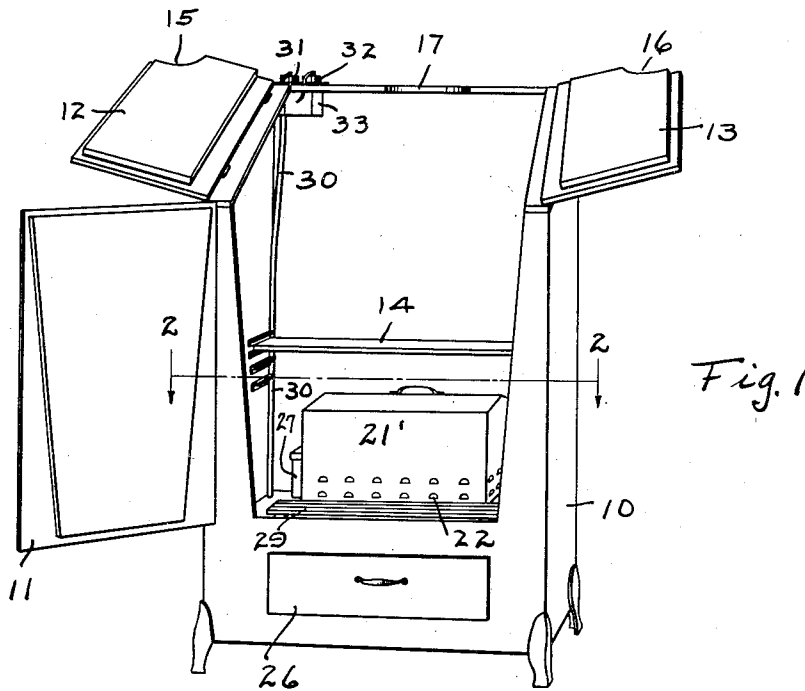
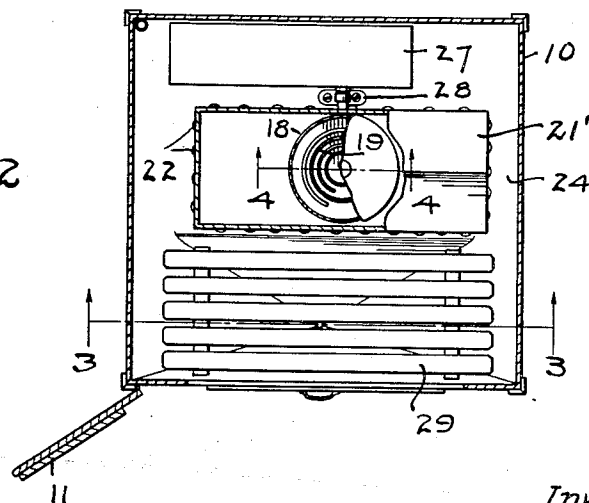


Fig. 2



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2 Sheets-Sheet 2

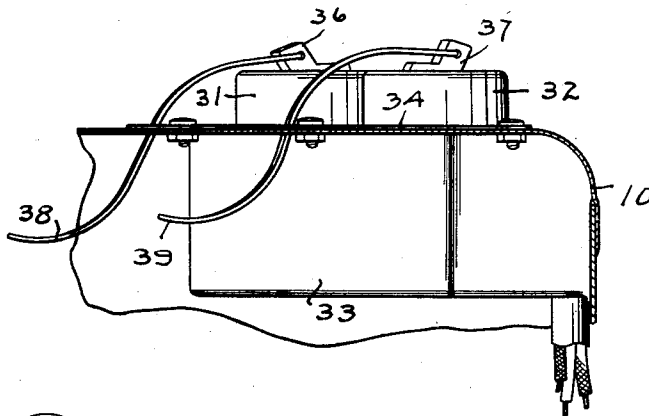


Fig. 6

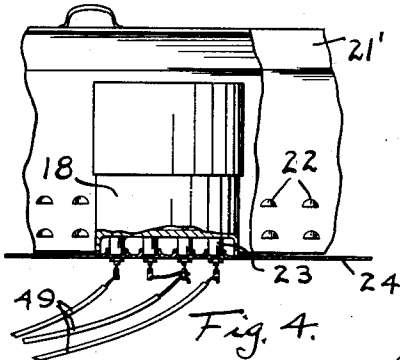


Fig. 4.

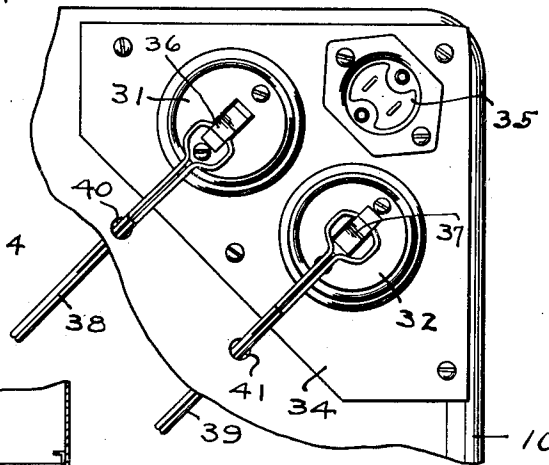


Fig. 5.

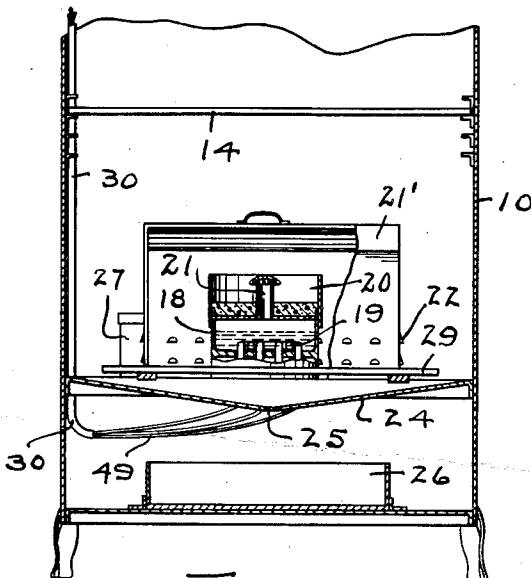


Fig. 3.

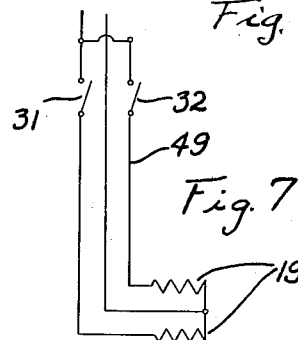


Fig. 7

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UNITED STATES PATENT OFFICE

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STEAM BATH CABINET

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4 Claims. (Cl. 4—164)

This invention relates to steam baths of the type shown in my U. S. Letters Patent No. 2,070,378 issued February 9, 1937. The invention involves the use of electric current to supply energy to generate steam within the bath. Since the bath becomes filled with steam, there is considerable moisture present during the operation and therefore particular care must be exercised in preventing the user of the bath from coming into contact with or being exposed to the effects of the electric current itself. In other words, particular pains must be taken to well insulate the controls and conductors of the current in connection with the bath.

It is a primary object of my present invention to provide control means in the electric circuit which may be safely operated from either inside or outside of the bath with perfect safety to the user at all times. It is a further primary object of my invention to prevent any contact of the moisture within the bath with the electric conductors and to fully insulate them from the bath so that the user may not in any manner come into contact with the conductors or charges resulting therefrom.

These objects of the invention become very essential in employing a metal wall cabinet for the bath as is desirable. These and other objects and advantages of the invention will become apparent to those versed in the art in the following description of the invention which is illustrated in one particular form in the accompanying drawings, in which

Fig. 1 is a front elevation of a structure embodying the invention;

Fig. 2, a horizontal transverse section on the line 2—2 in Fig. 1;

Fig. 3, a vertical section on the line 3—3 in Fig. 2;

Fig. 4, a detail in partial section of the leads from the heating element;

Fig. 5, a detail in top plan view of the control switches on an enlarged scale;

Fig. 6, a detail in side elevation of the switches also on an enlarged scale; and

Fig. 7, a wiring diagram showing the arrangement of the electrical circuits.

Like characters of reference indicate like parts throughout the several views in the drawings.

The bath is made generally with a metal wall cabinet 10 having a major front opening closed by a door 11 and a top opening closed by the top doors 12 and 13. A seat 14 is provided within the cabinet on which the user may sit and pull the door 11 closed and then the doors 12 and 13.

These doors are provided with cut away portions 15 and 16 to provide in cooperation with a notched out portion 17 in the rear part of the top of the cabinet for clearance about the neck of the user. When the user is thus enclosed in the cabinet, he may not be able to operate controls outside of the cabinet without opening one of the doors. This is objectionable in that steam or vapor within the cabinet would be released and lost. In further explanation of the bath operation of the cabinet, as in my previous patent above indicated, a metal cup 18 is provided in which is located an electrically heating element 19 as a means for heating a liquid in the cup to be converted into vapor or steam. Above the cup 18 is fitted a receptacle 20 to contain the desired chemicals for medication of the steam. When the coil 19 is energized, vapor and steam from the heated liquid surrounding the coil will escape through the central pipe 21 and be deflected down onto the chemical in the receptacle 20 to vaporize that chemical and carry it along into the cabinet. In order to secure a better diffusion of these vapors, a hood 21', in the nature of an open bottom box is set down over the cup 18 and its upper receptacle 20 to rest on the floor of the cabinet. The cover 21' is provided with hooded openings 22 around its side walls as a means for permitting escape of the vapors therein from within.

This coil 19 is of the type having a resistance wire or element embedded within insulating material carried within tubing. Also the coil 19 is preferably divided into two or more lengths whereby the lengths may be energized selectively one at a time or both together as may be required to secure the rate of vaporization of the fluid desired. It will be understood of course that in starting up the device, more heat would be required within a given time to bring the fluid up to the point of vaporization or boiling and the less heat would be employed thereafter to maintain the rate of vaporization required. In the present instance as one particular example, terminals of these separate resistances in the coil 19 are brought down through metal bosses 23 cast directly on the under side of the cup 18. The floor 24, Fig. 4, of the cabinet is punched through from the under side in such manner that an up-turned flange will be formed around each opening through which a boss 23 may extend. This formation is produced in order to prevent condensation appearing on the floor of the cabinet from flowing downwardly around the bosses 23 onto the electrical connections thereunder. It is also to be noted in this connection that the cup 18 is

provided with an outer annular flange which rests on the floor 24 and spaces the bottom of the cup above the floor, all as indicated in Fig. 4. The part of the floor 25 extending forwardly from the cup 18 in the cabinet is preferably depressed as indicated in Fig. 3 in order to provide flow of the conduit into the depression and there be drained from the hole 25 into some suitable receptacle thereunder such as the tray or drawer 26 which may be removed from time to time and emptied as may be required.

The cup 18 has its fluid level maintained in the usual manner as indicated by my previous patent above referred to from a fluid tank 27, the particular form of this tank not entering into the present invention. The cup 18 is fixed in position on the floor 24 by means of a clamp 28 passing over the pipe interconnecting the cup with the tank 27 as indicated in Fig. 2, this clamp 28 being secured to the floor 24. For the convenience of the user, the forward depressed portion on the floor 24 is covered with a foot rack 29.

From the respective terminals presented at the lower ends of the bosses 23, Fig. 4, suitable wires 49 are brought up under the floor 24 and engaged with these connections. In the form herein shown, the two central terminals are tied together to have a common wire lead therefrom and one wire 49 each leads from the other two outer terminals. These three wires, 49, are carried over under the floor 24 to enter a metal conduit 30 opening below the floor 24 and carried up through the cabinet to control switches 31 and 32 mounted on the top side of the cabinet. The conduit 30 is made to be water proof through its length through the cabinet so that the wires 49 are thoroughly protected from moisture.

The upper end of the conduit 30 opens into a metal box 33 formed within the cabinet as an integral part thereof and forming a moisture proof wall between the cabinet and the inside of that box. As indicated in the drawings, Fig. 6, the conduit 30 enters the box 33 through the floor thereof. The switches 31 and 32 are mounted on a plate 34 which is secured to the top side of the cabinet wall 10 in such manner that the wires 30 may be led through the box 33 to be electrically connected with these switches 31 and 32. The only purpose of the box 33 is to seal off moisture from the wires 49 and their connections with the switches.

In addition to the switches being carried by this plate 34 is a receptacle 35 formed in the usual manner to receive a connecting plug of a cord or the like carrying current from any suitable source. The connections between the various elements are indicated by the wiring diagram, Fig. 7.

Particular attention is directed to the mode of operation of these switches 31 and 32. While both switches are of the usual and well known type of "toggle" switch having the operating levers 36 and 37 respectively, such switches are made to be operated by a remote control as will now be described. From the outside of the cabinet, these switches 31 and 32 may be operated in the usual manner by rocking the levers 36 and 37. However, when the user of the cabinet is closed therein, some means must be provided to operate these switches from the inside of the cabinet. This is done by attaching arms 38 and 39 respectively in a hinged manner to the respective levers 36 and 37, and then carrying these arms around and downwardly freely through openings 40 and 41 in the top wall of the cabinet and

thence carrying these arms around under the top cabinet wall. By pulling downwardly on the inner end of either arm the respective switch may be rocked to one position. By pushing upwardly the particular switch may be rocked to its opposite position. For example, Fig. 6, by pulling downwardly on the inner end of the arm 38 the switch lever 36 is shifted to the left. By pushing upwardly, for example on the arm 39, the switch lever 37 is pushed to the right. Reverse operations may of course be performed on the respective arms. It is to be noted that the arms 38 and 39 take the form of an elongated S and are guided through their central portions by the cabinet top to limit the direction of movement.

Thus by adding the operating arms 38 and 39, the same switches may be operated inside or outside of the cabinets without interfering with their inside structure. Since all of the wiring and the terminal connections as well as the switch mechanisms are entirely sealed off from the inner side of the cabinet, there is no opportunity for the operator being subjected to electrical discharges and the operation is made entirely safe.

While I have herein shown and described my invention in the one best form as now known to me, it is obvious that structural changes may be employed without departing from the spirit of the invention and I therefore do not desire to be limited to that precise form beyond the limitations as may be imposed by the following claims.

I claim:

1. In a steam bath cabinet, having metal walls and floor, a fluid receptacle on the floor of the cabinet; an electrical, fluid vaporizing element associated with said receptacle; terminals extending from said element through said floor; flanges turned upwardly from the floor around said terminals to prevent condensation from flowing down the terminals; said cabinet having an element control switch on the top of the cabinet comprising a snap-acting rocker lever operable from the outside of the cabinet and an arm hinged to the lever and terminating within the cabinet; and having conductors between the switch and said terminals passing through the cabinet; and said cabinet also having a water-proof conduit within the cabinet enclosing said conductors therethrough.

2. The combination with a steam bath cabinet enclosing all but the head of a patient, and an electrical fluid vaporizing element associated with said cabinet, of an electrical switch control for operation within or without the cabinet, comprising a switch having an externally presented snap-acting rocker lever; and an arm hinged to said lever curving around from the lever and through a guiding opening in the cabinet wall and thence around into an end portion substantially parallel to the wall.

3. The combination with a steam bath cabinet enclosing all but the head of a patient, and an electrical fluid vaporizing element associated with said cabinet, of an electrical switch control for operation within or without the cabinet, comprising a switch having an externally presented snap-acting rocker lever; and an arm hinged to said lever curving around from the lever and through a guiding opening in the cabinet wall and thence around into an end portion substantially parallel to the wall, said arm being formed substantially in an elongated S-shape.

4. In a steam bath cabinet having metal walls and floor, and having means for controlling and

5 protecting an electric circuit therein, comprising a control switch mounted on a wall of the cabinet to have its terminal side presented interiorly thereof, said cabinet having means for sealing off that side from steam of the cabinet; and having conductors leading from said switch from said sealing means down through said cabinet through its floor; and having a conduit enclosing said conductors through the cabinet; the com-

5 bination of an electrical heating element inside said cabinet and mounted adjacent the cabinet floor; terminals extending from the element through the floor; and means insulating said terminals from moisture within the cabinet comprising flanges upturned from the floor through which the terminals loosely pass; said conductors extending under said floor to said terminals.

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