No. 679,524. Patented July 30, 1901.

# C. J. BAILEY.

## WATER BAG.

(Application filed Jan. 3, 1901.)

(No Model.)

Fig. 1.

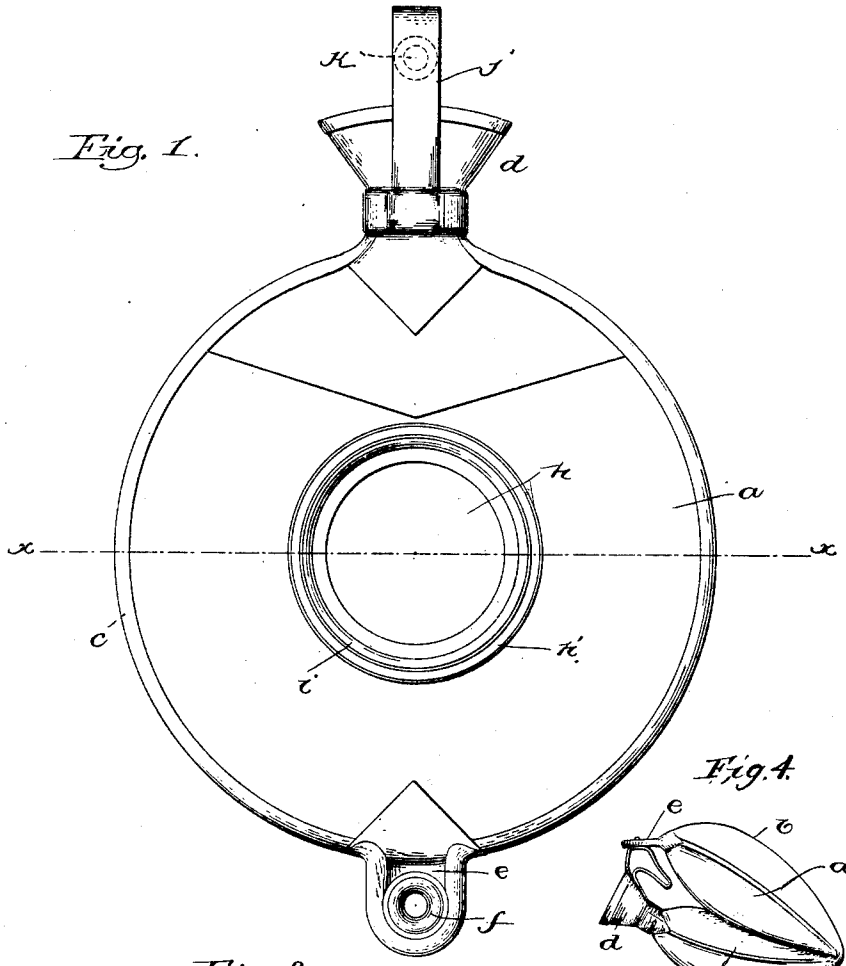



Fig. 4.




Fig. 2.

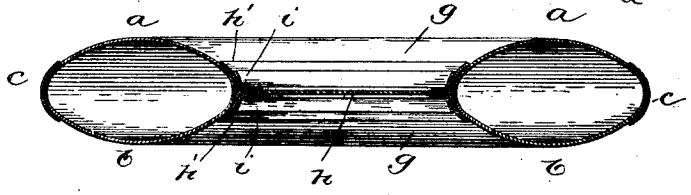
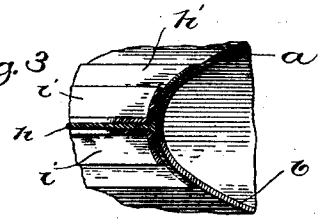



Fig. 3.




Witnesses:
Fred L. Grumbof.
W. C. Simpson.

Inventor:
Charles J. Bailey.
By Bradley Gregory
Attys.

# UNITED STATES PATENT OFFICE.

CHARLES J. BAILEY, OF NEWTON, MASSACHUSETTS.

## WATER-BAG.

SPECIFICATION forming part of Letters Patent No. 679,524, dated July 30, 1901.

Application filed January 3, 1901. Serial No. 41,956. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. BAILEY, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Water-Bags, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Water-bags as now commonly produced are made from two layers of india-rubber cut to the shape desired for the exterior lines of the water-bag, said layers being united about their edges excepting at the point where the usual flaring-mouthed inlet-flap and the closing-valve is to appear. Such bags when filled bulge outwardly most at the center line of the bag.

Water-bags are used to apply local heat to a particular part of the body, and sometimes the particular part requiring the most heat cannot bear the pressure of the weight of the bag and its contained water, and this fact inspired the invention to be herein described—viz., a water-bag having a central air-space covered by a diaphragm to overlie any part of the body where it is desired to apply heat and avoid undue pressure.

Figure 1 in side elevation represents a water-bag embodying my invention in one of the best forms now known to me. Fig. 2 is a section in the line $x$. Fig. 3 is an enlarged sectional view of one portion of the bag, and Fig. 4 shows one of the forms in which the bag may be maintained for use.

In the production of my novel bag I prefer to take two pieces of india-rubber $a$ $b$, of the shape externally which it is desired that the body of the water-bag shall present, and I may then cut out, preferably centrally, and remove from said pieces a portion where the air-space is to be formed. As herein shown, the removal of each piece $a$ $b$ left two ring-shaped pieces. After this the outer edges of said two ring-shaped pieces are put together or butted edge to edge and covered by a strip $c$, of india-rubber, and a piece of india-rubber to constitute the usual flaring-mouth inlet $d$ is laid in place, and yet another piece or tab $e$, of india-rubber, to contain a metallic socket or eyelet $f$, is put in place, so that when subsequently heated in usual manner said parts may all be vulcanized together to constitute the outer edge of the bag. To constitute the air-space $g$ at each side of the bag, I prefer to take a piece of india-rubber $h$, it constituting a diaphragm of single thickness, and by an additional piece or pieces $h'$ I provide for forking the edge of the piece $h$, so that it may overlap the meeting or butted ends of the inner edges of the rings, and then for greater security I prefer to add stay-strips $i$, and said parts are united together by vulcanization in the usual way.

I prefer to use and have applied to the neck of the bag a loop-strap $j$, provided, as shown, with the ball part $k$ of a ball-and-socket fastening of usual construction, the socket being represented at $f$ in the tab $e$.

I find it of great advantage to be able to hold the bag partially folded, as shown in outline in Fig. 4, so that it may be made to occupy such position in a bed that the soles of the feet of a patient may rest against the upturned half of the bag, or so that the upturned half of the bag setting on the bed may rest against the back or other part of the body. To hold the bag in its folded position, as stated, I have only to cause the ball $k$ to enter the socket $f$, as shown in Fig. 4.

While I prefer for the best results to cut out centrally the pieces $a$ $b$ and fill in the space so left with a diaphragm $h$ of a single piece of india-rubber, yet my invention of forming an air-space at the side of the bag by so forming the bag that the water is excluded at a certain place within the outer edges of the bag to leave an air-space might be gained in other ways than herein shown and yet be within the scope of my invention. I find in practice that the air-space covered at one side by the diaphragm $h$ and inclosed by the water-space causes the air next the body and in the air-space to be highly heated, which is beneficial and also soothing to the patient, and, if desired, a pad of absorbent material may be laid in the air-space containing alcohol or any other medicament, which will be kept hot for a long time.

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

1. A water-bag composed of ring-shaped pieces of india-rubber having their outer

edges vulcanized together and their inner edges vulcanized to the edge of a circular disk of india-rubber, said disk terminating at said inner edges.

2. A water-bag composed of ring-shaped pieces of india-rubber having their outer edges vulcanized together and their inner edges vulcanized to the edge of a circular disk of india-rubber, said disk terminating at said inner edges, and means connected to opposite portions of the bag for holding it in folded position.

3. A water-bag composed of two plies of waterproof flexible material each having a portion removed therefrom, said plies having their inner and outer edges united by butt-joints and cemented together to constitute a water-receiving chamber, and a diaphragm of flexible material separate from the two plies and having its edges united to the inner butted edges of the said plies to constitute an air-space at each side of the diaphragm surrounded by the water-chamber.

4. A water-bag composed of two plies of flexible material each having a portion removed therefrom, said plies having their inner and outer edges united by butt-joints and cemented together to constitute a water-receiving chamber, a strip of flexible material covering the butted joint of the outer edges, and a diaphragm of flexible material separate from the two plies and having its edges united to the inner butted edges of the said plies to constitute an air-space at each side of the diaphragm surrounded by the water-chamber.

5. A water-bag composed of two plies of waterproof flexible material each having a portion removed therefrom, said plies having their edges united by butt-joints to constitute a water-chamber, a strip of flexible material covering the butt-joint of the outer edges, a diaphragm of flexible material separate from the two plies and having its edges united to the inner butt-joint of said plies to constitute an air-space at each side of the diaphragm surrounded by the water-chamber, and additional or reinforcing pieces overlapping said inner butt-joint, the said parts being vulcanized together.

6. A water-bag composed of two plies of waterproof flexible material each having a portion removed therefrom, said plies having their edges united by butt-joints to constitute a water-chamber, flexible strips of material covering the inner and outer butt-joints of the two plies, a diaphragm of flexible material separate from the two plies and having its edges united thereto, and a stay-strip secured to the diaphragm around its edges and said parts being vulcanized together.

7. A water-bag comprising two plies of material united by butt-joints to form a water-chamber, a diaphragm of flexible material separate from the said two plies and having its edges united to the inner edges of said plies and surrounded by the water-chamber, and devices at diametrically opposite points of the water-bag for engagement with each other for maintaining the water-bag in folded condition to present inclined heating-surfaces for application to the human body.

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

CHARLES J. BAILEY.

Witnesses:
GEO. W. GREGORY,
EDITH M. STODDARD.