

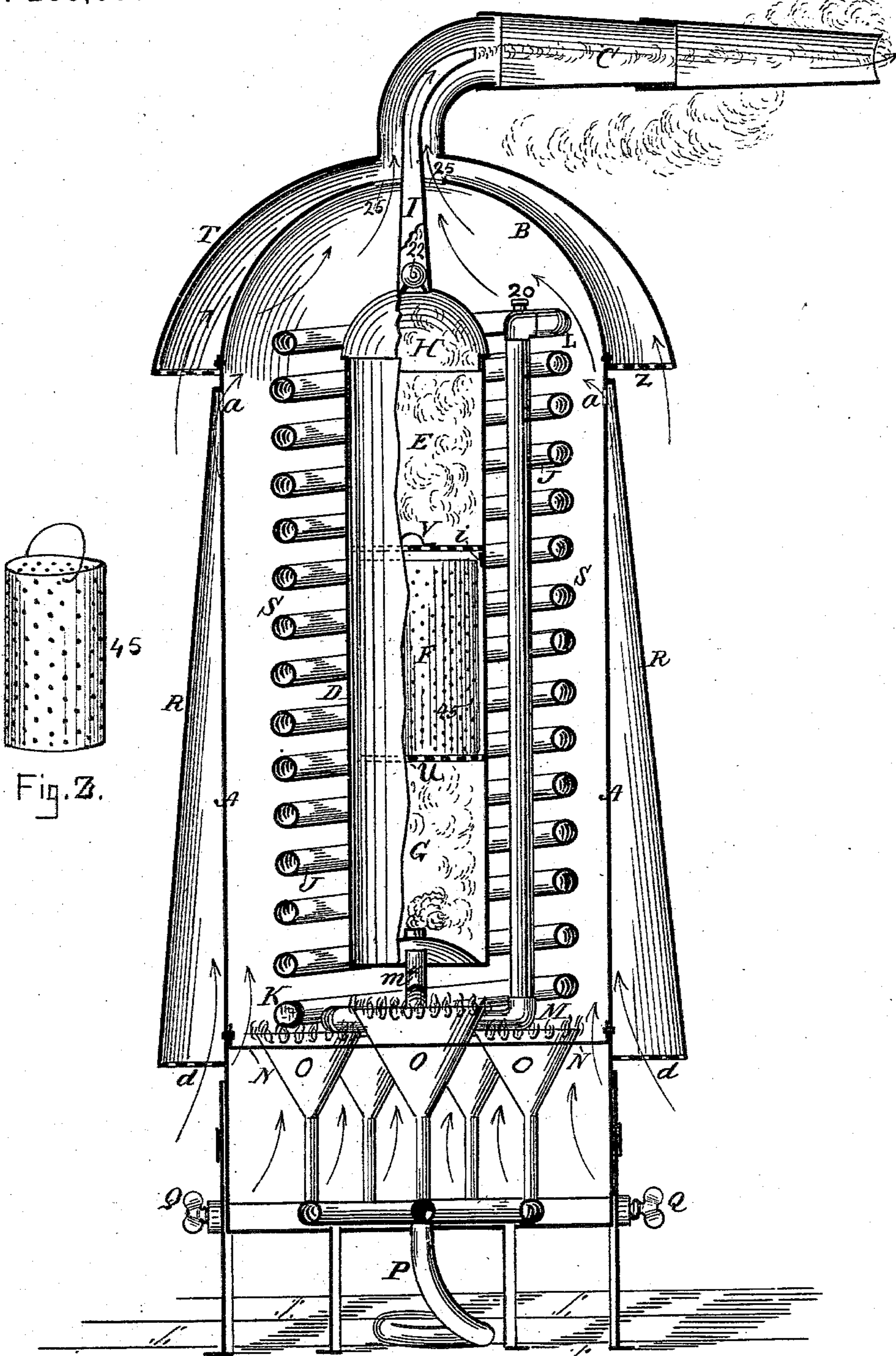
(No Model.)

H. T. WILLIS.

VAPOR GENERATOR FOR BATHING APPARATUS,

No. 286,666.

Patented Oct. 16, 1883.



Witnesses:
H. E. Metcalf.
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Fig. 1.

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UNITED STATES PATENT OFFICE.

HENRY T. WILLIS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND RICHARD C. FLOWER, OF SAME PLACE.

VAPOR-GENERATOR FOR BATHING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 283,666, dated October 16, 1883.

Application filed January 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. WILLIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Vapor-Generators for Bathing Apparatus, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section of the vapor-generator forming a part of the apparatus. Fig. 2 is a perspective view of the perforated holder for containing the medicating ingredients used in the generator.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

In Fig. 1 of the drawings, A represents the body or casing, B the dome or cap, and C the funnel or eduction-pipe. Arranged vertically, and properly supported within the body, there is a hollow sheet-metal cylinder, D, divided into three compartments or chambers, E, F, and G, and provided with the dome or cap H and funnel I. A coiled pipe or helix, J, also properly supported in the body A, surrounds the cylinder, the lower end of the pipe being provided with a plug or cap, K, and the upper end turned downwardly, as seen at L, forming a coil, M, above the platform N, and entering the cylinder D through its bottom at *m*¹. A series of gas-burners, O, on which the coil M rests, are disposed beneath the coil J and cylinder D, the burners opening upwardly through the platform N, and being supplied from any convenient source through the pipes P; but in place of the gas-burners either spirit or hydrocarbon burners may be used, if desired. The body A is supported upon the vertically-adjustable legs Q, and provided with an auxiliary casing or petticoat, R. This casing has its bottom perforated, as shown at *d*, to admit the air which passes out of the same and into the coil-chamber S through the holes *a a*. The dome B is also provided with a similar casing, T, which receives air through the perforated bottom *z*, and discharges it into the funnel C, the dome and casing being properly connected

at their bases. The bottom U of the compartment F is perforated and permanently fixed in the cylinder of this compartment, the top, consisting of the foraminous disk V, resting on the ledge *i*, the disk being removable at pleasure and the compartment designed to receive the perforated holder 45 for the herbs, drugs, or chemicals used in medicating the vapors of the bath, the holder being also removable.

In the use of my improvement the domes B and H are removed and the tube J partly filled with water through the inlet 20, which is then tightly closed. The holder 45 is then filled with whatever substances are to be used in medicating the vapor and inserted in compartment F, as seen in Fig. 1, the pipe or funnel C being connected with the bath by any suitable means. The burners O are next lighted, heating the water in the pipe J and converting it into steam, which passes into the compartment G, and thence through the bottom U into the compartment F, where it becomes medicated and passes into the compartment E, and from thence through the tube I into the tube C, where it mixes with the hot air from the chamber S and is carried to the bath. The pipe I is provided with a ball or floating valve, 22, by which the steam or vapor is held back or retarded in its progress through the cylinder D, thereby becoming superheated in the chamber or compartment G to such a degree as to act more effectually on the contents of the compartment F, and also fully utilize the heat of the burners O. The object of the auxiliary casing R is to utilize or save the radiated heat of the body A, the air on the exterior of the body being heated thereby and passed through the flues or openings *a a* into the chamber S, and thence into the pipe C through the openings 25 in the top of the dome B, around the pipe I, the radiated heat of said dome being also utilized in heating the air within the casing T, which passes directly into said pipe. The amount of hot air permitted to pass through the tube C may be readily governed by registers or dampers at the openings 25 and in the bottoms N & X. The steam or vapor may also be entirely shut off from the bathing couch or closet, or regulated as required by ordinary valves or dampers, or by a pipe connected with

the pipe I, which may be properly arranged for that purpose; or the coil and cylinder may be removed from the body A. When necessary, I connect a tube with the chamber or compartment G and conduct the superheated steam to the burners O, delivering it in the center of the flame in such a manner as to increase its intensity and cause the lamps to burn in a much better way; but this is not required when gas is used.

Having thus explained my invention, what I claim is—

1. The improved steam-generator described, the same consisting of the body A, dome B, casings T and R, pipes J and C, burners O, cylinder D, and funnel I, constructed, combined, and arranged to operate substantially as set forth.

2. In a steam-generator substantially as described, the casings T and R, in combination with the body A, dome B, and pipe C, substantially as and for the purpose set forth.

3. In a steam-generator substantially such as described, the cylinder D, surrounded by the coil J and provided with chambers E, F, and G, dome or cover H, and funnel I, substantially as and for the purpose set forth.

4. In a bathing apparatus, the combination of a steam-generator, a medicating steam-chamber, and a superheating steam-chamber between the steam-generator and medicating-chamber, substantially as described.

5. The combination of a vapor-chamber, a coil supplying the water to be vaporized, an inclosing-casing, burners for heating the water, an air-conducting pipe leading from the top of said casing, and a vapor-education pipe leading from said chamber and extending into and discharging within said air-pipe, substantially as described.

6. The combination of a vapor-chamber divided into compartments by means of perforated diaphragms, a removable perforated receptacle for the medicating ingredients, adapted to fit within one of said compartments,

a coil for supplying water to be heated and vaporized, a casing inclosing said chamber and coil, means for heating, and suitable air and vapor conducting pipes leading from said chamber and casing, substantially as set forth.

7. A vapor-chamber divided into compartments by means of perforated diaphragms, and provided with a removable perforated receptacle for medicating ingredients, substantially as described.

8. The combination of a vapor-chamber, a water-coil surrounding the same and connected therewith, means for heating, a casing inclosing said chamber and coil, provided with an exterior air-conducting skirt, and with apertures near the top of said skirt for admitting the air, substantially as set forth.

9. The combination of a vapor-chamber, a water-coil surrounding the said chamber and connected thereto, means for heating, a casing inclosing said chamber and coil, provided with a dome-shaped top and an exterior air-conducting skirt surrounding the same, having an education-pipe connected thereto, substantially as set forth.

10. The combination of a vapor-chamber, a water-coil surrounding the said chamber and connected thereto, means for heating, a casing inclosing said chamber and coil, provided with a dome-shaped top, separate air-conducting skirts surrounding said casing at the sides and top, said casing being provided with air induction and education openings, substantially as set forth.

11. A vapor-chamber divided into compartments by perforated diaphragms, one of said compartments being adapted to receive medicating ingredients, and provided at its top with a vapor-education pipe and an automatic valve, substantially as and for the purpose set forth.

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Witnesses:

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