

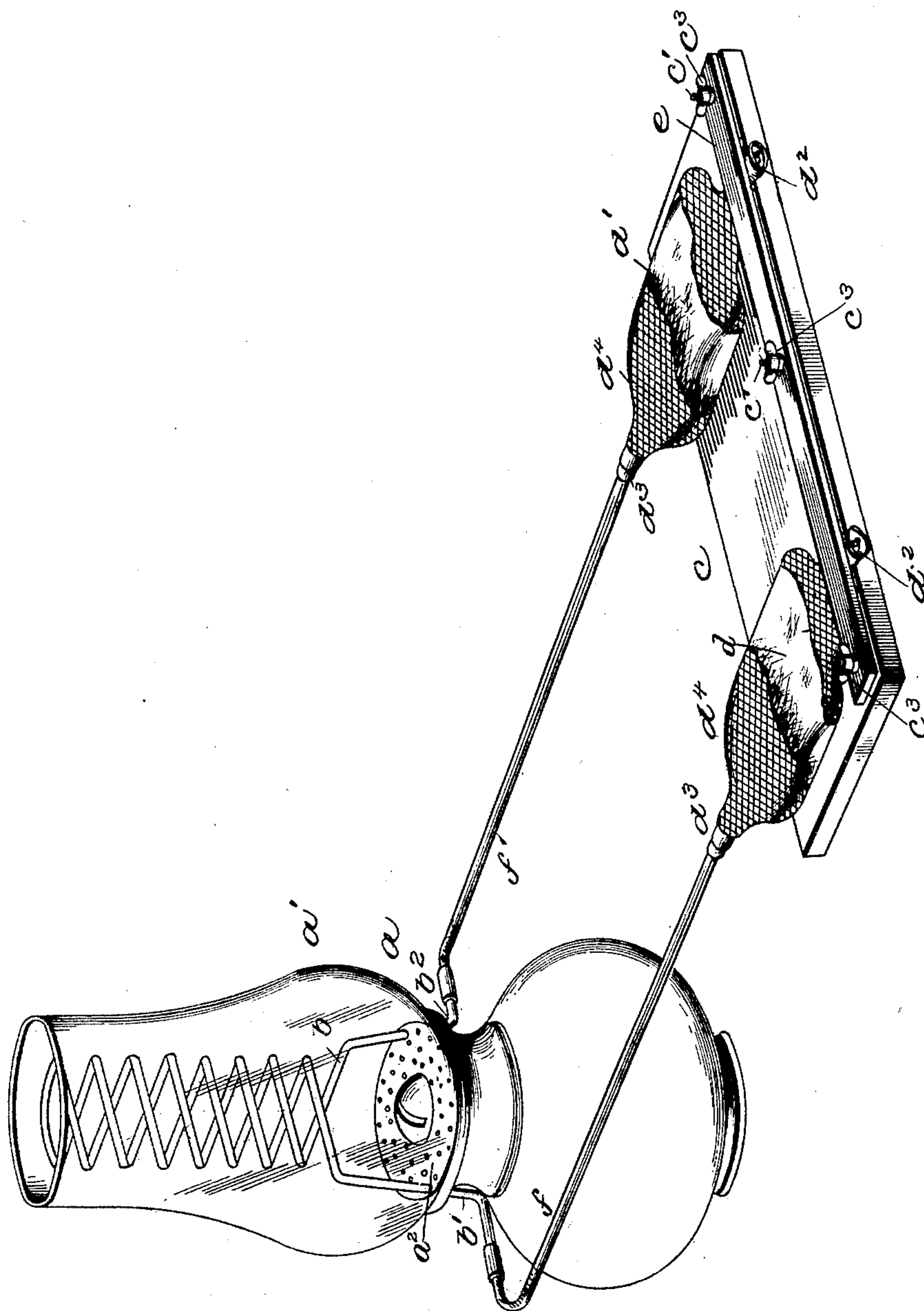
No. 679,528.

Patented July 30, 1901.

S. A. GOTCHER.
WATER HEATER FOR THE FEET, &c.

(Application filed Jan. 21, 1901.)

(No Model.)



Witnesses

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SAMUEL A. GOTCHER, OF ST. LOUIS, MISSOURI.

WATER-HEATER FOR THE FEET, &c.

SPECIFICATION forming part of Letters Patent No. 679,528, dated July 30, 1901.

Application filed January 21, 1901. Serial No. 44,138. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL A. GOTCHER, a citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Water-Heaters for the Feet and other Portions of the Body; and I do hereby 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.

My invention relates generally to hot-water heaters, but more particularly to that class of heaters commonly known as "foot-warmers;" and it consists, essentially, of a conduit adapted to be heated and two collapsible water-receptacles, one of said receptacles being attached to one end of the conduit and the other receptacle attached to the other end of the conduit.

The invention further consists of a suitable support for the water-receptacles and means for detachably connecting them to the support.

The invention still further consists of the general arrangement and combination of the various parts of the device, as will be hereinafter more fully described, and particularly stated in the claims.

The principal object of the invention is to produce a simple and inexpensive apparatus for effectively heating water contained in two collapsible receptacles to be utilized in warming the feet or other parts of the body.

Another object of the invention is to provide a heater which may be used as a light-giving source as well as for heating the conduit, so that when the apparatus is applied to a wheeled vehicle or used in a room sufficient light will be radiated for the purposes ordinarily required in such instances.

In the accompanying drawing the figure illustrated represents a perspective view of my improved water-heating apparatus.

Similar letters indicate like parts throughout the view.

The letter *a* indicates a lamp of any approved construction, the one shown in the drawing being of the ordinary pattern, having the usual glass or isinglass chimney *a'*.

Situated above the burner of the lamp within the chimney is a conduit *b*, preferably

copper and of the form of a coil of piping or tubing, said conduit having the ends *b'* and *b''* passing through the perforated cap-piece *a''* of lamp-burner and bent outwardly.

The letter *c* indicates a portable platform or base upon which are supported two collapsible water-receptacles *d* and *d'*, each being provided with a filling-orifice *d''* and a water-passage tube *d'''*. These water-receptacles are preferably rubber bags protected by a covering *d''''*, of any suitable material. Both water-receptacles are confined by their filling ends to the platform or base by means of a strip or plate *e*, which is perforated to receive bolts *c'*, that pass up through the platform and are provided with thumb-nuts *c''*. One end *b'* of the conduit is connected with the tube *d'''* of the water-receptacle *d* by means of flexible tubing *f*, and the other end *b''* with the tube *d'''* of the water-receptacle *d'* by means of flexible tubing *f'*, thus forming a continuous circuit from one receptacle to the other through the tubular coil.

The operation of the apparatus is briefly as follows: Each of the receptacles being about half filled with water or one being completely filled and the lamp lighted, the water is caused to flow from one receptacle to the other by means of pressure applied to one of the receptacles. When one of the receptacles is filled or the water from one forced into the other, pressure is applied to the filled receptacle and the water is forced into the other. Thus a continuous flow of water alternating from one receptacle to the other may be maintained until thoroughly heated. When the water is sufficiently heated and the circulation stopped, steam is soon generated in the conduit and the hot water is held in check by the impact of the steam. In this condition the receptacles may be used to warm the feet or other parts of the body.

It will be evident that by applying pressure to but one of the collapsible receptacles water contained in such receptacle will be caused to flow into the heater, and when pressure is removed the water will be caused by gravity to flow back into said receptacle. Thus it will be seen that water contained in one receptacle may be heated and returned to said receptacle without bringing the other receptacle into operation. When both recep-

tacles are to be operated, the pressure applied to one of the receptacles will cause the heated water to flow into the other receptacle and pressure applied to the latter receptacle will
 5 cause the water to flow back into the first-mentioned receptacle. It will thus be seen that the device differs from the ordinary two-pipe system in that the flow of hot water from the receptacles to the heater and back again
 10 is through a single unobstructed conduit.

As a foot-warmer for vehicles the apparatus is especially applicable, as the platform containing the water-receptacles may be placed in the bottom of the vehicle-body, and the
 15 lamp, which may be placed in any convenient position, be used to reflect its rays on the road that is being traveled.

Having thus fully described my invention, what I claim, and desire to secure by Letters
 20 Patent, is—

1. In a water-heater, the combination of a collapsible water-receptacle, a water-heater and an unobstructed one-pipe system providing communication between the water-recep-
 25 tacle and the water-heater, whereby the water in said water-receptacle may be caused to flow to the heater, when pressure is applied to the receptacle, and whereby said receptacle may receive the heated water from
 30 the heater through the same conduit, when said pressure is removed.

2. A water-heater consisting of a conduit, means for heating said conduit, and two collapsible water-receptacles, one of said recep-
 35 tacles being connected to one end of the conduit and the other receptacle connected to the other end of the conduit, so that communication with each other can only be had through the conduit, as and for the purpose
 40 specified.

3. A water-heater consisting of a coil of tubing, said coil having one of its ends connected to a collapsible water-receptacle and its other end connected to a similar water-re-
 45 ceptacle, said receptacles being out of communication with each other except through the coil, so that pressure applied to one receptacle will force the water therefrom, through the coil, into the other receptacle, and means for
 50 heating the coil.

4. A water-heater consisting of two collapsible water-receptacles, a coil of tubing, and means for heating said coil, said receptacles being out of communication with each other
 55 except through said coil, so that water is

caused to flow from one receptacle through the coil into the other receptacle, by means of pressure applied to one or the other of the receptacles.

5. In a foot-warmer, the combination of 60 two collapsible water-receptacles, a coil of tubing, and a lamp for heating the coil, one of said receptacles being connected with one end of said coil and the other receptacle connected with the other end of said coil, so that 65 communication between the water-receptacles can only be had through the coil, the water in one receptacle being caused, by pressure on the receptacle, to flow therefrom into the other receptacle. 70

6. In a foot-warmer, the combination with a tubular coil, means for heating the coil, and two collapsible water-receptacles removably secured to a suitable platform or base, one of the receptacles being connected with 75 one end of the coil and the other receptacle connected with the other end of said coil, substantially as specified.

7. In a foot-warmer, the combination of a tubular coil, means for heating the coil, two 80 collapsible water-receptacles, one of said receptacles being connected with one end of the coil and the other with the other end of the coil, a platform or base for supporting the receptacles, and means for detachably 85 connecting said receptacles to the platform or base, substantially as described.

8. In a foot-warmer, the combination with two collapsible water-receptacles, supported upon a suitable platform or base and detach- 90 ably connected thereto, a tubular coil having one end connected with one receptacle and the other end with the other receptacle, and a lamp for heating the coil, substantially as specified. 95

9. In a foot-warmer, the combination of a water-heater, a water-receptacle, and an unobstructed one-pipe system providing communication between the water-heater and water-receptacle, said receptacle adapted to 100 permit the flow of water therefrom to the heater when force is applied thereto, and to receive the return water from the heater.

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

SAMUEL A. GOTCHER.

Witnesses:

SHERMAN MILLER,
 GEO. R. NORMAN.