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N. K. MORRIS.

HOT AIR INHALER.

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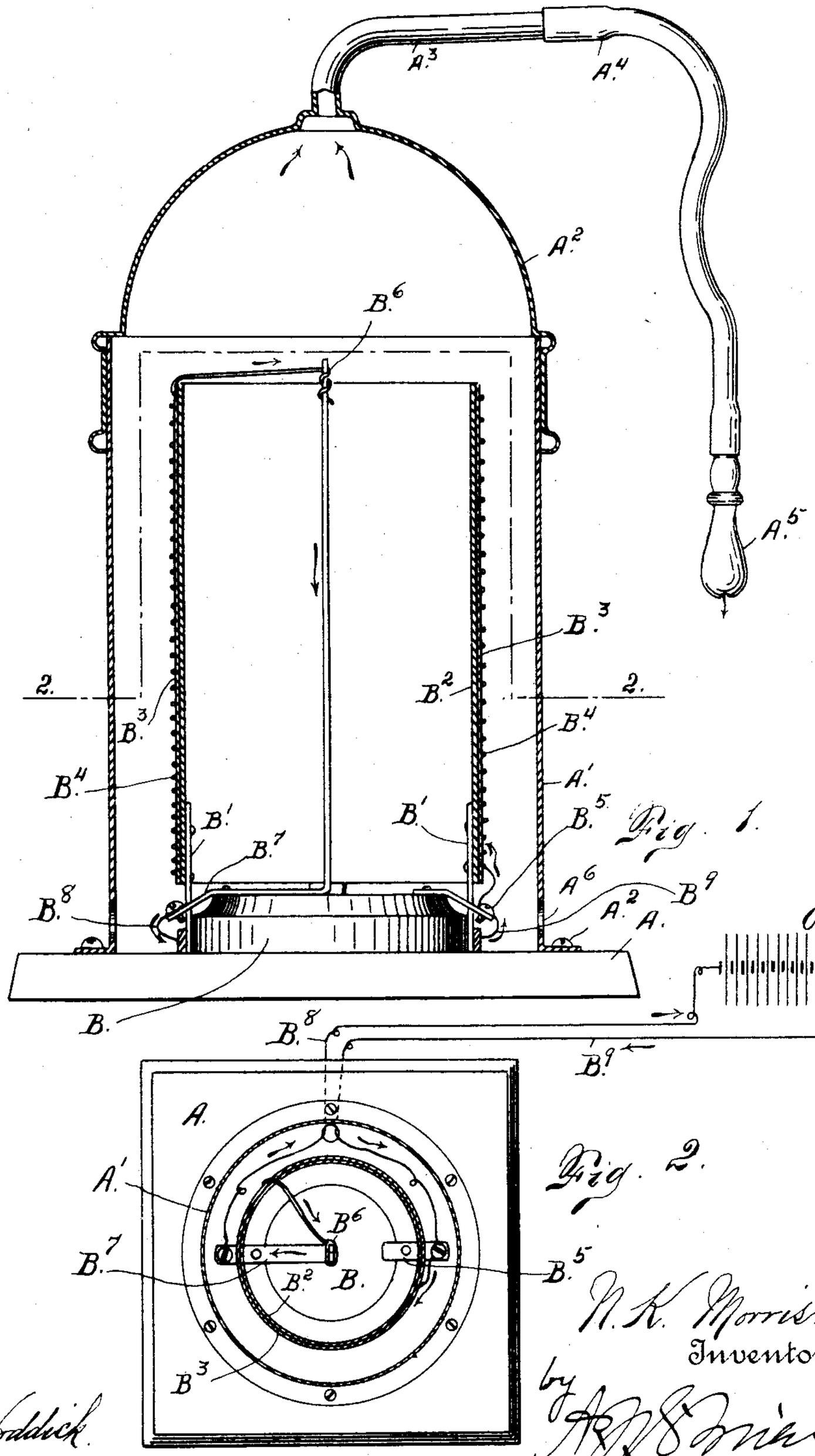

Fig. 1.

Fig. 2.

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UNITED STATES PATENT OFFICE.

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HOT-AIR INHALER.

SPECIFICATION forming part of Letters Patent No. 792,230, dated June 13, 1905.

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To all whom it may concern:

Be it known that I, NORMAN K. MORRIS, a citizen of the United States of America, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Hot-Air Inhalers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to a novel construction of hot-air inhaler, my object being to provide means whereby the air within the casing of the inhaler may be quickly and readily heated to any desired temperature for inhaling purposes; and to this end I employ a resistance-coil suitably mounted within the outer casing of the instrument and connect this coil with an electric source, as an incandescent-light circuit. The heat generated by the passage of the current through the coil, which may consist of any desired number of convolutions, will soon heat the air within the casing to a degree sufficient for all practical purposes, and, if desired, the current may be kept on during the treatment of the patient.

Having briefly outlined my improved construction, as well as the function it is intended to perform, I will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a vertical section taken through my improved hot-air inhaler. Fig. 2 is a horizontal section taken on the line 2 2, Fig. 1.

The same reference characters indicate the same parts in both the views.

Let A designate a suitable base to which is attached the outer cylindrical casing A′ by means of screws A^2, the screws being passed through a horizontal flange surrounding the base of the casing. To the top of this casing is applied a cover A^2, adapted to close the casing at the top. The central portion of the top A^2 is provided with a tube A^3, which communicates with the casing, while its extremity remote from the casing is connected with a flexible tube A^4, to the outer extremity of which is applied a bulb A^5, which may be inserted in the nostril of the patient. The outer extremity of this bulb is open for the escape of the air when inhaled by the patient. The bottom of the casing is provided with orifices A^6 for the entrance of the external air, thus naturally establishing an upwardly-directed air-current. Centrally mounted on the base A within the casing is an insulating-block B, to which is attached a number of metal legs B′, upon which is mounted an open-ended cylindrical member B^2 of suitable size. As shown in the drawings, the outer surface of this member B^2 is covered with a layer of insulating material B^3, preferably composed of asbestos or other suitable material capable of resisting a high degree of heat and at the same time performing the insulating function, and outside of this insulating material is wound the resistance-coil B^4, the wire of which may be of any desired fineness and have any desired number of convolutions. One terminal of the coil B^4 is connected with a contact B^5, while the other terminal is connected with the upper extremity of a contact-plate B^6, whose lower extremity is connected with a contact B^7, secured to the insulating-base. From the contacts B^5 and B^7 lead wires B^8 and B^9 to the poles of a suitable electrical source C, as an incandescent circuit.

By having the tubular member B supported above the insulating-base, whereby the air is allowed to circulate freely inside of the coil-holder as well as outside thereof, the air is heated by radiation from both surfaces of the said member.

From the foregoing description the use and operation of my improved hot-air inhaler will be readily understood. Preparatory to using the instrument it is only necessary to put the cover A^2 in place and connect the coil B^4 with an electrical source. The instrument is then ready for use.

Having thus described my invention, what I claim is—

1. In a hot-air inhaler, the combination with

an outer casing provided with a removable cap having an opening, an inhaling-tube connected with said opening, an open-ended metal cylinder located within the casing and suitably separated therefrom, the cylinder being supported to allow the air to enter from below, the cylinder being also provided exteriorly with a coating of insulating material, a resistance-coil applied to the cylinder exteriorly and engaging the insulating material, a contact connected with one terminal of the coil, an electric source with one pole of which the said contact is also connected, another contact connected with the other terminal of the coil and also with the other pole of the electrical source, the outer casing being open at the bottom to allow the air to enter the same from below.

2. In a hot-air inhaler, the combination with a suitable base, a casing mounted thereon and provided with a detachable cover and an inhaling-tube connected therewith, of an insulating-block centrally mounted on the base within the casing, a cylindrical open-ended metal tube mounted above the insulating-block to permit a circulation of air between the block and the lower extremity of the tube, the latter being covered exteriorly with a layer of insulating material a resistance-coil mounted on the said tube and engaging the insulating material exteriorly, and a suitable circuit with which the said coil is connected.

3. The combination with a suitable base, of a casing made fast thereto and having orifices at the bottom, a cap applied to the top of said casing, an inhaling-tube connected with the cap, an insulating-block mounted on the base within the casing, a metal tube supported on legs above the insulating-block, and covered exteriorly with insulating material contacts mounted on the insulating-block, a resistance-coil mounted on the tube and engaging the insulating material thereon, its terminals being connected with the said contacts, and circuit-wires leading from the contacts to a suitable electrical source.

4. The combination with a suitable base, of a casing made fast thereto having orifices at its bottom, an insulating-block centrally secured to the base within the casing, metal legs projecting upwardly from the base above the insulating-block, an open-ended metallic cylinder secured to said legs whereby a space is left between the block and the lower extremity of the cylinder, the latter being covered exteriorly with insulating material the cross-section of the cylinder being considerably less than the cross-section of the outer casing, a resistance-coil applied exteriorly to the said cylinder and engaging the insulating material, separated contacts mounted on the insulating-block with which the terminals of the coil are connected, and circuit-wires leading from the said contacts.

5. In a hot-air inhaler, the combination of an outer casing, an inhaling-tube connected therewith, means for admitting air to the lower part of the casing, a metal cylinder mounted within the casing and separated therefrom, the said cylinder being provided exteriorly with a coating of insulating material adapted to resist a considerable degree of heat, a resistance-coil mounted exteriorly on the cylinder and engaging the insulating-coating, an electrical source, and suitable connections between the poles of said source and the terminals of the resistance-coil.

In testimony whereof I affix my signature in presence of two witnesses.

NORMAN K. MORRIS.

Witnesses:
DENA NELSON,
OTTO E. HODDICK.