W. S. CRUM.

THERAPEUTIC BATH CABINET.

APPLICATION FILED AUG. 18, 1919.

1,358,060. **Patented Nov. 9, 1920.**

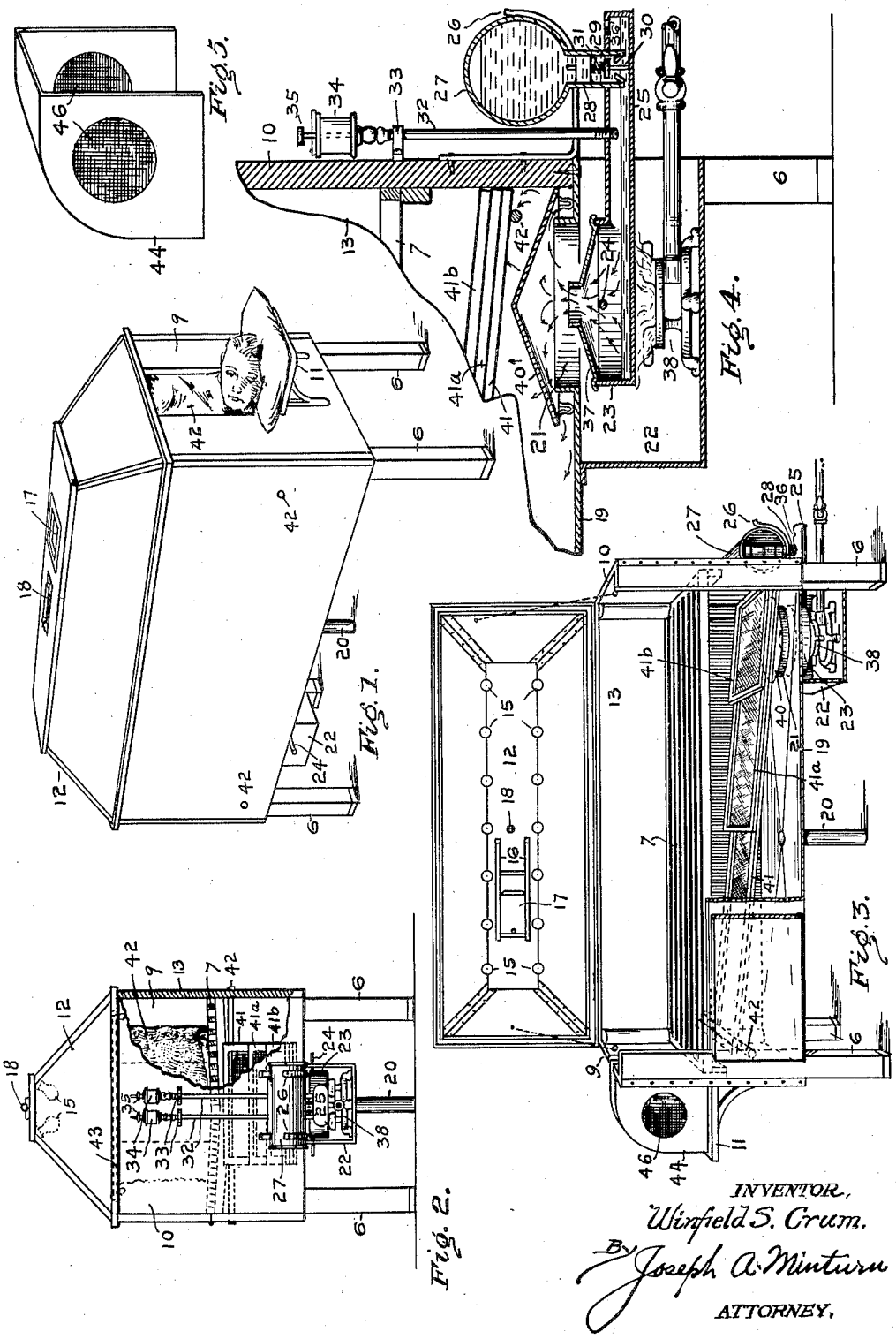


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

INVENTOR,
Winfield S. Crum.
By Joseph A. Minturn
ATTORNEY.

UNITED STATES PATENT OFFICE.

WINFIELD S. CRUM, OF WILKINSON, INDIANA.

THERAPEUTIC BATH-CABINET.

1,358,060. Specification of Letters Patent. Patented Nov. 9, 1920.

Application filed August 18, 1919. Serial No. 318,290.

To all whom it may concern:

Be it known that I, WINFIELD S. CRUM, a citizen of the United States, residing at Wilkinson, in the county of Hancock and State of Indiana, have invented a new and useful Therapeutic Bath-Cabinet, of which the following is the specification.

This invention relates to improvements in cabinets for administering vapor and other baths in the treatment of rheumatism and other diseases.

The object of the invention, is, first, to provide means for vaporizing water, plain or medicated, by the application of heat, second, to provide means for adding medicines to the water at any time, before or during the vaporization, third, to subject the medicated or plain water in thin broad sheets to the heating agent for maximum evaporation by a minimum heat, fourth, to provide automatic means for replenishing the liquid as fast as it is evaporated thereby enabling a shallower liquid body to be maintained without danger of burning the receptacle, fifth, to provide means for atomizing and distributing the mass of vapors and for equalizing their application to the patient, sixth, to provide means for applying the treatment to the patient's head, or not, at the will of the operator, eighth, to provide means for giving electric-light baths with hot air or vapor baths, or each separately or all together, and ninth, to provide a simple, convenient and sanitary apparatus.

I accomplish the above and other objects which will hereinafter appear, and which will be pointed out in the claims, by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention in use, the hood for vaporizing the head being removed. Fig. 2 is an elevation and partial vertical section of same looking at the foot or end opposite the head. Fig. 3 is a perspective view of the cabinet in open position and empty, looking in from one side, which side is broken away in part and sectioned to expose the interior features. Fig. 4 is a detail in vertical section, on a larger scale, of the vapor generating and distributing mechanism and Fig. 5 is a perspective view of the head-cover or hood, detached.

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

The cabinet comprises a box of greater length than width and depth, and of sufficient dimensions to receive all but the head and neck of a patient of maximum size in reclining position. The box stands on four legs 6, and is provided with a slatted removable bottom 7, here shown as supported on slats fastened to ends 9 and 10. The patient lies on this bottom 7, at about half the interior depth of the box. The space below is for the generation of the hot air and vapors used, and for the condensation and removal of the used vapors.

The end 9, hereinafter referred to as the head end, is slotted from the top edge down to the level of the bottom 7, wide enough for the passage of the patient's neck, it being the purpose to allow his head to remain outside for greater comfort and safety. To this end a shelf 11 is provided for a head-rest. A lid 12 is here shown as hinged to a side 13 of the box. The upper member 14, of the opposite or front side of the box is hinged at its lower edge on a level with the bottom 7. By hinging the top and side members in the manner described they may be moved to let the patient in and out most conveniently. The lid 12 is preferably raised longitudinally of its middle so its members will form oblique deflectors to direct the medicinal rays toward the patient below. Electric lamps 15, in a double row, are supported at the angles in the lid, as shown in Figs. 2 and 3. A hand-hole through the top has slides 16 to support a sliding window 17, for observation and adjustment by an operator without raising the lid. Over a hole in the lid is a thermometer 18 for measuring the temperature in the cabinet.

The upper surface of a fixed bottom 19, drains toward a central opening emptying into a drain pipe 20, and near the foot-end of the bottom is a very much larger opening which is guarded by an upturned flange 21. Below this last opening is a small metal box 22, in which an evaporating pan 23 is removably secured in any suitable and convenient manner, here shown as by means of a metal rod 24 which after the pan is placed is passed through suitable holes in the sides

of the box 22 and through holes near the upper edges of the sides of the pan, thereby hinging the pan so it may be swingingly adjusted about the rod. The pan has a tubular extension 25, which is long enough to project for a suitable distance beyond the foot-end of the cabinet, as best shown in Fig. 4.

Brackets 26, at the end of the cabinet support a reservoir tank 27, containing water. This tank has a discharge pipe 28, which enters an opening in the top of the extension 25, and terminates just below the water level to be maintained in said extension and its pan. Near the discharge end of the pipe 28 is a valve-seat for a valve 29, on a valve-stem 30. A spring 31 seats the valve except when held open by contact of the outer end of the stem with the bottom of pan-extension 25. As tank 27 and pipe 28 are air-tight the atmospheric pressure on the water surface in pan 23 and extension 25 will hold back the water in the tank until the level in the pan and extension drop enough to admit air through the bottom of pipe 28; then the water automatically discharges to raise the level which in turn stops the discharge. The pan is leveled and held there by tubes 32, 32, supported by brackets 33, 33, and having lower threaded ends which enter threaded holes in the extension 25. These tubes communicate with respective medicine cups 34, 34, and provide means for supplying medicine to the water in the extension 25 and evaporating pan 23. The cups 34 have the usual valves which are opened by pressing down on stems 35 when it is desired to discharge the medicine. A hole 36 through extension 25 provides additional means for adding medicines to the water, not supplied from the cups. The pan is provided with a removable lid 37, preferably domed toward a central opening through which the vapors discharge as generated in the pan by the application of heat. Any of the usual sources of heat may be utilized. I have here shown the familiar gas heater 38, which is pushed into the box 22 and rests upon the bottom of the box as shown, but an electric or other heater may be used.

The flange 21, around the opening above the box 22 keeps water of condensation from running back into the box, and a conical hood 40 above the opening keeps the condensation from falling down through the opening.

To distribute the vapors uniformly to the patient I provide a frame 41, filled with woven wire of small mesh, which frame I place above the discharge from the evaporating pan. The frame is wider than the vapor discharge opening, but narrow enough to leave ample side spaces for the upward movement there of the vapors. The frame is sloped upwardly from rear to front of the cabinet, and rests upon cross bars 42, as shown in Fig. 3. A major portion of the vapors will follow this slope, and, passing gradually through the mesh will be further atomized and distributed. In order to equalize the temperature and density which increase toward the generator, I prefer to place a second frame 41^a, in all respects like frame 41 except that it is about half as long, on frame 41 next to the foot-end of the cabinet, and on top of frame 41^a a third frame 41^b, still shorter and next to the foot. Additional frames may be used if desired but in practice I have not found them necessary.

In the operation of my cabinet, the patient is placed in nude condition on the slatted floor 7, with his neck passing through the slot in end 9 and his head resting on the outside shelf 11. Where the patient's head is not to be subjected to the vapors, a towel 42, supported on a rod shown by dotted lines 43, in Fig. 2, is used to close the unoccupied portion of the slot and is tucked about the patient's neck and chin to prevent leakage. A pillow for the head may or may not be used. When the head is to be fumed with the rest of the body, the towel-curtain and the pillow will be removed and a hood 44, placed on the shelf to envelop the head of the patient. The two inner corners of the side members of this hood are square to fit snugly between the shelf and head end of the cabinet, but the front and top of the hood are rounded so as the better to deflect the fumes to the patient. The side members have ventilation openings partially closed by wire cloth 46. When it is desired to administer hot air treatment without the vapors, the pan 23 is removed. The electric lights may be turned on or off at any time.

While I have here shown and described the best construction of my invention now known to me, it will be understood that I do not wish to be confined to the particular mechanism or material specified, but desire to include all modifications and changes coming within the scope of the appended claims; and having thus fully described my invention, what I claim as new and wish to secure by Letters Patent of the United States, is:

1. In an apparatus for treating disease, the combination with a cabinet to receive the patient, of a receptacle in which a liquid is vaporized by heat, said receptacle discharging into the cabinet, a heater, means for equalizing and distributing the heat and vapors in their application to the patient, comprising a screen of perforated material extending the full length of the cabinet and rising obliquely from a lowest portion above the vaporizing receptacle, and a plurality of additional screens each longer than the one above and adjustable on said first screen, all of said screens being entirely separated from the patient by an air space, and means for

variously medicating the liquid of the receptacle without interrupting the action of the apparatus.

2. In an apparatus for treating disease, a cabinet, means for supporting a patient in a prone position therein, means for supplying hot vapors through an opening below the patient, and a plurality of screens of perforate material between the patient and vapor supply entirely separated from the patient by an air space, said screens being in adjustably increasing layers toward the vapor supply opening to variously increase the resistance toward where the heat is greatest.

In witness whereof I have hereunto set my hand at Indianapolis, Indiana, this 4th day of August, 1919.

WINFIELD S. CRUM.