LIQUID COLLECTOR MOUNTABLE TO AN OBJECT FOR COLLECTING LIQUID FROM THE OBJECT

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ABSTRACT

A sweat collector for wearing on a user's head to collect sweat from the user's head and prevent the collected sweat from running into the user's eyes. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises a sweat-collecting recess between its inner and outer sides for collecting sweat. The sweat-collecting recess may be configured to retain the collected sweat by surface tension and adhesion. Other types of sweat collectors for collecting sweat from other body parts (e.g., a forearm) are considered. Other types of liquid collectors for collecting liquid other than sweat are considered (e.g., water on a user's head or other body part originating from a bath, pool or other external source; bottled liquid; etc.).
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CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority from U.S. Provisional Patent Application No. 61/636,894 filed on Apr. 23, 2012 and hereby incorporated by reference herein.

FIELD OF THE INVENTION

[0002] The invention relates generally to management of liquid and, more particularly, to a liquid collector mountable to an object for collecting liquid from the object.

BACKGROUND

[0003] Various situations exist in which it is desirable to remove liquid from an object because of potential negative consequences that could arise if the liquid remained.

[0004] For example, a person who is training, playing a sport, working, or performing any other activity which causes him/her to sweat typically desires to avoid sweat running into his/her eyes as this can sting or burn and/or be distracting. While sweatbands have been developed to mitigate this, they suffer from certain drawbacks. For instance, traditional sweatbands are made of absorbent material (e.g., absorbent fabric) which absorbs sweat and, therefore, often present odor and cleanliness problems due to absorbed sweat and have a limited efficiency in shielding eyes from sweat as they become saturated. Nonabsorbent sweatbands have also been envisaged to redirect sweat away from their user’s eyes instead of absorbing sweat, but typically present certain deficienciess as, for instance, an inability to retain sweat, if desired, before evacuating it and/or a poor or suboptimal fit which can create gaps through which sweat can run down into their user’s eyes.

[0005] As another example, after pouring liquid such as water, wine or oil from a bottle, an individual usually desires to prevent residual liquid remaining on the bottle’s external surface from running down the bottle’s external surface onto his/her hand and/or onto a table or other support on which the bottle is placed.

[0006] Other examples of situations requiring or benefiting from removal of a liquid from an object can be considered.

[0007] For these and other reasons, there is a need for improvements directed to facilitating removal of liquid from objects.

SUMMARY OF THE INVENTION

[0008] According to an aspect of the invention, there is provided a sweat collector for wearing on a head of a user. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises an inner side for contacting the head of the user. The inner side engages a forehead of the user when the sweat collector is worn on the head of the user. The sweat collector comprises an outer side opposite the inner side for facing away from the head of the user. The sweat collector comprises a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user. The sweat-collecting recess is configured to retain the collected sweat by surface tension and adhesion.

[0009] According to another aspect of the invention, there is provided a sweat collector for wearing on a head of a user. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises an inner side for contacting the head of the user. The inner side engages a forehead of the user when the sweat collector is worn on the head of the user. The sweat collector comprises an outer side opposite the inner side for facing away from the head of the user. The sweat collector comprises a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user. The sweat-collecting recess comprises an inner surface and an outer surface spaced apart and facing one another to define a width of the sweat-collecting recess. The width of the sweat-collecting recess is less than 2.6 mm.

[0010] According to another aspect of the invention, there is provided a sweat collector for wearing on a head of a user. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises an inner side for contacting the head of the user. The inner side engages a forehead of the user when the sweat collector is worn on the head of the user. The inner side comprises a generally convex portion that is convex along a longitudinal axis of the sweat collector to be in sealing engagement with the head of the user. The sweat collector comprises an outer side opposite the inner side for facing away from the head of the user. The sweat collector comprises a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user.

[0011] According to another aspect of the invention, there is provided a sweat collector for wearing on a head of a user. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises an inner side for contacting the head of the user. The inner side engages a forehead of the user when the sweat collector is worn on the head of the user. The sweat collector comprises an outer side opposite the inner side for facing away from the head of the user. The sweat collector comprises a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user. The sweat collector comprises a sweat-collecting recess falls away from the eyes of the user.

[0012] According to another aspect of the invention, there is provided a sweat collector for wearing on a head of a user. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises an inner side for contacting the head of the user. The inner side engages a forehead of the user when the sweat collector is worn on the head of the user. The inner side comprises a sealing projection projecting inwardly for being in sealing engagement with the forehead of the user. The sweat collector comprises an outer side opposite the inner side for facing away from the head of the user. The sweat collector comprises a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user.

[0013] According to another aspect of the invention, there is provided a sweat collector for wearing on a body part of a user. The sweat collector is at least partly made of nonabsorbent material. The sweat collector comprises an inner side for
contacting the body part of the user and an outer side opposite the inner side for facing away from the body part of the user. The sweat collector comprises a sweat-collecting recess between the inner side and the outer side for collecting sweat from the body part of the user to prevent the collected sweat from running down an external surface of the body part of the user. The sweat-collecting recess is configured to retain the collected sweat by surface tension and adhesion.

According to another aspect of the invention, there is provided a liquid collector for mounting to a container. The liquid collector is at least partly made of nonabsorbent material. The liquid collector comprises an inner side for contacting the head of the user. The inner side engages a forehead of the user when the liquid collector is worn on the head of the user. The liquid collector comprises an outer side opposite the inner side for facing away from the head of the user. The liquid collector comprises a liquid-collecting recess between the inner side and the outer side for collecting liquid originating from an external source from the head of the user to prevent the collected liquid from flowing into eyes of the user.

According to another aspect of the invention, there is provided a liquid collector for mounting to an object. The liquid collector is at least partly made of nonabsorbent material. The liquid collector comprises an inner side for contacting the object and an outer side opposite the inner side for facing away from the object. The liquid collector comprises a liquid-collecting recess between the inner side and the outer side for collecting liquid from the object to prevent the collected liquid from running down an external surface of the object. The liquid-collecting recess is configured to retain the collected liquid by surface tension and adhesion.

These and other aspects of the invention will now become apparent to those of ordinary skill in the art upon review of the following description of embodiments of the invention in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A detailed description of embodiments of the invention is provided below, by way of example only, with reference to the accompanying drawings, in which:

FIG. 1 shows an isometric view of an example of a liquid collector in accordance with an embodiment of the invention, in which the liquid collector is a sweat collector wearable on a user’s head;

FIG. 2 shows an isometric view of the sweat collector;

FIG. 3 shows a top view of the sweat collector;

FIG. 4 shows a side view of the sweat collector;

FIG. 5 shows an isometric view of part of the sweat collector;

FIG. 6 shows a cross-sectional view of the sweat collector;

FIG. 7 shows an isometric view of a sweat collector in accordance with another embodiment of the invention;

FIG. 8 shows another isometric view of the sweat collector of FIG. 7;

FIG. 9 shows an isometric view of a sweat collector in accordance with another embodiment of the invention;

FIG. 10 shows an isometric view of part of the sweat collector of FIG. 9;

FIG. 11 shows another isometric view of part of the sweat collector of FIG. 9;

FIG. 12 shows an isometric view of a sweat collector in accordance with yet another embodiment of the invention;

FIG. 13 shows an isometric view of a sweat collector in accordance with yet another embodiment of the invention;

FIG. 14 shows a cross-sectional view of a sweat collector in accordance with yet another embodiment of the invention;

FIG. 15 shows a cross-sectional view of a sweat collector in accordance with yet another embodiment of the invention;

FIGS. 16A to 16C and 17 show examples of embodiments in which a sweat collector is used in conjunction with protective headgear;

FIGS. 18 and 19 show a perspective view and a side view of the user’s head;

FIG. 20 shows a perspective view of an example of a liquid collector in accordance with another embodiment of the invention, in which the liquid collector is mounted to a bottle;

FIG. 21 shows a perspective view of the liquid collector of FIG. 20;

FIG. 22 shows a perspective view of a variant of the liquid collector of FIG. 20;

FIG. 23 shows a partial cross-sectional view of the liquid collector of FIG. 20.

It is to be expressly understood that the description and drawings are only for the purpose of illustrating certain embodiments of the invention and are an aid for understanding. They are not intended to be a definition of the limits of the invention.

DETAILED DESCRIPTION OF EMBODIMENTS

FIGS. 1 to 6 show an example of a liquid collector 10 mountable to an object 12 for collecting liquid from the object 12 in accordance with an embodiment of the invention. In this embodiment, the object 12 is a body part of a user 14 of the liquid collector 10 and the liquid collector 10 is a sweat collector wearable on the body part 12 of the user 14 for collecting sweat (i.e., perspiration) from the body part 12 of the user 14. More particularly, in this embodiment, the body part 12 of the user 14 is a head of the user 14 and the sweat collector 10 is a headband wearable on the user’s head 12 for collecting sweat from the user’s head 12 to keep the collected sweat away from the user’s eyes 16, 16. The sweat collector 10 is thus a sweatband or “sweat shield” that the user 14 can wear while training, running, playing a sport, working, or performing any other activity causing him/her to sweat in order to keep sweat from flowing into his/her eyes 16, 16.

The sweat collector 10 comprises an inner side 30 for contacting the head 12 of the user 14 and an outer side 32 opposite the inner side 30 for facing away from the user’s head 12. As shown in FIGS. 18 and 19, the user’s head 12
comprises a front region 20, a top region 19, left and right side regions 21, 21, and a back region 26. The front region 20 includes a face 17 of the user 14, including a forehead 22 located above the user’s eyes 16, 16, and eyebrows 27, 27. The left and right side regions 21, 21, include left and right temples 23, 23, of the head 12. The back region 26 includes a back upper part 24 and an occipital protuberance 25 of the head 12. The user’s head 12 has a dorsoventral (i.e., front-back) axis DV, a dextrosistral (i.e., left-right) axis DS, and a cephalocaudal (i.e., vertical) axis CC. As they are generally oriented longitudinally and transversally of the user’s head 12, the dorsoventral axis DV and the dextrosistral axis DS can also be respectively referred to as a longitudinal axis and a transversal axis that respectively define a longitudinal direction and a transversal direction of the head 12.

[0043] In this embodiment, the sweat collector 10 comprises a front portion 28 for engaging the forehead 22 of the user 14, left and right side portions 29, 29, for engaging the left and right side regions 21, 21, of the user’s head 12, and a back portion 31 for engaging the back region 26 of the user’s head 12. These portions of the sweat collector 10 are distributed along a longitudinal axis Lc of the sweat collector 10. More particularly, in this embodiment, the sweat collector 10 is retained on the user’s head 12 by surrounding the head 12 such that it extends along an entirety of a circumference of the head 12. In this example, the sweat collector 10 is elastic and stretchable around the user’s head 12 to be retained on the head 12. More specifically, in this example, the sweat collector 10 is a continuous endless elastic headband stretchable around the user’s head 12 to be retained on the head 12.

[0044] The sweat collector 10 is at least partly (i.e., partly or entirely) made of nonabsorbent material 15 which does not absorb sweat. In this embodiment, at least a majority (i.e., a majority or an entirety) of the sweat collector 10 is made of the nonabsorbent material 15. More particularly, in this example, the sweat collector 10 is entirely made of the nonabsorbent material 15. In this case, the nonabsorbent material 15 is hydrophobic. In other cases, the nonabsorbent material 15 may be hydrophilic. In addition, in this embodiment, since it is elastic and stretched around the head 12 of the user 14, the nonabsorbent material 15 is elastic material which can stretch when the sweat collector 10 is worn on the user’s head 12 and contract back towards its original form when the sweat collector 10 is removed from the user’s head 12.

[0045] The nonabsorbent material 15 of the sweat collector 10 may also have other desirable characteristics. For example, in this embodiment, the nonabsorbent material 15 is antimicrobial material which destroys or inhibits growth of microorganisms in order to prevent an undesirable odor from the sweat collector 10. The material 15 may be naturally antimicrobial or may have been imparted with an antimicrobial additive (e.g., a coating or integrated particles such as copper or silver particles for instance). As another example, in some embodiments, the nonabsorbent material 15 may be translucent material which allows ultraviolet (UV) rays of sunlight to pass through it to avoid unpleasant skin demarcations (e.g., tan lines) on the user’s head 12 that could otherwise develop if the user 14 is wearing the sweat collector 10 in sunlight. For instance, in some embodiments, the material 15 may have a light transmission coefficient, commonly referred to as light transmittance factor (LTF), of at least 50%, in some cases at least 70%, and in some cases at least 90%.

[0046] In this embodiment, the nonabsorbent material 15 of the sweat collector 10 is elastomeric nonabsorbent material. More particularly, in this example of implementation, the elastomeric nonabsorbent material 15 is silicone rubber, in this case antimicrobial silicone rubber. The sweat collector 10 may be made of any other suitable material in other embodiments (e.g., polyvinyl chloride (PVC), vinyl, ethylene propylene diene monomer (EPDM) rubber, etc.).

[0047] The sweat collector 10 comprises a sweat-collecting recess 18 located between its inner side 30 and its outer side 32 and configured for collecting sweat from the head 12 of the user 14 and controlling the collected sweat to prevent the collected sweat from running down into the user’s eyes 16, 16. The sweat-collecting recess 18 collects sweat that runs down the user’s head 12 by gravity. The sweat-collecting recess 18 may control the collected sweat in various ways, such as by retaining (i.e., holding) the collected sweat in the recesses 18 and/or redirecting the collected sweat out of the recess 18 in a predetermined direction away from the user’s eyes 16, 16, as further discussed below.

[0048] The sweat-collecting recess 18 extends along the least part of the front portion 28 of the sweat collector 10 adjacent to the forehead 22 of the user 14. In this embodiment, the sweat-collecting recess 18 extends along at least a majority of the front portion 28 of the sweat collector 10. In this example, the sweat-collecting recess 18 extends along an entirety of the front portion 28 and along part of the left and right portions 29, 29, of the sweat collector 10. More particularly, in this embodiment, the sweat-collecting recess 18 is dimensioned such that, when the sweat collector 10 is worn on the user’s head 12, the sweat-collecting recess 18 has a transversal extent Lc in the transversal direction of the head 12 that is greater than a span Lc of the user’s eyes 16, 16, in the transversal direction of the head 12. In this example of implementation, the sweat-collecting recess 18 is dimensioned to extend across the user’s forehead 12 to at least reach the user’s left and right temples 23, 23, when the sweat collector 10 is worn. The sweat-collecting recess 18 may extend along a longer or shorter part of the sweat collector 10 in other embodiments.

[0049] The sweat-collecting recess 18 comprises an open top 38 for receiving sweat drops, an inner surface 40 and an outer surface 42 spaced apart and facing from one another, and a bottom 44 between the inner and outer surfaces 40, 42. The inner and outer surfaces 40, 42 and the bottom 44 of the recess 18 form a void which can be occupied by collected sweat drops. In this embodiment, the void formed by the recess 18 is a channel in which collected sweat may flow when sufficient sweat drops have been collected. Also, in this embodiment, the recess 18 has open longitudinal ends 43, 41, through which collected sweat can be evacuated from the recess 18 away from the user’s eyes 16, 16. The recess 18 may have any other suitable shape in other embodiments.

[0050] The void formed by the sweat-collecting recess 18 defines a capacity Cc of the recess 18, i.e., a volume of sweat that can be contained in the recess 18. For example, in some embodiments, the capacity Cc of the recess 18 may be at least 0.2 ml, in some cases at least 0.5 ml, in some cases at least 1.0 ml, in some cases at least 1.5 ml, and in some cases even more (e.g., 4.5 ml or more). The capacity Cc of the sweat-collecting recess 18 may take on any other value in other embodiments.

[0051] A width Wc of the sweat-collecting recess 18 is defined by a spacing of the inner and outer surfaces 40, 42. In this embodiment, the inner and outer surfaces 40, 42 of the recess 18 extend generally parallel to one another such that the width Wc is substantially constant along the recess 18.
other embodiments, the width \( W \) may vary along the recess 18 in which case the width \( W \) can be taken as an average width along the recess 18.

[0052] A depth \( D \) of the sweat-collecting recess 18 is defined by a highest point of the inner and outer surfaces 40, 42 and a lowest point of the bottom 44 of the recess 18. In this embodiment, the bottom 44 of the recess 18 is generally level along the recess 18 and rounded when Viewing a cross-section of the recess 18 such that the depth \( D \) is substantially constant along the recess 18. In other embodiments, the depth \( D \) may vary along the recess 18 in which case the depth \( D \) can be taken as an average depth along the recess 18. The bottom 44 of the recess 18 may have various other shapes in other embodiments (e.g., the bottom 44 may be flat to provide more contact surface to potentially enhance retention).

[0053] The sweat-collecting recess 18 is configured to control sweat collected from the user's head 11 and contained therein. More particularly, in this embodiment, the sweat-collecting recess 18 is configured to retain (i.e., hold) a volume of sweat in the recess 18. In that sense, in this embodiment, the sweat-collecting recess 18 can also be referred to as a sweat-retaining recess. Sweat drops arriving at the sweat collector 10 under gravity are directed into the sweat-collecting recess 18 and become stuck in the recess 18. At that stage, the collected sweat drops are held captive in the sweat-collecting recess 18 and can be managed. For instance, in some examples of implementation, the sweat-collecting recess 18 may accumulate sweat drops retained therein and, when sufficient sweat drops coalesce, the collected sweat in the recess 18 can become more free-flowing and may be directed in the recess 18 so as to be evacuated from the recess 18 away from the user's eyes 16, 16'. In other examples of implementation, the sweat-collecting recess 18 may direct collected sweat drops immediately as they enter the recess 18 to evacuate them from the recess 18 away from the user's eyes 16, 16', without substantial accumulation of sweat in the recess 18.

[0054] More particularly, in this embodiment, the sweat-collecting recess 18 is configured to control sweat therein based on intermolecular forces, including surface tension and adhesion. As is well known, surface tension, also known as "interfacial tension", is a phenomenon involving forces acting at a liquid's surface constituting an interface with another medium (i.e., another liquid or a gas or solid) which tend to minimize an area of the liquid's surface. This phenomenon is caused by intermolecular interactions within the liquid and between the liquid and the interfacing medium, including attraction of molecules of the liquid's surface by molecules of a bulk of the liquid. Adhesion refers to adhesive forces between dissimilar molecules, such as between a liquid and a solid with a different molecular composition.

[0055] Thus, in this embodiment, the sweat-collecting recess 18 is configured such that a combined effect of the surface tension of sweat collected in the recess 18 and the adhesion between the collected sweat and the recess 18 is sufficient to hold the collected sweat in the recess 18. This combined effect can be viewed as a type of capillary action. When sweat drops run down the user's forehead and arrive at the sweat collector 10 under gravity, they are directed into the sweat-collecting recess 18. As the sweat drops enter into the sweat-collecting recess 18, the surface tension and adhesion between the sweat drops and the inner and outer surfaces 40, 42 and the bottom 44 of the recess 18 result in the sweat drops becoming stuck in the recess 18. The surface tension at a collected sweat drop's surface constituting an interface with ambient air and an interface with the inner and outer surfaces 40, 42 and the bottom 44 of the recess 18 and the adhesion between the sweat drop and the surfaces 40, 42 and bottom 44 of the recess 18 are sufficient to hold the collected sweat drop captive within the recess 18, even against gravity if the open top 38 of the recess 18 is not horizontal. Being retained in the recess 18, the collected sweat drops can be managed.

[0056] In this embodiment, the sweat-collecting recess 18 accumulates the collected sweat drops such that it can retain a volume of sweat \( V_s \) therein. For instance, depending on a design of the sweat collector 10, in some embodiments, the volume of sweat \( V_s \) retaineable in the sweat-collecting recess 18 may be at least 0.3 ml, in some cases at least 0.5 ml, in some cases at least 0.7 ml, in some cases at least 1 ml, and in some cases even more (e.g., up to 4.5 ml or more) The volume of sweat \( V_s \) retaineable in the sweat-collecting recess 18 may take on any other value in other embodiments.

[0057] A sweat retention capability of the sweat-collecting recess 18 can be observed in various ways. For example, the sweat-collecting recess 18 is capable of retaining collected sweat therein against gravity, which would normally cause the sweat to flow out of the recess 18. This could occur, for instance, as the user's head 12 is tilted forward or backward resulting in the sweat collector 10 acquiring an orientation in which the open top 38 of the recess 18 is not horizontal such that gravity creates a downward flow path for the collected sweat out of the recess 18, but yet the collected sweat remains held in the recess 18 by surface tension and adhesion effects. Notably, even in that orientation, surface tension and adhesion effects cause the collected sweat to extend from the inner surface 40 to the outer surface 42 of the recess 18 (i.e., bridge the inner and outer surfaces 40, 42 of the recess 18). Thus, in some embodiments, the volume of sweat \( V_s \) retaineable in the recess 18 may be a volume of sweat that can be retained in the recess 18 even against gravity.

[0058] A test can be performed to observe the sweat retention capability of the sweat collector 10. For example: the sweat collector 10 is placed on a generally flat horizontal surface of a support (e.g., a table or counter) with the open top 38 of the sweat-collecting recess 18 facing up; a quantity of sweat corresponding to the volume of sweat \( V_s \) retaineable in the sweat-collecting recess 18 is poured into the recess 18; and the sweat collector 10 is turned over such that the open top 38 of the recess 18 faces down and the volume of sweat \( V_s \) remains in the recess 18 (i.e., does not flow out of the recess 18). For instance, in some embodiments: the sweat collector 10 is placed on the support's generally flat horizontal surface with the open top 38 of the recess 18 facing up; at least 0.3 ml of sweat is poured into the recess 18; and the sweat collector 10 is turned over such that the open top 38 of the recess 18 faces down and the at least 0.3 ml of sweat remains in the recess 18.

[0059] As another example, sweat accumulating in the sweat-collecting recess 18 can fill the recess 18 and reach a level \( H_s \) (measured from the bottom 44 of the recess 18) which can be quite substantial. For instance, the level \( H_s \) of collected sweat in the recess 18 may reach at least 30% of the depth \( D_s \) of the recess 18, in some cases at least 50% of the depth \( D_s \) of the recess 18, in some cases at least 70% of the depth \( D_s \) of the recess 18, and in some cases even more (e.g., up to 100% of the depth \( D_s \) of the recess 18). The level \( H_s \) of collected sweat may be kept when the sweat collector 10 is turned over such that the open top 38 of the recess 18 faces down.
The sweat retention capability of the sweat-collecting recess 18 based on surface tension and adhesion effects depends on various factors, including dimensions of the recess 18 and material making up the recess 18.

For example, in this embodiment, the width \( W \), of the sweat-collecting recess 18 is sufficiently small to retain sweat drops in the recess 18. For instance, in some embodiments, the width \( W \), of the recess 18 may be less than 2.6 mm, in some cases no more than 2.4 mm, in some cases no more than 2.2 mm, in some cases no more than 2 mm, in some cases no more than 1.8 mm, in some cases no more than 1.6 mm, in some cases no more than 1.4 mm, and in some cases even less (e.g., down to 0.8 mm or less). In some situations, the width \( W \), of the recess 18 may be smaller than an average diameter of a sweat drop from the user's head 12 to facilitate retention of sweat drops in the recess 18. In this example of implementation, the width \( W \), of the recess 18 is about 0.070 inches (1.8 mm). The width \( W \), of the recess 18 may have any other suitable value in other embodiments.

The depth \( D \), of the sweat-collecting recess 18 may be sufficient to provide the capacity \( C \), of the recess 18, and may also help in sweat retention. For example, in some embodiments, the depth \( D \), of the recess 18 may be at least 1.5 mm, in some cases at least 2 mm, in some cases at least 2.5 mm, in some cases at least 3 mm, in some cases at least 3.5 mm, and in some cases even more (e.g., up to 25 mm or more). In this example of implementation, the depth \( D \), of the recess 18 is about 3.25 mm. The depth \( D \), of the recess 18 may have any other suitable value in other embodiments.

A shape of the sweat-collecting recess 18 may also enhance its sweat retention capability. For example, in this embodiment, top edge portions 83, 85 which delimit the inner and outer surfaces 40, 42 of the sweat-collecting recess 18 are angular to help retain collected sweat within the recess 18. That is, the top edge portions 83, 85 are generally "sharp" and are not rounded since this could make it easier for sweat to escape the recess 18 when the user's head 12 is tilted.

When sufficient sweat drops (e.g., three or more sweat drops) have been accumulated and coalesced together in the sweat-collecting recess 18, the collected sweat in the recess 18 can become more free-flowing within the recess 18. The recess 18 may then direct the collected sweat to evacuate it from the recess 18 away from the user's eyes 16, 16, 16. For example, in this embodiment, when the user 14 tilts his/her head 12, the recess 18 directs the collected sweat to flow out of it through one or both of its open longitudinal ends 41, 41, such that the sweat falls generally on the left and right side regions 21, 21 of the user's head 12 away from the user's eyes 16, 16, 16.

In this embodiment, the sweat collector 10 comprises a sweat drip guide 50 on its outer side 32 to guide a flow direction FD of sweat that is outside of the sweat-collecting recess 18 such that the sweat falls away from the user's eyes 16, 16, 16. For instance, the sweat that is outside of the sweat-collecting recess 18 may be caused by a movement of the user's head 12 causing sweat to evacuate through the open top 38 of the recess 18 or by an overflow of sweat when too much sweat has accumulated within the recess 18. The flow direction FD imparted by the sweat drip guide 50 is oriented away from the user's eyes 16, 16, 16 such that, as the sweat drips, it does not fall into the user's eyes 16, 16, 16.

More particularly, in this embodiment, the sweat drip guide 50 comprises a guiding projection 52 projecting outwardly away from the user's face 17 when the sweat collector 10 is worn. In this example of implementation, the guiding projection 52 comprises an elongated lip extending along the sweat collector 10 to follow the sweat-collecting recess 18 (i.e., extending along that part of the sweat collector 10 over which extends the sweat-collecting recess 18). The guiding projection 52 has a lower surface 54 which defines an oblique angle \( \beta \) relative to the vertical axis \( CC \) of the user's head 12 when the sweat collector 10 is worn. For example, in some embodiments, the oblique angle \( \beta \) may be at least 45°, in some cases at least 50°, in some cases at least 55°, in some cases at least 60°, and in some cases even more. The oblique angle \( \beta \) may have any other suitable value in other embodiments.

The guiding projection 52 may have various other shapes in other examples of implementation (e.g., it may be shorter and/or have a different cross-sectional shape).

The inner side 30 of the sweat collector 10 is in contact with the head 12 of the user 14 to be in sealing engagement with at least part of the user's head 12, including the user's forehead 22. In this embodiment, the inner side 30 of the sweat collector 10 is designed to more optimally fit on and engage the user's head 12 to enhance this sealing engagement.

More particularly, in this embodiment, the inner side 30 of the sweat collector 10 comprises a main head-engaging surface 74 and a plurality of sealing projections 68, 68, projecting inwardly from the main head-engaging surface 74 for being in sealing engagement with the user's head 12, including the user's forehead 22. In this example of implementation, the sealing projections 68, 68 are upper and lower sealing projections located at upper and lower edges of the inner side 30 of the sweat collector 10. In this case, the sealing projection 68, 68 has a greater sealing function since it is located higher and prevents sweat from passing it and moving further down the user's face 17. The lower projection 68, 68, equilibrates the shape of the sweat collector 10 to make it more stable on the user's head 12.

In this example of implementation, each of the sealing projections 68, 68, is shaped as an elongated lip extending along that part of the sweat collector 10 which extends the sweat-collecting recess 18. Each of the sealing projections 68, 68, 68, tapers towards its tip and has a flexibility which provides a better engagement when the user's head 12. Each sealing projection 68, 68 has a head-engaging surface 65 which defines an oblique angle \( \alpha \) relative to the main head-engaging surface 74 of the inner side 30 of the sweat collector 10. For example, in some embodiments, the oblique angle \( \alpha \) may be at least 90°, in some cases at least 120°, in some cases at least 150°, and in some cases in even more (e.g., up to 170°). The oblique angle \( \alpha \) may have any other suitable value in other embodiments.

The sealing projections 68, 68, 68 may have various other shapes in other examples of implementation (e.g., it may be shorter and/or have a different cross-sectional shape). Also, there may any other number of sealing projections such as the sealing projections 68, 68, 68, in other embodiments (e.g., a single sealing projection, or three, four or more sealing projections).

Furthermore, in this embodiment, the inner side 30 of the sweat collector 10 comprises a plurality of generally convex portions 55, 55, 55, that are convex along the longitudinal axis \( L \), of the sweat collector 10 and are disposed to contact respective parts of the user's head 12. This curvature results in proper contact and pressure being applied to the convex portions 55, 55, 55 of the inner side 30 of the sweat collector 10 on these parts of the user's head 12 which creates
a seal to protect against (i.e., reduce or eliminate a potential for) sweat running down into the user’s eyes 16, 16, by passing between these convex portions 55, 55, and these parts of the user’s head 12. This may be particularly useful in cases where the parts of the user’s head 12 that are contacted by the convex portions 55, 55, are concave or otherwise recessed.

In this example of implementation, the convex portion 55, of the inner side 30 of the sweat collector 10 is a generally convex glabellar portion for contacting a glabella 33 of the user 14 (i.e., a space between the user’s eyebrows and above his/her nose). The contact and pressure applied by the convex glabellar portion 20 of the sweat collector 10 on the user’s glabella 31 protects against sweat dripping down into the user’s eyes 16, 16, by passing between the convex glabellar portion 20 of the sweat collector 10 and the user’s glabella 31.

Also, in this example of implementation, the convex portions 55, 55, of the inner side 30 of the sweat collector 10 are generally convex temple portions for contacting the user’s left and right temples 23, 23. The contact and pressure applied by the convex temple portions 55, 55, of the sweat collector 10 on the user’s temples 23, 23, protects against sweat dripping down into the user’s eyes 16, 16, by passing between the convex temple portions 55, 55, of the sweat collector 10 and the user’s temples 23, 23.

By collecting and controlling sweat from the head 12 of the user 14, the sweat collector 10 efficiently protects the user 14 against sweat running into his/her eyes 16, 16.

Although the sweat collector 10 is constructed in a particular way in embodiments discussed above, the sweat collector 10 may be constructed in various other ways in other embodiments.

For example, in some embodiments, the sweat-collecting recess 18 may extend along at least a majority of a length of the sweat collector 10. For example, FIGS. 7 and 8 show an embodiment in which the recess 18 extends along nearly an entirety of the length of the sweat collector 10. As such, sweat generated by the back region 26 of the user’s head 12 can also be collected within the recess 18 of the sweat collector 10. Also, the recess 18 extending along a longer length of the sweat collector 10 makes the capacity C, of the sweat collector 10 greater and thus permits the obtainable volume of sweat V to be greater. The recess 18 terminates at an evacuation opening 79 located in the back portion 31 of the sweat collector 10.

As another example, in some embodiments, as shown in Figs. 9 to 11, the sweat-collecting recess 18 may comprise a plurality of partitions 58, 58, which divide the void formed by the recess 18 into a plurality of chambers 60, 60. The chambers 60, 60, are shaped to receive and hold respective amounts of the collected sweat. The partitions 58, 58, also provide additional surface area to induce surface tension and adhesion effects for the collected sweat, thus further promoting retention of the sweat within the recess 18. Moreover, when sufficient sweat is accumulated in the recess 18 such that the sweat has a more free-flowing nature, the partitions 58, 58, act as baffles to regulate flow of sweat in the recess 18. The baffles will thus directly and regulate flow of sweat within the recess 18 by guiding the sweat from one chamber 60, to an adjacent chamber 60. As such, the chambers 60, 60, will have a tendency to fill up in a sequential manner. In this embodiment, the channel formed by the recess 18 can therefore be viewed as a “baffled” channel or reservoir.

As another example, in some embodiments, as shown in Figs. 9 to 11, the sweat collector 10 may comprise a hair-engaging sweat catcher 64 projecting upwardly on the inner side 30 of the sweat collector 10 above the sweat-collecting recess 18 and engaging hair of the head 12 of the user 14 to draw sweat downwardly into the sweat-collecting recess 18. The hair-engaging sweat catcher 64 may extend along any portion of the sweat collector 10 that engages the hair of the user’s head 12 when the sweat collector 10 is worn. For example, in this embodiment, the hair-engaging sweat catcher 64 extends along the back portion 31 and parts of the left and right side portions 29, 29, of the sweat collector 10 to facilitate removal of sweat from the hair of the user 14.

More particularly, in this embodiment, the hair-engaging sweat catcher 64 comprise a plurality of sweat-catch members 73, 73, disposed adjacent to one another along the longitudinal axis L, of the sweat collector 10. Each sweat-catch member 73, comprises a tip 65 which contacts the head 12 of the user 14 and a base 67 in proximity to the open top 38 of the sweat-collecting recess 18. The sweat-catching members 73, 73, are spaced apart at their tip 65. The tip 65 of each sweat-catching member 73, constitutes a sweat inlet while the base 67 of the sweat-catching member 73, constitutes a sweat outlet for directing sweat into the sweat-collecting recess 18. In this example, the sweat-catching member 73, widens in a direction from its tip 65 towards its base 67. As sweat from the head 12 of the user 14 drips towards the tip 65 of the sweat-drawing member 73, the sweat will have a tendency to be drawn in towards the sweat-collecting recess 18. More specifically, once a sweat drop comes into contact with the tip 65 of the sweat-catching member 73, surface tension and adhesion effects will induce movement of the sweat drop along the sweat-drawing member 73, towards the base 67 of the sweat-catching member 73, in this case, the widening shape of the sweat-catching member 73, towards the base 67 promotes the flow of the sweat drop towards the base 67 where it is released into the sweat-collecting recess 18. The sweat-catching members 73, 73, may have various other shapes in other embodiments. Also, the hair-engaging sweat catcher 64 may be implemented in various other ways in other embodiments (e.g., it may comprise a single continuous sweat catching member).

In some embodiments, the sweat collector 10 may not surround the head 12 of the user 14, but may rather extend along less than all of a circumference of the head 12. For example, in some embodiments, the sweat collector 10 may have a U-shape or C-shape such that it can extend along less than all of the user’s head 12. For instance, in some embodiments, as shown in FIG. 12, the sweat collector 10 may comprise left and right temple members 82, 82, that have free ends and may be temporarily affixed or rest generally near the left and right temples 23, 23, of the head 12 of the user 14. In this example, the left and right temple members 82, 82, comprises left and right temple tips 84, 84, which rest on the ears of the user 14.

In some embodiments, the sweat collector 10 may be long enough to contour the head 12 of the user 14 but may not be manufactured as a closed endless loop. For example, in some embodiments, as shown in FIG. 13, the sweat collector 10 may comprise longitudinal end portions that can be selectively attached to and detached from each other with a closure system 35. The closure system 35 permits temporary attachment of the longitudinal end portions of the sweat collector 10 and possibly adjustment of a closed loop length of the sweat.
collector 10 such that its size can be personalized. In this example, the closure system 35 comprises a projecting button on one longitudinal end portion of the sweat collector 10 that can fit in any one of multiple button-receiving holes in an opposite longitudinal end portion of the sweat collector 10. In various other examples of implementation, the closure system 35 may comprise a buckle, a loop and loop fastener, and/or any other attachment device.

[0081] In some embodiments, as shown in FIG. 14, the sweat collector 10 may comprise a retaining projection 91 projecting rearwardly towards the face 17 of the user 14 from between the outer side 32 and the sweat-collecting recess 18 and overhanging the recess 18 to prevent sweat collected within the recess 18 from flowing out through the open top 38 of the recess 18 and over the outer side 32 of the sweat collector 10 when the user 14 moves rapidly enough (e.g., when practicing a sport or other activity that involve rapid movements of the user 14).

[0082] In some embodiments, a hydrophilic agent may be provided (e.g., coated) on surfaces which receive the sweat, such as a top surface 66 leading into the sweat-collecting recess 18 and/or one or more of the inner and outer surfaces 40, 42 of the sweat-collecting recess 18, in order to enhance capture of the sweat at the top surface 66 and into the sweat-collecting recess 18.

[0083] In some embodiments, less than all of the sweat collector 10 may be made of nonabsorbent material 15. For example, an external surface of the sweat collector 10 may be made of nonabsorbent material 15 while a core of the sweat collector 10 beneath its external surface may be made of absorbent material. As another example, one or more portions of the sweat collector 10 may be absorbent material such that, as sweat is collected, some sweat is absorbed by these one or more absorbent portions. For instance, in some embodiments, as shown in FIG. 15, a partition 58, disposed in the sweat-collecting recess 18 as discussed above in respect of FIGS. 9 to 11 may comprise an absorbent portion 78 (e.g., a foam or fabric) that can absorb sweat.

[0084] In some embodiments, as shown in FIGS. 16A to 16C, the sweat collector 10 may be wearable in association with protective headgear 70 worn by the user 14. For instance, the protective headgear 70 may be a helmet (e.g., a sports helmet such as a hockey helmet, a football helmet, etc.; an industrial helmet such as construction helmet (i.e., "hard hat"), a welding helmet, etc.; a military helmet; etc.) or eyewear for protecting the user’s eyes 16, 16. In some cases, the sweat collector 10 may be worn separately and independently from the protective headgear 70. In other cases, the sweat collector 10 may be integrated with the protective headgear 70 so as to constitute an integrated part of the protective headgear 70. For example, FIG. 17 shows an example in which the sweat collector 10 is integrated with the protective headgear 70. More specifically, in this example, the protective headgear 70 is a welding helmet and the sweat collector 10 is integrated to the welding helmet (e.g., to a harness of the welding helmet). In some cases, while being integrated to the protective headgear 70, the sweat collector 10 may also be detachable (e.g., to dry off or clean the sweat collector 10 after use). In other cases, the sweat collector 10 integrated to the protection headgear 70 may not be removable from the headgear 70 (e.g., may be cleaned with water and a towel).

[0085] Although in embodiments considered above the sweat collector 10 is wearable on the head 12 of the user 14, in other embodiments, the sweat collector 10 may be wearable on another body part of the user 14 to collect sweat from that body part to prevent the collected sweat from running down an external surface of that body part. For instance, in other embodiments, the sweat collector 10 may be wearable on a forearm of the user 14 to collect sweat from the forearm and prevent the collected sweat from running down into the user’s hand and reducing the user’s grip.

[0086] In some embodiments the liquid collector 10 may be mounted to the head 12 or another body part of the user 14 to collect a liquid, other than sweat, that originates from an external source (i.e., a source external to the user 14) and contacts the user’s head or other body part.

[0087] For example, in some embodiments, the liquid collector 10 may be mounted to the user’s head 12 to collect water that originates from an external source and contacts the user’s head 12. For instance, in some cases, the external source may be a bath, the water may be bathwater (possibly including a washing agent such as soap or shampoo), and the user 14 may be a child or other individual taking his/her bath, such that the liquid collector 10 may be used to collect the bathwater from the user’s head 12 and prevent it from running into the user’s eyes 16, 16. In other cases, the external source may be a shower, a spa, a body of water (e.g., a lake, sea or river), or any other source of water to which the user 14 may be exposed.

[0088] The liquid-collecting recesses 18 may control the collected water in various ways, such as by retaining (i.e., holding) the collected water in the recess 18 and/or redirecting the collected water out of the recess 18 in a predetermined direction away from the user’s eyes 16, 16, as discussed above. For example, in some embodiments, the liquid-collecting recess 18 may direct collected water immediately as it enters the recess 18 to evacuate it from the recess 18 at its open longitudinal ends 41, 41, away from the user’s eyes 16, 16, without substantial accumulation of water in the recess 18. This may be beneficial given a flow rate of the water arriving at the liquid-collecting recess 18. To that end, in some embodiments, the liquid-collecting recess 18 may be configured to facilitate such immediate evacuation of the collected water based on the flow rate of the water arriving at the recess 18.

For example, in some embodiments, the width W of the sweat-collecting recess 18 may be sufficiently large to induce immediate evacuation of the collected water. For instance, in some embodiments, the width W of the sweat-collecting recess 18 may be at least 4.5 mm (e.g., 3/16 inch), in some cases at least 6 mm (e.g., 1/4 inch), in some cases at least 8 mm (e.g., 5/16 inch), in some cases at least 9.5 mm (e.g., 3/8 inch), and in some cases even greater (e.g., at least 12.7 mm such as 1/2 inch).

[0089] While in embodiments considered above the object 12 to which the liquid collector 10 is mounted is a body part of a user such that the liquid collector 10 is a sweat or other liquid collector for collecting sweat from the user’s body part, in other embodiments, the object 12 to which the liquid collector 10 is mounted may be any other object such that the liquid collector 10 is another type of liquid collector for collecting another type of liquid.

[0090] For instance, FIGS. 20 to 23 show an embodiment in which the object 12 to which the liquid collector 10 is
mounted is a container. More particularly, in this embodiment, the container 12 is a bottle. For example, the liquid contained in the bottle 12 may be wine, water, oil or any other liquid. After liquid is poured out of the bottle 12 by a user, the liquid collector 10 may collect residual liquid remaining on an external surface 71 of the bottle 12 to prevent it from running down the external surface 71 of the bottle 12, for instance, onto the user's hand and/or onto a table or other support on which the bottle 12 is placed.

[0091] The liquid collector 10 comprises an inner side 84 for contacting the external surface 71 of the liquid container and an outer side 86 opposite the inner side 84 for facing away from the bottle 12. In this embodiment, the liquid collector 10 is elastic and stretchable such that it may be expanded for mounting onto the bottle 12. More specifically, in this embodiment, the liquid collector 10 is made of antimicrobial silicon rubber.

[0092] As the liquid originally contained in the bottle 12 runs down the external surface 71 of the bottle 12 by gravity, the liquid is collected in the liquid-collecting recess 18 of the liquid collector 10. In this case, the recess 18 extends along the entire length of the liquid collector 10. More specifically, in this case, the liquid-collecting recess 18 comprises an open top 88 for receiving liquid drops, an inner surface 90 and an outer surface 92 spaced apart and facing from one another, and a bottom 94 between the inner and outer surfaces 90, 92. The inner and outer surfaces 90, 92 and the bottom 94 of the recess 18 form a void which can be occupied by collected liquid drops.

[0093] In this embodiment, the liquid collector 10 comprises a sealing projection 96 projecting towards the external surface 71 of the bottle 12 for being in sealing engagement with the bottle 12. The sealing projection 96 has a line of contact 76 with the bottle 12 such that liquid dripping from the bottle 12 would be guided by the sealing projection 96 towards the liquid-collecting recess 18 and prevented from dripping between the external surface 71 of the bottle and the inner side 84 of the liquid collector 10.

[0094] In addition, in this embodiment, the liquid collector 10 comprises a retaining projection 98 projecting towards the external surface 71 of the bottle 12 to prevent liquid drops collected within the liquid-collecting recess 18 from falling out of the liquid collector 10 when the bottle 12 is tilted to pour out liquid contained in the bottle 12. More specifically, in addition to being retained within the recess 18 via surface tension and adhesion effects, the liquid drops in the recess 18 will further be retained within the liquid collector 10 by the retaining projection 98 should they happen to flow in a direction outward of the recess 18.

[0095] In some embodiments, the liquid collector 10 may comprise a plurality of partitions similar to the partitions 58, 59, of the sweat collector. Thus, the recess 18 of the liquid collector 10 may present different chambers similar to the chambers 60, 61, of the sweat collector 10 such that the chambers may receive and house respective amounts of the collected liquid in the recess 18.

[0096] The liquid collector 10 may be configured in various other ways in other embodiments. For example, depending on the capacity C, and visual appearance desired, the liquid collector 10, may be taller or shorter. For instance, FIG. 22 shows an embodiment in which the liquid collector is taller to make its capacity C greater.

[0097] Any feature of any embodiment discussed herein may be combined with any feature of any other embodiment discussed herein in some examples of implementation.

[0098] Although various embodiments and examples have been presented, this was for the purpose of describing, but not limiting, the invention. Various modifications and enhancements will become apparent to those of ordinary skill in the art and are within the scope of the invention, which is defined by the appended claims.

1. A sweat collector for wearing on a head of a user, the sweat collector being at least partly made of nonabsorbent material, the sweat collector comprising:
   an inner side for contacting the head of the user, the inner side engaging a forehead of the user when the sweat collector is worn on the head of the user;
   an outer side opposite the inner side for facing away from the head of the user; and
   a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user, the sweat-collecting recess being configured to retain the collected sweat by surface tension and adhesion.

2. The sweat collector of claim 1, wherein the sweat collector surrounds the head of the user when the sweat collector is worn on the head of the user.

3. The sweat collector of claim 2, wherein the sweat collector is a headband wearable around the head of the user.

4. The sweat collector of claim 3, wherein the headband is a continuous endless elastic headband stretchable around the head of the user to be retained on the head of the user.

5. The sweat collector of claim 1, wherein at least a majority of the sweat collector is made of the nonabsorbent material.

6. The sweat collector of claim 5, wherein the sweat collector is entirely made of the nonabsorbent material.

7. The sweat collector of claim 1, wherein the nonabsorbent material is antimicrobial material.

8. The sweat collector of claim 1, wherein the nonabsorbent material is translucent material.

9. The sweat collector of claim 8, wherein the translucent material has a light transmittance factor (LTF) of at least 50%.

10. The sweat collector of claim 1, wherein the nonabsorbent material is elastomeric material.

11. The sweat collector of claim 1, wherein the elastomeric material is silicone rubber.

12. The sweat collector of claim 1, wherein the sweat-collecting recess extends along at least a majority of a front portion of the sweat collector which contacts the forehead of the user when the sweat collector is worn on the head of the user.

13. The sweat collector of claim 12, wherein the sweat-collecting recess extends along an entirety of the front portion of the sweat collector.

14. The sweat collector of claim 12, wherein the sweat-collecting recess extends along at least parts of left and right portions of the sweat collector which contact temples of the user when the sweat collector is worn on the head of the user.

15. The sweat collector of claim 1, wherein the sweat-collecting recess is dimensioned such that, when the sweat collector is worn on the head of the user, the sweat-collecting recess has a transversal extent in a transversal direction of the head of the user that is greater than a span of the eyes of the user in the transversal direction of the head of the user.
16. The sweat collector of claim 1, wherein the sweat-collecting recess is dimensioned to extend across the forehead of the user.

17. The sweat collector of claim 1, wherein the sweat-collecting recess has open longitudinal ends for evacuating the collected sweat away from the eyes of the user.

18. The sweat collector of claim 1, wherein the sweat-collecting recess extends along at least a majority of a length of the sweat collector.

19. The sweat collector of claim 1, wherein the sweat-collecting recess extends along an entirety of the length of the sweat collector.

20. The sweat collector of claim 1, wherein a capacity of the sweat-collecting recess is at least 0.5 ml.

21. The sweat collector of claim 1, wherein the capacity of the sweat-collecting recess is at least 1 ml.

22. The sweat collector of claim 1, wherein the capacity of the sweat-collecting recess is at least 1.5 ml.

23. The sweat collector of claim 1, wherein a volume of sweat retaineable in the sweat-collecting recess is at least 0.3 ml.

24. The sweat collector of claim 23, wherein the volume of sweat retaineable in the sweat-collecting recess is at least 0.7 ml.

25. The sweat collector of claim 24, wherein the volume of sweat retaineable in the sweat-collecting recess is at least 1 ml.

26. The sweat collector of claim 1, wherein the sweat-collecting recess is capable of retaining the collected sweat against gravity.

27. The sweat collector of claim 1, wherein the sweat-collecting recess comprises an inner surface and an outer surface spaced apart and facing one another to define a width of the sweat-collecting recess.

28. The sweat collector of claim 1, wherein a width of the sweat-collecting recess is less than 2.6 mm.

29. The sweat collector of claim 28, wherein the width of the sweat-collecting recess is no more than 2.2 mm.

30. The sweat collector of claim 28, wherein the width of the sweat-collecting recess is no more than 2.0 mm.

31. The sweat collector of claim 1, wherein the outer side comprises a sweat drip guide for guiding a flow direction of sweat outside of the sweat-collecting recess such that the sweat outside of the sweat-collecting recess falls away from the eyes of the user.

32. The sweat collector of claim 31, wherein the sweat drip guide comprises a guiding projection projecting outwardly away from a face of the user when the sweat collector is worn on the head of the user.

33. The sweat collector of claim 32, wherein the guiding projection comprises an elongated lip extending along the sweat collector to follow the sweat-collecting recess.

34. The sweat collector of claim 1, wherein the inner side comprises a sealing projection projecting towards the user for being in sealing engagement with the forehead of the user.

35. The sweat collector of claim 34, wherein the sealing projection comprises an elongated lip extending along the sweat collector to follow the sweat-collecting recess.

36. The sweat collector of claim 34, wherein the sealing projection is located at an upper edge of the inner side.

37. The sweat collector of claim 34, wherein the sealing projection is a first sealing projection, the inner side comprising a second sealing projection projecting towards the user for being in sealing engagement with the forehead of the user, the second sealing projection being spaced apart vertically from the first sealing projection.

38. The sweat collector of claim 1, wherein the inner side comprises a generally convex portion that is convex along a longitudinal axis of the sweat collector to contact the head of the user.

39. The sweat collector of claim 38, wherein the generally convex portion of the inner side is a generally convex glabellar portion for contacting a glabella of the user.

40. The sweat collector of claim 38, wherein the generally convex portion of the inner side is a generally convex temple portion for contacting a temple of the user.

41. The sweat collector of claim 1, wherein the inner side comprises a plurality of generally convex portions that are convex along a longitudinal axis of the sweat collector to contact the head of the user.

42. The sweat collector of claim 41, wherein a first one of the generally convex portions of the inner side is a generally convex glabellar portion for contacting a glabella of the user and a second one of the generally convex portions of the inner side is a generally convex temple portion for contacting a temple of the user.

43. The sweat collector of claim 42, wherein the temple is a left temple of the user, the generally convex temple portion is a generally convex left temple portion, and a third one of the generally convex portions of the inner side is a generally convex right temple portion for contacting a right temple of the user.

44. The sweat collector of claim 1, wherein the sweat-collecting recess comprises a plurality of partitions dividing a void formed by the sweat-collecting recess.

45. The sweat collector of claim 44, wherein the partitions form baffles to regulate flow of the collected sweat in the sweat-collecting recess.

46. The sweat collector of claim 1, comprising a hair-engaging sweat catcher projecting towards the user for engaging hair of the head of the user to draw sweat from the hair into the sweat-collecting recess.

47. The sweat collector of claim 46, wherein the hair-engaging sweat catcher extends along a back portion of the sweat-collector which contacts a back region of the head of the user when the sweat collector is worn on the head of the user.

48. The sweat collector of claim 46, wherein the hair-engaging sweat catcher extends along left and right side portions of the sweat-collector which contact left and right sides of the head of the user when the sweat collector is worn on the head of the user.

49. The sweat collector of claim 1, wherein the sweat collector is wearable on the head of the user in association with protective headgear.

50. The sweat collector of claim 49, wherein the protective headgear comprises a helmet.

51. The sweat collector of claim 49, wherein the protective headgear is integrated with the protective headgear.

52. A sweat collector for wearing on a head of a user, the sweat collector being at least partly made of nonabsorbent material, the sweat collector comprising:

an inner side for contacting the head of the user, the inner side engaging a forehead of the user when the sweat collector is worn on the head of the user;

an outer side opposite the inner side for facing away from the head of the user; and
a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user, a width of the sweat-collecting recess being less than 2.6 mm.

53. A sweat collector for wearing on a head of a user, the sweat collector being at least partly made of nonabsorbent material, the sweat collector comprising:

an inner side for contacting the head of the user, the inner side engaging a forehead of the user when the sweat collector is worn on the head of the user, the inner side comprising a generally convex portion that is convex along a longitudinal axis of the sweat collector to be in sealing engagement with the head of the user;

an outer side opposite the inner side for facing away from the head of the user; and

a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user.

54. A sweat collector for wearing on a head of a user, the sweat collector being at least partly made of nonabsorbent material, the sweat collector comprising:

an inner side for contacting the head of the user, the inner side engaging a forehead of the user when the sweat collector is worn on the head of the user;

an outer side opposite the inner side for facing away from the head of the user; and

a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user;

the outer side comprising a sweat drip guide for guiding a flow direction of sweat outside of the sweat-collecting recess such that the sweat outside of the sweat-collecting recess falls away from the eyes of the user.

55. A sweat collector for wearing on a head of a user, the sweat collector being at least partly made of nonabsorbent material, the sweat collector comprising:

an inner side for contacting the head of the user, the inner side engaging a forehead of the user when the sweat collector is worn on the head of the user, the inner side comprising a sealing projection projecting towards the user for being in sealing engagement with the forehead of the user;

an outer side opposite the inner side for facing away from the head of the user; and

a sweat-collecting recess between the inner side and the outer side for collecting sweat from the head of the user to prevent the collected sweat from flowing into eyes of the user.

56-58. (canceled)

59. A liquid collector for mounting to an object, the liquid collector being at least partly made of nonabsorbent material, the liquid collector comprising:

an inner side for contacting the object;

an outer side opposite the inner side for facing away from the object; and

a liquid-collecting recess between the inner side and the outer side for collecting liquid from the object to prevent the collected liquid from running down an external surface of the object, the liquid-collecting recess being configured to retain the collected liquid by surface tension and adhesion.

60. The sweat collector of claim 28, wherein the sweat-collecting recess comprises an inner surface and an outer surface spaced apart and facing one another to define the width of the sweat-collecting recess.

61. The sweat collector of claim 52, wherein the sweat-collecting recess comprises an inner surface and an outer surface spaced apart and facing one another to define the width of the sweat-collecting recess.

62. The liquid collector of claim 59, wherein the object is a container.

63. The liquid collector of claim 62, wherein the container is a bottle.

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