Oct. 14, 1924. 1,511,775

E. F. RIOUX ET AL

ICE APPLICATOR

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Fig. 1.

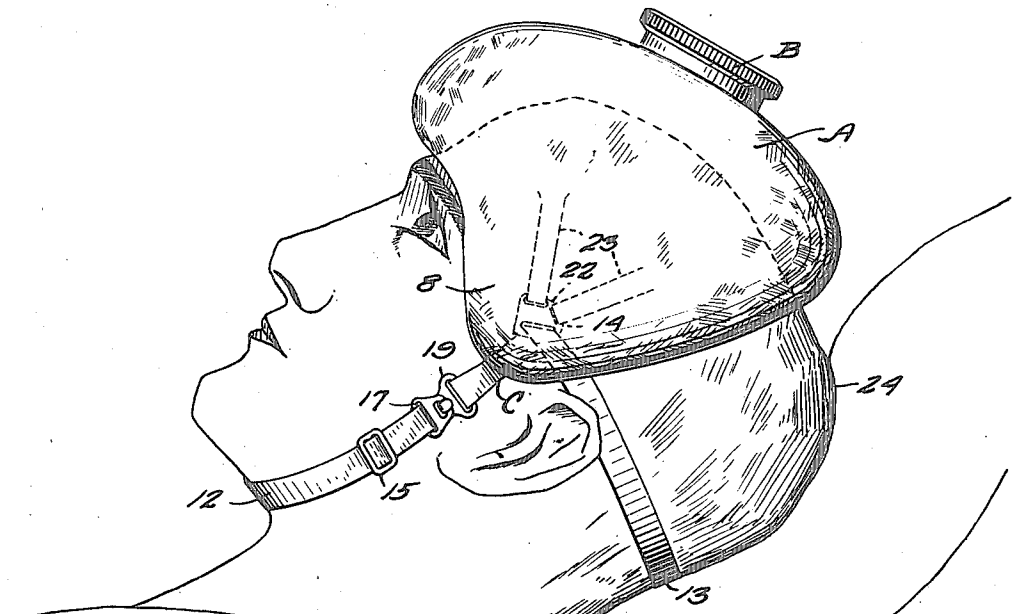
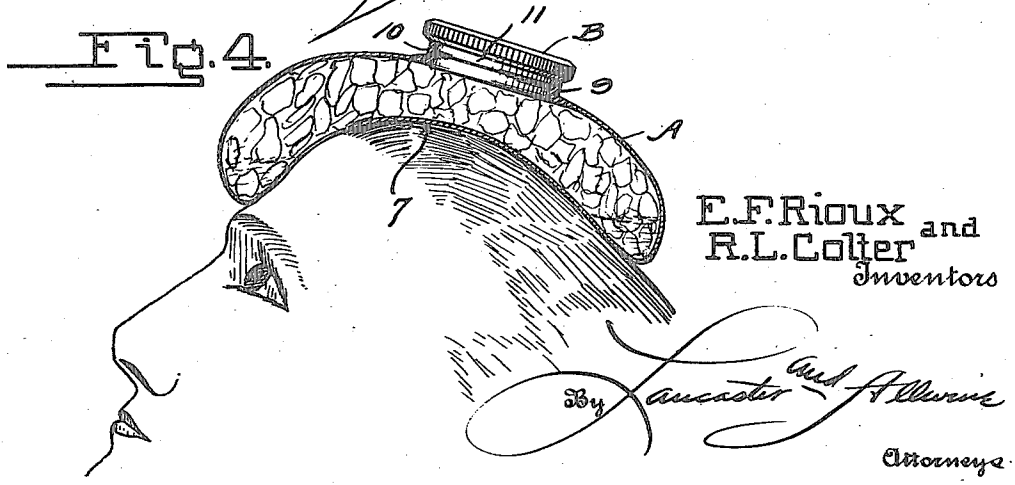


Fig. 4.



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Fig. 2.

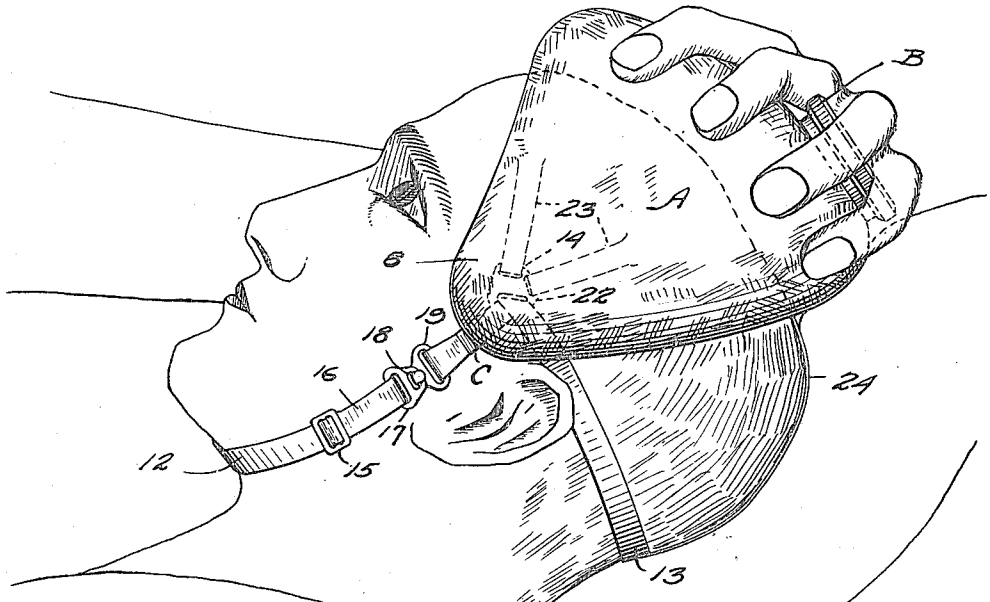
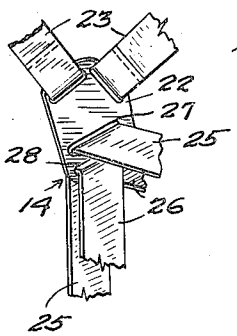


Fig. 6.



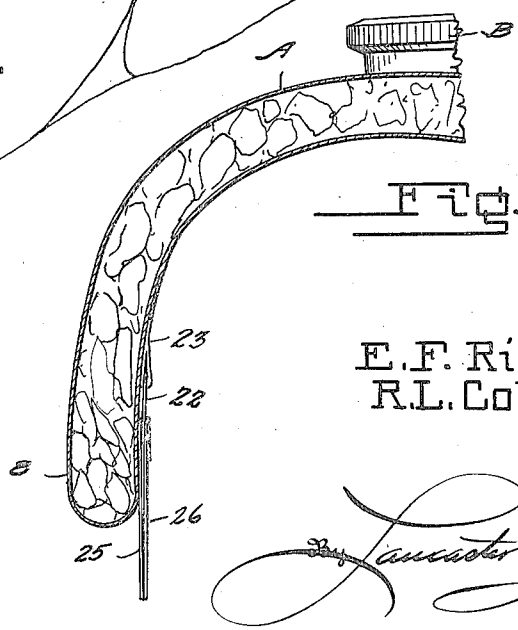


Fig. 5.

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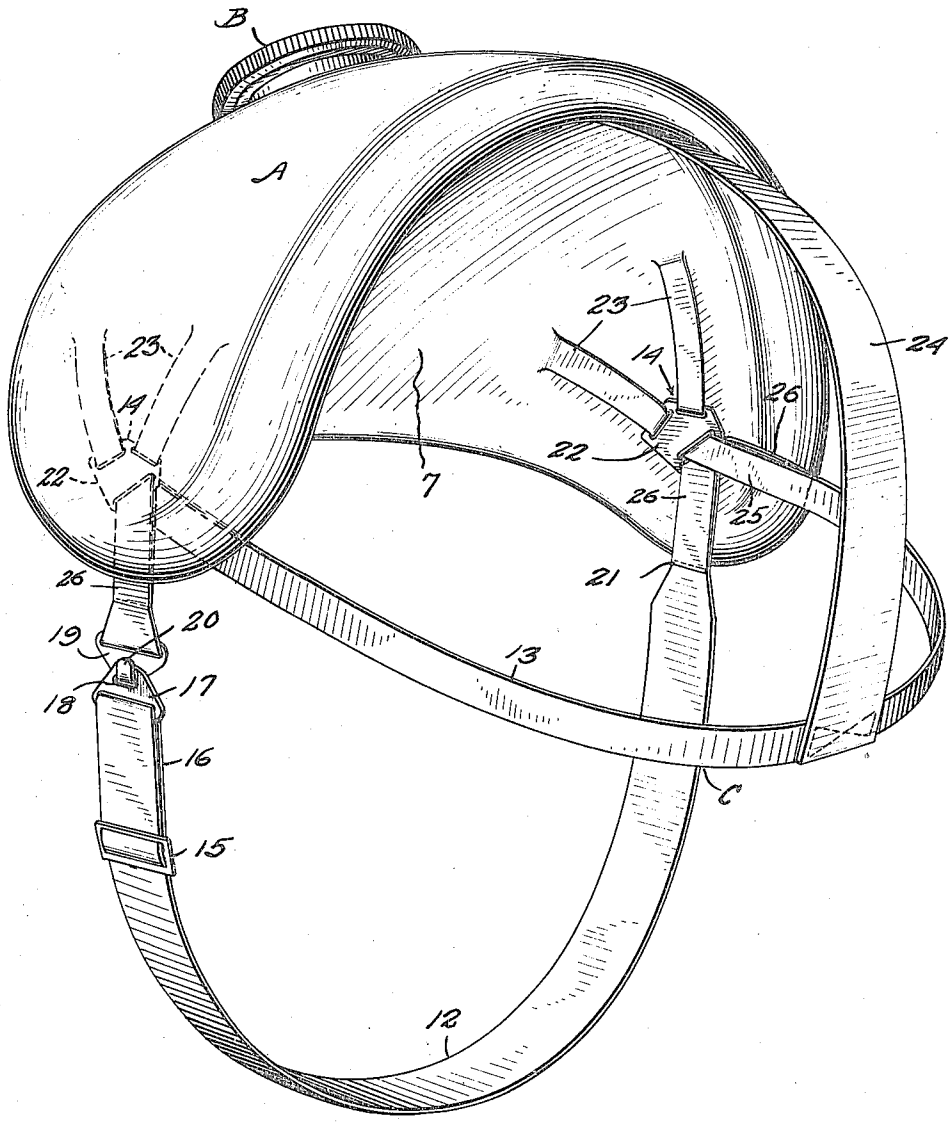
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ICE APPLICATOR

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Fig. 3.



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Patented Oct. 14, 1924. 1,511,775

UNITED STATES PATENT OFFICE.

EUGENE FREDERIC RIOUX, OF NEW YORK, N. Y., AND ROBERT LEE COLTER, OF WAUCHULA, FLORIDA.

ICE APPLICATOR.

Application filed August 14, 1919. Serial No. 317,608.

To all whom it may concern:

Be it known that we, EUGENE F. RIOUX, a subject of the King of Great Britain, and ROBERT L. COLTER, a citizen of the United States, residing at New York, New York, and Wauchula, Florida, respectively, have invented certain new and useful Improvements in an Ice Applicator, of which the following is a specification.

Our present invention relates to devices for applying ice to the human body for the reduction of temperature, for relief of inflammation and in the treatment of pain, and relates more particularly to such as is particularly well adapted to be applied to the head and retained in the desired adjusted position, but is also susceptible of use as an external remedy in the application of heat or cold to other parts of the body.

The principal objects of our invention are, first, to provide an applicator comprising a bag shaped at its underside to substantially the shape of the frontal bone of the skull and adapted to extend over a portion of the temporal bones and including means for for retaining the bag against accidental displacement, so arranged that a portion of the bag may be shifted from over the forehead to over the crown of the head, or vice versa, should one portion or the other become cool to that extent where it is objectionable; second, to provide an applicator embodying a bag and retaining means therefor as aforesaid, so arranged that a portion of the bag may be manually shifted by the patient without danger of it becoming displaced and so that the greater portion of the weight of the bag and its contents may rest upon the pillow, as when a person is resting in bed, thus relieving from time to time the weight upon the forehead; third, to provide an applicator bag for ice or ice water which will permit a substantial portion of the cooling medium to flow and come to rest over the temples where such is most desired, with the remainder of the device either over the forehead or crown of the head; fourth, to provide a retaining means for the bag which is readily adjustable to effectively retain the bag in adjusted position on the head of the person; and fifth, to provide a bag and retaining means therefor so arranged that all of the parts may be made and attached to one another by non-corrodible material.

Other objects and advantages of our invention will be more fully set forth in the following detailed description, taken in connection with the accompanying drawings, forming a part of this specification, and in which drawings:

Figure 1 is a side elevation of an ice applicator constructed according to our invention, as in use, extending over the forehead of the patient.

Figure 2 is a similar view showing the bag shifted to rest upon a pillow and extend over the crown of the head of the patient.

Figure 3 is a perspective view of the applicator.

Figure 4 is a view similar to Fig. 1, but showing the bag in transverse vertical section.

Figure 5 is a fragmentary longitudinal vertical sectional view through the bag with a portion of the connections in operative relation thereto.

Figure 6 is a perspective view of a portion of the retaining means.

In the drawings, where similar characters refer to similar parts throughout the several views, A designates generally the bag to contain ice water, provided with a filler cap B; and C means for retaining the bag against accidental displacement about the head of the user.

It is preferred to form the bag A of rubber or other suitable flexible material, elongated in shape with the underside 7 concave longitudinally and transversely so as to fit nicely over the frontal bone of the skull, or in other words, the forehead, and extend over a portion of the temporal bones when the device is in use, the end portions 8 of the bag tapering so as to form lobes to overlie the temples, and in which the ice or other cooling medium may flow and come to rest, as shown in Figure 5 of the drawings so as to effectively cool the temples. The inlet opening 9 for ice or liquid may be surrounded by an internally screw-threaded flange 10, which may be made of hard rubber, or similar material, to receive the screw threaded projection 11 of the cap

B it being preferred to also form the cap of non-corrodible material, such as rubber or celluloid.

In practice it has been found that ice bags generally in use do not remain positioned, as desired with respect to the head, but often become displaced as the patient moves about, and that it is undesirable to permit the ice bag to remain over the forehead or other portion of the head for too great a length of time, and if displaced, too much exertion is required on the part of the patient to replace it when the forehead becomes hot. The means C for retaining the bag in place is therefore particularly well adapted to permit of shifting of the bag from one position to another, by the patient, without danger of its becoming accidentally displaced or without requiring an effort on the part of the patient which would be objectionable. In the example shown this means comprises a strap 12 adapted to be disposed beneath the chin of the patient and hereinafter termed the chin strap; a strap 13 extending about the rear portion of the cranium transversely thereof; and means 14 connecting the straps 12 and 13 to the bag A adjacent the end portions thereof. The chin strap 12 may be made adjustable in any suitable manner, in the example shown this being accomplished by means of a friction member 15 engaging the strap in such a manner as to be shiftable longitudinally thereof and forming a loop 16. In order to connect the straps 12 and 13, a clasp member 17 provided with an eye 18 is carried by the looped portion 16, while one end portion of strap 13 carries a co-acting clasp member 19 provided with a tongue 20 adapted to extend through the eye 18. The other end portion of strap 12 may be connected to the opposite end of strap 13 as by stitching as at 21. The connecting means 14, disposed at each end portion of the bag may comprise a coupling member 22 connected with straps 12 and 13, and straps 23 securing the coupling member to the bag. A strap 24 may also be provided connecting strap 13 to the bag to prevent the strap 13 from shifting downwardly with respect to the head.

In order that the adjustment of strap 12 may be more effective so as to adapt the applicator for use in connection with any particular patient, it is preferred to have a slidable connection of strap 13 with each coupling member 22. This may be readily accomplished by dividing the strap 13 at its end portions into secondary straps 25 and 26, the former being trained through an elongated slot 27 of member 22, as clearly shown in Figure 6 of the drawing, this secondary strap leading from the main portion of the split strap to the slot 27 at one side of the member and then downwardly on the other side to its juncture with strap 12, while secondary strap 26 may be trained through the elongated slot 28, leading from the main portion of strap 12 at the other side of member 22 and then downwardly from its opposite side to the juncture with strap 12, or its connection therewith. This arrangement also permits a shifting movement of the members 22 with respect to strap 13 as the bag is moved over the head of the user. It is preferred to dispose the straps 23 in diverging relation from the member 22, providing a space therebetween so that the cooling medium may be more effectively disposed in close relation to the temples. These straps 23 may be of rubber or other suitable material formed integral with the cap, or vulcanized thereto.

In order to enable the patient to shift the bag from the position shown in Figure 1 to the position shown in Figure 2 of the drawings without displacing the retaining means from operative relation to the head and also to permit the lobes 8 to remain adjacent the temples, it is preferred to connect the straps 12 and 13 to the under side of the bag as by means 14, in the example shown, the diverging end portions of the straps 23 being secured to the under side 7 of the bag, as clearly shown in Figure 3 of the drawing. Thus when the strap 12 is properly adjusted the means C retains a longitudinal portion of the under sides of the bag in intimate contact with the head of the user to retain the bag on the head but permitting shifting of other portions of the bag to overlie the forehead or the crown of the head, Figure 2 of the drawings showing the manner in which the patient may grasp the upper portion of the bag in order to shift it and so that a portion of its weight will rest upon the pillow and expose the forehead.

It is preferred to make the members 15, 17, 19 and 22 of non-corrodible material such as rubber or celluloid so that the applicator will be relatively light in weight and sanitary.

Changes in details of construction of this means C may be made without departing from the spirit or scope of our invention.

We claim:

1. An ice applicator comprising in combination an elongated bag formed with its bottom concave with respect to its major axis, and means for retaining said bag on the head of the user, including straps secured to the underside of the bag inwardly of its end portions.

2. An ice applicator comprising in combination an elongated bag formed with its bottom concave with respect to its major and minor axes, and means for retaining said bag on the head of the user, including straps secured to the underside of the bag inwardly of its end portions.

3. An ice applicator comprising in combination an elongated bag, and means for retaining said bag on the head of the user, including straps secured to the underside of the bag inwardly of its end portions with lobes of the bag to overlie the temples of the user.

4. An ice applicator comprising in combination an elongated bag shaped to overlie the frontal bone and portions of the temporal bones of the skull of the user, a chin strap and a rear transverse cranium strap connected together at a point adjacent each end portion of said bag, and means slidably connecting said straps with said bag adjacent its end portions.

5. An ice applicator comprising in combination an elongated bag shaped to overlie the frontal bone and portions of the temporal bones of the skull of the user, an adjustable chin strap and a rear transverse cranium strap connected together at a point adjacent each end portion of said bag, and means slidably connecting said straps with said bag adjacent its end portions.

6. An ice applicator comprising in combination an elongated bag shaped to overlie the frontal bone and portions of the temporal bones of the skull of the user, a chin strap and a rear transverse cranium strap connected together at a point adjacent each end portion of said bag, a coupling at each end portion of the bag slidably connected with said straps, and diverging straps extending from said coupling and connected to said bag adjacent each end portion thereof.

7. An ice applicator comprising in combination an elongated bag shaped to overlie the frontal bone and portions of the temporal bones of the skull of the user, a chin strap and a rear transverse cranium strap connected together at a point adjacent each end portion of said bag, a strap connecting said transverse strap to the rear portion of said bag, and means connecting said chin and transverse straps to said bag at points adjacent the end portions of the latter.

8. An ice applicator comprising in combination an elongated bag concave longitudinally on its underside, and means for retaining a longitudinal portion of the underside of said bag in intimate contact with the head of the user to retain the bag on the head but permitting shifting of the other portion of the bag to overlie the forehead or the crown of the head.

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ROBERT LEE COLTER.