No. 840,060. PATENTED JAN. 1, 1907.

C. VAN D. HILL.

HEATING ATTACHMENT FOR HOT WATER BAGS.

APPLICATION FILED NOV. 15, 1905.

Fig. 1.

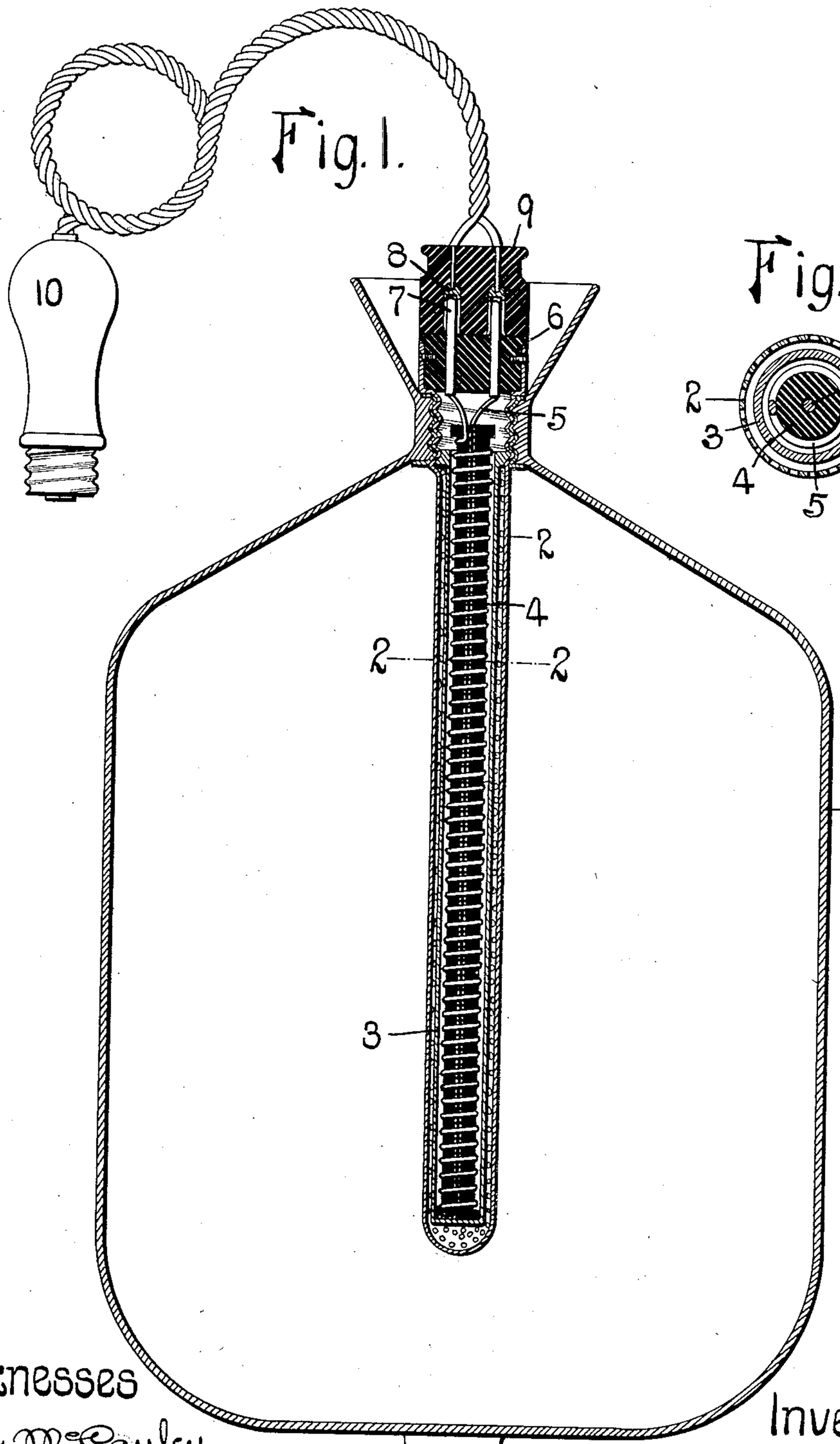

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES VAN DYKE HILL, OF ST. LOUIS, MISSOURI.

HEATING ATTACHMENT FOR HOT-WATER BAGS.

No. 840,060. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed November 15, 1905. Serial No. 287,470.

To all whom it may concern:

Be it known that I, CHARLES VAN DYKE HILL, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Heating Attachments for Hot-Water Bags, of which the following is a full, clear, and exact description, 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, forming part of this specification, in which—

Figure 1 is a sectional view showing my improved heating attachment for hot-water bags, and Fig. 2 is an enlarged cross-sectional view on the line 2 2 of Fig. 1.

This invention relates to a new and useful improvement in heating attachments for hot-water bags, the object being to arrange on the stopper or closure of the bag a heating-coil in an electric circuit, whereby when water is placed in the bag and the stopper screwed in position to retain the water in the bag the current can be passed through the heating-coil and maintain the water at a desired degree of temperature for an indefinite period of time.

In the drawings, 1 indicates the bag, which, as usual, is made of rubber, and I prefer to have in connection with my attachment a hot-water bag such as can be purchased in the open market, so that in the event that the heating attachment becomes disarranged an ordinary screw-stopper, such as sold with the bag, can be employed and the bag used in the usual way.

The neck of the bag is provided with a female thread, into which the stopper is screwed to retain the water in the bag, and in my improvement the threads of the stopper, which engage the threads in the neck of the bag, are formed on a guard-tube, (marked 2 in the drawings.) This guard-tube is preferably perforated all around, as shown in Fig. 2, so that water can have access to the heating-tube 3, and at the same time the heating-tube 3 is prevented from coming in direct contact with the rubber walls of the bag 1. The lower end of the heating-tube 3 is closed, as shown, and the upper end is expanded or otherwise secured within the threaded portion of the tube 2 above the perforations, so as to prevent water in the bag from passing into the tube 3. Any suitable means of securing the closed-ended tube 3 in position may be employed.

4 indicates an insulation-core through the center of which is an opening for the passage of the heating-wire 5, said wire being of suitable resistance and being wound around the insulation-core 4 to generate the desired degree of heat from currents of known voltages. The number of turns of the resistance-wire 5 and amount of resistance offered to a current of known voltage determines the degree of heat generated in the tube 3.

The outer end of tube 2, above the threaded portion thereof, is preferably enlarged, so as to form a shoulder for the purpose of coöperating with the outer face of the neck of the bag. In this enlarged portion of tube 2 is arranged an insulation-block 6, carrying the terminals 7 of the resistance-wire. These terminals are in the form of posts or pins and extend above the face of the insulation-block 6, so as to coöperate with sockets 8 in an insulation-block 9. The walls of these sockets 8 are preferably split, so as to be yielding, whereby they may frictionally engage the ends of posts 7. The wires leading to sockets 8 preferably connect with an electric plug 10, and the wires are of such length that said plug may be introduced in an ordinary lamp-socket. If for any reason it is desired to cut off the supply of electricity to the heating-tube, the same may be done by the switch in the lamp-socket, or the plug 10 may be removed from the bag. The terminals 7 afford thumb-pieces by which the stopper can be screwed into the bag. If desired, a rheostat may be employed to cut in resistance, so as to regulate the temperature of water in the bag.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination with a hot-water bag having a single opening for the introduction and discharge of water to be heated, of a stopper for closing said opening, an electric heating-coil extending inwardly from said stopper into the bag, an insulating-block mounted in an enlarged portion of said stopper and carrying the terminals of the heating-coil which project upwardly from said block, and a removable insulating-block provided

with terminal sockets which coöperate with the terminals of the heating-coil; substantially as described.

2. An electric heating attachment for hot-water bags, the same comprising a perforated guard-tube having a threaded portion and an enlarged portion forming a shoulder, an inner closed-ended tube arranged in said guard-tube, a resistance-coil in said inner tube, an insulation-block mounted in the enlarged portion of said guard-tube, and through which the terminals of said resistance-coil pass, and an insulation-block having terminal sockets for coöperating with the first-mentioned terminals; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 11th day of November, 1905.

CHARLES VAN DYKE HILL.

Witnesses:
F. R. CORNWALL,
GEORGE BAKEWELL.