Oct. 21, 1930. N. M. BAKER 1,779,155

OPHTHALMIC MOUNTING

Filed Sept. 28, 1928

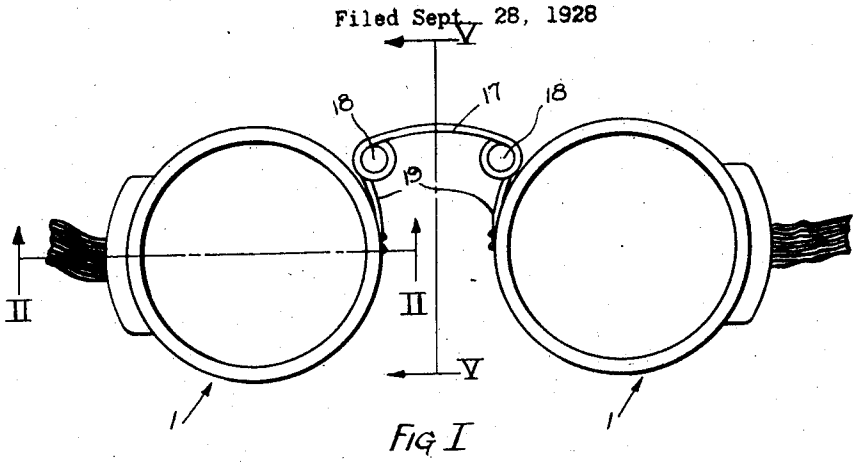


FIG I

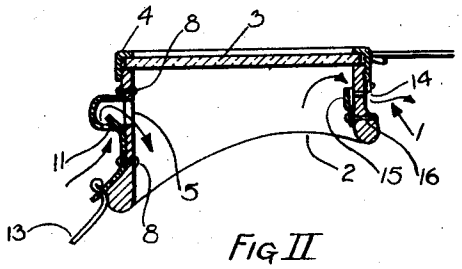


FIG II

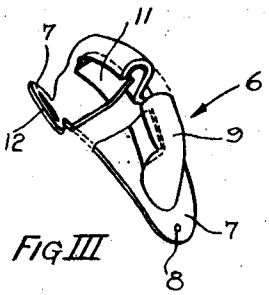


FIG III

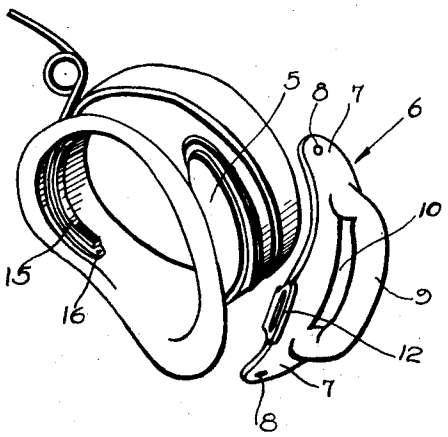


FIG IV

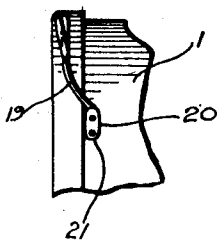


FIG V

Inventor

NELSON. M. BAKER

By Harry A. Stull.

Attorney

Patented Oct. 21, 1930 1,779,155

UNITED STATES PATENT OFFICE

NELSON M. BAKER, OF SOUTHBRIDGE, MASSACHUSETTS, ASSIGNOR TO AMERICAN OPTICAL COMPANY, OF SOUTHBRIDGE, MASSACHUSETTS, A VOLUNTARY ASSOCIATION OF MASSACHUSETTS

OPHTHALMIC MOUNTING

Application filed September 28, 1928. Serial No. 309,037.

This invention relates to improvements in ophthalmic mountings and has particular reference to improvements in ventilation of an eye protection goggle.

The principal object of the invention is to provide an improved ventilation cap for devices of this nature.

Another object of the invention is to provide a simple, inexpensive and efficient ventilation cap cupped up from one piece of material.

Another object of the invention is to provide an improved ventilation cap for a device of this character made in one piece with provisions for ventilation openings and baffles to direct the direction of the air currents.

Another object of the invention is to provide improved means for entrance and exhaust ventilation in an eye cup of a device of this character.

Another object of the invention is to provide improved means for connecting the eye cups so that they may be readily adjusted to various pupillary distances.

Another object of the invention is to provide improved means for directing the air currents into and out of the eye cups of a device of this character for the proper ventilation thereof.

Other objects and advantages of the invention will become apparent from the following description taken in connection with the accompanying drawings and it will be apparent that many changes may be made in the details of construction and arrangement of parts without departing from the spirit of the invention as expressed in the accompanying claims. I, therefore, do not wish to be limited to the exact arrangements shown and described as the preferred forms only have been shown by way of illustration.

Referring to the drawings:

Fig. I is a front view of an ophthalmic mounting embodying the invention;

Fig. II is a cross section on line II—II of Fig. I;

Fig. III is a perspective view of the ventilation cap, a portion of which is broken away;

Fig. IV is a perspective view of the eye cup and ventilation cap showing the cap separated from the eye cup;

Fig. V is a view taken on line V—V of Fig. I looking in the direction of the arrows.

It has been found from experience in the use of protection goggles and the like embodying closed protective eye cups that the ventilation of the same forms a most important feature of the device. This is particularly true in those cases where the protection goggles are used to protect the eye against intense heat, such as in the case of welding and the like. It has been found too that not only is it necessary to provide ventilation openings into the eye cup but that the direction of the currents of the air play an important part and that there must be features determining the direction in which the air enters the eye cup and is exhausted therefrom. In the past in the attempt to provide efficient answers to these questions separate features have been provided to take care of the various elements, for instance, the ventilation opening in the eye cup, the ventilation opening in the ventilation cap, the arrangement of baffles or directional plates in connection with the opening in the cup and in the cap, the type of opening required on the temple side and the type of opening required on the nasal side of the eye cup, etc. It was found that where separate members or features were brought together to take care of these various devices they were not only expensive to make and fit, but that there was a tendency of their getting loose and out of order. It is, therefore, one of the prime objects of my invention to provide a unitary construction as far as possible to embody these various features, making the same less expensive to manufacture and more durable and lasting in operation. In connection with this feature I have provided means for connecting the eye cups that may be readily adjusted without detachment to the pupillary distance of various wearers.

Referring to the drawings in which similar reference characters denote corresponding parts throughout, the invention comprises the pair of eye cups 1 having a contoured edge 2 to fit the face, a seat for the lens 3

and a screw retaining ring 4 holding the lens in place on the eye cup. This eye cup 1 is preferably made of some non-heat conducting material such as hard rubber, bakelite or similar composition, although for some purposes they may be made of metal or other material. On the temporal side of the eye cup I cut the ventilation opening 5 and over this opening I fit an integral ventilation cap or cup member 6. This ventilation cap 6 has the flange 7 which fits the outer side of the eye cup 2 over the opening 5, being secured thereto by the rivets 8 or other similar holding devices. From the flanged portion 7 there arises a cup portion 9 having a ventilation opening 10 and the baffle portion 11 extending into the interior of the cup. The baffle plate 11 is made by cutting on three sides for the opening 10 and bending in the lip into the ventilation cup to form the baffle plate. This one cutting forms the ventilation opening and also the baffle plate. It will be understood that the ventilation cup member is cupped up from a thin sheet of metal or similar material.

It will be noted in Fig. II that the direction of the baffle plate is outwardly from the opening 5, thus causing the air coming through the opening 10 to be deflected outwardly, then striking the interior walls of the ventilation cup and being deflected into the eye cup through the opening 5. The flange portion 7 of the ventilation cap 6 has an opening 12 through which is passed the headband 13 for holding the goggles in place on the face, the headband being sewed into the opening 12 or knotted as desired to keep it from coming out of place.

On the nasal side of the eye cup 1 is placed a series of holes or openings 14 over which is placed the bent baffle plate 15 held in place by the rivets or like fasteners 16. The two eye cups 1 are secured together by a bridge 17 preferably of ductile material having the intermediate loops 18 and the depending portions 19 terminating in the foot 20 which is secured to the walls of the eye cup by the rivets or the like 21.

The operation of the device is as follows: Air is admitted on the temporal side through the opening 10 in the ventilation cap 6, being deflected by the baffle plate 11. The air is exhausted through the openings 14 on the nasal side, being deflected around by the baffle plate 15. The goggle is held in place on the face by means of the headband 13 which is held in the openings 12 of the cap member 6. The bridge member 17 may be adjusted by bending through the loops 18 to increase or decrease the distance between the centers of the eye cup, thus regulating the pupillary distance of the goggle for various wearers. The lens 3 is inserted in place on the end of the eye cup and the screw ring 4 screwed in place thereon to hold the lens in place.

It will be understood that the ventilation cap is a one piece construction stamped or cupped up from a thin piece of sheet metal or similar material.

From the foregoing it will be seen that I have provided a simple, inexpensive ventilation cap means integrally made so that the various fittings will not become loosened or get out of place and that I have provided simple and efficient means for holding the eye cups together so that the distance between their centers may be regulated without removal of parts. It will also be seen that I have provided simple, efficient and economical means for carrying out all the objects of the invention.

Having described my invention, I claim:

1. In a device of the character described in combination with an eye cup having an orifice through its walls, a ventilation cap comprising a cup portion having a slit in one side of the cup, a portion of the slit being pressed into the cup to provide entrance for air between the cut edge and the pressed in portion, the pressed in portion forming a baffle plate to deflect entering air towards the outer side of the cup, a flange surrounding the cup portion and overlying the edges of the orifice in the eye cup, and means for securing the flange portion to the outer side of the eye cup.

2. In a device of the character described in combination with an eye cup having an orifice through its walls, a ventilation cap comprising in one integral piece a cup portion having a slit in one side of the cup, a portion of the slit being pressed into the cup to provide entrance for air between the cut edge and the pressed in portion, the pressed in portion forming a baffle plate to deflect the entering air towards the outer side of the cup, a flange surrounding the cup portion and overlying the edges of the orifice in the eye cup, and means for securing the flange portion to the outer side of the eye cup.

3. In a device of the character described for use in connection with an eye cup having an orifice through its walls, an integral ventilation cap comprising a cup portion having a slit in one side of the cup, a portion of said slit being pressed into the cup to provide an entrance for air between the cut edge and the pressed in portion, the pressed in portion forming a baffle plate to deflect air entering towards the outer side of the cup, and a flange surrounding the cup portion and adapted to overlie the edges of the orifice in the eye cup.

NELSON M. BAKER.