

No. 753,063.

PATENTED FEB. 23, 1904.

J. F. GOODRIDGE.

WATER BOTTLE.

APPLICATION FILED JAN. 26, 1903.

NO MODEL.

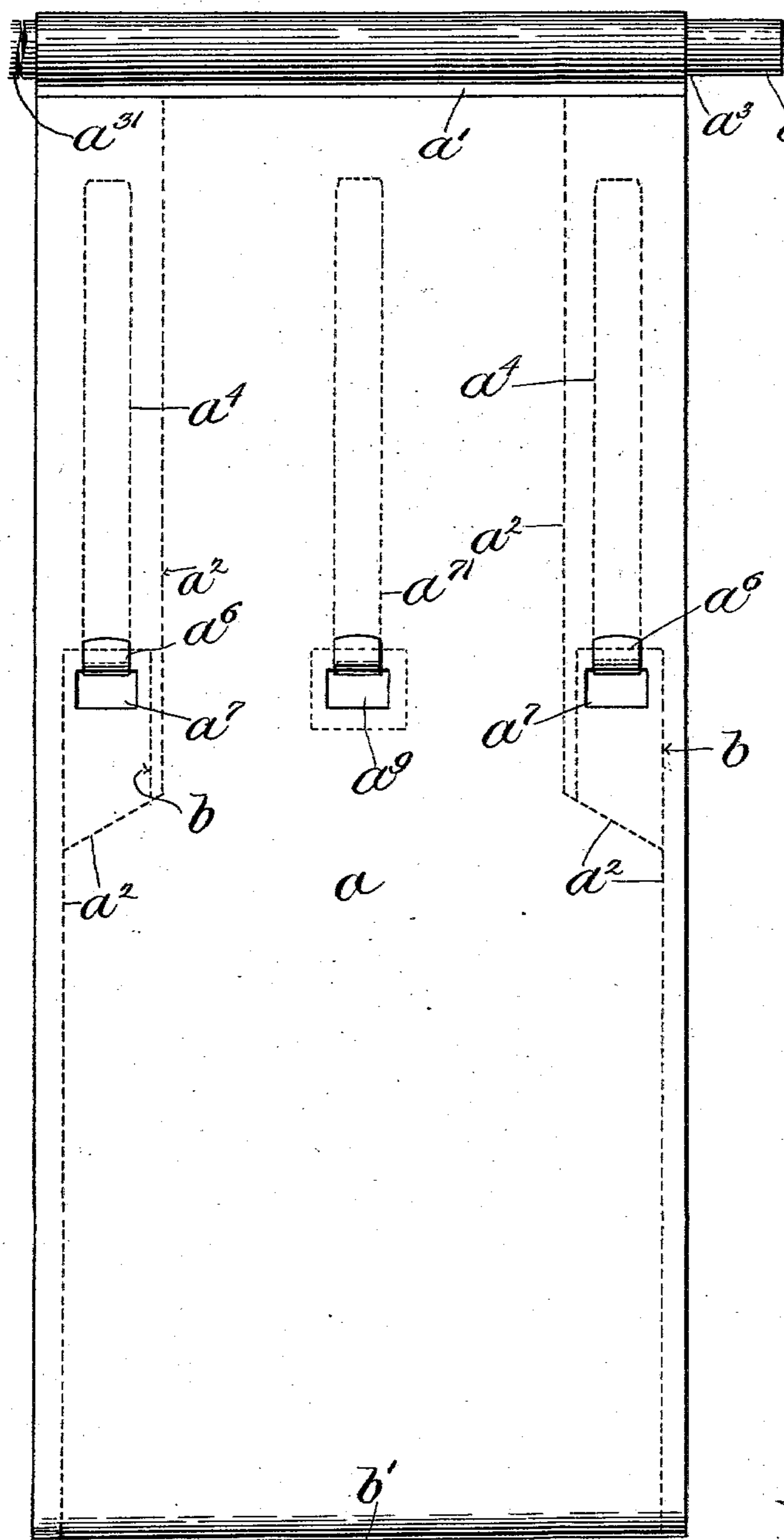


Fig. 1.

Witnesses:

Arthur T. Randall.
Ruby M. Banfield.

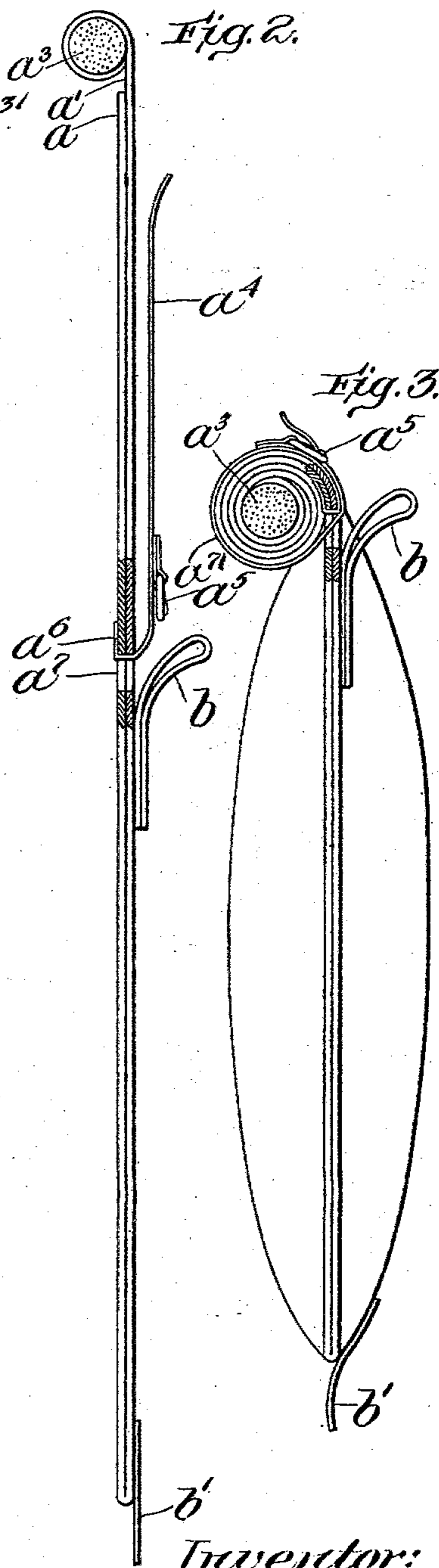


Fig. 2.

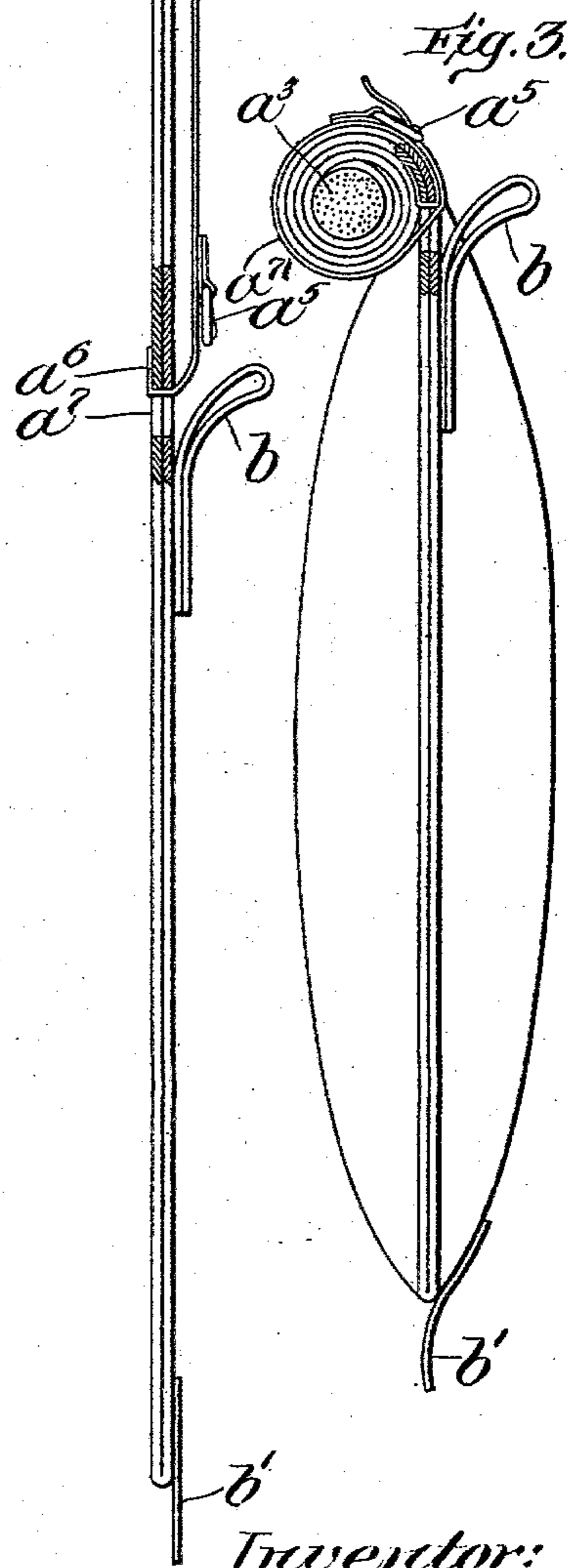


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES FRANCIS GOODRIDGE, OF BOSTON, MASSACHUSETTS.

WATER-BOTTLE.

SPECIFICATION forming part of Letters Patent No. 753,063, dated February 23, 1904.

Application filed January 26, 1903. Serial No. 140,481. (No model.)

To all whom it may concern:

Be it known that I, JAMES FRANCIS GOODRIDGE, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Water-Bottles, of which the following is a specification.

My invention relates to bottles or bags for holding water or ice, made of flexible material, such as sheet-rubber, and particularly adapted to be used for the local application of heat or cold to the human body.

The objects of my invention are to provide an improved water or ice bottle which will not leak when filled and closed and one which will not present hard projecting parts, like a metal stopper, to cause discomfort to the user.

My improved water or ice bottle is made of flexible material, preferably sheet-rubber, and its open end is adapted to be formed into a roll to make a water-tight closure, and means is provided which directly secures the roll and binds its convolutions together so as to prevent leakage from the body of the bottle through the roll. By this construction not only is a water-tight closure provided and maintained during use, but this is accomplished without the use of projecting metal parts, screw-caps, plugs, or the like, to cause discomfort to the user.

In the best embodiment of my invention a round mandrel is secured at the upper end of the bag, (see Fig. 2,) upon which the bag may be rolled smoothly into convolutions, thus bringing the surfaces of the succeeding convolutions into close non-capillary contact and causing each succeeding convolution of the material as it is rolled under slight tension to bind and secure the preceding convolution, and, finally, by means of straps applied about the roll and cooperating with the internal mandrel I secure the roll in its rolled-up condition.

In the accompanying drawings, which show the preferred embodiment of my invention, Figure 1 is an elevation of my improved water or ice bottle. Fig. 2 is a side view, partly broken away, of the bottle shown in Fig. 1; and Fig. 3 is a side view, partly broken away, showing the bottle filled and closed.

Having reference to the drawings, my improved water or ice bottle in its preferred form, as herein shown, is made from two sheets a a' of flexible material, preferably rubber, and these two sheets at their side edges are joined by cementing—that is, the contiguous surfaces of the sheets a a' at the sides of the bottle, Fig. 1, outside of the dotted lines a^2 are cemented or otherwise joined together, thus leaving those portions of the opposed surfaces of the two sheets a a' between the lines a^2 unjoined. The lower ends of the two sheets a a' may be integral, as shown, a large sheet being folded upon itself to form the bottle. At the top of the bottle the sheet a' is extended beyond the sheet a , and this extension is wrapped around and cemented to a bar a^3 , preferably of flexible hard rubber. This bar a^3 serves as a mandrel or core on which the neck of the bottle may be wound, as shown in Fig. 3, to close the bottle after it has been filled.

In practice I prefer to use as material out of which the bottle shall be made sheet-rubber which is not only flexible, but somewhat elastic, and in rolling the mouth of the bottle to close it by means of the mandrel a^3 . I put the material under slight tension, thus causing the succeeding convolutions of the roll to bind each other in position and to press the opposing surfaces of the convolutions tighter together. This pressing and self-binding effect is valuable, and the roll when it is completed may be secured in its rolled-up condition by any suitable means. One such means I describe below. To hold the neck in its rolled-up form, I provide a number of straps which directly encompass the rolled-up neck and bind its layers together onto the mandrel. I have herein shown straps a^4 , on each of which is mounted a buckle a^5 . Each of these straps is anchored by cementing its end to the outer face of the sheet a at a^6 , which is at a point near the base of the neck of the bottle and carries a buckle a^5 . From its anchorage a^6 each end strap a^4 extends loosely through a perforation a^7 made through the cemented edge of the bottle outside of the dotted lines a^2 , and thence it is passed directly around the rolled-up neck through its perforation a^7 .

again to engage with its buckle a^5 . With or in lieu of the two end straps a^4 just described I may provide a single middle strap a^{71} , anchored like the others and extending through a perforation a^9 , the contiguous surfaces of the two sheets a a' adjacent the perforation a^9 being cemented or otherwise joined together, and while this middle strap a^{71} is suitable for bottles intended to hold water only I prefer where the bottle is to be used to hold ice to omit the middle strap and use only the two end straps.

Thus it will be seen that a distinguishing characteristic of my invention is the flexible roll rolled under tension, each succeeding convolution binding the preceding convolution and the succeeding convolution being forced into such close contact as to prevent the capillary movement of liquid. My invention will be operative and satisfactory, however, if the material of the roll is not elastic, but merely flexible, and especially is this true if the central mandrel is employed, upon which the flexible material may be smoothly rolled into position, the roll in this case being preferably secured by encircling straps, though encircling straps are not essential in any case, the essential thing being that the roll after having been smoothly made and, if of elastic material, preferably under a slight tension, shall be secured in its rolled condition. It is obvious, also, that the mandrel is not essential.

Minor features of my invention are the provision of the perforations for the roll-straps and the provision of the cylindrical mandrel and the provision also of the extensions a^{31} of the mandrel a^3 beyond the edges of the roll to facilitate the rolling process.

Loops b b and a perforated flap b' may be provided, as usual, by which the bottle may be handled and hung upon a nail or the like.

I claim—

1. A water or ice bottle closure consisting of elastic sheet material stretched and under tension rolled upon itself into a roll, and means to secure the outer convolution in this condition and prevent release of tension, all operating to cause the outer convolutions to constrict those within and the closure to maintain its status by internal friction.

2. A water or ice bottle made of elastic rubber and adapted, at its open end, to be rolled upon itself under tension into a water-tight

roll and means substantially as described to secure said end in that condition.

3. A water or ice bottle made of elastic rubber and adapted, at its open end, to be stretched and wound upon itself under tension into a water-tight roll and means to secure said end in that condition independently of the contents of the bottle.

4. A water or ice bottle made of elastic rubber and adapted, at its open end, to be stretched and rolled upon itself under tension into a water-tight roll, and straps to secure said end in that condition.

5. A water or ice bottle of flexible material; a mandrel fixed to the bottle near the open end thereof; said end being adapted to be wound under tension upon said mandrel into a non-capillary water-tight roll, and means to hold said end in that condition.

6. A water or ice bottle made of elastic rubber; a mandrel fixed to the bottle near the open end thereof, said end being adapted to be wound under tension upon said mandrel into a non-capillary water-tight roll, and means to hold said end in this condition.

7. A water or ice bottle of flexible material, its open end formed into a neck narrower than the body portion; perforations in the neck edge and straps adapted to pass through the perforations and secure the neck in its rolled-up shape independently of the contents of the bottle.

8. A water or ice bottle of flexible material, its open end formed into a neck narrower than the body portion, and adapted to be formed into a water-tight roll; a mandrel on which the roll is formed and straps encircling the roll and cooperating with the mandrel to secure the convolutions of the roll in their position.

9. A water or ice bottle made of flexible material having a neck adapted to be wound upon itself into a water-tight roll to close the bottle, and one or more straps for directly encompassing the roll adapted to hold the latter against unwinding independently of the contents of the bottle.

Signed by me at Boston, Massachusetts, this 19th day of January, 1903.

JAMES FRANCIS GOODRIDGE.

Witnesses:

JOSEPH T. BRENNAN,
ARTHUR F. RANDALL.