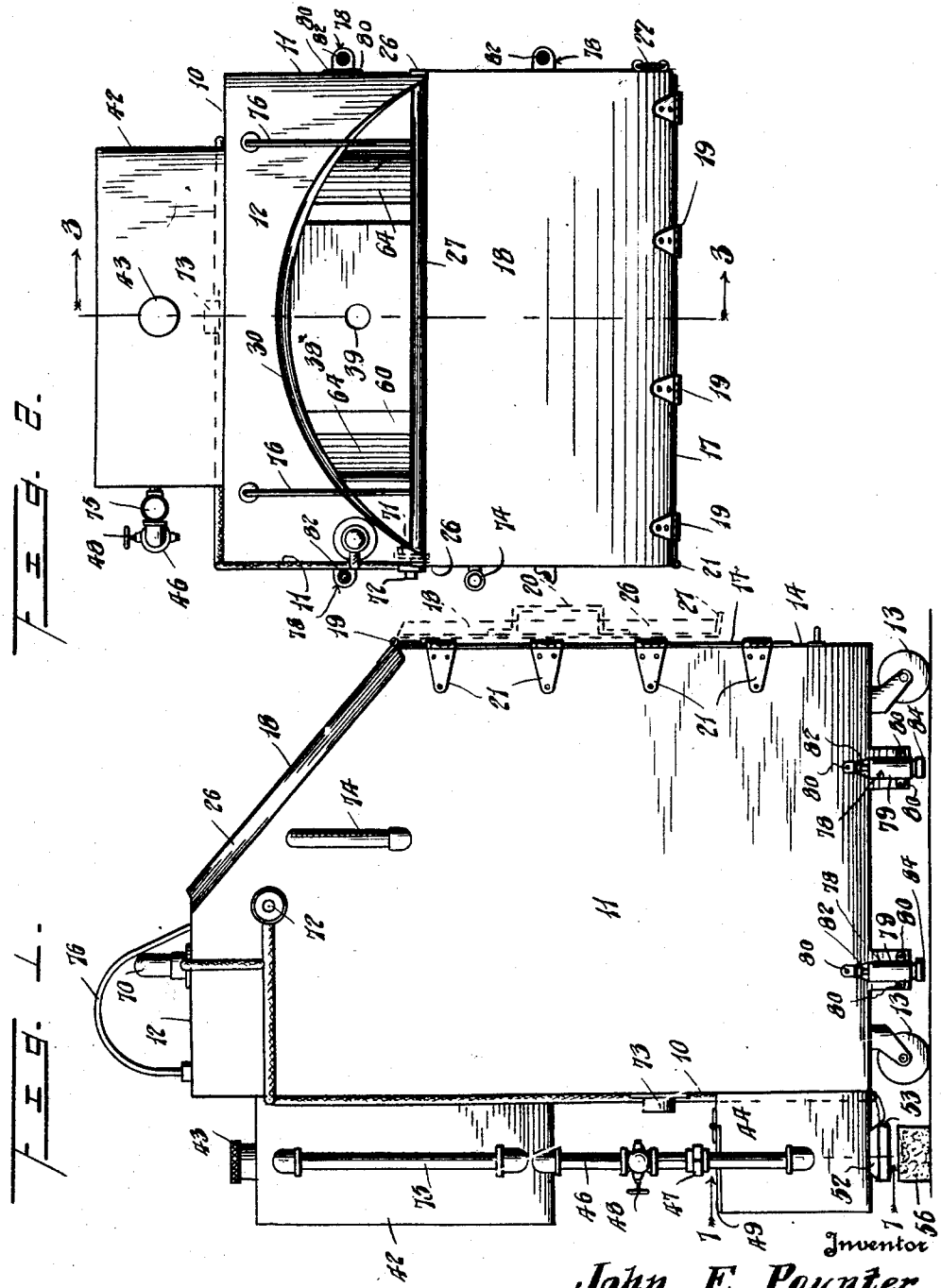
Oct. 14, 1930. J. E. PAYNTER 1,778,643

BATH CABINET

Filed Sept. 17, 1929 3 Sheets-Sheet 1



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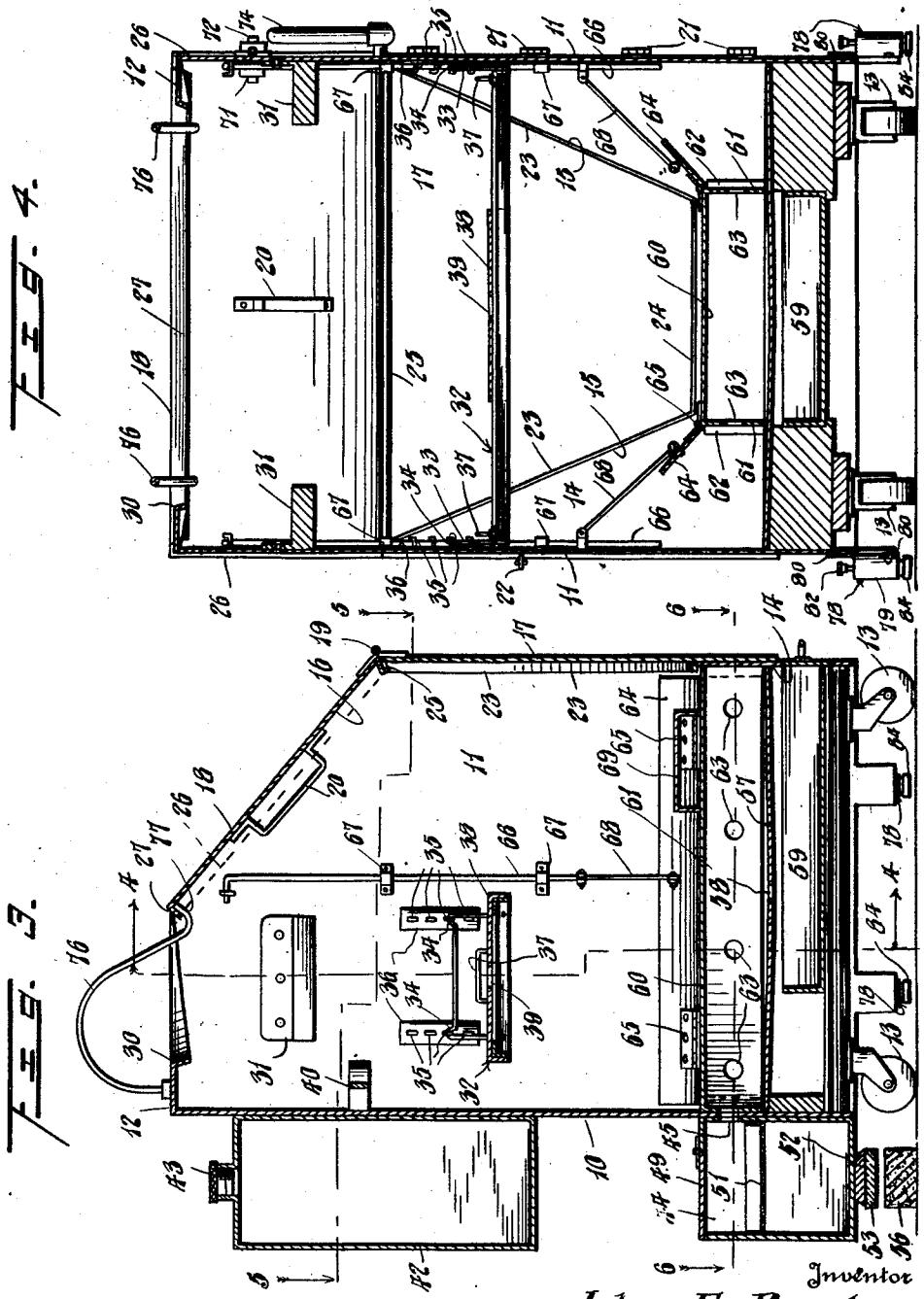

Fig. 4.

Fig. 3.

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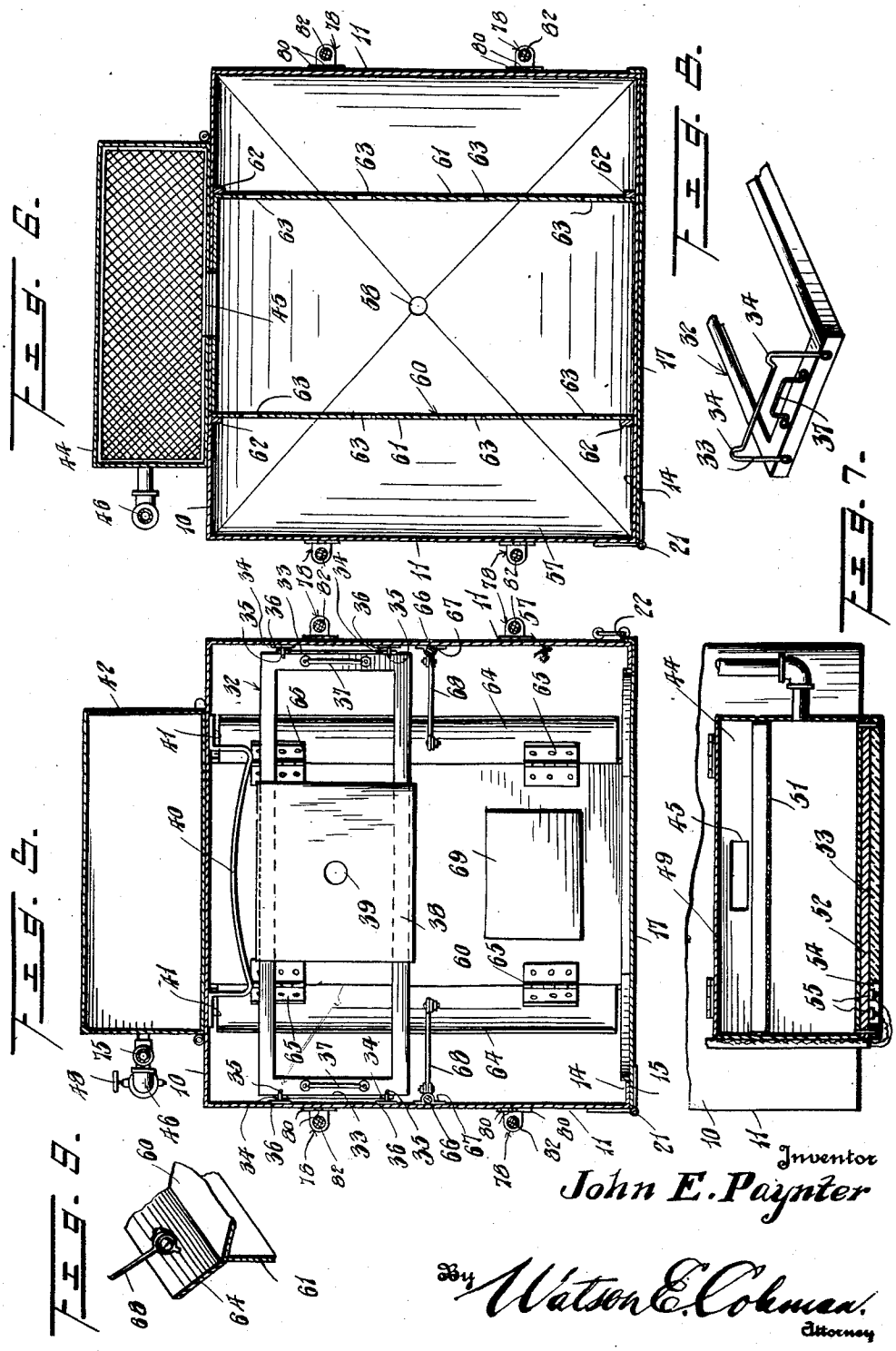

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UNITED STATES PATENT OFFICE

JOHN E. PAYNTER, OF KANSAS CITY, MISSOURI

BATH CABINET

Application filed September 17, 1929. Serial No. 393,206.

This invention relates to bath cabinets and particularly to metallic bath cabinets and the bath cabinet which forms the subject-matter of this application is particularly designed for the application to the human body of steam, moist air and vapors and fumes from minerals, chemicals, oils or the like.

One of the objects of the present invention is to provide a bath cabinet which is made entirely of metal and in which the vapors or fumes are generated by an electric heating element used in connection with a heating or vaporizing tank disposed in or at the bottom of the cabinet and discharging vapors into the interior thereof.

A further object is to provide a bath cabinet of this character wherein the vapors from the vaporizing tank or chamber are discharged into a duct disposed at the bottom of the cabinet, this duct being provided with outlet openings and with chambers controllable by the patient himself, whereby the amount of fumes or vapors discharged into the interior of the cabinet may be regulated.

A further object in this connection is to provide means whereby the patient himself may control the electric heating element or whereby the heating element may be controlled from the exterior of the cabinet by a nurse.

Another object is to provide a cabinet of this nature with a seat for the patient adapted to be vertically adjusted, arm rests either stationary or adjustable mounted upon the sides of the cabinet and a back rest mounted on the rear wall of the cabinet and a neck or shoulder rest mounted on the walls of the cabinet and formed as a part of the cabinet and defining the rear portion of the opening through which the neck and the head of the patient are projected.

Another object in this connection is to provide a door for the cabinet which is formed in two hinged sections, the lowermost section being hinged to one wall of the cabinet so that it may be swung out in a horizontal plane, the upper section being hinged to the lower section for movement in a plane at right angles to the plane of movement of the lower section and the two sections being so formed as to have vapor-tight engagement with the walls of the cabinet and in this connection to provide a handle for the upper section which may be manipulated either from the exterior or interior of the cabinet so that the patient may open this upper door if desired.

Another object is to provide means for draining the water or condensation from within the cabinet and provide a cabinet with a drain pan for collecting this water, but provide a supply tank for the vaporizing chamber or tank so connected thereto as to maintain a constant level of liquid in the vaporizing tank and generally speaking to provide a metal bath cabinet which is compact in form, may be relatively cheaply constructed, is light, and is thoroughly effective for the purpose intended.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of a bath cabinet constructed in accordance with my invention;

Figure 2 is a top plan view thereof;

Figure 3 is a vertical section on the line 3—3 of Figure 2;

Figure 4 is a section on the line 4—4 of Figure 3;

Figure 5 is a section on the line 5—5 of Figure 3;

Figure 6 is a section on the line 6—6 of Figure 3;

Figure 7 is a fragmentary vertical section through the heater;

Figure 8 is a fragmentary perspective view of the seat;

Figure 9 is a perspective view of the connection between the damper and the damper operating rod.

Referring to the drawings, it will be seen that the bath cabinet has a rear wall 10, side walls 11, and a top wall 12 and that the cabinet is supported by means of swiveled casters 13 of standard construction permitting the cabinet to be readily shifted in any direction to a point where it is desired to use it. The cabinet is also provided with feet adapted to

be turned downward so as to engage the floor and hold the cabinet steady as will hereafter appear. The front of the body of the cabinet is designated 14 and extends inward from the upper corners of the side walls, the inner edges of the front wall being downwardly and inwardly extended at an angle to the vertical plane as at 15 to a point above the floor of the cabinet. The side walls 11 at their rear ends preferably have a height of approximately 49 inches and the cabinet is approximately twenty-seven inches wide. The top wall 12 at its side edges is approximately fifteen inches wide. The upper edges of the side walls 11 are then extended downward and forward to the upper end of the front wall 14 as at 16.

The front of the cabinet is normally closed by a door formed in two sections 17 and 18, the section 18 being hinged to the upper end of the section 17 so that the section 18 may be turned over upon the section 17 as illustrated in Figure 3. The hinges are designated 19 and may be either strap hinges or piano hinges, but the joint between the two sections is closed enough to prevent the escape of vapor. The inner face of the upper section 18 is provided with the vertically disposed handle 20. The section 17 is hinged to one of the side walls 11 by means of hinges 21 so that this lower section may swing laterally in a horizontal plane. A hook or other latching device 22 is used to keep the lower section closed against the side walls.

The lower section of the door has a width slightly greater than the extreme width of the cabinet and is provided with inwardly extending flanges 23 and an inwardly extending bottom flange 24 which, when the door is closed, engage over the body of the cabinet, the flange 24 adding strength and stability to the door. The lower edge of the section 18 has formed therealong a drip flange 25 which extends inwardly and downwardly. The upper section 18 of the door has a width equal to or slightly greater than the width of the body of the cabinet and is formed with lateral flanges 26 adapted to engage against the exterior faces of the side walls when the upper section of the door is closed upon the inclined portions of the side walls and is formed with an inwardly extending flange 27 at the upper end of the door section 18. This door section, as before remarked, is hinged for swinging movement with the lower section but independent swinging movement in a vertical plane. The object in providing these flanges is to divert the moisture collected on the inner surface of the door section 17 to the inside of the cabinet to find its way into the drip pan hereinafter described by the means also to be described rather than to permit it to drip on to the floor or to find its way through the door opening by passing between the edge of the door and the adjacent wall portion 14 of the cabinet. The top 12 of the cabinet has a straight rear edge, but the forward edge is curved rearwardly and downwardly flanged as at 30 (see Figure 2) to form a neck rest or shoulder support. This flange is approximately three inches deep at the middle of the top plate 12 but decreases in width as it nears the lateral margins of the plate. The flange extends downward and inward and constitutes a rest for the neck or for the shoulders of the patient.

Riveted or otherwise attached to the lateral walls of the cabinet are the arm rests 31 which are angular in form and may be made of any suitable material but are preferably formed of sheet metal.

Disposed below the arm rests 31 is a seat supporting frame designated generally 32. This is rectangular in form has a length nearly equal to that of the cabinet and at its ends is provided with the upwardly extending U-shaped hangers designated generally 33, the cross bar of each hanger at its extremities being upwardly curved to form loops 34 engageable with any one of a plurality of pairs of hooks 35 projecting from the walls of the cabinet. These hooks 35 are preferably mounted upon or carried by metallic strips 36 which are riveted, welded or otherwise attached to the walls of the cabinet. By this means, the seat support may be adjusted up or down.

Attached to the ends of the seat support are the handles 37 whereby the seat support may be raised or lowered. The seat support is suitably braced by transverse braces and carried by the seat support is a seat 38 which may be made of metal or any other suitable material, but which is formed with a central opening 39. This opening 39 has been provided for the purpose of permitting a complete and thorough local treatment of mineral, chemical or oil vapors and fumes in cases of piles, hemorrhoids, fistula (such as anal fistula, coccygeal fistula, fecal fistula, vesicovaginal fistula, O dysmenorrhea, etc.). If made of metal, the seat support is flanged at its forward and rear edges to extend over the metal frame 32. A pneumatic cushion having a central opening is designed to be used upon this seat if desired.

It will be seen that the seat supporting frame may be raised or lowered to suit the height of the patient and bring his shoulders in correct position with relation to the upper end of the bath cabinet. Above the seat and extending transversely of the bath cabinet, is a back rest consisting of a strip of sheet metal and designated 40, this back rest being flanged at its ends to provide feet 41 riveted, welded or otherwise attached to the back of the cabinet. The middle of the back rest is preferably curved to fit the back of a patient.

Mounted upon the outer face of the rear

wall of the cabinet is a liquid supply tank 42 having a filling opening in its top closed by an air-tight cap 43. Below this supply tank and adjacent the lower end of this cabinet is a boiler or vaporizing chamber 44 preferably of metal and preferably rectangular having in its rear wall an opening 45 and connected to the tank 42 by means of the vertical pipe 46 which extends from the bottom of the tank 42 and extends into the chamber 44 above the bottom of the chamber. The pipe 46 has in its length a coupling or union 47 and also has in its length the valve 48, which valve may be used as a cut-off valve when the union 47 is disconnected. The top of the boiler or vaporizing chamber 44 is provided with the lid 49 hinged slightly inward from the rear wall of the vaporizing chamber and the rear portion of this vaporizing chamber abuts against the rear wall 10 of the bath cabinet. The vaporizing chamber is formed with the opening 45 so that vapor or fumes arising from the chamber 44 may be discharged into the interior of the cabinet. A mineral supporting pan 51 may be disposed within the vaporizing chamber.

It will be seen that inasmuch as the pipe 46 has its lower end disposed normally just beneath the liquid level in the tank 44, that liquid from the tank 42 will only flow into the chamber 44 when the liquid level therein has lowered below the lower end of the pipe 46. Then just sufficient liquid flows into the chamber as will cause the lower end of the pipe to be covered. Thus a constant level of liquid is maintained within the vaporizing chamber 44.

While I do not wish to be limited to any particular means for heating the liquid in the chamber 44, I preferably use electrical means for this purpose and to that end I have provided an electrical heating element 52 of any suitable character. I design this to have a length equal to the length of the chamber 44 and to extend longitudinally beneath this chamber.

Disposed below this heating element is a pressure plate designated 53. Apertures are provided at opposite ends of this plate 53 and opposite ends of the heating element whereby screws, bolts or other means may be used for attaching the heating element and the plate to the bottom of the chamber 44. The pressure plate is formed with an opening 54 giving access to the electrical terminal 55 on the heating element. A pad of non-heat conducting material such as asbestos, this pad being designated 56, is used beneath the pressure plate and between the pressure plate and the floor for the purpose of preventing the heat of the heating element from marring or burning the floor.

The bottom of the cabinet is formed by a drainage plate 57 which has an area equal to the cross sectional area of the cabinet and which may be flanged for attachment to the walls of the cabinet either by welding or by riveting. This drainage plate is slightly concave and has a discharge opening 58 at its center. Disposed below the drainage plate and disposed in the opening in the front wall of the cabinet is a drain pan 59 which receives any water draining through the opening 58. Disposed above the drainage plate is a plate or bridge 60 having downwardly extended, lateral flanges 61. This bridge or plate 60 has a length equal to the depth of the cabinet and is removably disposed within the front and rear pairs of cleats 62 attached to the front and rear walls of the cabinet.

This plate 60 constitutes a distributing duct for any vapor entering the cabinet from the boiler and to this end, the side walls of this duct formed by the flanges 61 are formed with a plurality of apertures 63. Hinged to the lateral margins of the plate 60 are the dampers 64 formed preferably of angular strips of metal, the hinges being designated 65 and being disposed upon the inner upper margins of the dampers 64 and being attached to the upper face of the plate 60. These dampers when closed swing down over the openings 63 and prevent the escape of vapor therefrom and when open permit the escape of vapor. The dampers are controlled by the patient himself by vertically disposed control rods 66 mounted on the side walls of the cabinet in guides 67. The guides may frictionally engage the rods 66 so as to hold the rods in any adjusted position or separate adjusting means may be provided for this purpose. The rods adjacent their lower ends are detachably connected to links 68 extending from each rod to a corresponding damper. The link 68 is connected to the operating rod 66 in order to permit the bridge to be removed from within the cabinet for cleaning and to permit the floor of the cabinet beneath the plate or bridge 60 to be cleaned.

A foot rest 69 rests upon the upper face of the bridge plate 60 so that the patient will not have to rest his feet upon the more or less heated bridge plate. It will be seen that all of the vapors or fumes generated within the boiler or vaporizing chamber 44 are discharged into this duct formed by this bridge plate 60 which thus acts as a distributor to uniformly distribute the fumes or vapors and that the inlet of vapors or fumes to the interior of the cabinet may be controlled by the patient himself through the action of the dampers 64.

The electrical connections to the heater 52 may be of any suitable character but the circuit which includes the heater also includes preferably an electric lamp acting as a signal lamp and designated 70, which circuit also includes a three-way switch 71 disposed upon

the interior of the cabinet, a switch of like character upon the exterior of the cabinet and designated 72 and also includes an electrical unit 73 at the back of the cabinet. The switches may be in the form of rheostats for the purpose of controlling the amount of current to the heating element or cutting off this current entirely, this current being capable of being controlled by the patient himself or by the nurse. The lamp 70, of course, indicates whether the current is on or off. A thermometer 74 is disposed upon one side wall of the cabinet or at any other convenient point so that the nurse can see just how much heat is being applied and the tank 42 will be provided, of course, with a gauge glass 75 whereby the height of the water or other liquid within the tank 42 may be indicated.

For the purpose of holding the sheets, towels or other textile coverings over the opening at the top of the cabinet and around the neck of the patient, I mount upon the top wall of the cabinet adjacent the rear thereof, the approximately U-shaped guards 76. These are pivotally mounted so as to swing in a horizontal plane and have their free ends turned upward. These guards may be turned with their free ends forward, their free ends laterally, or their free ends rearwardly. By the use of these guards, the sheets or turkish towels are so held above the shoulders of the patient, allowing more thorough treatment of them and by providing complete and direct contact of the steam or mineral vapors with the upper tissues of the shoulders.

The guards may be swung around to the rear when it is not desired to use them to support the towels or sheets. The upwardly hooked ends 77 of the guards are designed to hook beneath the flanges 27 on the upper end of the upper door section 18. Of course, it will be understood that the opening at the top of the bath cabinet through which the patient extends his neck is covered with a sheet or towel which drapes about the cabinet and around the patient's neck and prevents the escape of the steam, moist air, mineral, chemical and oil vapors or fumes.

Preferably the lower end of the cabinet is provided with supporting feet designated generally 78, these feet each including a barrel 79 having the attaching ears 80 by means of which they may be secured to the cabinet walls and having a rubber foot 84 carried at the lower end of the barrel by a pin 82 which is shiftable longitudinally through the barrel. By application of pressure to the upper end of the pin 82, the rubber foot at the lower end thereof may be forced downwardly into contact with the floor so that the body may be raised to take the weight thereof off of the swiveled rollers 31 so that accidental movement of the cabinet will be prevented.

This cabinet is capable of application to the human body of steam, moist air, mineral fumes or vapors, oil fumes or vapors and chemical fumes or vapors, these fumes or vapors being generated in the chamber 44. The pan 51 may be for any desired minerals or chemicals desired to be used. The bridge or plate 60 is removable for the purpose of cleaning both the inside surfaces of this plate and the bottom of the bath cabinet and for repair and replacement. The handle 20 on the upper door 18 is disposed inside of the upper door when the upper door is closed or outside when the door is opened. Thus it may be used by the patient from the inside and by the operator from the outside to close the bath cabinet.

All moisture either from perspiration or from water or condensation will flow down on to the drainage floor 57 and then be directed into the draining pan 59.

The wiring for the electrical heating element and for the signal lamp will, of course, be contained within a suitable conduit and will be properly insulated.

In the use of the cabinet, should a patient be affected with hemiplegia (paralysis of one side of the body) or any other unilateral condition, it will be possible with my system of damper control to supply vapors and fumes first and in greater volumn to the affected side by keeping the damper open on the affected side, while the damper on the unaffected side is kept closed.

While I have illustrated certain details of construction and arrangement of parts which I have found to be particularly effective in use, of this cabinet, I do not wish to be limited thereto as many changes might be made within without departing from the spirit of the invention as defined in the appended claims.

I claim:—

1. A bath cabinet having side and rear walls and a top wall, the upper edges of the side walls being downwardly and forwardly inclined, a door constituting part of the front wall of the cabinet and formed of a lower section and an upper section hinged to the lower section, the lower section being hinged to one of the side walls for lateral swinging movement and having latching means, the lower section extending up to the forward corners of the side walls, and the upper section being adapted to engage against the downwardly inclined edges of the side walls, the top wall having an arcuately curved edge face formed to provide a shoulder recess.

2. A bath cabinet having side and rear walls and a top wall, the upper edges of the side walls being downwardly and forwardly inclined, a door constituting part of the front wall and formed of a lower section and an upper section hinged to the lower section, the lower section being hinged to one of the side walls for lateral swinging movement and

having latching means, the lower section extending up to the forward corners of the side walls, and the upper section being adapted to engage against the downwardly inclined edges of the side walls, the door sections having marginal flanges adapted to engage over the side walls.

3. A bath cabinet having side and rear walls and a top wall, the upper edges of the side walls being downwardly and forwardly inclined, a door constituting part of the front wall and formed of a lower section and an upper section hinged to the lower section, the lower section being hinged to one of the side walls for lateral swinging movement and having latching means, the lower section extending up to the forward corners of the side walls, and the upper section being adapted to engage against the downwardly inclined edges of the side walls, the door sections having marginal flanges adapted to engage over the side walls, and the upper and lower door sections having inwardly and downwardly extending flanges at their upper ends.

4. A bath cabinet having side and rear walls and a top wall, the upper edges of the side walls being downwardly and forwardly inclined, a door constituting part of the front wall of the cabinet formed of a lower section and an upper section hinged to the lower section, the lower section being hinged to one of the side walls for lateral swinging movement and having latching means, the lower section extending up to the forward corners of the side walls and the upper section being adapted to engage against the downwardly inclined edges of the side walls, the front wall of the cabinet having an approximately V-shaped opening therein truncated at its lower end and the lower section of the door having inwardly extending flanges corresponding in shape to the shape of said opening and fitting against the edges of the front wall defining said opening.

5. In a bath cabinet, a vaporizing chamber, mounted upon the rear of the cabinet and discharging thereinto, means for maintaining a constant level of liquid within the vaporizing chamber, means for applying heat to the vaporizing chamber, a duct extending forward and rearward adjacent the bottom of the cabinet and having lateral openings into which the vapor from the chamber discharges, laterally disposed dampers hingedly mounted within the cabinet for controlling the discharge through said openings, and operating rods mounted upon the walls of the cabinet and connected to said dampers whereby the dampers may be raised or lowered.

6. In a bath cabinet, a vaporizing chamber mounted upon the rear of the cabinet and discharging thereinto, means for maintaining a constant level of liquid within the vaporizing chamber, means for applying heat to the vaporizing chamber, a duct extending forward and rearward adjacent the bottom of the cabinet and having lateral openings into which the vapor from the chamber discharges, laterally disposed dampers hingedly mounted within the cabinet for controlling the discharge through said openings, and operating rods mounted upon the walls of the cabinet and connected to said dampers whereby the dampers may be raised or lowerd, said duct being removable from within the cabinet for cleaning and the operating rods being operatively and detachably connected to said dampers.

7. A bath cabinet having therein a seat, the upper end of the cabinet having an opening through which the neck of the patient may extend, the top of the cabinet at the rear end carrying upwardly and downwardly curved sheet or towel supports, the towel supports being pivoted for movement in a horizontal plane.

8. A bath cabinet having therein a vertically adjustable seat, the walls of the cabinet having attached thereto arm supports and the rear wall of the cabinet having an inwardly curved shoulder support attached thereto, the upper end of the cabinet having an opening through which the neck of the patient may extend, the rear wall of said opening being downwardly and inwardly flanged to provide a neck and shoulder rest, the top of the cabinet at the rear end carrying upwardly and downwardly curved sheet or towel supports, the towel supports being pivoted for movement in a horizontal plane, the free ends of the towel supports having upwardly extending hooks and a door for the cabinet having an inwardly and upwardly inclined section having a downwardly extending flange through which said hooks may engage.

9. A bath cabinet having its walls of sheet metal, the front wall of the cabinet being shorter than the back wall and being formed with an approximately V-shaped opening, the side walls at their upper front corners being downwardly and forwardly inclined, the top wall having its forward edge inwardly curved from a point coincident with the upper ends of said inclined portions of the side walls, a metallic door formed in two sections and constituting a part of the front wall of the cabinet, the lowermost section being hinged to the side wall of the cabinet for swinging movement in a horizontal plane and having flanges embracing the outer faces of the adjacent walls of the cabinet, the inside face of the lower section having an approximately V-shaped strip adapted to extend into the V-shaped opening in the front wall of the cabinet, the upper section being hinged to the lower section and movable in a vertical plane and being formed to extend over the inclined portions of the side

walls and having inwardly extending lateral flanges engaging exteriorly of said side walls.

10. A bath cabinet having therein a seat, the upper end of the cabinet having an opening through which the neck of a patient may extend, said opening being formed with downwardly and forwardly extending flanges to provide a neck and shoulder rest.

11. In a bath cabinet, a vaporizing chamber, a duct extending forward and rearward adjacent the bottom of the cabinet and having lateral openings into which the vapor from the vaporizing chamber discharges, laterally disposed dampers hingedly mounted within the cabinet for controlling the discharge through said openings, and operating means disposed within the cabinet whereby the dampers may be opened or closed.

In testimony whereof I hereunto affix my signature.

JOHN E. PAYNTER.