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Patented Sept. 30, 1902.

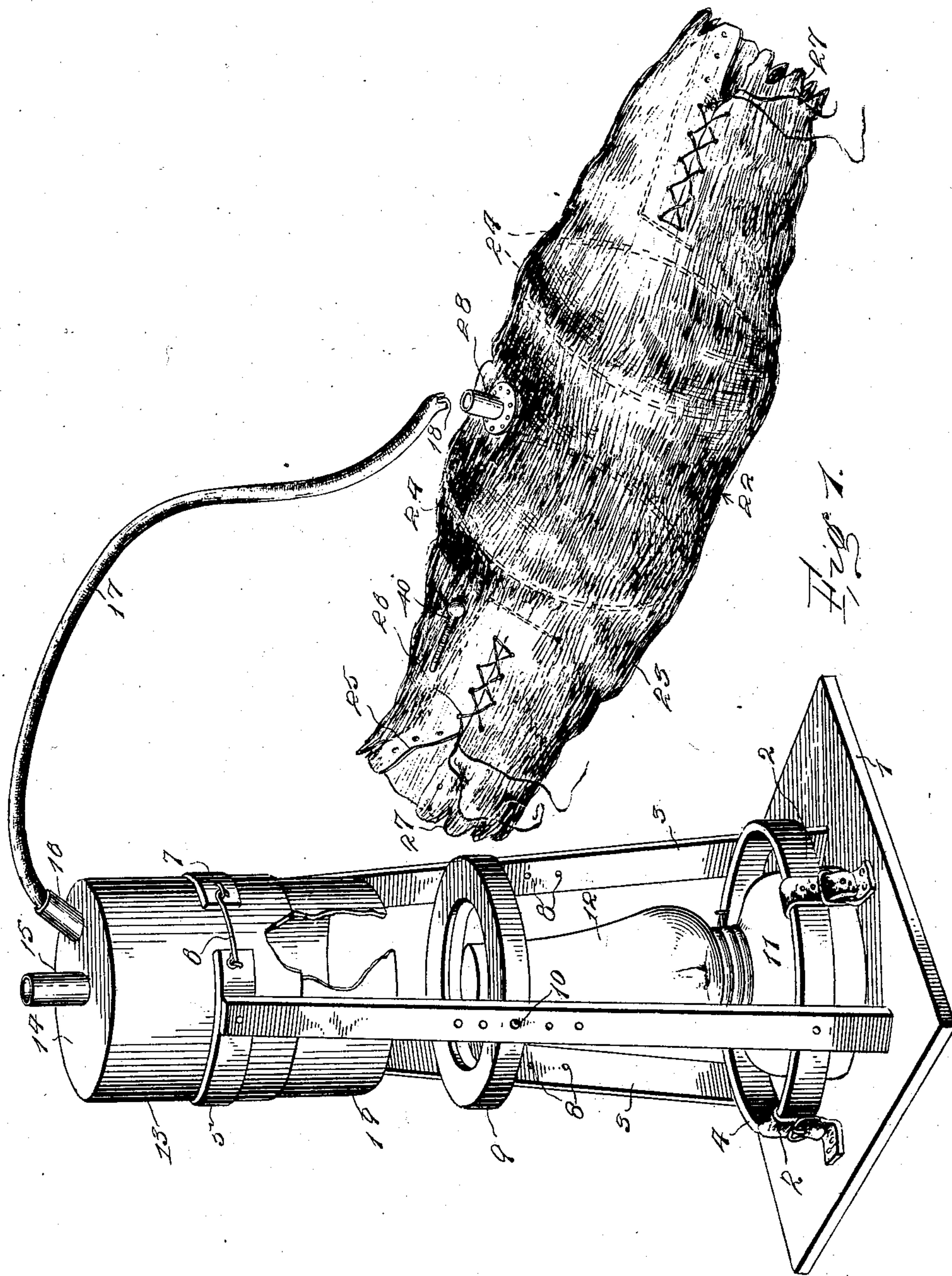
G. W. SAWYER.

HOT AIR APPARATUS FOR THE HUMAN BODY.

(Application filed Oct. 18, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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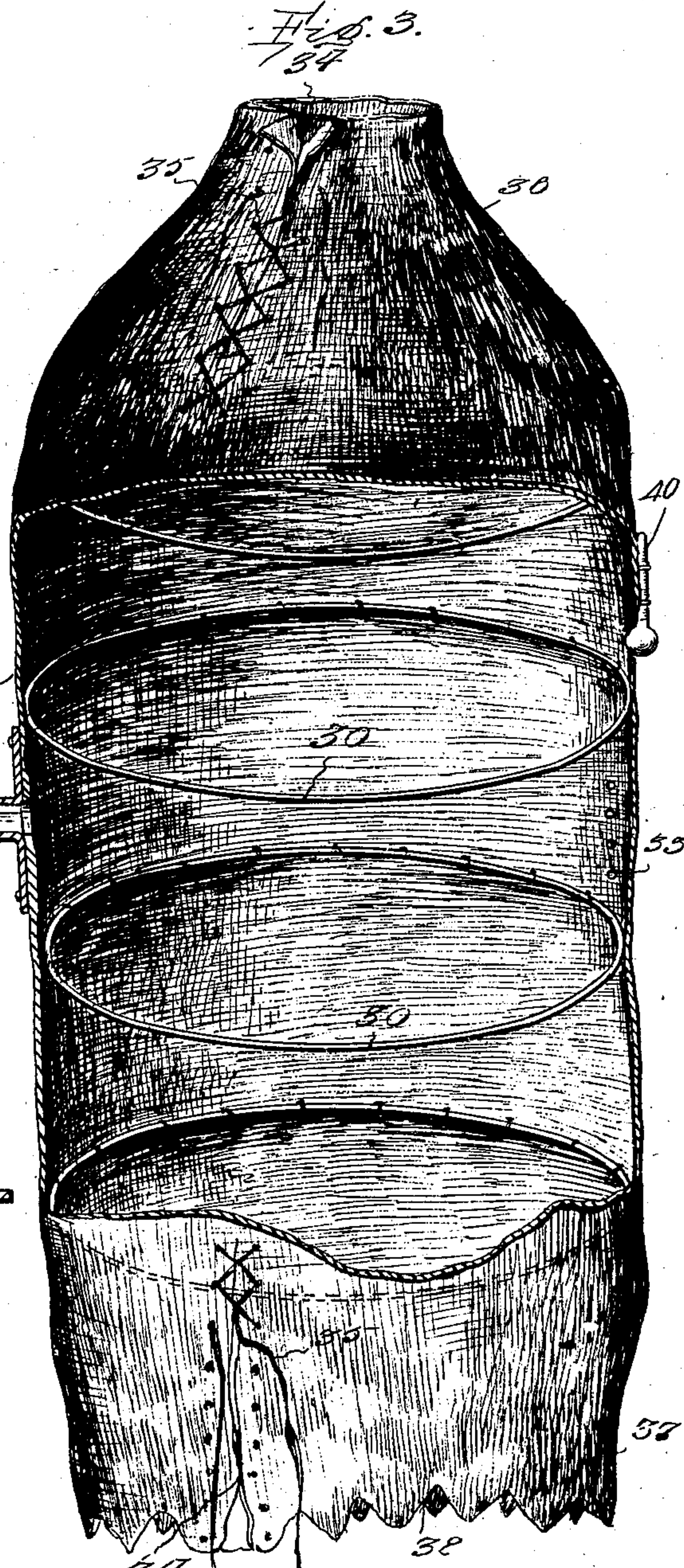
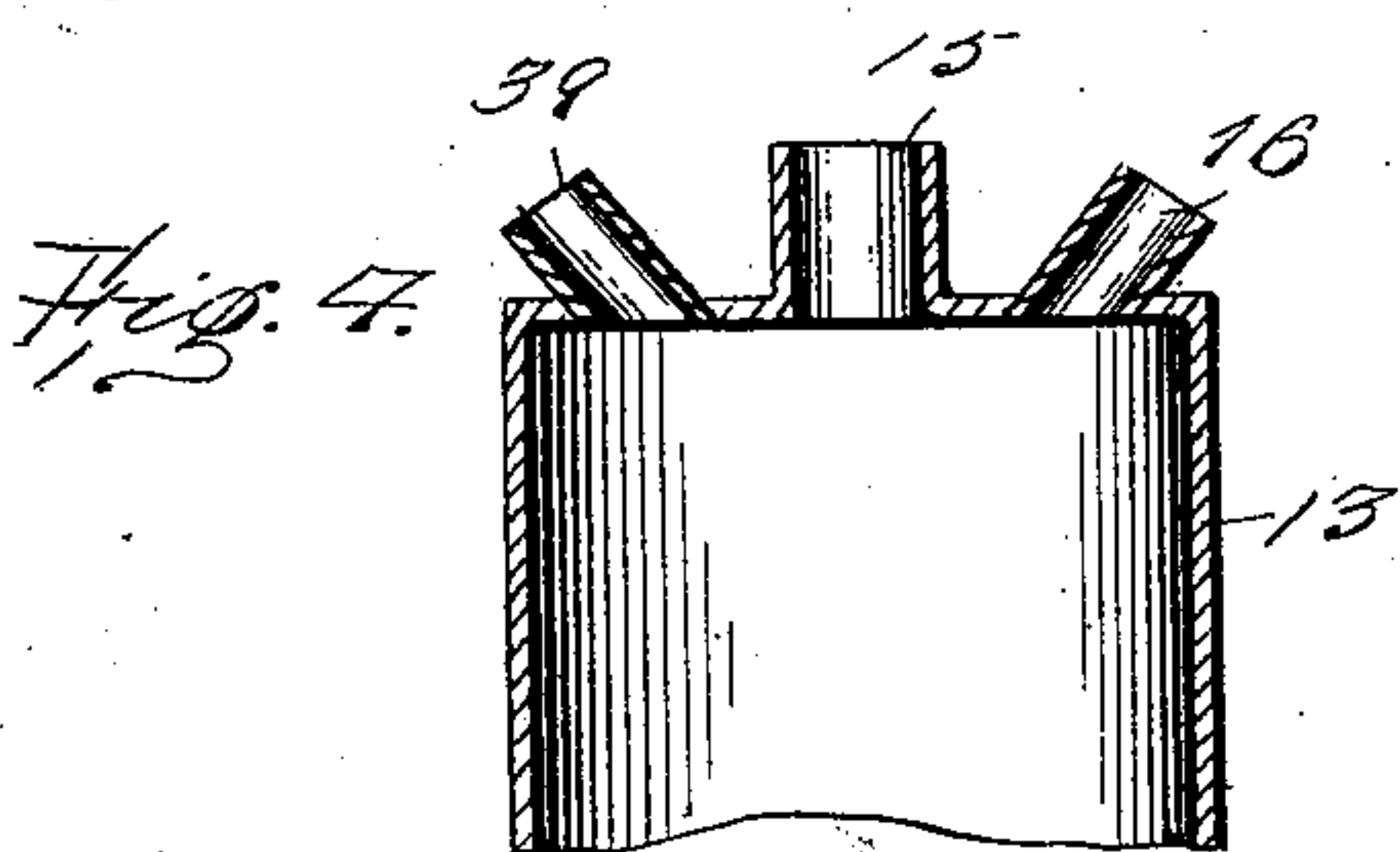
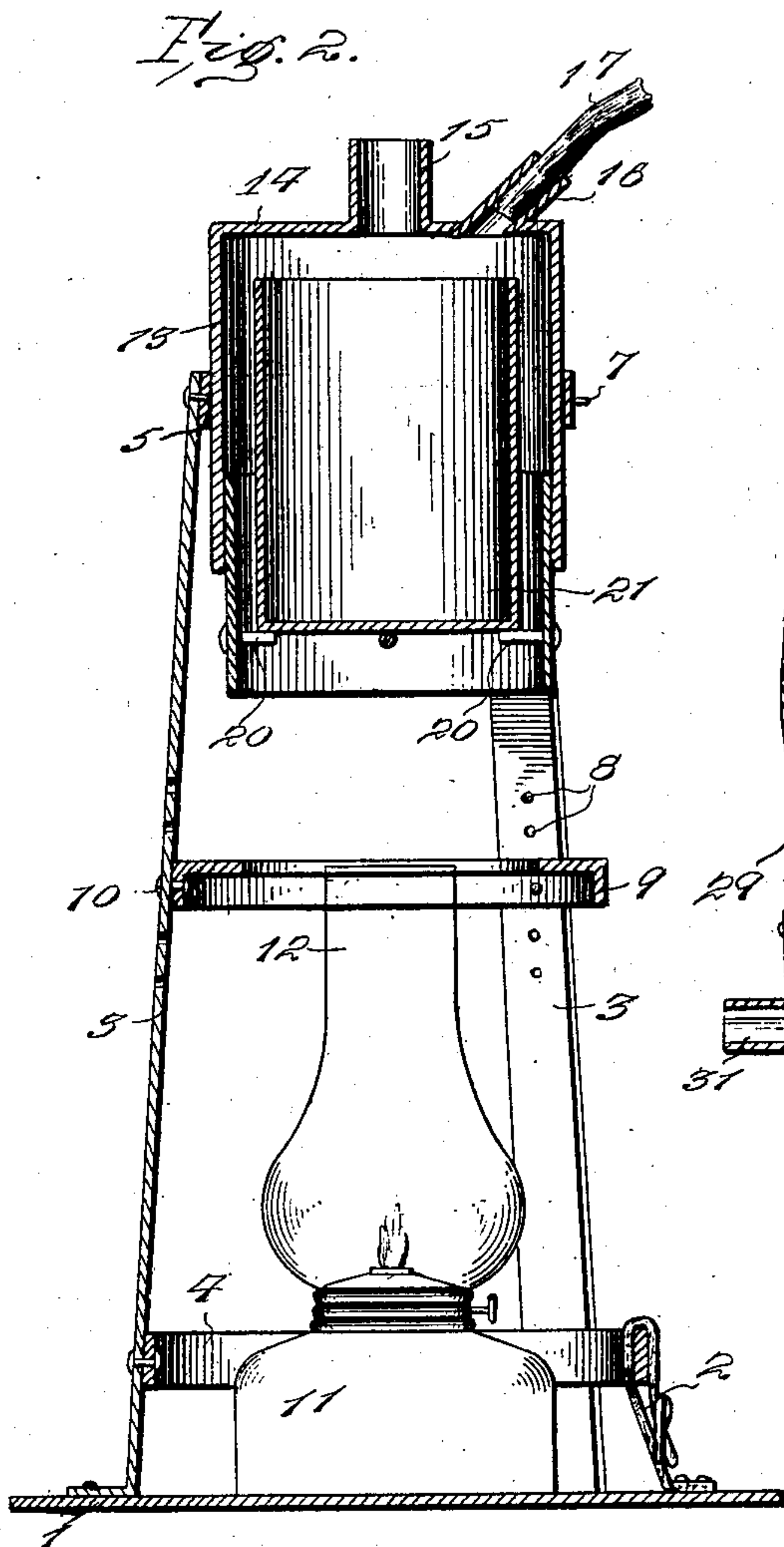
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UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON SAWYER, OF MARIETTA, INDIAN TERRITORY.

HOT-AIR APPARATUS FOR THE HUMAN BODY.

SPECIFICATION forming part of Letters Patent No. 709,931, dated September 30, 1902.

Application filed October 18, 1901. Serial No. 79,177. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON SAWYER, a citizen of the United States, residing at Marietta, in the Chickasaw Nation, Indian Territory, have invented a new and useful Hot-Air Apparatus for the Human Body, of which the following is a specification.

This invention relates to an apparatus for applying heat to different parts of the human body in the treatment of different diseases, irregularities, or maladies; and the purpose of the same is to provide simple and effective portable means for producing either a dry or moist heat supply which may be directly conveyed by means of a conduit to different parts of the human body or fed to an inclosure surrounding parts of the body to cause a circulation of the heated current around the affected part.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of the heating apparatus arranged for use and showing an inclosing device at one side thereof adapted to be connected to the heat-conveying conduit. Fig. 2 is a transverse vertical section of the heating apparatus, showing a liquid-containing receptacle therein. Fig. 3 is a sectional perspective view of a body-inclosing attachment for use with the apparatus. Fig. 4 is a transverse vertical section of a part of the heating apparatus, showing a modification in the construction.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a flat base having a series of straps 2 connected to the upper side thereof for the purpose of attaching the said base to the remaining portion of the heating apparatus. The heat-generating means comprises a series of inwardly-converged uprights 3, having lower and upper rings 4 and 5 secured thereto, the upper ring being separated and connectible by a hook 6, attached to one extremity and engaging a staple or eye 7 on the adjacent extremity to provide a clamp for holding part of the generating means. At an intermediate point

the uprights 3 are formed with a plurality of longitudinally-alined apertures 8, whereby an intermediate annular support 9 may be adjustably held by the said uprights through the medium pins 10. The straps 2 are caught over the lower ring 4 and secured, and by this means the frame, comprising the uprights, rings, and intermediate support, will be positively held in upright position on the base 1, the latter preventing the frame and other parts included in the heat-generating means from being easily overturned and also providing for the ready transportation of the said generating means from one place to another. The heat is derived from a lamp 11, which rests on the base 1 inside of the ring 4 and has the chimney 12 thereof projecting upwardly into the central portion of the intermediate annular support 9. In some instances the chimney may project above the upper plane of the support 9; but this projection will depend solely on the height of the chimney. Instead of placing the lamp 11 in the position shown by Figs. 1 and 2 a shorter or alcohol lamp may be disposed on the support 9; but the result will be practically the same, with the exception that the source of heat will be elevated and brought nearer the top portion of the frame. This support 9 is designed to act as a brace for the uprights 3 and also as a support for an alcohol-lamp when it is desirable or practical that one be used.

Within the ring 5 a drum 13 is removably mounted and has an upper closed end 14 and a lower open end, and in the center of the top 14 is a flue-tube 15, and to one side of the latter is an outwardly-inclined tubular connection 16. The drum 13 forms a hot-air-supply chamber, and the open end thereof is disposed over the source of heat below, so as the said heat rises and flows into the drum the surrounding air is drawn inwardly therewith to establish a current of heated air, which is conveyed by means of a flexible conduit or pipe 17, attached to the connection 16 and of any suitable length, the opposite or free end of the said conduit or pipe having slots 18 formed therein to permit it to be applied closely to different parts of the human body in the treatment of affections and the like and prevent choking the same. Dry heat

may thus be conveyed to the parts of the body of the patient and effectively used in relieving pain or other inconveniences. The improved device is also supplied with means
 5 for applying moist heat to the body, and for this purpose the drum 13 has an extension 19, fitted in the lower portion thereof and depending closer to the intermediate support 9, the extension being provided with supporting
 10 devices 20, which are preferably removable and adapted to hold a liquid-containing receptacle 21 within the extension and drum and having a lower closed end and an upper open end. Within the receptacle 21 water or other
 15 liquid may be placed either in a pure state or medicated, the receptacle being of materially less diameter than the extension and drum in which it is located, so that the heated air may flow upwardly therearound and be-
 20 come saturated with the moisture passing out from the said receptacle and be conveyed through the pipe or conduit 17 to the part of the body of the patient requiring treatment. When dry heat is used, the devices 20 will be
 25 withdrawn and the receptacle 21 removed. At any time desired the drum and parts carried thereby may be removed from the ring 5 by releasing the hook 6, and the frame and heat source can then be employed for heat-
 30 ing other materials contained in receptacles which will be disposed or arranged on the frame—such, for instance, as pans of water, pots containing coffee or tea, or vessels having concoctions therein for various uses.
 35 The device as thus far described is capable of use without further attachment; but to render it more effective in many instances in thoroughly treating the human body or limbs inclosures are provided, as clearly shown by
 40 Figs. 1 and 3. The inclosure 22 (shown by Fig. 1) is adapted for use on an arm or a leg and comprises an outer rubber cloth or analogous covering 23, held in tubular shape and form by interiorly-arranged rings 24, se-
 45 cured to the covering 23 and giving the inclosure a sufficient positive rotundity for effectively surrounding the part of the arm or leg to be treated. The opposite extremities of the closure are fully open and longitudi-
 50 nally slotted, as at 25, to receive a securing-lace 26, whereby the opposite ends of the inclosure may be securely bound on the arm or limb to prevent the escape of heated air conveyed to the inclosure and to cause all of
 55 the air to circulate around the affected part of the arm or limb. By the use of the laces 26 the inclosure is made adjustable and adapted to fit different dimensions or sizes of arms or limbs or be practically applicable to thick
 60 and reduced portions of an arm or limb. To prevent the end edges of the inclosure from uncomfortably binding on the part of the arm or limb with which they engage, the ends are provided with V-shaped slots 27. The inclo-
 65 sure 22 is connected to the heat-generating means heretofore set forth by attaching the end of the conduit or pipe 17 to a nipple 28,

firmly secured to the center of the inclosure, and at a diametrically opposite point the latter is provided with a plurality of ventilating-
 70 apertures, as more clearly shown by Fig. 3, to maintain a circulation of the heated air entering the inclosure and have the supply continually renewed, with obvious benefits in the
 75 treatment of affected parts. It will be understood that either dry or moist heat will be supplied to the inclosure.

The inclosure 29 shown by Fig. 3 is practically of the same construction as that shown in Fig. 1, with the exception that it is larger
 80 in dimension and has a greater number of rings 30. An attaching-nipple 31 is also used in this form of the inclosure for connection of the conduit or pipe 17, and diametrically opposite to the said nipple 31 the covering
 85 32 has a plurality of ventilating-apertures 33 formed therein, as heretofore referred to. The inclosure shown by Fig. 3 is adapted to be applied to the human body or trunk, and the opposite ends have longitudinal slits 34
 90 with closing-laces 35, the upper end 36 being reduced for application to the neck, and the lower end 37 is large enough for application to the waist or lower extremity of the trunk, the edges of the end in this instance also having
 95 V-shaped or like slots 38 formed therein to prevent uncomfortable binding. It is proposed to make the inclosures in other sizes for particular application, and in applying the said inclosures they can be quickly placed
 100 in position or easily removed.

In the modification shown by Fig. 4 the drum 13 is supplied with an extra connection
 105 39 for attachment thereto of a conduit or pipe similar to that heretofore set forth, so that hot air or heat may be applied to different parts of the body at one and the same time, and this increase in the number of conduits or
 110 pipes may be carried on to any desired extent without departing from the principle of the invention.

It is also proposed to attach a pipe or conduit to the flue 15, and in the use of one of the connections of the flue the others will be
 115 closed by suitable means, so that no heat may escape, but all be caused to pass through the conduit or pipe. In order to overcome the loss of heat by radiation, it is proposed to surround or cover the conduit or pipe and the connections therefor, as well as the other
 120 parts when found necessary, with asbestos. If the patient treated is confined to a bed or cot, the apparatus may be arranged beside the latter and conveniently used without inconveniencing the patient in the least. By
 125 having the connections for the pipe or conduit arranged at outward angles and also employing the straight flue 15 the said pipe or conduit can be more easily arranged to accommodate different positions of the patient
 130 or in treating different portions of the human body, and in some instances only one outlet from the drum 13 will be used. The inclosure in its two forms will also be provided

with a thermometer 40, having its bulb exposed to the interior of the inclosure to disclose the degree of temperature within the latter, and which may be thus regulated in accordance with a certain desired or necessary heat.

Changes in the proportions, dimensions, shape, and minor details may be resorted to and the materials varied at will in the construction of the several parts without in the least departing from the principle of the invention.

Having thus described the invention, what is claimed as new is—

15 1. An apparatus of the class set forth comprising a base having straps attached thereto, a frame with a lower ring for engagement by said straps and an upper clamping-ring, and an intermediate adjustable annular support.

20 2. A heating apparatus of the class described comprising a frame, a drum supported by the frame and having an open bottom, a conduit extending from the upper portion of the drum, removable pins extending through the walls of the drum at the lower portion thereof and projecting into the same to form an interiorly-arranged support, and a removable receptacle open at the top, arranged upon the inner portions of the pins, said pins being adapted to be withdrawn to permit the receptacle to be detached from the drum, substantially as described.

30 3. A heating apparatus of the class described comprising a frame having separable standards provided with perforations, an adjustable support provided with projections detachably engaging the said perforations, a clamp arranged at the top of the frame and connecting the standards and holding the projections in the perforations of the same, a drum engaged by the clamp, and a conduit extending from the drum, substantially as described.

40 4. A heating apparatus of the class de-

scribed comprising a frame composed of separable standards provided at intervals with perforations, a clamp connecting the upper portions of the standards, and a support provided with projections adapted to engage the perforations, whereby the support may be adjusted, a drum open at the bottom arranged within the clamp, removable supporting devices projecting into the drum, a receptacle located within the drum and removably arranged on the supporting devices and adapted to contain a liquid, and a conduit extending from the drum, substantially as described.

5. An apparatus of the class described comprising a frame, a drum open at the bottom supported by the frame, a removable receptacle arranged within the drum and open at the top, a heating device located beneath the receptacle, an inclosure of approximately cylindrical shape constructed of flexible material and adapted to receive a portion of the human body and provided at its ends with adjustable means for constricting it, whereby it is closed at these points on the body, said inclosure being also provided with an outlet, and a conduit extending from the drum and connected with the inclosure, substantially as described.

6. The combination of a base-plate having a heat-generator disposed thereon, a supporting-frame comprising uprights, a ring connected to the lower ends of said uprights, means connected with said base-plate for detachably engaging said ring, an adjustable annular support connected with said uprights, and means for detachably engaging a drum.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE WASHINGTON SAWYER.

Witnesses:

W. I. WALKER,
B. STEPHENSON.