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J. W. WELSH

2,317,658

GOGGLES

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Fig. 1.

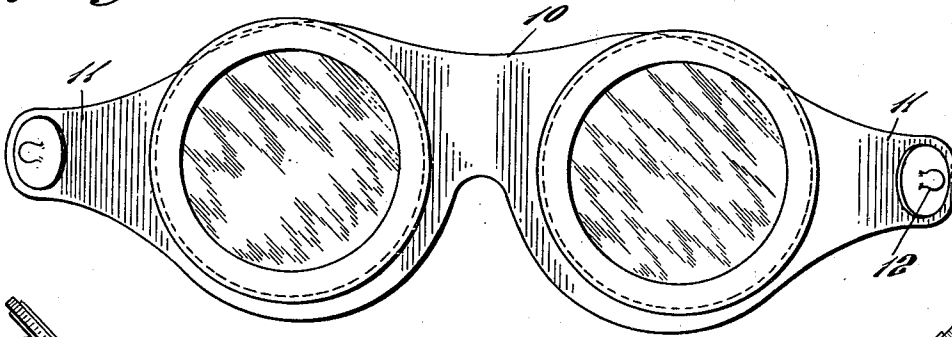


Fig. 2.

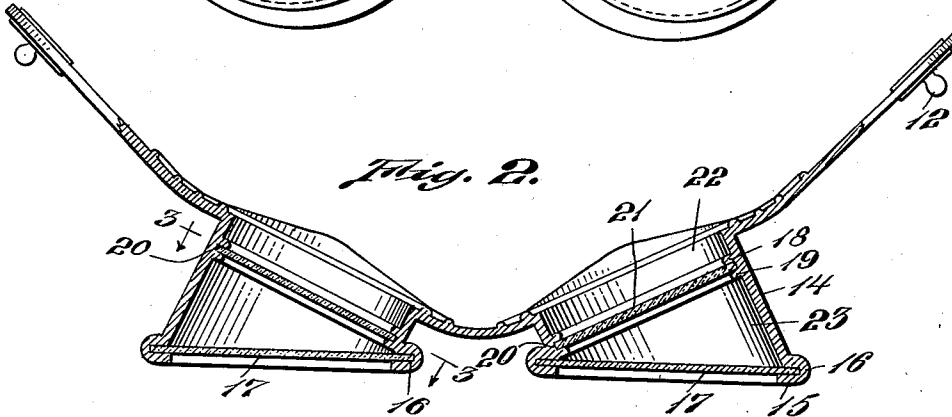
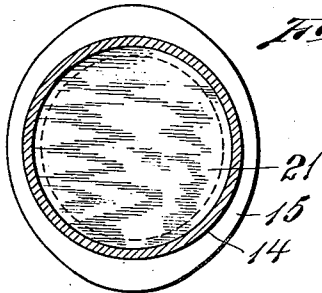


Fig. 3.



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UNITED STATES PATENT OFFICE

2,317,658

GOGGLES

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3 Claims. (Cl. 2—14)

This invention relates to goggles, more particularly to that type one uses when swimming.

In the use of goggles when swimming, the difference in the temperature of the water outside the window and the temperature of the air on the side of the window toward the eyes so chills the window that condensation of the moisture in the air occurs on the window within the air chamber, making use of the goggles difficult when swimming. To overcome this condition, a flange has been provided to retain some water in the eye chamber so that by rocking one's head, the water may be flowed across the lens for clearing the condensation or foginess which accumulates on the lens. This is a rather undesirable means of clearing the lens.

One of the objects of this invention is to provide a means for preventing foginess on the lens without the use of a liquid in the eye chamber.

Another object of the invention is to prevent the cold of the outside water from coming into contact with the window which is in direct contact with the heated air.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a front elevation;

Fig. 2 is a central sectional view;

Fig. 3 is a section on line 3—3 of Fig. 2.

This invention consists in providing a pair of windows spaced apart a sufficient distance so that the cooling of the outer window will not be transmitted to the inner window through the chamber between the windows and thus the inner window is kept sufficiently warm so as to prevent moisture condensation. In carrying out this invention, I space the windows a maximum distance apart so as to secure good heat insulation.

With reference more particularly to the drawing, 10 designates the body portion of the goggles, preferably formed of some moldable, elastic material such as rubber or "Duprene" with reduced portions 11 at the ends having a suitably attached strap (not shown) encircling the head and removably attached thereto such, for instance, as by means of snap fasteners, one member of which is designated 12, at each of the reduced ends 11 of the body.

At suitable locations in the body, which will be opposite the eyes of the wearer, the molded material extends outwardly to provide a pair of window-holding tubular portions 14 which are opposite each of the eyes and in open commu-

nication therewith. At the outer edge of each of the portions 14, the material extends inwardly as at 15, providing a flange and a groove 16 extending annularly about the tubular portion 14 and opening inwardly. The groove 16 is of a dimension slightly less than the thickness of the window 17 which is inserted therein, and thus, when this window, which is removable, is inserted into the groove 16 to be embraced by the elastic material, it stretches the elastic material slightly so as to be firmly held in position in this groove.

At a location inwardly from this outer groove 16, I have provided ribs 18 and 19 in spaced relation to provide a groove 20 which is also of slightly smaller dimension than the window 21 which is to be inserted therein so that when this window 21 is inserted in the groove to be embraced by the elastic material, it is firmly bound at its edges by the elastic material to be securely held in position.

I place the groove 20 for holding the window 21 at a location so that it will just clear the eyebrows which will be accommodated in the space 22 at the inner edge of each of the portions so as to provide as large a chamber 23 as practical for providing the insulating air space between the windows, thus spacing the windows 17 and 21 a maximum distance apart so that the warm air in the chamber 22 cannot be readily cooled by the water which contacts with the window 17 as the window is spaced a considerable distance therefrom and cooling due to transmission of cold through the chamber 23 is thus retarded.

The tubular members 14 have the wall on the side distant from the nasal edges of a greater extent than the wall nearer the nasal edges so that the windows 17 may be placed at right angles to the line of vision to diminish distortion from refraction and while in some instances I might place the windows 21 parallel to the windows 17, I find that by placing the windows 21 at an angle to the windows 17, I increase the chamber 23 without the necessity of further building outwardly the tubular portion 14 and thus, by this angular relation of the two windows greater insulation by the increased chamber is provided to prevent fogging of the windows due to difference of temperatures on the distal sides of the two windows.

By this arrangement above set forth, a goggle is provided which will not fog in the normal use to which it is put as the space of the lenses is such as to prevent transmission of the cold during the time that the same is in use.

I claim:

1. In goggles, a flexible rubber body portion for engaging the face about the eyes, a pair of spaced, tubular, window-holding portions on said body with the axes thereof converging inwardly towards each other when the goggles are properly fitted to the face of the wearer about the eyes forming chambers adapted to be placed in open communication with the eyes, and a transparent sight window carried by each of said window-holding portions, each window having an integral outwardly-facing portion the surface of which in use is arranged to be in alignment with that of the other in a direction longitudinally of the goggles on a plane extending transversely across the front of the face and disposed at right angles to the normal line of sight of the eyes when the goggles are in position on the face of the wearer about the eyes, and a second window in each tubular portion located inwardly in spaced relation to the outer window, and with the inner window in each positioned at an angle to the outer window therein in a manner so as to approach each other towards the nasal portion of the goggles.

2. In goggles, a flexible rubber body portion for engaging the face about the eyes, a pair of spaced, tubular, window-holding portions on said body forming chambers adapted to be placed in open communication with the eyes, a transparent sight window carried by each of said window-holding

portions, each window having an integral outwardly-facing portion the surface of which in use is arranged to be in alignment with that of the other in a direction longitudinally of the goggles on a plane extending transversely across the front of the face and disposed at right angles to the normal line of sight of the eyes when the goggles are properly fitted to the face of the wearer about the eyes, and a second window in each tubular portion at an angle to the first said window and approaching each other at the nasal side of the windows, said windows being spaced from each other a distance to provide a chamber of considerable volume between said windows.

3. In goggles, a flexible body portion for engaging the face about the eyes, a pair of spaced, tubular, window-holding portions extending outwardly from the body forming chambers adapted to be placed in open communication with the eyes, and a pair of spaced transparent sight windows in each tubular portion, positioned at an angle to each other and with the plane of the surfaces of the windows approaching each other at the nasal side of the lens, said windows being spaced sufficiently to minimize moisture condensation during normal use and one of each pair of said windows when in use being in a plane at right angles to the normal line of sight of the eyes when the goggles are positioned on the face of the wearer.

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