

Specification of James Robertson : apparatus for applying heat to the human body.

Contributors

Robertson, James.

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A.D. 1861, *27th JULY.* N^o 1885,

SPECIFICATION

OF

JAMES ROBERTSON.

APPARATUS FOR APPLYING HEAT TO THE
HUMAN BODY.

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A.D. 1861, 27th JULY. N° 1885.

Apparatus for Applying Heat to the Human Body.

LETTERS PATENT to James Robertson, of 53, Park Street, Mile End, in the County of Middlesex, Gentleman, for the Invention of "IMPROVEMENTS IN APPARATUS FOR THE TREATMENT OF BODILY PAIN WITH HOT WATER, STEAM, HOT AIR, AND THE LIKE."

Sealed the 24th January 1862, and dated the 27th July 1861.

PROVISIONAL SPECIFICATION left by the said James Robertson at the Office of the Commissioners of Patents, with his Petition, on the 27th July 1861.

I, JAMES ROBERTSON, of 53, Park Street, Mile End, in the County of Middlesex, Gentleman, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN APPARATUS FOR THE TREATMENT OF BODILY PAIN WITH HOT WATER, STEAM, HOT AIR, AND THE LIKE," to be as follows:—

This Invention relates to an apparatus for the treatment of the human body or any part thereof, when afflicted with rheumatism, gout, or other diseases attended with pain.

The apparatus consists of a water-tight vessel made of tin or other suitable material, inside of which is placed another water-tight vessel of similar construction. The inner vessel is so formed and placed that there is a vacant space between it and the outer vessel at the bottom and sides, and the space at the top between the two vessels is covered in with some water-tight material.

The mode of using this apparatus is to place such part of the person as is afflicted by any of the diseases previously alluded to, in the inner vessel, and to fill the space between the two vessels with hot water by means of an orifice to

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be left for that purpose, which may be furnished with a funnel as a convenient means of introducing the water. It is desirable to have a flap turning on a hinge on each side at the top of the inner vessel, which when fitted with flannel or other suitable material, may, after the leg, for example, has been placed inside the inner vessel, be turned down against the limb with the view 5 of preventing the escape of heat from the limb under treatment. For the purpose of discharging the water from the space between the two vessels, there should be an orifice at the bottom provided with a cock.

I have ascertained by experiment that if a part of the body be placed inside the inner vessel, and subjected for a longer or shorter space of time to 10 the influence of heat derived from hot water filling the intermediate space, a most beneficial effect will be brought about. A pipe may be made to communicate with the inner vessel by passing through the bottom of both vessels, and may be brought up outside the outer one with the view of introducing oil or medicated water into the space where the limb is under treatment. Instead of 15 filling the space between the two vessels with hot water, steam or hot air may be employed.

The shape and dimensions of this apparatus will, of course, depend upon the extent to which it is intended to apply the same.

An apparatus may be made large enough to receive the whole body except 20 the head, or small enough to receive a leg or arm.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said James Robertson in the Great Seal Patent Office on the 27th January 1862.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, JAMES 25 ROBERTSON, of 53, Park Street, Mile End, in the County of Middlesex, Gentleman, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-seventh day of July, in the year of our Lord One thousand eight hundred and sixty-one, in the twenty-fifth year of Her 30 reign, did, for Herself, Her heirs and successors, give and grant unto me, the said James Robertson, Her special license that I, the said James Robertson, my executors, administrators, and assigns, or such others as I, the said James Robertson, my executors, administrators, or assigns, should at any time agree with, and no others, from time to time and at all times 35 thereafter during the term therein expressed, should and lawfully might make,

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use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN APPARATUS FOR THE TREATMENT OF BODILY PAIN, WITH HOT WATER, STEAM, HOT AIR, AND THE LIKE," upon the condition (amongst others) that I, 5 the said James Robertson, my executors or administrators, by an instrument in writing under my hand and seal, or under the hand and seal of one of them, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next 10 and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said James Robertson, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the accompanying Drawings, and to 15 the letters and figures marked thereon, that is to say:—

My said Invention relates to an apparatus for the treatment of the human body, or any part thereof, when afflicted with rheumatism, gout, or other diseases attended with pain.

The apparatus consists of a water-tight vessel made of tin or other suitable 20 material, inside of which is placed another water-tight vessel of similar construction. The inner vessel is so formed and placed that there is a vacant space between it and the outer vessel at the bottom and sides, and the space at the top between the two vessels is covered in with some water-tight material.

25 The mode of using this apparatus is to place such part of the person as is afflicted by any of the diseases previously alluded to, in the inner vessel, and to fill the space between the two vessels with hot water, by means of an orifice to be left for that purpose, which may be furnished with a funnel as a convenient means of introducing the water. It is desirable to 30 have a flap turning on a hinge on each side at the top of the inner vessel, which, when fitted with flannel or other suitable material, may, after the leg, for example, has been placed inside the inner vessel, be turned down against the limb, with the view of preventing the escape of heat from the limb under treatment. For the purpose of discharging the water from the space between 35 the two vessels, there should be an orifice at the bottom provided with a cock.

I have ascertained by experiment that if a part of the body be placed inside the inner vessel and subjected for a longer or shorter space of time to the influence of heat derived from hot water filling the intermediate space, a most

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beneficial effect will be brought about. A pipe may be made to communicate with the inner vessel by passing through the bottom of both vessels, and may be brought up outside the outer one with the view of introducing oil or medicated water into the space where the limb is under treatment. Instead of filling the space between the two vessels with hot water, steam or hot air may 5 be employed.

The shape and dimensions of this apparatus will, of course, depend upon the extent to which it is intended to apply the same.

An apparatus may be made large enough to receive the whole body except the head, or small enough to receive a leg or arm. 10

And in order that my said Invention may be fully understood, I shall now proceed more particularly to describe the same, and for that purpose I shall refer to the several Figures on the Sheet of Drawings hereunto annexed, the same letters of reference indicating corresponding parts throughout all the Figures. 15

Figures 1 and 2 of the annexed Sheet of Drawings represent respectively a vertical section and plan of my apparatus as adapted for application to the leg ; Figure 3 represents a longitudinal vertical section of a similar apparatus suitable for receiving an arm ; and Figure 4 is a transverse vertical section of Figure 3. 20

In all these Figures, A represents an outer vessel or casing composed of sheet metal, and B is an inner casing, into which the limb affected is to be introduced ; C is a space enclosing the sides and one end of the inner casing, and is intended to be filled with hot water, steam, or hot air ; D is the filling aperture, which is closed tightly by means of a screw plug or other suitable 25 stopper or cap ; and E is a cock or tap for emptying the apparatus when required. The apparatus for the leg may stand upon the floor, but that for the arm is intended to be supported on a table in a horizontal position, and is therefore formed on its under side with a flat base or stand F, shown in Figures 3 and 4. When in use the space which surrounds the limb at the 30 mouth of the inner casing is to be closed or packed with flannel, or hinged flaps or lids may be employed where the nature of the limb will admit of such application, with a view to the exclusion of cold air from the parts under treatment, and to the confining or retention as much as possible of the hot air generated by the heated medium enclosed between the two cases. 35

Figure 5 represents a vertical section of a modified form of apparatus intended to receive the head, and Figure 6 is a similar view at right angles to Figure 5.

This apparatus is of a similar construction to those previously described, but

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its shape is, of course, slightly modified, and it is further provided with a breathing tube G leading to the mouth of the patient. By inserting a number of fine tubes H, H, through the closed ends of the inner and outer cases, this apparatus may be used when suspended in an inverted position and filled with
5 warm or cold water as a shower bath.

Figures 7 and 8 represent respectively a longitudinal section and corresponding sectional plan of another modified form of apparatus suitable for receiving the entire body with the exception of the head in a sitting position, a chair being placed inside the inner casing to accommodate the patient.

- 10 This apparatus consists of a square or other shaped chamber sufficiently large to receive the body in a sitting position, and provided with a hinged door I. A hot water space is formed in the door so that it may be heated in the same manner as the rest of the apparatus, for which purpose a separate filling aperture D¹ and cock or tap E¹ are fitted thereto. An aperture is made
15 in the top side of the chamber sufficiently large to admit of the passage of the head through it, so that the patient may breathe freely during the time the rest of his body is being subjected to the action of the apparatus. The sides, top, and bottom of this apparatus are made double, as herein-before described and as illustrated by the Drawing, and the intervening space
20 between the inner and outer cases is filled with hot water or other heating medium.

- Figures 9 and 10 represent respectively a longitudinal vertical section and corresponding plan of a modified form of apparatus for treating the entire body, which is particularly applicable to the resuscitation or treatment of bodies
25 which have been immersed in the water.

- This apparatus consists of a long narrow casing or receptacle made with double sides and bottom, and heated by hot water, air, or steam, introduced into the cavity or space contained between the inner and outer cases; a filling aperture and draw-off cock or tap being provided as in all the previous
30 apparatuses for the purpose of filling and emptying the same. The top or cover K of the receptacle is made removeable therefrom, being lifted off when the body is to be placed in the receptacle, and replaced again afterwards, so as to confine the heat. This cover is made with a hot-water space therein, and similar to the rest of the apparatus, and is also provided with a filling
35 aperture D¹ and discharging tap E¹ of its own, as shewn in the Drawing. The cover K does not entirely cover the receptacle, but is made rather shorter, as shewn, in order that an opening may be left at the face of the patient to admit of free respiration and the administration of resuscitants if required; L, L, are a series of straps or slings extending from side to side of

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the interior of the receptacle, and forming supports for the body, which is thus suspended a short distance above the bottom, in place of being in immediate contact with the heated surface of the bottom of the receptacle.

In all the different apparatuses herein-before described the interiors may be lined with flannel, wadding, or other soft and warm material, or with wicker- 5 work, so as to prevent the part under treatment from coming in direct contact with the heated sides of the apparatus, which, when highly heated, might be found objectionable; the outsides may also be covered or encased with wood, felt, or other good non-conductor to prevent loss of heat by radiation. I may further remark that it is not in all cases requisite that the body or part thereof 10 to be heated be denuded of clothes or covering, although in many cases it is preferred to have the patient stripped. I also propose to apply wheels or castors to the apparatus shewn in Figures 9 and 10, for facilitating its removal from one place to another. In some cases the apparatus shown in Figures 5 and 6 may be placed over the head of the patient when in the 15 apparatus, Figures 7 and 8, so as to completely enclose the entire body.

In the two arrangements herein-before last described it will be found advantageous to surround the neck of the patient with flannel or other suitable material so as to prevent any escape of the warm air from the interior of the apparatus. 20

The apparatus shown at Figures 9 and 10 may be used, if desired, as an ordinary bath by filling the inner vessel or casing with water, and when a hot bath is required, if the space between the cases be filled with hot water, the heat so generated will tend to keep up the heat of the bath water for a considerably longer period than in the ordinary baths. 25

Figure 11 represents the application of my system to a chair and table intended to be used by parties liable to be afflicted with rheumatic pains in the limbs.

The chair is composed of an inner and outer metallic or other suitable casing as previously described, the space between the casings being filled with 30 hot water, air, or steam, so that the seat, back, and arms may be kept heated whilst the chair is in use, suitable means being provided at D and E respectively for introducing and running off the hot water as required. The top of the table is made hollow, and is filled with hot water through the aperture at D, a cock E on the under side serving for the emptying of the same. The 35 base or plinth N is also made to contain hot water or other convenient heating medium, so as to form a foot warmer. A lamp O is placed inside the hollow pedestal P of the table for the purpose of preventing the water in the top from cooling too rapidly, suitable air vents *a, a*, being made round the pedestal

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to supply air to the lamp. Q represents a curtain or drapery (shewn partly in section in the Drawing), which may be attached round the top of the table and secured to the base thereof, with an opening for the entrance of the legs of the patient, which are thus protected from the external cold air. The outer and
5 inner casings A and B, in all these various modifications of my apparatus, should be connected together by suitable stays, as shewn at *b, b*, in many of the Figures, and although I prefer to make such cases of tinned sheet iron, any other metal or material suitable for the purpose may be employed. These apparatuses may be made in all sizes and of any shape required, as will be
10 evident from the examples already given in my Drawings and description.

In some cases I propose to construct my apparatus of a combination of different metals or alloys with a view to the obtainment of a galvanic action, but I by no means confine or restrict myself to any particular substance or material or combinations of different substances or materials when making the
15 apparatuses herein-before described.

Having now described and particularly ascertained the nature of my said Invention, and the manner in which the same is or may be used or carried into effect, I would observe in conclusion that what I consider to be novel and original, and therefore claim as the Invention secured to me by the herein-
20 before in part recited Letters Patent, is,—

1st. The general constructions and arrangements of apparatus for the treatment of the human body or parts thereof when afflicted with pain, as herein-before described.

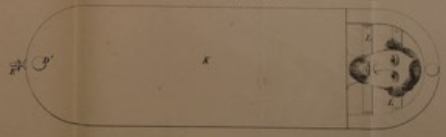
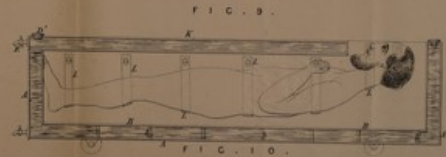
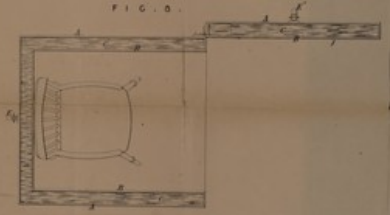
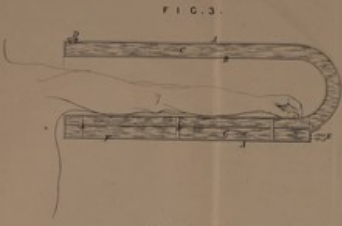
2nd. The application and use of a receptacle or vessel surrounded by hot
25 water, steam, or hot air, and intended to receive the whole or a part of the human body for the purpose of applying heat thereto and allaying bodily pain, as herein-before described.

In witness whereof, I, the said James Robertson, have hereunto set my hand and seal, this Twenty-seventh day of January, in the year of
30 our Lord One thousand eight hundred and sixty-two.

JAMES ROBERTSON. (L.S.)

LONDON:

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The blood drawing is partly colored.

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