March 6, 1934. W. W. DE LANEY 1,950,081

BATHING CAP

Filed Jan. 24, 1933

Fig. 1.

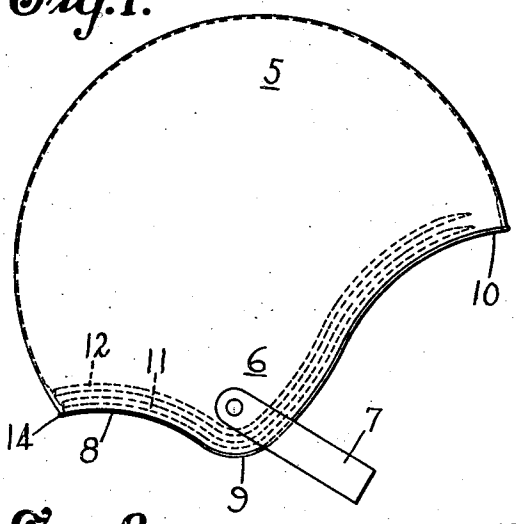


Fig. 4.

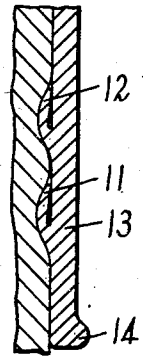


Fig. 3.

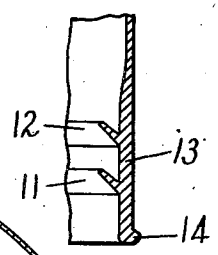
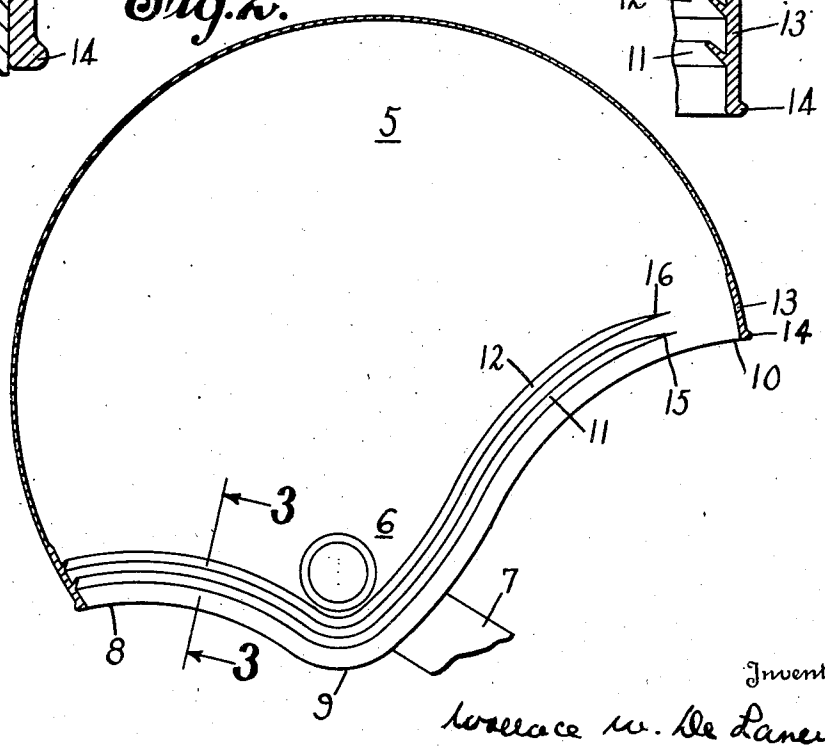


Fig. 2.



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UNITED STATES PATENT OFFICE

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BATHING CAP

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Application January 24, 1933, Serial No. 653,251

15 Claims. (Cl. 2—68)

This invention relates to bathing caps and more particularly to rubber bathing caps.

One of the objects of my invention is to provide a cap which is more efficacious than those heretofore used in preventing the ingress of water between the edge of the cap and the bather's head.

Another object is to furnish a cap having satisfactory provisions for excluding water and which can be worn without undue discomfort.

Another object is to provide a cap which can be worn with comfort and without the necessity of tightly binding the head or of forcing uncomfortable projections into the skin, and which, nevertheless, is water-tight in a high degree.

Another object is to provide an improved cap which is simple and inexpensive.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawing:

Fig. 1 is a side elevation of a bathing cap embodying my improvements;

Fig. 2 is an enlarged longitudinal section of the cap;

Fig. 3 is an enlarged section on line 3—3 of Fig. 2; and

Fig. 4 is a view somewhat similar to Fig. 3 showing the position taken by the flange or flanges when the cap is in use.

In the particular example selected for illustrating the principles of my invention, the cap is a rubber cap of the type known as full-fashioned or full head-shaped and of the molded variety, but it is to be understood that my improvements are applicable to other types of caps.

In the drawing I have shown a full head-shaped cap provided along the entire edge portion, except for the forehead portion, with two rubber flanges of special construction intended to prevent the ingress of water between the cap edge and the head of the wearer. This is the preferred form, but I do not limit myself to this form, as will hereinafter appear. The body of the cap is shown at 5, and the portions which cover the ears at 6, and the usual elastic chin strap at 7. The lower edge of the cap has a portion 8 adapted to fit against the back of the wearer's neck, a portion 9 adapted to lie against the wearer's face below the ears, and a portion 10 adapted to extend across the wearer's forehead. The flanges previously mentioned are shown at 11 and 12, respectively, these flanges being applied to the body of the cap at the interior thereof along lines spaced slightly upwardly from the lower edge of the cap, and these flanges preferably having a curvature conforming generally to that of the cap edge. The flanges are made of rubber and are of greater width than thickness and are preferably molded integrally with the cap body, and preferably the flanges are so spaced apart that the free edge of one will not extend as far as the base or attached edge of the adjacent flange, so that there will be no overlapping of the flanges. As previously stated, these flanges as herein shown do not extend across the forehead portion of the cap as they are not necessary in that region, and they therefore terminate at the temple portions of the cap, each flange extending from the temple portion at one side of the cap completely around the edge portion of the cap to the other temple portion, although it is not essential in all cases that the flange or flanges be of a continuous character.

As I prefer to construct the cap, the lower flange 11 is spaced upwardly from the lower edge of the cap a slight distance only, which may be on the order of, say, 1/4th of an inch, and the flanges will be quite narrow, each of them having a width on the order of, say, 5/32nds of an inch, for example, although it will be understood that these dimensions are given in explanation rather than limitation. Preferably, also, the bases or attached edges of the flanges will be lowermost, and normally the flanges will each have an oblique relation to the cap, as indicated in Fig. 3, the upper or free edge of the flange standing farther in than the base of the flange. Preferably, also, the flange will be of tapered cross-section, being thick at the base, and having a thin free edge or feather edge. Preferably the angle which the flanges will normally take relatively to the body of the cap will be about 45°, as shown in Fig. 3, but considerable variation may be made in this respect. Preferably, also, the portion of the cap body from which the flanges project will be somewhat thickened relatively to the remainder of the cap body, as shown at 13 in Fig. 3. Around the exterior of portion 13 at the extreme edge thereof a bead 14 may be provided. Preferably the flanges are narrowed down or tapered at their end portions 15, 16 so as to decrease gradually in width and merge into the forehead portion of the cap.

The application of the cap to the wearer's head is not interfered with by the flanges 11, 12 because these are inclined in such a direction as to facilitate application of the cap to the head. When the cap is applied to the head it is placed

under stretch to some extent, as usual in bathing caps, and the flanges 11, 12, in coming against the neck and head of the wearer, are pressed outwardly and caused to lie flatwise against or near the inner surface of the cap body, and the inner surface of the cap body is plain and unobstructed in the regions adjacent the free edges of the flanges so that such free edges may be pressed against, and, in fact, into the adjacent regions of the cap body, it being understood that the flanges should preferably be at least as elastic as the cap proper. As each flange is pressed away from its normal plane (Fig. 3) by the pressure of the head, this pressure is resisted by the elasticity of the flange, which tends to return to the oblique position, and the flange is therefore yieldingly urged flatwise against the head (Fig. 4) in such a manner as to assist to a considerable degree in excluding water from the cap. If water passes between the extreme lower edge of the cap and the head, it will be obstructed by the lowermost flange, which acts in the manner above set forth, and if it should by any possibility pass the lowermost flange, it will be met and held by the next flange. When the cap is in use the flanges may form gently rounded shallow and fairly wide projections on the cap surface with a rounded shallow valley therebetween, as shown in Fig. 4.

While the flanges are very effective in excluding water, their use is not attended, on the other hand, by any discomfort to the wearer inasmuch as the flanges lie flatwise against the wearer's head and can be pressed against the body portion of the cap, as above described, each flange being sufficiently thin and of sufficient width to prevent the formation of a ridge which would localize pressure on the skin and cause discomfort. Furthermore, as the flanges do not extend completely around the circumference of the cap, their binding effect is less than it would be otherwise because each end of the flange is free from direct connection with the opposite end.

The flanges may be readily provided on the cap by molding them integrally with the cap body, although I do not limit myself in all cases to the use of a molded structure.

It will be understood from the foregoing that my new cap is of simple structure and that it can be manufactured at a cost not appreciably greater than that of the ordinary plain caps. When the cap is in use its exterior appearance is similar to that of a cap of the usual type, as the instrumentalities for sealing the cap in the manner herein described are not visible at the exterior.

In some cases only a single water-obstructing flange may be employed. I prefer to use two flanges and to make these flanges in the particular form shown herein, but it will be understood that a greater number of flanges may be provided in some cases and that the particular form of the flange is susceptible of modification without departing from the principles of my invention.

Various changes may be made in the details of the cap structure without departing from the scope of my invention as defined in the claims.

What I claim is:

1. A bathing cap comprising a body of elastic material having a free lower edge, and above said free lower edge within the cap a plurality of elastic impervious water-obstructing flanges attached to the cap at their lower edges and having free upper edges.

2. A bathing cap comprising a body of elastic material having a free lower edge, and above said free lower edge within the cap a plurality of elastic impervious water-obstructing flanges attached to the cap at their lower edges and having free upper edges, said flanges normally having oblique positions.

3. A bathing cap comprising a body of sheet rubber having attached thereto at the inner surface and above the lower edge substantially parallel rubber flanges, said flanges normally standing obliquely but adapted to be pressed flatwise against the side of the cap proper, said flanges being spaced from each other so that they clear each other when pressed against the side of the cap.

4. A bathing cap comprising a body of rubber having attached thereto at the inner surface and above the lower edge substantially parallel rubber flanges, said flanges normally standing obliquely but adapted to be pressed flatwise against the side of the cap proper, said flanges being spaced from each other so that they clear each other when pressed against the side of the cap, and said flanges having their lower portions or bases attached to the cap body and having free upper edges.

5. A bathing cap comprising a rubber body open at its lower edge and having in a region spaced slightly above the lower edge integral rubber flanges normally projecting obliquely from the wall of the cap proper and adapted to be pressed flatwise against the inner surface of the cap proper, said flanges being spaced from each other and tapered so that when pressed flatwise against the inner surface of the cap a shallow valley is created between them.

6. A bathing cap comprising a body portion of rubber having a free lower edge and in a region slightly above the lower edge, rubber flanges formed integrally with the cap, said flanges normally standing obliquely with their free edges disposed above their attached edges or bases.

7. In a bathing cap, the combination with the cap proper formed of elastic material, of a water-obstructing elastic flange located interiorly of the cap in a region above the lower edge of the cap and having a lower base portion attached to the cap and an upper free edge.

8. In a bathing cap, the combination with the cap proper formed of elastic material, of a water-obstructing elastic flange located interiorly of the cap in a region above the lower edge of the cap and having a base portion attached to the cap and a free edge, said flange being adapted to be pressed flatwise against the inner surface of the cap, said cap being formed to cover the ear of the wearer and said flange being located in a region below the ear.

9. The combination with a rubber bathing cap shaped to cover the head and ears of the wearer, of an elastic flange member integral with the cap extending across the back of the wearer's neck within the cap and below the ears and upwardly toward but not across the forehead portion of the cap, said flange portion comprising a narrow obliquely standing rubber member having a free upper edge and an attached lower edge.

10. A rubber bathing cap having portions to extend down over the ears of the wearer, and within each of those portions in regions below the ears obliquely standing rubber flanges, having cap-contacting side faces and spaced to clear each other when pressed against the cap.

11. A rubber bathing cap having a portion

adapted to cover the ear of the wearer, and below said portion within the cap in a region spaced upwardly somewhat from the lower edge of the cap, flange portions of rubber integral with the cap body and having bases attached to the cap, said flange portions being relatively narrow and normally standing obliquely, and said flange portions being spaced apart so that when they are pressed against the side portion of the cap a shallow valley is formed between them.

12. A bathing cap having integral obliquely standing interior flanges adapted to be pressed flatwise against the cap surface, said flanges being spaced from each other and shaped so that when so engaging the cap surface they present wide shallow rounded projections with a shallow valley therebetween.

13. A rubber bathing cap having interior substantially parallel obliquely standing rubber flanges having side surfaces adapted to be pressed flatwise against the interior surface of the cap, said flanges being spaced apart so that they clear each other when so pressed against said surface and being substantially parallel to the margin of the cap.

14. A rubber bathing cap provided with a narrow interior obliquely standing rubber flange spaced inwardly from the lower margin of the cap and having a thick base integral with the cap and a thin free edge, the base being disposed below the free edge, and said flange adapted to be pressed flatwise against the inner surface of the cap.

15. A bathing cap of elastic material having a body comprising portions to extend down over the ears of the wearer, and within each of those portions in a region below the ear and above and substantially parallel to the lower margin of the cap body an elastic sealing member of greater width than thickness integral with the cap body, said sealing member normally standing at an acute angle to the cap body and having a relatively wide side face adapted to be pressed into contact with the inner surface of the cap body when the cap is in use, said sealing member when so pressed against the body forming a wide but shallow rounded projection at the inner surface of the cap spaced inwardly from the margin of the cap.

WALLACE W. DE LANEY.