(No Model.)

R. E. WOODWARD

INHALER.

No. 490,008. Patented Jan. 17, 1893.

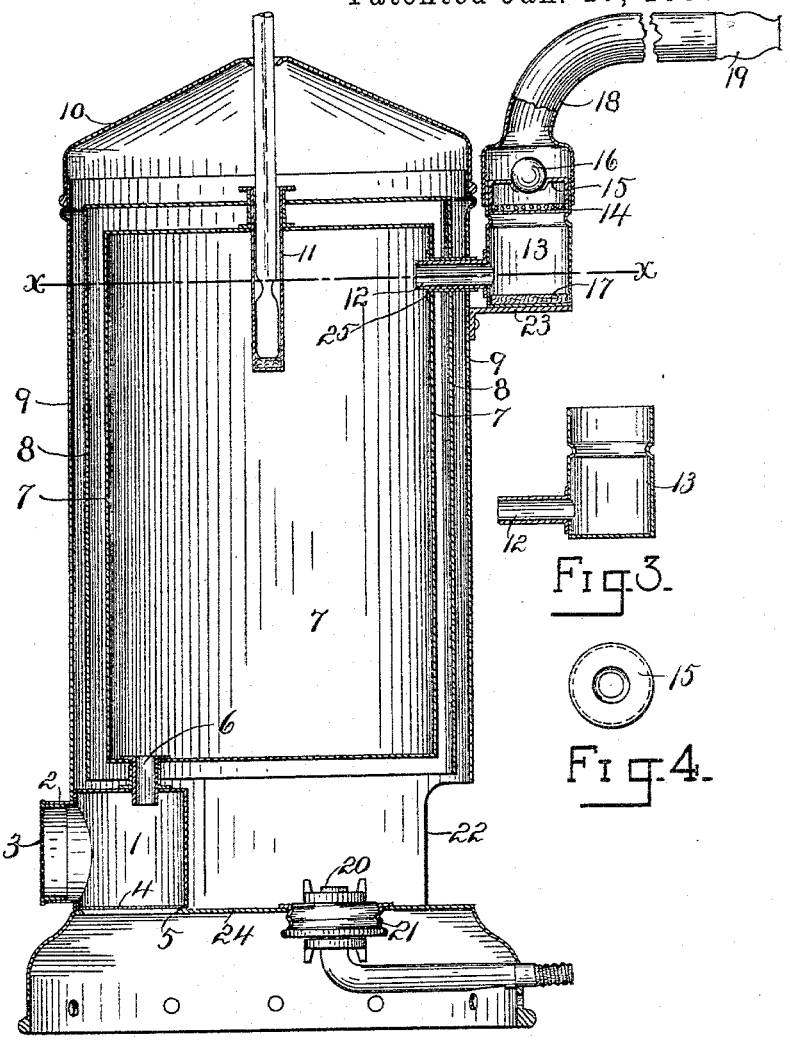

FIG. 1

FIG. 3.

FIG. 4.

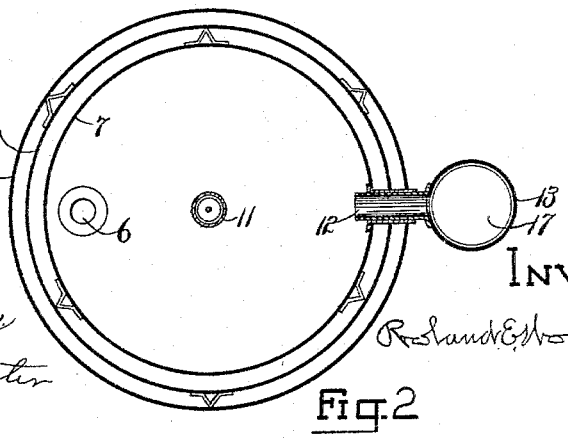

FIG. 2

WITNESSES:
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UNITED STATES PATENT OFFICE.

ROLAND EDGAR WOODWARD, OF CHICAGO, ILLINOIS.

INHALER.

SPECIFICATION forming part of Letters Patent No. 490,008, dated January 17, 1893.

Application filed December 28, 1891. Serial No. 416,398. (No model.)

To all whom it may concern:

Be it known that I, ROLAND EDGAR WOODWARD, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented a certain new and useful Improvement in an Apparatus for Medicating Atmospheric Air, of which the following is a specification.

My invention relates to an improvement in what is known as an "inhaler" used for medicating atmospheric air, with remedies used in the treatment of disease of the human system especially of the air passages, throat and lungs.

My objects are first, to provide means by which the inhaler may be reduced in size, and have its efficiency and convenience increased. Second, to provide a means by which medicaments may be more easily placed in the jar and cup designed for their reception, and third to provide a more convenient inhaling pipe, with a means of preventing the evaporation and loss of medicaments placed in the cup and jar. I attain these objects by means illustrated in the accompanying drawings, in which

Figure 1 is a central vertical section of the apparatus, showing all parts in position; Fig. 2 is a plan section on the line *x*—*x* showing the shape and relation of the casings or drums and the position of the cup. Fig. 3 is a section of the cup 13 detached with attachments thereto taken out. Fig. 4 is a plan view of the ball seat of the cup 13.

Similar figures refer to similar parts throughout the various views.

In the drawings 7 represents the drying chamber, 8 represents the heat retaining casing, while 9 is the outer casing. Connected with the drying chamber by the pipe 6 is the circular jar 1, said pipe 6 extending downward into the jar a short distance. In the side of the jar is the opening 2, which is covered by the perforated plate 3, said plate being placed in a rim so that it may be easily removed. In the bottom of the jar is an opening 5, which is covered by the perforated plate 4, this opening permits the air to pass up into the jar through the medicaments which may be placed upon the perforated plate 4. Connected with the plate 24 is a circular opening surrounded by the plate 21 which is pressed into screw form. Into this opening a gas burner 20 is screwed, or it may be a lamp, by which means heat is applied to the drying chamber 6. An opening 22 is placed in the outside casing to enable air to pass into the apparatus.

At the top of the apparatus is placed the medicating cup 13 connected with the drying chamber 7 by means of the pipe 12, which is inserted into the chamber through an inclosing pipe 25, as shown in Fig. 1 of the drawings, and below the cup is the bracket 23 upon which the cup rests. In removing the cup the pipe 12 is drawn out of the inclosing pipe 25 and the cup slid off the bracket. In the bottom of the cup is the asbestus wafer 17, made of that material to withstand the heat. At the top of the cup is the ball socket plate 15 made to fit into the cup and having a socket into which the ball 16 exactly fits. This ball should be made of aluminum or other very light substance, to enable the least possible resistance rising when the air is drawn up. Below said plate 15 is a perforated plate 14, which rests on an indenture in the cup 13, and thus it is prevented from falling below. Connected with the top of the cup 13 is the inhaling tube 18, having at its extremity the mouth piece 19, through which tube the air is drawn.

Passing through the top of the heat retaining casing 8 and the drying chamber 7 is the tube 11, having in its lower end an asbestus wafer. Into this tube is inserted a thermometer, which passes out through the cover 10, and thus enables the person using it to know the degree of heat in the apparatus.

In using the apparatus the burner 20 is lighted and the flame passes upward against the drying chamber 6, the heat retaining casing 8 catching the heat, and passing it up along the sides of the drying chamber. Into the jar 1 are placed medicaments as is also done in the cup 13, and when the proper temperature is indicated the mouth is placed upon the mouth piece 19 and upon drawing in the breath, the air passes into the jar 1 through the openings 2 and 5, then up through the pipe 6 into the drying chamber; from there it is drawn through the pipe 12 into the

cup thence upward through the perforated plate, and lifting the ball 16 it passes through the inhaling tube into the lungs, having been heated to a high degree of temperature, and having had medicaments introduced.

Having thus described my improvements what I desire to claim as my invention, and to secure by Letters Patent is;

1. In an inhaler the combination of the drying chamber 7 and the circular casings 8 and 9, with the circular jar, the connection pipe 6 connecting said jar with the drying chamber 7, the plate 2 attached to the side of the jar and forming a circular opening in it, the perforated plate covering said opening, the plate 5 at the bottom of said jar so cut as to form a circular aperture for the admission of air, and the perforated plate 4 covering said aperture all substantially, as and for the use set forth.

2. In an inhaler, the combination of the drying chamber 7 and the circular casings 8 and 9 with the removable cup 13 for holding medicaments, the pipe connecting said cup with the drying chamber, the asbestus wafer in the bottom of said cup, the perforated plate 14, the ball seat 15 and the ball 16, said seat being so formed as to prevent escape of vapors when the ball is in place and the inhaling tube 18 provided with a mouth piece and attached to the cup all substantially as shown, and for the use set forth.

ROLAND EDGAR WOODWARD.

Witnesses:

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