June 3, 1969 R. A. GREENHOUSE 3,447,164

BATHING CAP

Filed Dec. 13, 1967

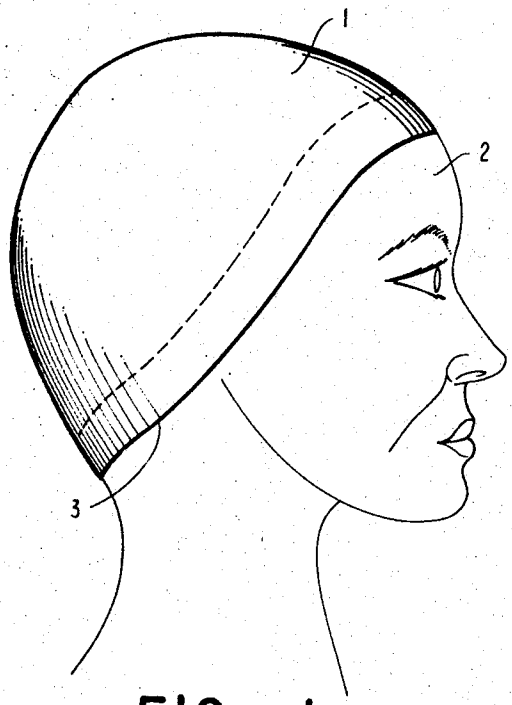


FIG.-1

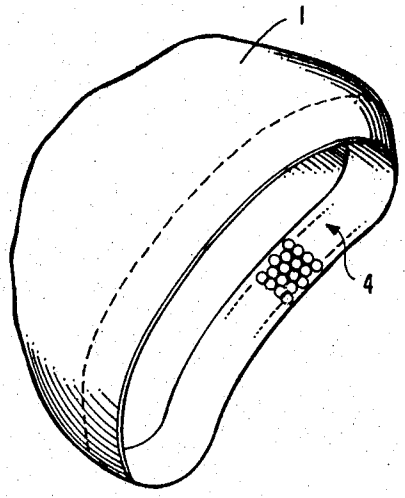


FIG.-2

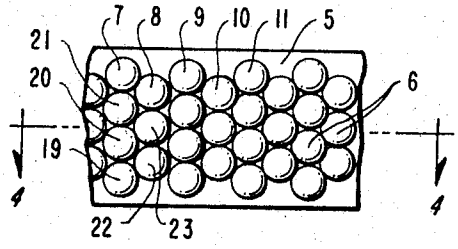


FIG.-3

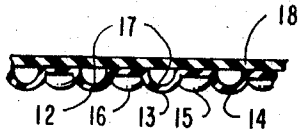


FIG.-4

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3,447,164
Patented June 3, 1969

3,447,164

BATHING CAP

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Filed Dec. 13, 1967, Ser. No. 690,350
Int. Cl. A42b 1/12
U.S. Cl. 2—68 4 Claims

ABSTRACT OF THE DISCLOSURE

The invention is directed to a bathing cap having a sealing strip extending about the circumference which includes a plurality of small, balloon-like members in closely adjacent staggered rows. When in use, the balloon-like members conform to the wearer's head and compress against one another to form a water-tight seal.

Background of the invention

The invention is directed to the art of bathing caps.

Bathing caps are generally worn to prevent the hair of a person wearing same from getting wet while showering, bathing or swimming. In order to accomplish this primary function, an effective seal must be maintained at the points of contact of the bathing cap with the head of the wearer. The prior art bathing cap sealing mechanisms generally took the form of a plain elastic band extending about the periphery of the bathing cap. When this cap was in place, the elastic band was stretched and thereby formed a pressure seal about the head.

In order to maintain an effective seal, a significant amount of presusre had to be exerted by the elastic band. This type of bathing cap was proved to be quite uncomfortable to the wearer, due to the amount of pressure required to maintain the seal. Furthermore, as the pressure was increased, the elastic band had a tendency not to conform to the wearer's head or, at a minimum, tended to apply pressure in an unequal fashion about the wearer's head. This created either voids or low pressure areas along the line of contact of the seal with the wearer's head thereby enabling water to seep past the seal and into the bathing cap .

Applicant's invention avoids the problems of the prior art devices and provides a bathing cap which has an effective sealing means and which is comfortable to the wearer.

Summary of the invention

An object of the invention is to provide a unique bathing cap.

Another object of the invention is to provide a bathing cap with a unique sealing mechanism.

A further object of the invention is to provide a bathing cap that effectively prevents the wearer from getting her hair wet and yet is comfortable to wear.

The invention generally comprises a bathing cap with a sealing strip attached to the inside of the cap and extending along its periphery. The sealing strip consists of a continuous strip of flexible material with a plurality of rows of substantially identical raised portions extending along its length. Each row of raised portions is staggered with respect to the adjacent rows, such that no clear line of sight is provided across the width of the strip. Each raised portion is made of a flexible material which is preferably hemispherical in form and hollow. The raised portions are in contact with one another at their bases. When pressure is applied to the sealing strip, as for example, when worn by a person, the raised portions are compressed against the base portion and one another, thereby providing a plurality of deformed air cushions which coact to form a water impermeable

sealing strip. This sealing strip affords protection from water seepage into the bathing cap past the sealing mechanism and yet is quite comfortable to the wearer.

Brief description of the drawing

Referring to the drawing:

FIGURE 1 is a side view of the bathing cap in place on a wearer's head.

FIGURE 2 is a perspective view of the bathing cap showing the sealing strip extendnig along the inside edge.

FIGURE 3 is a plan view of a section of the sealing strip.

FIGURE 4 is a sectional view of the section of the sealing strip taken along line 1—1 of FIGURE 3.

Description of the preferred embodiment

The invention is directed to a unique bathing cap and sealing means for same.

With reference to FIGURE 1, the bathing cap **1** is adapted to be worn by a female **2** in order to protect the wearer's hair from becoming wet upon exposure to water, as when taking a shower or when swimming. It is most important that water be prevented from leaking past the edge **3** of bathing cap **1**.

FIGURE 2 shows the bathing cap **1** with a band **4** extending along the inner surface thereof along the periphery of the bathing cap **1**. The band **4** is continuous along its length and is adapted to be attached to the bathing cap shell on the inner surface and along the periphery by suitable means, such as an adhesive.

FIGURES 3 and 4 show the band **4** in greater detail. As shown in FIGURE 3, there are provided a plurality of raised potrions **6**. These raised portions **6** are shown in cross-section in FIGURE 4. The arrangement of the raised portions are such that a plurality of substantially parallel rows and columns of raised portions are provided. In FIGURE 3, the discrete raised portions **7, 8, 9, 10** and **11** lie in respectively adjacent columns. It is also apparent from FIGURE 3 that the alternate columns of raised portions **6** are staggered with respect to one another; i.e., the columns having raised portions **7, 9,** and **11** are displaced along their length from the columns having raised portions **8** and **10**. The amount of displacement is approximately one half the diameter of the raised portions. The raised portions **19, 20, 21** and **7** lie in respectively adjacent rows which are parallel to the rows in which raised portions **8, 23** and **22** lie.

FIGURE 4 is a showing of a plurality of raised portions **12, 13** and **14** in a single row with raised portions **15** and **16** lying in a second row and displaced from said single row. Each raised portion in this embodiment has an air space therein, thereby creating a plurality of small balloon-like members, which are hemispherical in shape. The raised portions are suitably attached to substrate **18**.

The band **4** is continuous along its length and is attached to the inside of the bathing cap along the periphery thereof, with the multitude of balloon-like members **6** extending outwardly therefrom. The substrate **18** and balloon-like members are constructed from a suitable flexible and extendable material, such as rubber. The length of the band **4** is designed such that when the bathing cap is in place on the wearer's head, the band **4** is extended along its length. When in this operative relationship, the balloon-like members are all compressed, one against the other. Due to the staggered relationship of the columns of raised portions and the compression of the raised portions against one another, water is prevented from passing across the width of the band, thereby forming a water tight seal which prevents water from reaching the hair. Another advantage readily becomes apparent. Since the balloon-like members **6** are each in-

dependently compressible, certain of them will be compressed more than others. Because the series of individual microballoons are independently compressible, the band tends to conform more closely to the shape of the wearer's head than is otherwise possibly by the use of a plain flexible band. With this feature of conformity to the wearer's head, a more positive and direct seal is effected and maintained at the points of contact between the band and the head. Furthermore, as the shape of the line at the point of contact between the band and the head. Furthermore, as the shape of the line at the point of contact changes, the microballoons also change, thereby serving to automatically compensate for any such changes.

It is also rather obvious that the series of air cushions provided at the point of contact of the band **4** and the head make the bathing cap much more comfortable to wear.

Other and different embodiments become readily apparent. For example, the band can be employed in other applications where a sealing function is desired. The band can be attached to the inside of gloves at the wrist portion thereof to prevent a fluid from touching the hands.

It is apparent that applicant has invented a new and useful bathing cap which provides advantages and functions heretofore unavailable in prior art.

The embodiment and specific discrete elements shown are meant to be illustrative only and not restrictive.

What is claimed and desired to be secured by United States Letters Patent is:

1. A bathing cap,

a sealing strip attached to the inner side of the bathing cap along the periphery thereof,

said sealing strip essentially comprising a flexible base member and a plurality of substantially identical, hollow raised portions attached to and extending inwardly from said base member,

each of said raised portions and base member coacting to form a sealed, air-filled chamber,

said raised portions being aligned in a plurality of columns,

said raised portions of each column being off-set with respect to but in intimate contact with the adjacent raised portions of adjacent columns, thereby preventing leakage of water past the sealing strip when compressive forces are applied against said raised portions.

2. A bathing cap as set forth in claim **1** wherein said raised portions are hemispherical in form.

3. A bathing cap as set forth in claim **2** wherein each column of raised portions extends completely about the periphery of the bathing cap.

4. A bathing cap as set forth in claim **3** wherein said sealing strip forms a continuous, closed loop.

References Cited

UNITED STATES PATENTS

1,771,178	7/1930	Howland	2—68
2,192,837	3/1940	Lusk	2—68
2,533,444	12/1950	Feldman	2—68

FOREIGN PATENTS

776,081	6/1957	Great Britain.

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