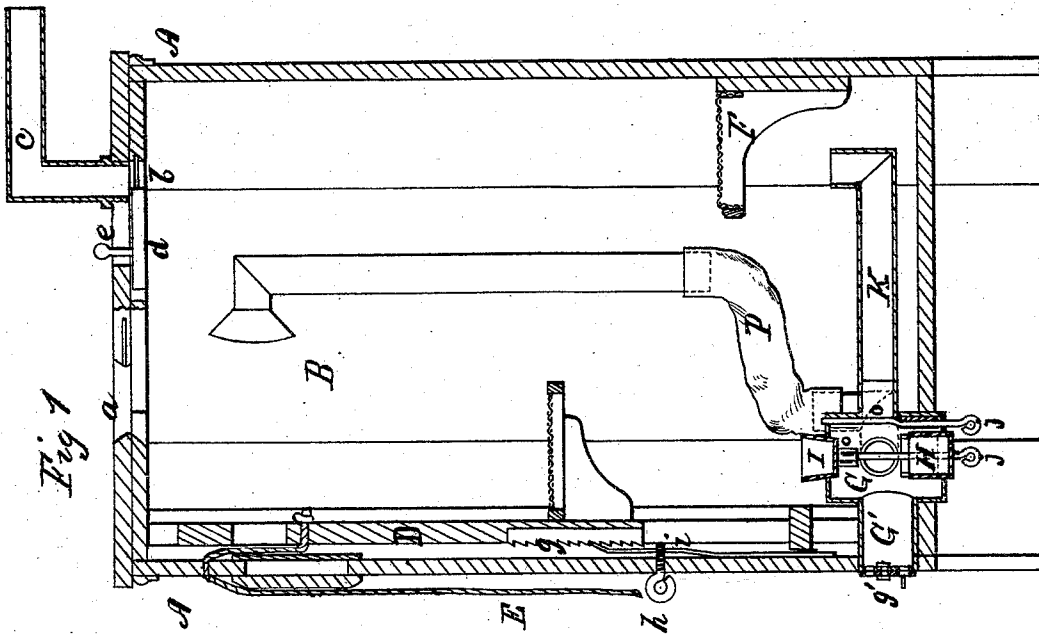
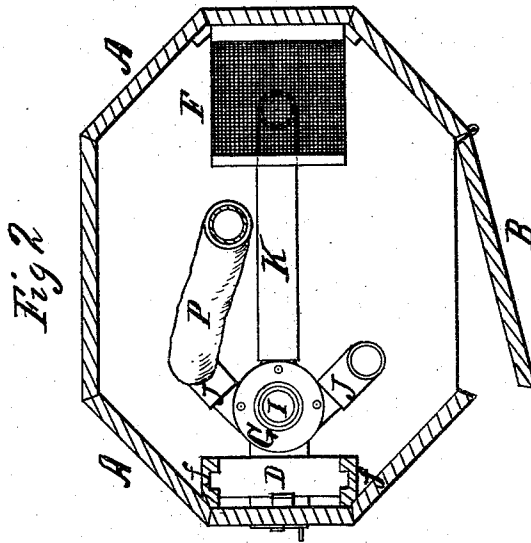


R. N. HARLAN.
Vapor Baths.

No. 154,042.

Patented Aug. 11, 1874.



WITNESSES
Robert Everett
Frank J. Chasi

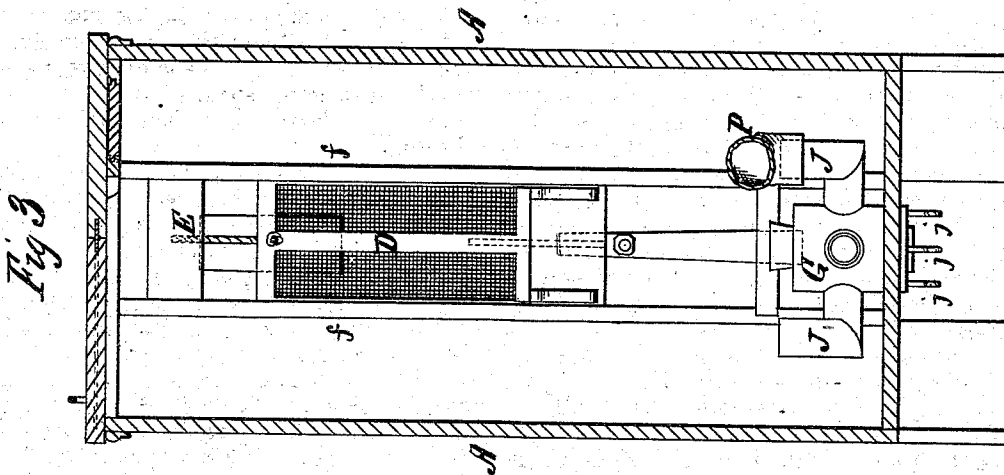
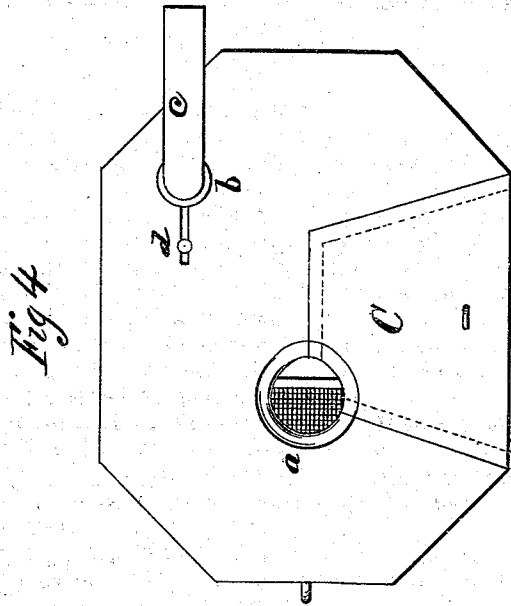
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INVENTOR
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UNITED STATES PATENT OFFICE.

ROBERT N. HARLAN, OF OTTUMWA, IOWA.

IMPROVEMENT IN VAPOR-BATHS.

Specification forming part of Letters Patent No. **154,042**, dated August 11, 1874; application filed June 27, 1874.

To all whom it may concern:

Be it known that I, ROBERT N. HARLAN, of Ottumwa, in the county of Wapello and State of Iowa, have invented a new and valuable Improvement in Hypodermic Medicated and Vapor Baths; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical sectional view of my device. Fig. 2 is a horizontal sectional, and Fig. 3 a vertical sectional, view of the same. Fig. 4 is a top view.

This invention has relation to vapor-baths used in the treatment of cutaneous and other diseases.

The novelty consists in a furnace situated at the lower portion of the bath-case, having pipes conveying heated vapor therefrom to any desired portion of the body of a patient, one or more of the said pipes being capable of being shut off by valves or dampers operated from the outside of a case to admit of the application of heated vapor to one or more parts of the body of a patient at the same time, as may be desired. It further consists in a vertically adjustable chair sliding in stiles upon the inside of a bath-case, and operated from the outside thereof by an attendant, whereby the said chair may be raised or lowered to suit patients of different heights seated thereon when they are too much debilitated by disease to perform that service for themselves, without opening the said case and admitting cold air upon the person of a patient, as will be hereinafter more fully explained.

In the annexed drawings, A designates the case of my improved vapor-case, which is of sufficient height to admit a person of any size in a sitting position, and which is provided with door, B, to afford access to its interior. C designates a sliding door working in a tongue-and-groove joint in the upper portion or top of the case above the door B, which serves to permit of the introduction of the neck of a patient into a perforation, *a*, of the top. Upon

the upper portion of the said case a perforation, *b*, is made, in which a pipe, *c*, is inserted, to permit of the gases being carried off, and it is closed or opened by means of a slide valve, *d*, upon the inside of the top, which is operated by means of a stud, *e*, working in a slot, and attached to the said valve. I also use a thermometer, by means of which I am enabled to accurately keep up any desired temperature. In practice I prefer to raise the said case from the ground or floor of a room for a purpose hereinafter to be explained. D represents a chair, having a perforated seat, and an open-work or grated back, which has vertical play in stiles *f*, after the well-known manner of a sash in its frame. Upon the lower portion and rear surface of the back a toothed rack, *g*, is rigidly secured, which rack engages with a spring-pawl, *i*, secured to the inside of the case A. E designates a cord, which is rigid, secured to the back of chair D, and passes through a perforation in the side of the case A. When the rope E is drawn downward the chair D in the case will be raised, the pawl *i* passing over the toothed rack until a suitable adjustment of said chair has been obtained, when, by releasing the rope, the pawl *i*, becoming engaged with the toothed rack *g*, will hold the chair as long as may be desirable.

It will be seen that when a patient, seated upon the chair, is too weak to rise and adjust it for himself, it may be done from the outside by his attendant without further exhausting him, or permitting cold air from the outside to penetrate to his exposed person.

To disengage the pawl from the rack it will be only necessary to draw outward a handle, *h*, which is rigidly secured to pawl *i*, and passes outside of the case through a perforation made for the purpose in the side of the case A. Such a disengagement will cause the chair D to be lowered. F designates a perforated foot-stool, which is permanently secured to the opposite side of the case to that on which the chair D is arranged. G designates a cylindrical heater, which is applied in a perforation through the floor of the said case directly under the chair D, and G' a pipe, running from the heater G to a ventilating door or outlet, *g'*, which may be opened or

closed at will, in the side of the case, through which may be observed the condition of the vaporizing substance in the heater, and yet no air of low temperature be admitted into the interior of the case, as in passing into the heater it will be brought to a proper degree of temperature before passing into the case. H designates a fire-pan, which is passed up from below into the cylinder G, and is secured therein by a suitable catch. I designates a cup, which is applied on the upper part of the heater G, into which is placed sulphur, mercury, or other substance to be vaporized. J J' are metal pipes diverging horizontally from, and connecting with, the heater G, which serve to conduct heated vapor to a point in the case A, whence it may be conveniently carried in flexible pipes P to any desired portion or portions of the body, or may be allowed to escape freely into the body of the case to administer a general bath. K designates a third pipe, likewise connecting with the heater, and extending horizontally to and under the perforated foot-board F.

At the point where the pipes J J' and K are joined to the cylinder G, valves O are provided, having arms j extending outside of the case, which serve to exclude the hot air from said pipes when they are closed over their orifices. I am thereby enabled to concentrate the heated air upon any desired portion of the body by closing all the pipes other than that which is to be utilized, or I may give a concentrated hot-vapor bath by closing the third pipe and opening the others to two parts of the body at the same time.

It is found in treating rheumatic disease that the effect of hot-vapor baths, when of long duration, is to enervate and weaken the

patient, while at the same time affording great relief, but the heat being distributed over the whole person of the sufferer it requires a bath of some length of time to produce this relief, and hence, on issuing from the bath, he is prostrated in a measure. By my improved bath I am enabled to concentrate the heat upon the part affected, the remainder of the person being subjected to a moderate degree of heat only, and am hence enabled to afford great and speedy relief to a patient without causing prostration.

I am well aware that vertically adjustable chairs inside of a bath-case, operated from the inside, are not new; hence I make no broad claim to such invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the heater-cylinder G, of the pipes J J' and K, having valves o operated from the outside of a case by means of rods j, substantially as and for the purpose described.

2. The vertically-adjustable chair D, operated from the outside by means of the rope E, in combination with the toothed rack g, pawl i, and handle h, substantially as specified.

3. The combination, with the case A, as described, of the chair D, foot-stool F, heated cylinder G, pans H and I, pipes G, J J', and K, substantially as specified.

In testimony that I claim the above I have hereunto set my name in presence of two witnesses.

ROBERT N. HARLAN.

Witnesses:

CHRISTOPH MILLER,
JNO. PALLISTER.