June 1, 1943. P. J. RABIL 2,320,467

CEPHALIC BAG

Filed Sept. 26, 1940

Fig. 1.

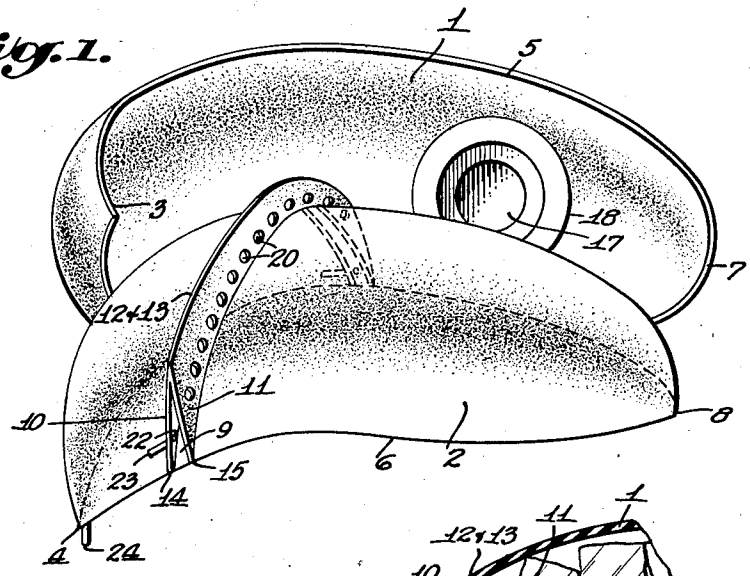


Fig. 4.

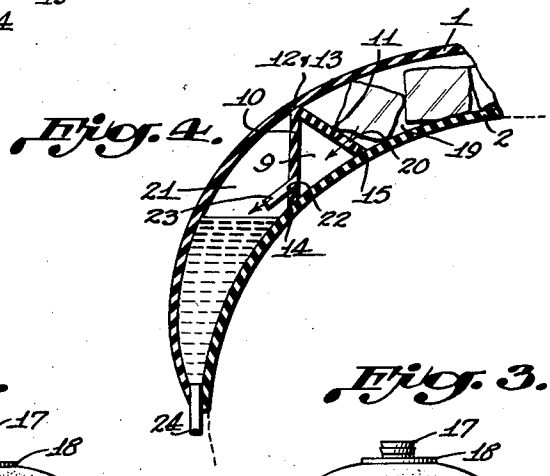


Fig. 2.

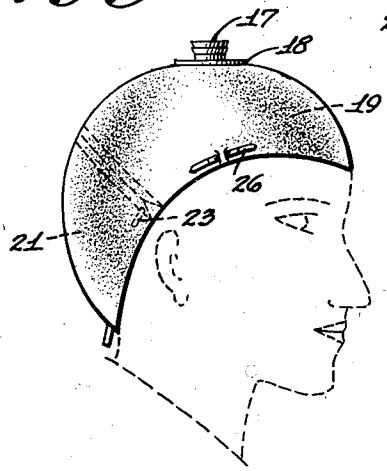
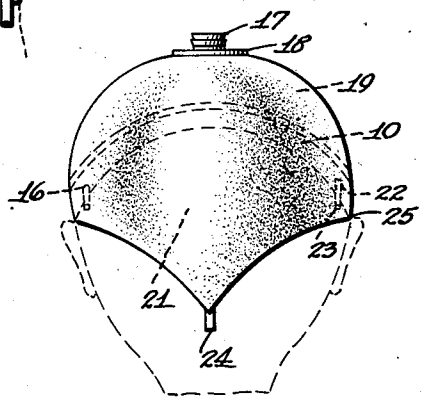


Fig. 3.



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CEPHALIC BAG

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3 Claims. (Cl. 150—2.3)

The inventive idea relates to what is commonly known as an ice bag to be placed on the human head when suffering from an ailment which requires thereon the constant application of ice.

Prior to this invention, the only kind of ice bag known for the head, was the rubber bag of one space with a metal opening into which the ice is introduced into the one space in the bag. The metal opening is then closed with a metal screw. Such an ice bag has numerous disadvantages and serves very inadequately the purpose of the ice prescription on the head. The reasons seem obvious: the bag's position on the head is flat and very precarious, does not retain its position and does not distribute an even temperature to all the parts of the head. On the other hand, when the ice contained in the bag has melted, which is usually within a short space of time, the bag has to be removed from its precarious position, and after having unscrewed the opening and emptied the liquid contents, it has to be refilled with cubes of ice. During this process of emptying and refilling, the head is uncovered and loses not only the very little value of the previous cold temperatures, but often the sudden change or difference in temperature causes more harm than the benefit sought from the prescription of applying ice on the head.

The inventive idea seeks to eliminate the above bad features of the ice bag. In other words the new ice bag will fit the head in position, and the emptying and refilling process can be done without having to remove it, thereby giving a constant uniform temperature to all parts of the head.

In order to eliminate the bad features referred to and gain the advantages set out in the previous paragraph, it is necessary that the rubber be cut in the form of two caps to fit the human head, the front part covering the forehead to about three (3) centimeters from the eyebrow and the back part covering the nape. One cap is superposed over the other, with a space in between. The said space is divided into two compartments by means of a central chamber made also of rubber material, said division being in the direction of ear to ear.

The central chamber which divides as aforesaid the interior space has the formation of a triangular prism consisting of two rubber pieces placed vertically between the upper and lower cap in the direction ear to ear. The tops of the dividing rubber pieces rest against each other and joined to the interior of the upper cap, and the bottoms of the dividing rubber pieces are separated and are made to rest on the interior of the lower cap to which they are joined. Each lateral end of the central chamber is joined to the sides of the upper and lower caps which are connected together. The interior of the bag would therefore be found to have three chambers: the central chamber, the anterior chamber, and the posterior chamber.

The anterior rubber partition of the central chamber is perforated with small holes. At each end of the posterior rubber partition is a small hole to which is fitted a small valve which opens by water pressure into the posterior chamber, and closes when the water pressure comes from the posterior chamber. A metal opening with a suitable metal screw is fitted on the top rubber cap towards the front part leading into the anterior chamber. Into this anterior chamber the cubes of ice are introduced, and as the ice melts therein, the water filters into the central chamber through the holes of the anterior rubber partition and from there, into the posterior chamber through each valve of the posterior rubber partition. The water's passage from the posterior to the central chamber is blocked by means of the valves which are fitted at each end of the posterior partition.

A special feature of the construction of the central chamber which is to be particularly noted is that the posterior wall of said chamber must join the upper and lower caps in a manner that the said wall will recline at an angle to be parallel with the head of the wearer when in a recumbent position. The special construction of this wall has a two-fold purpose: first, the comfort of the patient, who when reclining will have the said posterior wall parallel to the recumbent position of his head; and second, the pressure of a reclining head against a wall parallel to it, thereby having the effect of pressing downwards the water of the central chamber and forcing it to filter through the valves of the said wall into the posterior chamber where it will act as a cushion for the wearer's head.

By working a plug screwed in on the outside in the middle of the back part of the bag, the water formed in the posterior chamber is released. The whole rubber bag is fitted on the human head as a cap and the size adjusted by means of rubber straps attached on each side of the cap with a clip in the position of about the temples. Thus without removing the bag

from the head, the bag can be refilled with ice, and the water emptied.

Figure 1 gives an interior view of the bag, consisting of the two rubber caps, and the central chamber.

Figure 2 shows a side view of the bag placed on the human head with the screw fitted into the metal opening into which the ice is introduced, the plug screw in the middle of the back part of the bag from which the water is discharged, and the adjusting rubber straps attached on the sides in the position of about the temples.

Figure 3 shows a rear view of the bag placed on the human head, with an imaginary line indicating the interior position of the central chamber.

Figure 4 shows a longitudinal sectional view through the posterior chamber, the central chamber and a part of the anterior chamber.

The ice bag consists of the upper rubber cap 1 (Figure 1) and the lower cap 2, the edges of the one cap 3, 5, 7, being joined to the edges of the other cap 4, 6, 8. The upper rubber cap 1 has an opening 18 (Fig. 2) lined by metal which is threaded and into which a metal screw 17 is fitted. The said opening 18 communicates with the ice-chamber 19 (Fig. 3). The cavity formed in-between the two caps 1 and 2 is divided into three compartments: the anterior compartment 19 (Fig. 3) which is the ice-chamber; the central compartment 9 (Fig. 1) which is the filtering chamber; and, the posterior compartment 21 (Fig. 3) which is the water chamber that collects the water formed by the melting of the ice. The central compartment 9 is formed by construction of the two rubber walls 10 and 11, (side-wise direction, ear-to-ear, 25 as shown in Figure 3). The top edges 12 and 13 of these walls rest against each other on a slant such that the posterior wall 10 is parallel with the head of the wearer when reclining. The said top edges 12 and 13 of these two walls join the interior of the upper cap 1. The bottom edges 14 and 15 of these two walls are separated and rest on the interior of the lower cap 2. The anterior wall 11 separates the central chamber 9 from the ice-chamber 19 (Fig. 3), and is perforated with a plurality of holes 20. The posterior wall 10 separates the central chamber 9 from the water chamber 21 (Fig. 3). At each end of the posterior wall 10 is a hole 22 (or 16) which is fitted with a non-returnable valve 23 which opens by water pressure one-way into the water chamber 21 (Fig. 3). A screw plug 24 is fitted externally in the back part of the water chamber 21 (Fig. 3) to permit the discharge of water collected in the said water chamber 21. The bag when placed on the head can be adjusted to the size of the wearer by means of adjusting rubber straps and clip 26 which are attached on each side of the bag in position with about the temples of the wearer.

I claim:

1. In an ice bag of the class described adapted to partiailly envelop the head of the wearer, a plurality of chambers, one of the chambers being adapted to receive ice, another chamber being adapted to receive water formed by melting of the ice and an intermediate chamber having a perforated wall communicating with the ice chamber and a check valve connecting the intermediate chamber with the water chamber.

2. In an ice bag of the class described, a plurality of chambers, one of the chambers being adapted to receive ice, a lower chamber adapted to receive water formed by melting of the ice and an intermediate chamber having a perforated wall communicating with the ice chamber and a second wall communicating with the lower chamber and means in said second wall which permits the flow of water into the lower chamber but prevents the return of the water into the ice chamber.

3. In an ice bag of the class described adapted to partially envelop the head of the wearer, a plurality of chambers, one of the chambers being adapted to receive ice, another chamber being adapted to receive water formed by melting of the ice, and an intermediate chamber through which the water flows in one direction, said intermediate chamber having a perforated front wall and a rear wall extending upwardly and forwardly with respect to the inner bag wall so as to be substantially horizontal when the wearer is in a recumbent position, a check valve in said rear wall, means for adjusting the bag to fit the wearer's head, and means for draining the water from the water chamber.

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