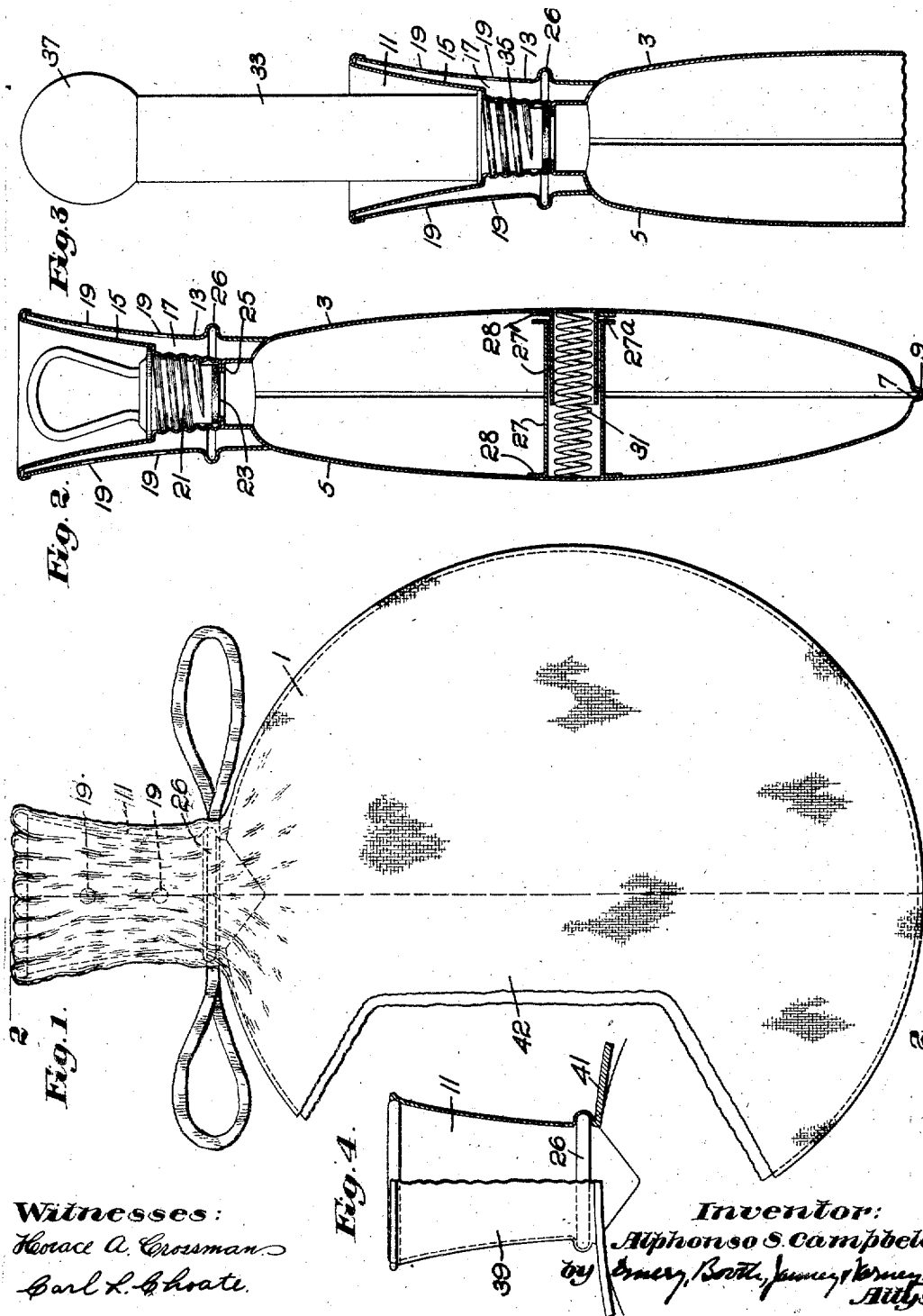


A. S. CAMPBELL.
HOT WATER BOTTLE.
APPLICATION FILED SEPT. 18, 1911.

1,045,510.

Patented Nov. 26, 1912.



Witnesses:

Horace A. Crossman
Carl L. Choate

Inventor:

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UNITED STATES PATENT OFFICE.

ALPHONSO S. CAMPBELL, OF MEDFORD, MASSACHUSETTS.

HOT-WATER BOTTLE.

1,045,510.

Specification of Letters Patent.

Patented Nov. 26, 1912.

Application filed September 18, 1911. Serial No. 649,827.

To all whom it may concern:

Be it known that I, ALPHONSO S. CAMPBELL, a citizen of the United States, and a resident of Medford, in the county of Middlesex, State of Massachusetts, have invented an Improvement in Hot-Water Bottles, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to hot water bottles, and among other objects provides a hot water bottle which is more durable than those heretofore made and which has an increased field of usefulness.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying drawing, wherein:

Figure 1 is a side elevation of an illustrative hot water bottle shown herein as embodying the invention; Fig. 2 is a vertical section taken on line 2-2 of Fig. 1; Fig. 3 is a partial view similar to Fig. 2, showing a device which may be used in connection with the bottle; Fig. 4 shows a protecting sleeve which may be used on the bottle.

Referring to the drawing, the illustrative hot water bottle there shown comprises a container or body 1, of copper or other suitable material, which may have its exterior surface nickel-plated or otherwise finished, as desired. This container preferably has the form of an oblate spheroid, although it will be understood that it may have other shapes if desired. As shown herein the container is formed of two opposed dished plates 3, 5, one of said plates having a circumferential flange 7 embraced by, and soldered or otherwise secured to a corresponding lip 9 on the other plate.

To provide a handle for positive manipulation of the container 1 as more fully hereinafter described, and to permit the container to be filled and emptied conveniently, a neck 11 is provided, soldered or otherwise made rigid with said container 1.

An important feature of the invention relates to the construction of this handle neck, whereby it is maintained cool to prevent

discomfort to the user in holding and manipulating the same. To this end the neck comprises an outer wall or sleeve 13 and an inner wall 15, spaced sufficiently to provide a substantial chamber 17 between them.

It will be observed that the hot water in the container is in contact merely with a portion of the inner wall 15 and does not contact with the outer wall 13, the part which is in immediate contact with the hand.

Said chamber 17 constitutes in effect an insulation, which prevents the heat from being transmitted from the container to the wall of the neck grasped by the hand. To render this chamber still more effective as an insulator, the outer wall 13 may be provided with a plurality of vent holes 19 distributed therein at suitable intervals.

These holes will permit the air to circulate freely to and from the chamber 17 and tend to make the temperature in said chamber equal that of the outside air. The neck may be provided with a usual stopper 21 threaded to the lower part of the inner wall 15, said stopper having an annular gasket 23 adapted for sealing engagement with an internal flange 25 on said inner wall 15.

To prevent the hand from sliding into contact with the hot body of the container the neck may be formed with an annular rib or shoulder 26 at the juncture of said neck with the body of said container.

The body of the container 1 will of course be subjected to considerable differences of temperature, and being composed of metal may expand and contract more or less and cause the dished plates 3 and 5 to spread or approach more or less. To take care of such expansion and contraction and to stiffen these plates and prevent any collapsing thereof in use, staying means is provided. As shown herein, this means comprises tubes 27 and 27' having pressure distributing flanges 28 at their bases soldered or otherwise secured to the plates 3 and 5 respectively, one of said tubes being sufficiently smaller than the other to telescope into the same with a free sliding fit. To provide a stay which will be responsive to the expansion and contraction of the plates and always tend to maintain them in a proper spread position, a helical spring 31 is introduced

into said tubes and is confined by contact with the inner faces of said plates. To limit the movement of said plates 3 and 5 toward one another, one of the tubes 27 may extend to a short distance from the plate 3 and constitute a rigid stud. This stud may have a wide spread foot 27^a on the end thereof to distribute its support to said plate 3.

One important field of usefulness of the hot water bottle described is for hot massaging or "ironing" purposes. It is admirably adapted for this use since the curved contour offered by its oblate spheroid shape permits it to be readily applied to and conform with various parts of the human body. Its massaging movement or manipulation may be easily controlled merely by gripping the bottle by its cool handle neck. This ready control is due largely to the rigid connection of said neck with said container; the non-flexible or rigid sides of the container; and to the fact that the container in its overall length is comparatively small and within short radius from said handle so that it is not at all unwieldy.

To permit the back, or parts of the human body which are not conveniently accessible, to be massaged, the bottle may be provided with an extension handle 33 (Fig. 3). When this handle is employed, it will be substituted for the stopper 21 described, and is provided with a threaded stopper-like end 35 for this purpose. The handle may terminate in a knob 37, which together with the rim of the neck 11 will offer shoulders for engagement with the hand, facilitating the manipulative control of the bottle.

To provide a better grip on the neck 11 of the bottle and further protect the hand of the user, there may be provided a sleeve 39 (Fig. 4) of rubber, asbestos or other suitable material having a collar 41 overlying the portion of the container adjacent said neck.

In some uses it may be desirable to provide a soft exterior surface for the body. To this end there may be employed a casing 42 (Fig. 1) of flannel, fabric or other suitable material shaped to fit and receive the container. To hold the casing onto the container it may be gathered at one end and tied about the neck of the container by a cord or elastic inserted in the neck of the casing.

So far as I am aware I am the first to provide a hot water bottle which may be used for massaging purposes. The bottle described is very advantageous for this use. Its form, rigid construction and the rigid connection of the neck with the body of the container, permit the latter to be applied and controlled by said neck and manipulated as desired. This control is made pos-

sible by the fact that the handle is always cool and readily handled without liability of discomfort or danger of burning the user.

In massaging it is desirable to warm the parts to be treated and also maintain a circulation in them. This is effected simultaneously by the hot water bottle.

In many instances it is desired that the human body shall not bear the weight of the bottle, but that the heat of the latter shall be transmitted to the body merely by the lying of the bottle against the side of the body. Where a rubber bottle is employed for this purpose the gravitational effect of the water would cause the bottle to distort or collapse more or less, and as a result but a small portion of the bottle would be available for lateral contact with the body. The bottle described herein will not collapse, but on the contrary may be stood up on its edge and present a large extent of surface for contact with the body.

The opposite flattened sides of the bottle will always be firmly maintained in spaced relation by the staying stud between them. In fact the bottle thus constructed is so strong that it will sustain the weight of the human body without injury to said bottle.

Rubber bottles do not stand hot temperatures, and users of them are explicitly cautioned not to use too hot water in them, since if used it will cause the rubber to deteriorate and soon wear out. However, even if proper caution is taken in this respect, rubber bottles do not stand service, but quickly wear out and soon leak and frequently cause bad cases of scalding. Rubber has other objections in that when hot it gives off a damp steamy heat and a very offensive odor which is intolerable to sick persons or those of delicate sensibilities.

By the bottle described, the above objections are overcome, since the metal container will stand very high temperatures and maintains its heat much longer than rubber bottles; it is not liable to leak and does not give forth a damp heat or any odor.

It will be observed that the walls of the body of the hot water bottle are single, to present outer heat conducting surfaces. The bottle is shown as of an oblate spheroid form, the neck thereof extending rigidly from the rim of the body. It will also be observed that the neck and body, because of their rigid connection, present a rigid structure, although the walls of the body are so constructed as to yield or play relative to each other. The stay means are positioned axially and transversely of the body in the form of the invention shown, nearly spanning the distance between the side walls, and constitute a stop-stay preventing yielding of the walls toward each other beyond a predetermined extent.

Having described an illustrative embodiment of the invention without limiting the same thereto, what I claim as new and desire to secure by Letters Patent is:

- 5 1. A hot water bottle, having a metallic body, the walls being single to present outer heat conducting surfaces, said body being provided with a handle-neck extending rigidly therefrom, said body and neck constituting a rigid connection, the said handle-neck being composed of double, spaced, substantially rigid walls.
- 10 2. A hot water bottle having a metallic body of substantially the form of an oblate spheroid, the walls of said body being single to present outer heat conducting surfaces, said body having a neck rigidly extended from the rim of said body and elongated to constitute a manipulating handle,
- 15 the said neck having an outer wall rigid with said body and merging into the sides of the latter, and also having an inner wall rigidly extending from said rim and spaced from the said outer wall to provide a cooling space between said walls.
- 20 3. A hot water bottle having opposed metallic walls, the inner faces of said walls being provided with stay means extending toward and into proximity to each other, and normally spaced apart sufficiently to permit play of said outer walls toward each other in use.
- 25 4. A hot water bottle having opposed, metallic walls, and stay means interposed between the inner surfaces of said walls, said stay means extending from the inner surface of one of said walls transversely into proximity to an abutment of the opposite wall, thereby permitting slight play of said

walls toward each other and presenting a stop-stay preventing further yielding of said walls toward each other.

5. A hot water bottle having opposed, metallic walls and spring means interposed between the inner surfaces of said walls and cooperating with both of said surfaces, and means to maintain said spring means in position, said spring normally maintaining said metal walls in expanded relation to each other, but permitting yielding of said walls toward each other.

6. A hot water bottle having opposed, metallic walls, stay means interposed between the inner surfaces of said walls and rigid with one of said walls and spaced from the other wall to permit a predetermined yielding of said walls toward each other, and a spring interposed between said inner surfaces and positioned by said stay means, and normally acting to maintain the spaced relation of said stay means and side walls.

7. A hot water bottle having a metallic body of substantially the form of an oblate spheroid with side walls normally of slightly convex form, and stay means positioned axially and transverse of said body and nearly spanning the distance between the side walls, said stay means extending inwardly from one of said inner surfaces and permitting a predetermined, temporary, substantial flattening of said side walls.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

ALPHONSO S. CAMPBELL.

Witnesses:

HENRY T. WILLIAMS,
R. H. KAMMLER.

Correction in Letters Patent No. 1,045,510.

It is hereby certified that in Letters Patent No. 1,045,510, granted November 26, 1912, upon the application of Alphonso S. Campbell, of Medford, Massachusetts, for an improvement in "Hot-Water Bottles," an error appears in the printed specification requiring correction as follows: Page 3, line 48, after the word "spring" insert the word *means*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 24th day of December, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.

Having described an illustrative embodiment of the invention without limiting the same thereto, what I claim as new and desire to secure by Letters Patent is:

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25 3. A hot water bottle having opposed metallic walls, the inner faces of said walls being provided with stay means extending toward and into proximity to each other, and normally spaced apart sufficiently to permit play of said outer walls toward each other in use.

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