Dec. 24, 1940. C. L. BEAL 2,225,764

THROAT BAG

Filed June 9, 1939 2 Sheets-Sheet 1

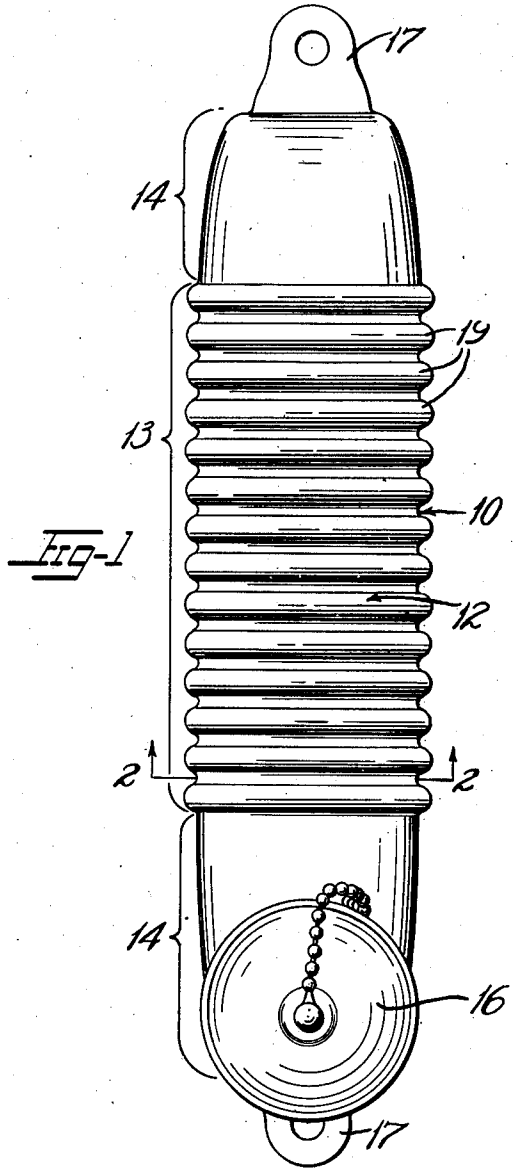


Fig-1

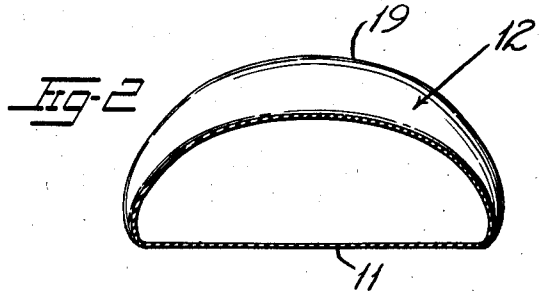


Fig-2

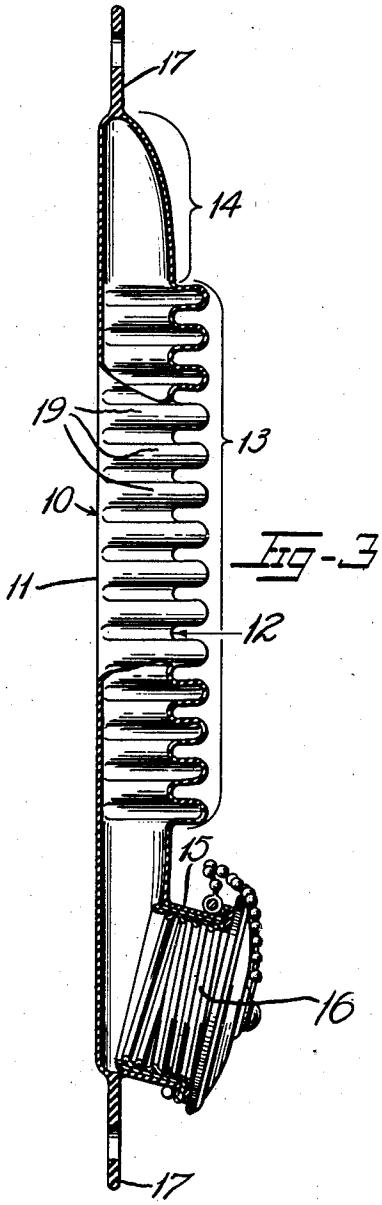


Fig-3

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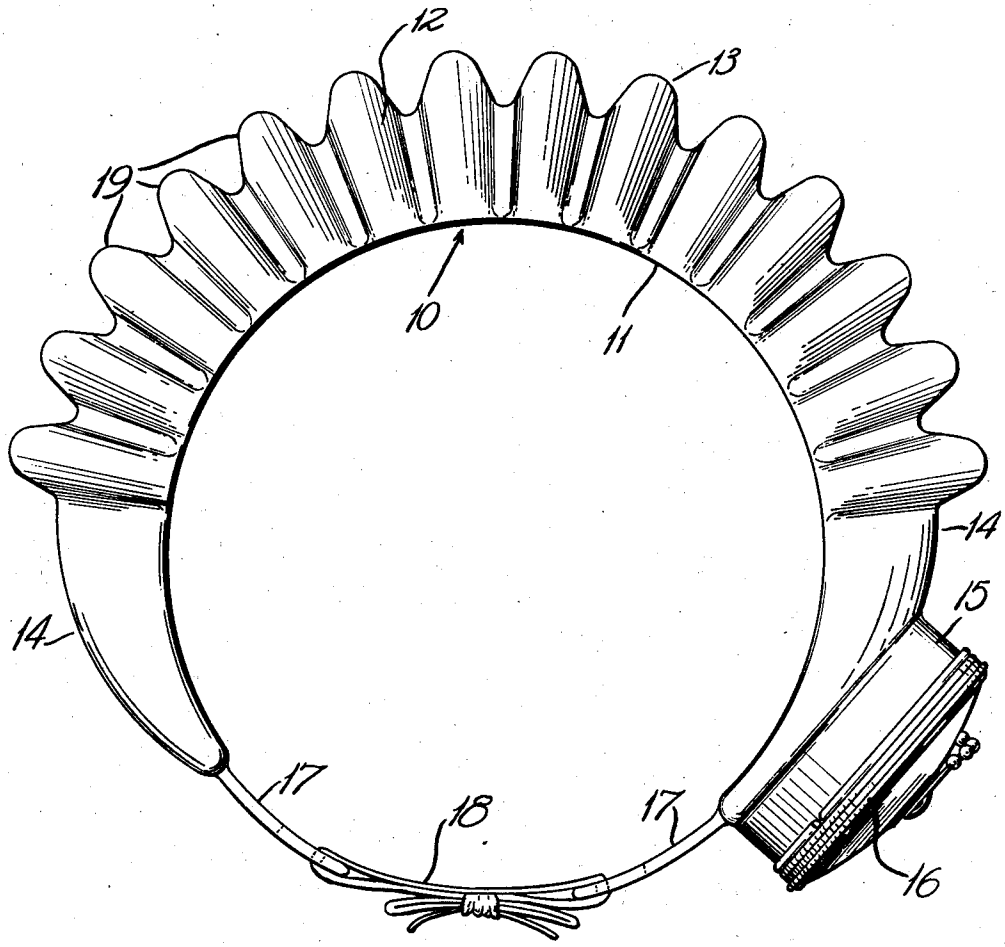


Fig-4

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UNITED STATES PATENT OFFICE

2,225,764

THROAT BAG

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4 Claims. (Cl. 150—2.2)

This invention relates to throat bags and to similar appliances adapted for applying hot or cold treatments to the throat or other curved areas of a patient by filling the bag with hot water, ice, or the like, as the case may be, and positioning the filled bag about the area to be treated.

The invention has for its principal objects the provision of a simple and inexpensive throat bag which shall be highly efficient and convenient to use; the provision of such a bag adapted to be positioned about curved areas of varying dimensions and to maintain adequate volumetric capacity and maximum efficiency of heat-transfer contact with the area being treated irrespective of the degree of curvature of such area; the provision of such a bag designed especially for treating curved areas but having a normally rectilinear configuration for ease in filling, especially with crushed ice or the like, and also for facilitating manufacture, packing and storage of the bags; the provision of a throat bag adapted to be filled with ice or the like while disposed in a rectilinear state and thereafter to be curvedly positioned about the throat or other area without, however, materially reducing the volumetric capacity of the bag or interfering with the intimacy of heat-transfer contact between the bag and the area being treated; and generally to provide efficiency and economy in water and ice bags for treating the throat or other curved area of the body. The manner in which these and other objects of the invention are attained will appear from the following description of a throat bag embodying the present invention in a preferred form as illustrated in the accompanying drawings. Of the drawings:

Fig. 1 is a plan view of a throat bag embodying my invention in a preferred form;

Fig. 2 is a vertical section taken on line 2—2 of Fig. 1;

Fig. 3 is a side elevation of the bag of Fig. 1, portions of the bag being broken away and sectioned for clarity of illustration;

Fig. 4 is a view in elevation showing the bag of Fig. 1 bent to a curvilinear shape as in being positioned about the throat of a patient.

The preferred throat bag illustrated in the drawings comprises a hollow body designated generally by the numeral 10 which is formed of rubber or other flexible material adapted to receive and contain hot or cold water, ice, or similar substances. The body 10 preferably is formed or molded in one piece as by coating an appropriately shaped form with liquid rubber latex and solidifying the coating on the form, but other known methods of forming or molding such hollow bodies may be employed. The hollow body 10 is formed or molded with a normally rectilinear shape as illustrated in Figs. 1 to 3 and comprises a throat-contacting wall 11 formed with a substantially smooth and flat configuration throughout its extent and an opposed wall 12 formed with a contoured configuration curved both transversely and longitudinally as may be seen more particularly in Figs. 2 and 3, whereby the bag normally has a desired volumetric capacity for containing suitable quantities of water or ice. The opposed or contoured wall 12 is formed with a central convoluted zone 13 occupying a major portion of the length of the wall and unconvoluted zones 14, 14 disposed one at either end of the convoluted zone 13 and occupying the remaining length between the ends of the convoluted zone 13 and the ends of the contoured wall 12. As shown in the drawings, each of the unconvoluted zones 14, 14 includes a substantial portion of the total length of the wall 12, and the two zones 14, 14 preferably are of comparable extent as shown. A filling opening of appropriate size is provided within one of the uncontoured zones 14, preferably immediately adjacent one end of the body 10, the opening being defined by a tubular rubber neck 15 formed integrally with the wall 12 and extending outwardly therefrom. For sealing the filling opening, a conventional screw-cap closure member designated generally by the numeral 16 is associated in sealing engagement with the extending neck 15. For assisting in securing and maintaining the bag in treating relation about the throat or other area of a patient, perforate tabs 17, 17, desirably are provided at either end of the body 10 in order that the bag may be drawn about the throat and tied in place as by means of a tape or string looped through the two tabs and tied as shown in Fig. 4. The tabs 17, 17 may be either attached to or formed integrally with the body 10.

The central zone 13 of the body wall 12 is formed with molded convolutions so constructed and arranged as to impart fullness to the wall in order that the volumetric capacity of the bag will not be diminished substantially but will be retained adequately when the normally rectilinear bag is bent to a curvilinear shape of even a very short radius. Additionally, the bag may be positioned about curved surfaces of widely different dimensions and contours without placing any portion of the bag under strain such as ac-

companies similar bending and shaping of a bag formed without such fullness. It is apparent that various types of fullness-providing convolutions may be utilized in the zone 13, but a very simple and highly satisfactory type of convolution providing adequate fullness comprises, as illustrated, a series of relatively narrow corrugations 19, 19 extending transversely of the wall 12 in closely-spaced parallel relation to provide a sinuously formed zone capable of accordion-like extension when the bag is bent to a curvilinear shape as illustrated in Fig. 4.

It will readily be appreciated that a bag of the character hereinabove described may be easily filled with crushed ice while disposed in its normally rectilinear configuration without the difficulty attendant upon filling with ice a bag normally having a full-molded curvilinear configuration through which the ice must be forced; that the filled bag may be positioned about curved surfaces of widely varying dimensions and contours without subjecting any portion of the bag to stretching strains or reducing the volumetric capacity of the bag as has frequently been the case when attempts were made to position prior bags about areas having curvatures differing materially from the normal configuration of the bag; and that the throat-contacting wall of the bag remains smooth for intimate contact with the area being treated irrespective of the curvature of the bag, thereby insuring maximum efficiency of heat transfer between the bag and the treated area at all times. Bags of the type illustrated in the drawings have been proven by actual use under the supervision of physicians to be unusually effective and highly satisfactory for applying hot or cold treatments to a patient's throat. Additionally, the normally rectilinear configuration of the bag is conducive to economy in manufacture, packing, and storing of the bags and, also, the rectilinear forms on which the bags are made occupy substantially less space both during manufacture and storage than do forms for curvilinear bags of equivalent dimensions. The invention therefore attains to a high degree the objects hereinabove set forth.

Numerous modifications in details of the structure and materials hereinabove described may be effected without departing from the spirit and scope of the invention as defined by the appended claims.

I claim:

1. A throat bag comprising a normally rectilinear, hollow body of flexible material adapted to be curvedly positioned about the throat of a patient, one wall of said body being formed substantially throughout its extent with a generally smooth and flat configuration adapted to contact the throat of the patient, the opposite wall of said body being formed with a contoured configuration and comprising a central convoluted zone extending for a major portion of the length of the body and unconvoluted zones disposed one at either end of the convoluted zone, each of said unconvoluted zones including a substantial portion of the total length of the wall and the two unconvoluted zones being comparable in extent, a filling opening in the said opposite wall within one of said unconvoluted zones, closure means for sealing said opening, and attaching means for assistance in securing the bag about the throat of the patient, the body wall in said convoluted zone being so constructed and arranged as to impart fullness to the bag for retaining adequate volumetric capacity when the bag is bent from its normally rectilinear shape to a curvilinear shape in being positioned about the throat.

2. A throat bag comprising a normally rectilinear, hollow body of flexible material adapted to be curvedly positioned about the throat of a patient, one wall of said body being formed substantially throughout its extent with a generally smooth and flat configuration adapted to contact the throat of the patient, the opposite wall of said body being formed with a contoured configuration and comprising a convoluted zone extending for a major portion of the length of the body and an unconvoluted zone at one end of the convoluted zone, a filling opening in the said opposite wall within said unconvoluted zone, and closure means for sealing said opening, the body wall in said convoluted zone being so constructed and arranged as to impart fullness to the bag for retaining adequate volumetric capacity when the bag is bent from its normally rectilinear shape to a curvilinear shape in being positioned about the throat.

3. A bag for applying hot or cold treatments to a curved area, said bag comprising a hollow body of flexible material adapted to contain water, ice and similar substances, a filling opening in said body, and closure means for sealing said opening, said body being molded in one piece with a normally rectilinear configuration but being adapted to be curvedly positioned about the curved area to be treated and comprising a generally smooth and flat wall adapted to engage said area for effective heat-transfer therewith and a second wall opposed to the first wall, said second wall being formed with molded convolutions imparting fullness thereto, whereby the bag retains its volumetric capacity substantially undiminished when bent from its normal rectilinear shape to a curvilinear shape in being positioned about the area to be treated.

4. A bag for applying hot or cold treatments to a curved area, said bag comprising a hollow body of flexible material adapted to contain water, ice and similar substances, a filling opening in said body, and closure means for sealing said opening, said body being molded in one piece with a normally rectilinear configuration but being adapted to be curvedly positioned about the curved area to be treated and comprising a generally smooth and flat wall adapted to engage said area for effective heat-transfer therewith and a second wall opposed to the first wall, said second wall being formed with molded corrugations providing a sinuously formed zone imparting fullness to the said second wall, whereby the bag retains its volumetric capacity substantially undiminished when bent from its normal rectilinear shape to a curvilinear shape in being positioned about the area to be treated.

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