T. MICHAEL.

HOT AND COLD WATER APPLICATOR.

APPLICATION FILED DEC. 8, 1910.

1,078,207. Patented Nov. 11, 1913.

Fig. 1

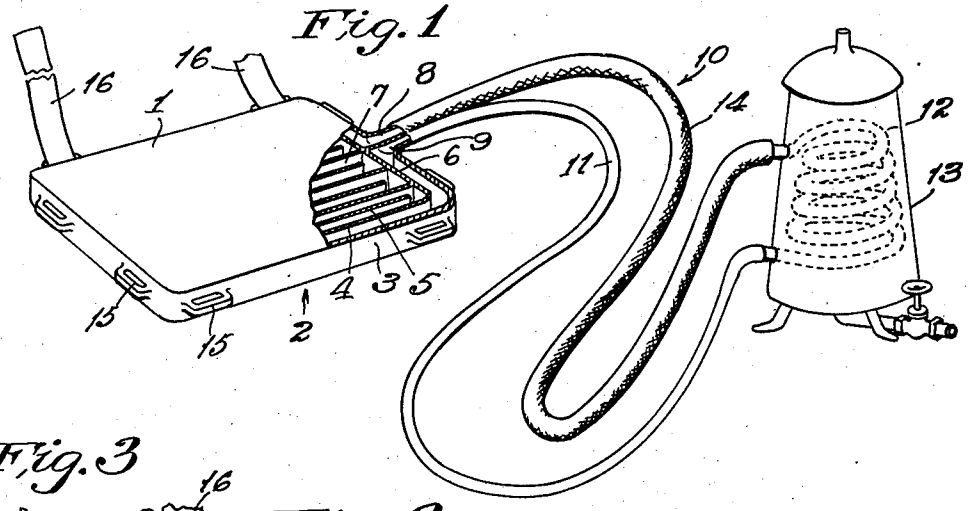


Fig. 3

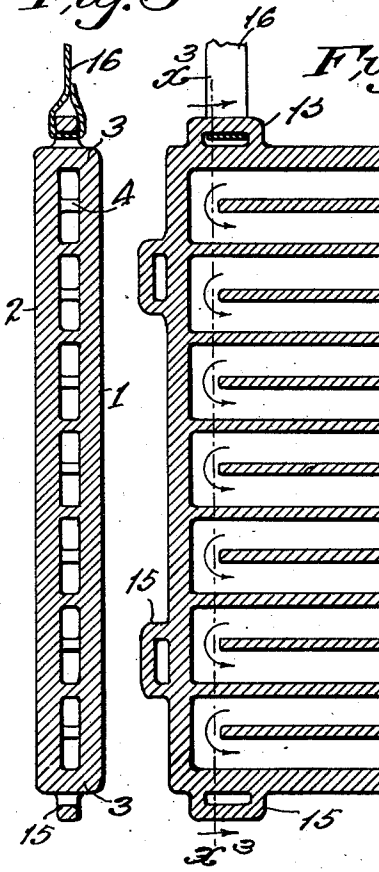


Fig. 2

Witnesses
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L. Belle Reel

Inventor
Thomas Michael
by James R. Townsend
his atty.

UNITED STATES PATENT OFFICE.

THOMAS MICHAEL, OF LOS ANGELES, CALIFORNIA.

HOT AND COLD WATER APPLICATOR.

1,078,207. Specification of Letters Patent. Patented Nov. 11, 1913.

Application filed December 8, 1910. Serial No. 596,368.

To all whom it may concern:

Be it known that I, THOMAS MICHAEL, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Hot and Cold Water Applicator, of which the following is a specification.

The object of this invention is to provide a light and convenient substitute for hot and cold water bags.

One objection to hot and cold water bags which I desire to do away with is the weight of the appliance when the bag is filled with the necessary charge of water.

Another object is to avoid the regurgitation and distortion which results from the mobility of the charge of water in the bag.

The accompanying drawings illustrate the invention.

Figure 1 is a view of an apparatus constructed in accordance with this invention. Fig. 2 is an enlarged sectional plan of a pad constructed in accordance with this invention. Fig. 3 is a cross section of the pad on line indicated by x^3, Fig. 2.

The pad is composed of two practically flat sides 1, 2, hermetically sealed to an inclosing edge wall 3 and partition walls 4, 5, 6; the inclosing and partition walls are spaced apart to form a continuous sinuous labyrinthic channel 7 leading from an inlet pipe 8 to an outlet pipe 9 at which pipes the ends of the channel are separated by a partition wall 5′ that may be an extension of one of the partition walls 5; said pipes 8, 9, being joined together at the pad and connected with the hot and cold water pipes 10, 11. By this construction great strength is secured at the pipe connections and a neat convenient compact pad is produced. The hot water pipe 10 leads from any suitable source of hot water, which in Fig. 1 is shown as the coil 12, of a gas heater 13; and the cold water pipe 11 communicates with the lower end of the heating coil 12. The hot water pipe 10 is preferably provided with heat insulation 14 so that there is no waste of heat between the heater and the pad. The cold water pipe 11 is preferably non-insulated, thus to facilitate the escape of heat between the pad and bottom of the heating coil so that the circulation will be continuous so long as the fire in the heater is maintained. It is understood that the hot water pipe may be led from any constant source of hot water and that the cold water pipe may be a waste pipe led to any suitable place of discharge and that the temperature of the water may be regulated in any desired manner.

The dimensions of the pad may be such as to meet with the demands of the surface to which the pad is to be applied, and the pad may be provided around its edges with loops or eyes 15 to receive tapes 16 by which the pad may be bound to any part of the body or around an arm or leg of the patient to be treated.

It is understood that where a cold pack is desired, cold water may be caused to flow through the pipe 10 and through the pad and pipe 11 by gravity, thus to serve the desired purpose. The thickness of the side walls, the edge walls and the partition walls may be such as to allow great flexibility of the pad and yet to prevent the channel in the pad from being closed by such pressures as are liable to be applied to compress the pad during use.

The material of which the pad is made may be rubber or some substitute therefor. In some instances, one side wall and the inclosing and partition walls are molded together; and the other side wall is cemented to the inclosing and partition walls. In other instances the inclosing edge walls and the partition walls may be made of a single piece and both the side walls cemented thereto. When completed ready for use the pad is practically of one piece. The thickness of the walls and of the channel may be varied, and the size and thickness of the entire pad may be varied within the judgment of the constructor. I deem it desirable in a medium pad that the sinuous channel 7 be practically rectangular in cross section and about $\frac{3}{16}$ of an inch wide between the side walls and $\frac{5}{16}$ of an inch wide between the inclosing and partition walls.

The pad thus constructed is thin and light and quite flexible so that it can be bound around the arm or leg or be made to conform to other parts of the body; and by allowing the water to flow through at the proper temperature and speed, the desired heat may be applied to any part of the body as desired. The inlet and outlet pipes are preferably at one edge of the pad and are located close together thus to facilitate the manipulation of the pad.

By providing the labyrinthic passage 7

between the thin flexible side walls said walls are kept practically at the same temperature as the flowing liquid and the heat may be conveniently applied to the irregular surfaces of the body.

I claim:—

An applicator comprising side walls, inclosing edge walls, partition walls joined at one of their ends to an edge wall and spaced apart at their opposite ends from a second edge wall, other partition walls alternating with the first partition walls and having one of their ends spaced apart from said first edge wall, another partition wall across the other ends of said alternating partition walls and spaced apart from said second edge wall, there being an inlet and outlet in said second edge wall, and a partition wall joined to said last partition wall and separating the inlet and outlet.

In testimony whereof, I have hereunto set my hand at Los Angeles California, this 1st day of December 1910.

THOMAS MICHAEL.

In presence of—
JAMES R. TOWNSEND,
L. BELLE RICE.