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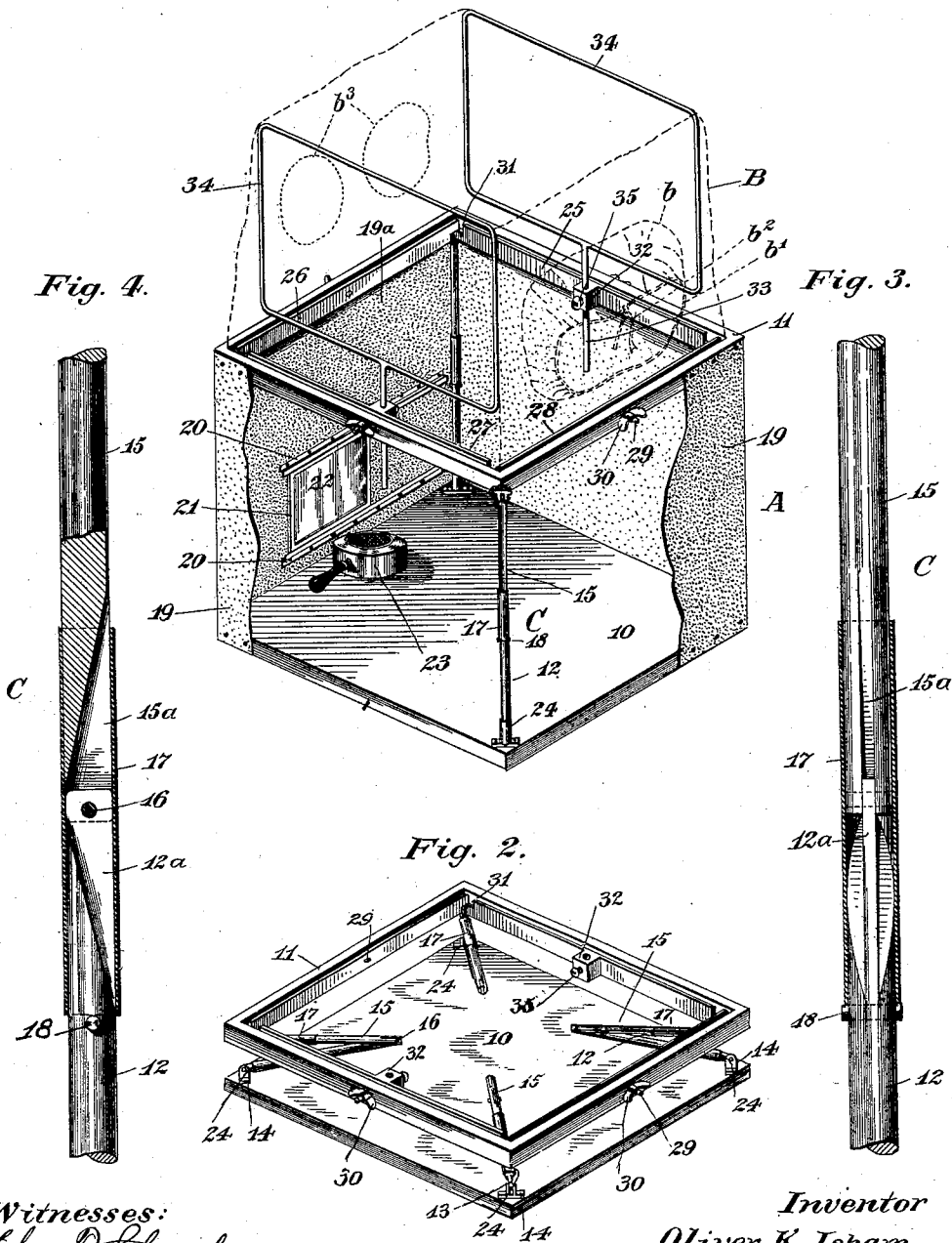
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DEVICE FOR APPLYING HOT AIR OR VAPOR TO THE HUMAN BODY.

(Application filed Feb. 28, 1899.)

(No Model.)

Fig. 1.



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DEVICE FOR APPLYING HOT AIR OR VAPOR TO THE HUMAN BODY.

SPECIFICATION forming part of Letters Patent No. 643,822, dated February 20, 1900.

Application filed February 28, 1899. Serial No. 707,141. (No model.)

To all whom it may concern:

Be it known that I, OLIVER K. ISHAM, a citizen of the United States, residing in Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Devices for Applying Hot Air or Vapor to the Human Body, of which the following is a specification.

My invention relates to a device for use in that branch of medical science termed "thermotherapeutics;" and it has for its object the provision of means whereby either dry hot air or vapor may be applied to the parts of the human body, as desired, as the exigencies of the particular case may require.

With this end in view my improved device comprehends two sections, one of which is in the nature of a foldable chamber for containing the lamp or equivalent heater and the other a hood of the shape desired, which is adapted to conform to the parts of the body to be treated, the hood being detachably secured to said chamber.

In the accompanying drawings, Figure 1 is a perspective view of the device partly broken away to disclose the interior and representing in dotted lines one form of a hood to be supported on said heating-chamber. Fig. 2 is a view of the frame of the heating-chamber with the outer covering removed and representing the same in a collapsed or folded position, in which it is ready for transportation. Figs. 3 and 4 are detail views of the joints in the supporting standards or posts which form part of the heating-chamber, Fig. 3 being a front view, and Fig. 4 a longitudinal section taken in a plane at right angles to Fig. 3.

Similar characters designate like parts in all the figures of the drawings.

As before stated, my improved device consists of two parts—viz., the heating-chamber (designated by A) and a hood or covering (indicated by B) adjustably supported on the framework of the heating-chamber, as will be hereinafter set forth.

The heating-chamber A embodies a floor or bottom plate 10 and the rectangular or other form of frame 11, both of these parts being held in extended position by means of legs or posts C, each of which is provided with a joint to permit the framework of the heat-

ing-chamber to collapse, as shown in Fig. 2. To this end each of the posts C consists of a lower section 12, having at its extremity a tongue 13, adapted to enter a bifurcated bracket 14 and pivoted therein. This bracket 14 is secured to the floor or bottom plate 10 by means of screws or otherwise and will permit the section 12 to fold or swing downward toward the floor 10. Each of the posts C has also another section, as 15, which is pivotally secured in like manner as the part 12 to the under side of the upper frame 11 of the heating-chamber. The joint between the two sections 12 and 15 is formed near the middle of the length of the post and consists, substantially, of a tongue 12^a, adapted to enter and fit between the two cheeks 15^a of the upper section 15, and both sections are pivoted one on the other by means of a pin 16. A sleeve 17, loosely mounted on the section 15, is made of sufficient length to fit over the joint and to keep both sections in alinement, and thereby form a stiff post, while its downward sliding movement is limited by a pin 18, passing through and projecting beyond the periphery of the lower section 12.

In order to permit the posts C to fold and assume the position shown in Fig. 2, I cut away a portion of each upper section 15, so that the tongue 12^a can find a resting-place within such cut-away portion when in its folded position, as will be readily understood.

To render the heating-chamber comparatively air-tight, the frame 11 and floor 10 are connected by a covering 19, preferably made of asbestos cloth or similar material of a flexible nature, which will fold when said chamber is being collapsed. This covering 19 may be secured to the edges of said frame and floor by tacks or analogous devices and constitutes a permanent part of the chamber A. One of the walls, as 19^a, is provided with a pair of metal strips, as 20, serving as guides for a frame 21, containing a pane of glass or other transparent medium 22 and in which the latter may be moved to uncover an opening in said wall through which access to the interior may be had for the purpose of placing or removing the heat-producing medium, which in the present instance is shown as a spirit-lamp 23 of ordinary construction.

The particular purpose of the pane of glass

above referred to is to allow the attendant to watch the lamp and the heat results produced thereby, and the lamp may be inserted and withdrawn through the opening covered by the glass slide 22.

Ordinarily a thermometer (not shown in the drawings) is placed within the chamber, so that the attendant may regulate the temperature to the desired degree.

As the heating-chamber serves as a reservoir for dry hot air or vapor when desired, the covering 19 is made of asbestos or similar material to reduce the amount of heat lost by radiation to a minimum and to avoid the danger of destruction by fire. It is, furthermore, essential that the structure or framing of the heating-chamber should possess a certain amount of stability, so that the glass slide may be moved freely in its guides, and the posts C are therefore made of such length that when extended, as shown in Fig. 1, they will fully distend the covering 19, and as an additional means for retaining said posts in upright position I preferably employ on each of the lower sections 12 thereof a sleeve 24, sliding freely thereon and adapted to slip over the ears of the brackets 14, so that practically the post-section 12 and the bracket 14 are rigidly connected, as will readily be understood.

The construction of the several parts of the collapsible heating-chamber may be varied in many ways, and my invention is not limited to the use of the particular elements shown and described, but includes within its purview any and all devices or modifications of the same by which the result set forth may be accomplished.

Another part of my improved apparatus is found in what is herein termed a "hood"—*i. e.*, a box-like cover made of flexible material and adapted to incase or receive various parts of the body of the patient to be treated. As these parts may be of various locations, areas, and shapes, it follows that it would be difficult to provide one hood adapted to meet all the various requirements, and for this reason I deem it advisable to provide means whereby a hood of any desired form may readily be clamped or secured to the frame of the heating-chamber, such a hood being represented in the drawings by dotted lines B and comprehending a front wall, a rear wall, two side walls, and a top. The front wall is provided with an opening, as *b*, of a predetermined size, through which the legs of a patient may be passed, while at the edge of said opening is secured a contractible yoke *b'*, which by means of a shirring-string, as *b''*, may be closely tied around the part of the body to be treated. The rear wall of the hood shown is provided with openings, as *b'''*, through which when required the feet of the patient may be passed, and similar yokes and strings are therein arranged for a like purpose. The form of hood employed is dependent upon the case to be treated, and as hoods of different

shapes and sizes may be substituted for the one illustrated and described I provide adjustable means for supporting the weight of the hood and at the same time keeping the same distended, such means being preferably carried by the clamping devices by which the lower edge of the hood is held in contact with the upper frame of the heating-chamber, said devices being shown consisting of a series of bars 25, 26, 27, and 28. These bars carry screw-bolts 29, passing through the frame 11 and engaged by thumb-nuts 30, and at their ends said bars are cut away, as best shown at 31, Figs. 1 and 2, for mutual support and guidance at those points. Near the middle of each of the bars 25 and 27 a lug or projection 32 is provided, having an opening therein to receive the shank 33 of a frame 34, preferably made of wire, and a set-screw 35 serves for retaining said shank 33, and therefore the frame 34, in a vertically-adjusted position. The wire frame is adapted to sustain the hood desired, and it will readily be seen that it may be adjusted either to raise or lower the same to bring the opening or openings therein to the proper position.

As above stated, the interior of the hood is in direct communication with the heating-chamber, and the clamping-bars serve to retain the hood in proper position by having the lower edge thereof inserted between them and the frame 11, after which the thumb-nuts are operated to form a tight joint between said edge and the frame.

When it is desired to place the heating-chamber in condition for transportation, the hood B, the wire frame or frames 34, and the lamp 23 are removed, and said heating-chamber is inverted or turned upside down. As this is done the sleeves or couplings 17 and 24 will slide automatically by gravity along the post-sections 12 and 15, and said sections can then be folded in the manner shown by Fig. 2 to bring said chamber into a compact form occupying but little space. The device is intended to be of a size adapted freely to fit beneath the seat of a buggy or other conveyance, and it is light in weight and easily transported from place to place.

As above stated, the particular form of folding sections for distending the heating-chamber described and shown may be largely varied and still be within the purview of my invention, and it is also distinctly to be understood that the invention is not limited to any form of hood nor to the particular means illustrated for sustaining such hood.

Having described my invention, I claim—
1. In a device of the class specified, the combination, with a heating-chamber having a base and a collapsible frame, of a series of clamping-bars carried by the frame; and a hood removably secured in position by said bars.

2. In a device of the class specified, the combination, with a base, of a series of posts pivoted thereto and composed of articulated

sections; means for preventing the collapse of said sections when extended; a frame to which the tops of said sections are pivoted; a covering secured to said base and frame; a series of clamping-bars carried by the frame; and a hood secured in position by said clamping-bars.

3. In a device of the class specified, the combination, with a collapsible frame to which a covering is secured, of clamping-bars for securing a hood to said frame; and means for supporting and distending the hood.

4. In a device of the class specified, the combination, with a collapsible frame having a covering, of clamping-bars for securing a hood to said frame; and a hood-distending device carried by one of said clamping-bars.

5. In a device of the class specified, the combination, with a covered frame, of clamping-bars for securing a hood to said frame, one of said bars having a perforated lug; and a hood-distending device adjustably secured in said lug.

6. In a device of the class specified, the combination, with a collapsible frame, of a series of posts each composed of articulated sections pivoted to the corners of the base of said frame; the lower sections of said posts having ribs which enter corresponding grooves in the upper sections when the frame is collapsed; a top frame pivoted to the upper sections of said posts; sleeves fitting over the joints between the sections and adapted to hold the posts when extended; a series of clamping-bars adjustably secured to the top frame, two of said bars having perforated lugs; and a series of frames having shanks mounted in the perforations of said lugs and adjustably secured therein, said frames serving to hold the hood distended, substantially as and for the purpose specified.

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