

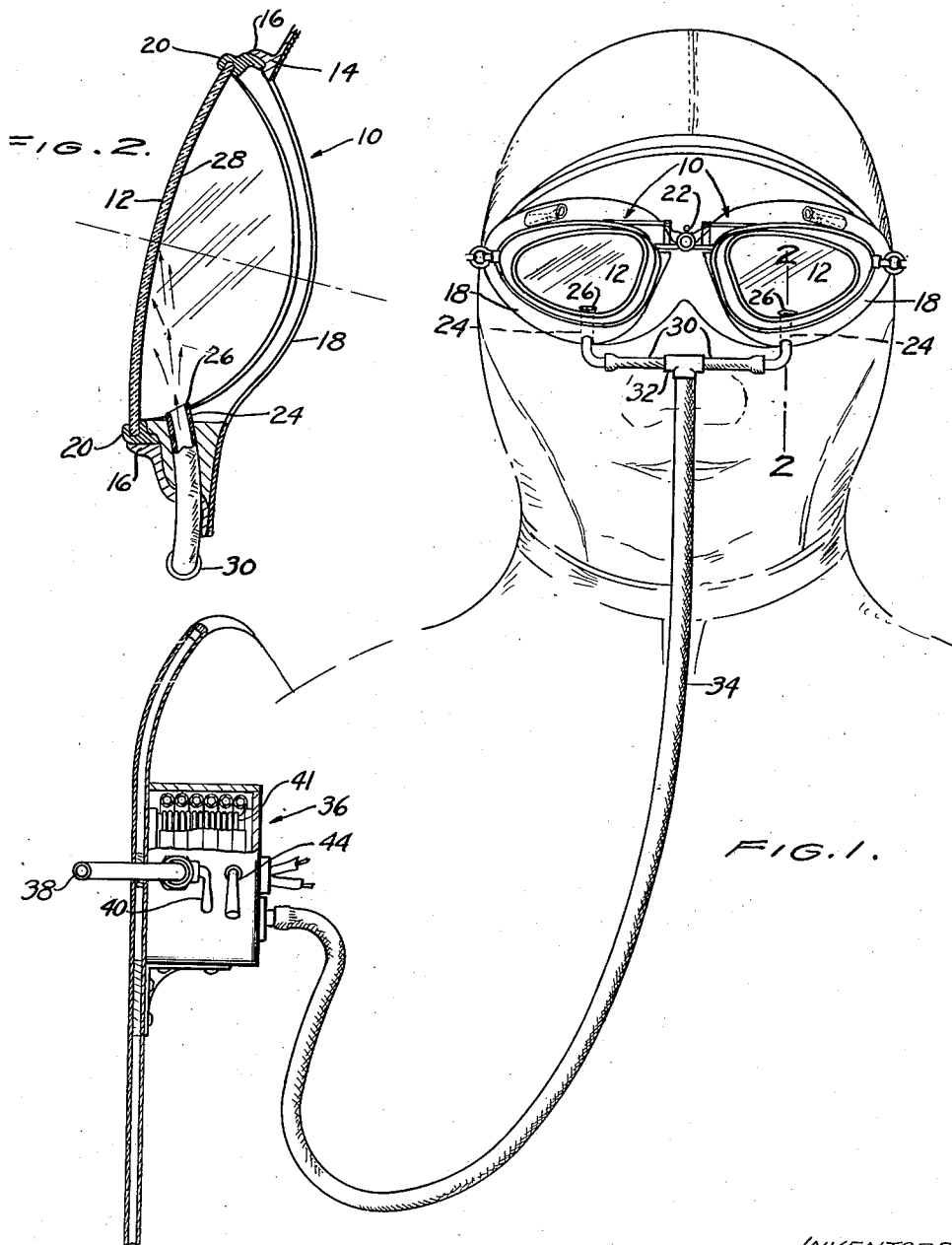
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GOGGLES

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GOGGLES

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4 Claims. (Cl. 2—14)

The present invention relates generally to goggles and more particularly to a goggle assembly for aviators or the like that is non-frosting and non-fogging in character.

Considerable difficulty has been experienced in goggles when worn in an aircraft during flight through lack of proper eye protection, due to many causes. Possibly the greatest impediment to an aviator when using goggles is that resulting from frosting or fogging of the lenses due to moisture laden air about the eyes resulting from atmospheric and other conditions. Therefore, in order to overcome the above and other obstacles incident to the use of goggles, we have devised a novel goggle assembly capable of efficiently dispelling moisture about the eyes thus rendering the goggle non-frosting or non-fogging in character, regardless of atmospheric conditions.

A further object of the present invention is to provide a goggle having means for the circulation of air over the inner face of the lens in order to prevent the formation of fog, ice, or moisture on the lens.

A still further object of the present invention is to provide a goggle having a means for warming the air circulated over the inner face of the lens and incorporating means for regulating the humidity and temperature of the circulated air and thereby add materially to the comfort of the aviator.

A specific object of the present invention is to provide a vent or entrance tube through which air may be forced into the surface between the lens and the face, at slightly above atmospheric pressure, said tube being so positioned with respect to the inner lens surface of the goggle as to effect an efficient diffusion of the warming air over the surface of the lens.

With these and other objects in view the invention consists in the various details and construction as more particularly described hereinafter and as illustrated in the accompanying drawing in which:

Fig. 1 is a front elevation of the goggles in place on the wearer's face and method of attachment to the heating unit which is mounted on the aircraft, and

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Referring more particularly to the drawing wherein corresponding parts are designated by like numerals, the improved goggle generally comprises a pair of eye cups 10 each carrying a lens 12. Each eye cup comprises a frame 14 having a flanged seating portion 16 for receiving

a resilient face contacting member 18, made preferably of soft rubber. The face contacting member 18 is provided with an outer flanged seat 20 for receiving the lens 12. The eye cups 10 are secured to one another by a bridge piece 22. Each eye cup carries at its lower end a tubular member 24, the inner or outlet ends 26 of which are projected above the lens frame 14 on the inner sides of each lens 12 and disposed at such an angle that air leaving the outlet ends of the tube is deflected towards the optical axis of the lens and against the inner lens surfaces 28 thereby rapidly diffusing the incoming air over the inner surface of each lens. These tubular members are in operative communication with one another by means of a flexible tubular conduit 30, of rubber or other suitable material having a T-connection 32 intermediate its ends. A main air conduit 34 preferably of rubber is suitably connected at its one end to the T connection 32, and at its opposite end to an air conditioning unit generally indicated by the numeral 36, which may be mounted in suitable position within the cockpit of the aircraft. Connected to the unit is an air scoop 38 which is extended through the wall of the fuselage and faced into the slipstream. By means of this arrangement, air entering the scoop 38 is forced through the conditioning unit, thence through the flexible conduit 34 and into the space between the eyes and the inner surface of each lens 12 at slightly above atmospheric pressure. A valve or manually operated shut-off cock 40 may be inserted between the scoop 38 and the main conduit 34 to control the amount of air passing into the goggles. Any suitable heating means such as the heat from the exhaust of the engine, the radiator, oil cooler or the like (not shown) may be employed for warming the air entering the goggles to give added comfort to the wearer as well as to aid in dissipating the presence of moisture in the goggle. In the present instance however we find it desirable to warm the incoming air by a conventional electric heating element 41 which may be suitably housed within the unit 36 and adapted for electrical energy such, for example, as the battery of the aircraft. The heating of this element may be controlled by means of a switch 44 conveniently mounted on the conditioning unit 36.

While we have illustrated and described the foregoing precise and preferred embodiment of our invention, it is apparent that changes in the details of construction and operation thereof may occur, and it is therefore not our intention to confine our invention to such an embodiment,

but to limit the same only to such an extent as will fall within the scope of the broadest interpretation of the appended claims.

Having thus described our invention, what we claim is:

- 5 1. In a device of the class described, an eye cup frame having an outlet opening, a resilient face engaging member for said eye cup frame, an optical lens mounted in said eye cup frame
- 10 means including a heating element for supplying warmed air under pressure into the space rearward of said optical lens and inlet means carried by said eye cup frame for deflecting said incoming air toward the optical axis of said lens.
- 15 2. In a device of the class described, an eye cup frame having an outlet opening, a resilient face engaging member for said eye cup frame, an optical lens in said eye cup frame means remotely disposed with respect to said eye cup frame and
- 20 including a heating element for supplying warm air under pressure into the space rearward of said lens and inlet means carried by said eye cup frame and having operative communications with said first mentioned means for deflecting said
- 25 incoming air toward and surrounding the optical axis of said lens.
- 30 3. In a device of the class described, an eye cup frame having an outlet opening, a resilient face engaging member carried by said eye cup frame and providing a confining chamber for the eye,

an optical lens mounted in said eye cup frame means remotely disposed with respect to said eye cup frame and including a heating element for supplying warm air under pressure into the confining space rearward of said lens and a tube mounted in the lower position from eye cup frame and communicating with the space between said optical lens and the eyes of the wearer said tube being angularly disposed in said frame whereby the entering air is deflected towards the optical axis of the lens and its adjacent surface portions.

4. In a device of the class described, an eye cup frame having an outlet opening, a resilient face engaging member carried by said eye cup frame and providing a confining chamber for the eye, an optical lens mounted in said eye cup frame, controllable means for supplying air at a desired pressure and temperature into the confining space rearward of said optical lens, said last mentioned means comprising a casing, an air admission conduit of coil form in said casing adapted for receiving air therein under pressure, and a heating element adjacent the coils of said conduit for warming the air passing through said conduit and means for deflecting said incoming air toward a predetermined position of the inner surface of said optical lens.

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