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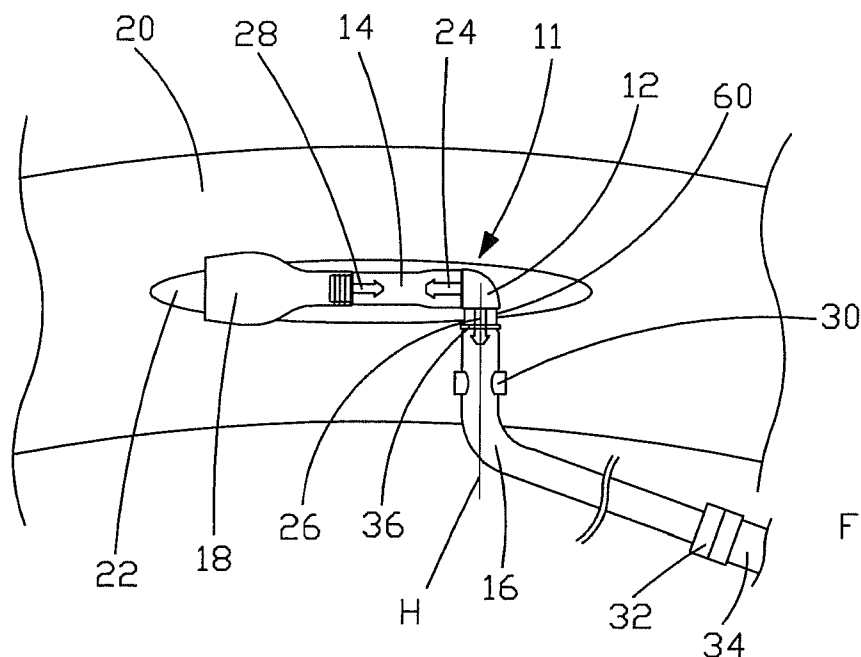


Fig. 1

(57) Abstract: A drinking device (11) placed internally in a headgear, comprises a first duct (16) suitable for extracting a liquid from a reservoir, a second duct (14) in fluid communication to the first duct (16), and from which the liquid can be drunk, and joining means (12) between the first duct (16) and the second duct (14) able to articulate said ducts.

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DRINKING DEVICE

The present invention relates to a drinking device for letting a rider drink while he/she is wearing a helmet, or mask or generally a headgear which covers the mouth (for example, a breathing mask or full face helmet - hereafter referred only as 'helmet'). In order to let the user drink, known crash helmets - to which we refer as an example - can be fitted with internally displaced ducts which, working as straws, have one end inside a tank from which a drink can be drawn, and the other end close to the user's mouth.

These ducts are commonly fitted inside the helmet near the chin rest; in these cases, when the helmet is worn, the end from which one can drink might poke the user's face or it might be too far from the mouth, thereby being annoying or distracting to use. US-A-6 758 213 discloses a drinking device mounted inside diver helmets, including ducts stiffly linked in series. The duct which is closest to the diver's mouth, is rigidly linked to the others by an L-bent joint. In order to bring the drinking duct nearer his/her mouth, the diver has to shift a rod attached to the duct by moving his nose.

It is clear that such a device requires a lot of effort and concentration to drink and it can be distracting if the person is performing a task at elevated speeds, such as motorcycling.

The main object of the invention is to provide a drinking device suitable for being positioned inside a helmet, which overcomes the cited prior art drawbacks.

Also, another object is assuring an easier way of drinking, without the need of using the hands.

These objects are achieved by a drinking device placed internally in a headgear, comprising:

- a first duct suitable for extracting a liquid from a reservoir;
- a second duct in fluid communication to the first duct and from which the liquid can be drunk, characterized by comprising joining means for joining the first duct and the second duct able to articulate (i.e. to permit a displacement of one with respect to the other) said ducts.

In preferred embodiments said joining means is able to rotatably articulate said ducts, such that the second duct can rotate about the first duct.

In preferred embodiments said means comprises a mechanical joint, wherein the joint may be an inexpensive 90° L-bend joint. Also, as another convenient solution, the first duct and the second duct may be joined by means of male-female structured ends thereof which permits relative rotation.

Suitable gaskets or waterproof sealing may be used whenever necessary.

Further advantages and characteristic features will emerge more clearly from the following description of a preferred embodiment of the invention, provided by way of example, with reference to the accompanying drawings, in which:

5 - fig. 1 is a front view from the helmet inside of a drinking device according to the invention;

- fig. 2 is an axonometric view of a part of the device shown in fig. 1.

With reference to the figures, a drinking device is indicated by 11 and comprises a first fixed duct 16 and a second displaceable (here rotatable) duct 14. The duct 14 is fastened to a chin bar 20 (for instance of a helmet) with a clip 30, and has an axis H at a straight end portion of its. An end of the duct 16 is joined to a tank (not shown in the drawings) which can be placed in the vehicle or in the rider's garment, so that the liquid contained in the tank can be aspirated. The other end of the duct 16 is connected to a L-bend joint 12, which is connected in its turn to the second rotatable duct 14.

15 The duct 14 includes at the free end a mouthpiece 18 (or drinking teat), from which the rider can drink by sucking the liquid.

The joint 12 comprises on the two ends respectively, a first barb connection 24 and a second barb connection 26, which allow a firm coupling with the two ducts 14, 16. Since the ducts 14, 16 are made preferably of elastic material (i.e. rubber), during the assembly of the device it is easy to insert entirely the barb connections into the ducts' ends. In order to facilitate the low friction rotation of the duct 14, the barb 26 is of a slightly narrower diameter. To improve the impermeability of the system a second constraining ring 36 is applied, which secures the first duct 16 on the first barb connection 26. The constraining ring 36 could be also used as a further fastening means to the helmet.

25 As shown in fig. 2, the duct 14, integral with the joint 12, can rotate around the axis H of the duct 16, according to the movement pointed out by the arrow F, in spite of the action of the ring 36. It may be appreciated indeed that the duct 14 rotates around the duct 16 while remaining substantially orthogonal to it thanks to the right-angled shape of the joint 12. The grip of the ring 36 is enough to waterproof the connection between the joint 12 and the first duct 16, but not to prevent their relative rotation.

30 When the helmet's user stops drinking, he can move the mouthpiece 18, by pushing it away with his tongue or lips as far as it is easily reachable and, in the meantime, it is not in the user's way or it does not bother him/her. In use the mouthpiece 18 may be rotated close to the mouth, since can be easily reached and brought inside the mouth by the tongue and/or the lips. It is to be noted - and this is an advantage of the invention - that this does not

require the user to occupy one of their hands to manoeuvre the drinking device into position. When not in use, the mouthpiece 18 (and the duct 14) may be replaced in a proper seat or cavity 22 provided on the internal side of the chin rest 20. Preferably, to increase comfort, the rotatable duct 14 and the corresponding seat 22 should be positioned such that they are in line with the user's lips.

The connection between the duct 16 and the reservoir (or an exit conduit 34 thereof) may be made by proper and known connection means 32 (i.e. a flanged joint or a quick release coupling). Thanks to these joining means 32 the user can quickly detach the duct 16 from the reservoir in order to take off the helmet or clean the device.

The device 11 can comprise a one-way valve (not shown in the figures), preferably near the mouthpiece 18 or inside it, so that the liquid can only flow from the tank to the mouthpiece 18. Thus the device user does not have to suck the liquid to make it run through the entire tube length. This solution has the effect to maintain a column of liquid in the ducts 14, 16, so that the user is not compelled every time to suck the liquid for the whole length of the ducts 14, 16 but only for a minor distance.

The joint 12 can be different from the L-bend type, being for instance a flexible sleeve or a waterproof spheric joint, being important the freedom of movement between a displaceable drinking duct and a fixed one. Advantageously, the joint is chosen such that the fixed duct may be easily fastened to the helmet/mask chin rest or interior, while the displaceable duct may rest in a horizontal or slightly upwards inclined position. In this way no dropping of liquid can occur.

The invention also includes a helmet, a mask or any kind of headgear which comprises the device 11. In this way new headgears can be produced having the feature of incorporating an efficient drinking device. The item according to the invention can integrate the drinking teat 18, the first displaceable duct 14 and the junction means 12 inside its structure (i.e. inside or mounted onto its chin rest or interior), so that only the fixed duct comes out of the helmet chin rest and is connectible to the reservoir. This solution improves interchangeability between different models of helmets having different drinking devices.

Also, known such items can be upgraded.

Optionally but advantageously such items may have a seat in the chin rest or the part in front of the mouth, so that said seat can house the displaceable duct for improved compactness and wearability. Hence, the invention clearly achieves its object since:

- it allows liquids to be consumed when wearing a helmet, without requiring the headgear/helmet to be manipulated by the hands or arms to obtain and expel the drinking

teat.

- it allows infinite adjustment of the drinking teat position such that: when not required the teat can be positioned with no contact with the user's face, and when required the teat is always close enough to pull into the mouth using the tongue.

Claims

1. Drinking device (11) placed internally in a headgear, comprising:

- a first duct (16) suitable for extracting a liquid from a reservoir;

- a second duct (14) in fluid communication to the first duct (16) and from which the liquid
5 can be drunk,

characterized by comprising joining means (12) between the first duct (16) and the second
duct (14) able to articulate said ducts.

2. Drinking device (11) according to Claim 1, wherein said joining means (12) is able to realize
a rotatable joint between said ducts, such that the second duct can rotate about the first duct.

10 3. Drinking device (11) according to Claim 2, wherein said means comprises a mechanical
joint (12).

4. Drinking device (11) according to Claim 3, wherein the joint (12) is a 90° L-bent joint.

5. Drinking device (11) according to claim 3, wherein the first duct (16) and the second duct
(14) are joined by means of male-female structured ends thereof which permits relative
15 rotation.

6. Drinking device (11) according to any one of Claims 3 to 5, wherein the joint comprises:

- a first barb connection (26) that can be coupled to the first duct (16);

- a second barb connection (24) that can be coupled to the second duct (14).

7. Drinking device (11) according to any one of the preceding Claims, wherein the free end of
20 the second duct (14) is joined to a mouthpiece (18).

8. Drinking device (11) according to any one of the preceding claims, comprising a one-way
valve for forcing the liquid to flow in the ducts (14, 16) in a single direction.

9. Drinking device (11) according to any one of the preceding Claims, comprising fastening
means for fastening the first duct to the item.

25 10. Headgear comprising a device (11) according to any one of claims 1 to 9.

11. Headgear according to claim 10, comprising a seat (22) suitable for housing the second
duct (14) when not in use.

12. Headgear according to claim 10 or 11, wherein the junction means (12) and the first duct
(16) are integrally mounted therein.
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