

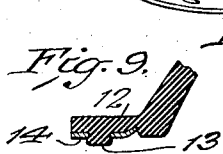
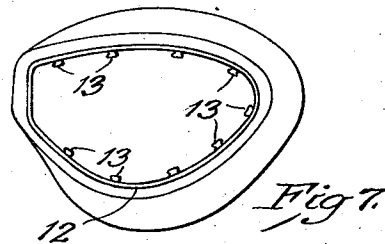
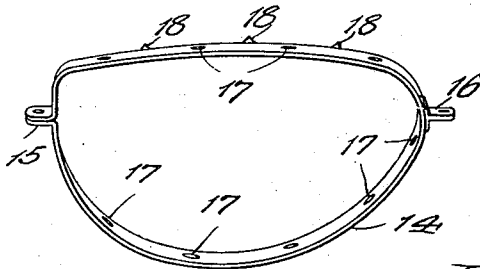
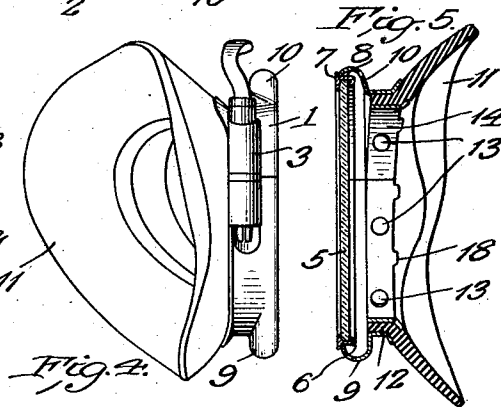
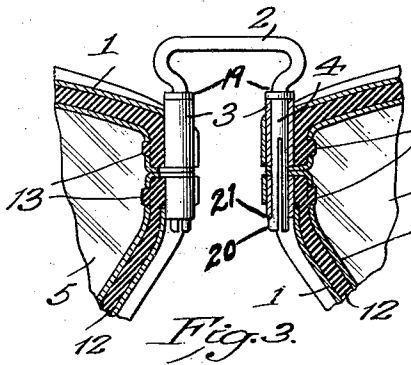
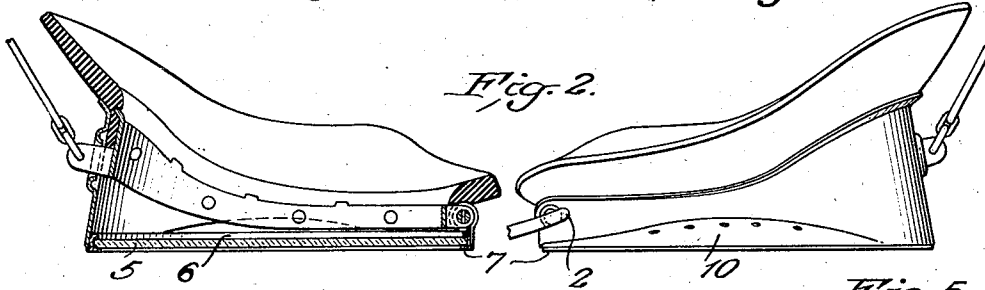
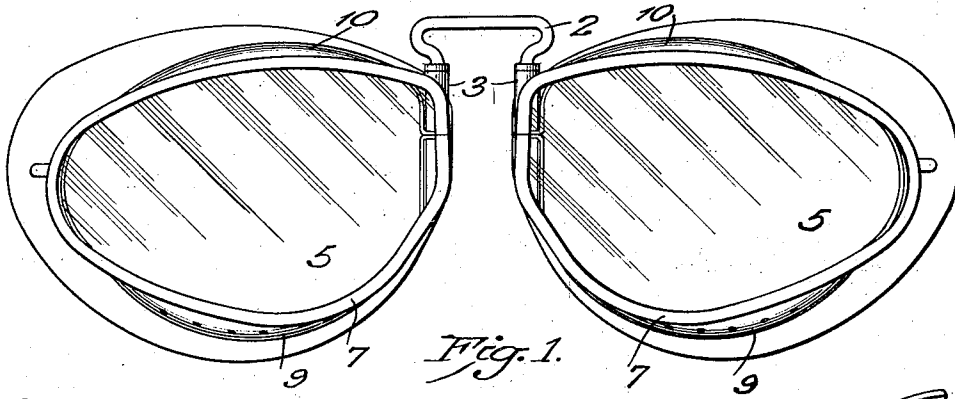
**April 12, 1932.**

E. B. MEYROWITZ

**1,853,873**

GOGGLES

Filed May 5, 1931



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# UNITED STATES PATENT OFFICE

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## GOGGLES

Application filed May 5, 1931. Serial No. 535,121.

My invention relates to goggles and especially to that type of goggle which is serviceable in aviation and kindred uses. In certain respects my invention relates particularly to that type of goggle having eyecups that are split transversely and which flexes in their own plane to permit the insertion and withdrawal of the lens. An object of my invention is to provide an improved construction for uniting the eyecup and bridge member. Another object of my invention is to provide an improved construction for locking the goggles in a closed position. Another object of my invention is to provide a construction in which the locking means for locking the goggle in the closed position may be utilized to secure the cushion in place with respect to the goggle. A further object of my invention is to provide an eyecup for a goggle which may be properly ventilated.

In accordance with my invention, I provide a goggle in which the eyecups are provided with bearing sockets for the legs of the bridge member. The sockets are split transversely through the bearing socket so that the bearing socket of each eyecup is in two sections, one section on either side of the transverse split in the eyecup. The leg of the bridge member is adapted to expand transversely and cooperates with the bearing sockets to secure the bridge to the eyecup and to maintain the eyecup in the closed position. Specifically, the bearing sockets of the eyecups are at the nasal end of the eyecups and are adapted to receive the legs of a bridge member which secures the eyecups together. The legs of the bridge member are so constructed that they expand transversely and when in position in the bearing sockets, and the eyecups are closed, the legs expand transversely and secure the eyecups in the closed position.

Another phase of my invention relates to the cushions and the reinforcing bands therefor. The cushions, one of which is used in conjunction with each eyecup, are molded to form a seat for the eyecups, and an outwardly extending lip which extends into the eyecup. On the inner surface of the lip, there is formed a series of projections or but-

tons which are integral with the cushion. These buttons are adapted to engage openings in a reinforcing band to secure the lip of the cushion to the reinforcing band. The reinforcing band is also provided with pointed projections which pierce the cushion and cooperate with the buttons in holding the cushion to the band.

The invention also contemplates a construction providing an improved securing means for securing the reinforcing band of the cushion to the eyecup. The reinforcing band has lugs formed at each end, one at the temple end and one at the nasal end. One of these lugs is provided with an opening, and is adapted to extend between the sections of the bearing socket on the eyecup, the opening through the lug being aligned with the bearing socket so that the element passing through the bearing socket passes through the lug. The other lug on the reinforcing band passes through an opening through the eyecup so that the reinforcing band is secured to the eyecup at two points.

Another feature of my invention resides in the provision of means to ventilate the eyecups. The eyecups are provided with raised hollow portions at the top and bottom thereof. These raised hollow portions extend back beyond the lens so as to form a passage between the lens and the edge of the cushion. The forward wall of the lower hollow portion is provided with a series of small openings and the rear wall of the upper raised hollow portion is also provided with a series of small openings. Thus, as the wearer of the goggles moves along, air enters through the lower hollow raised portion, moves along the inner surface of the goggles and out through the upper raised hollow portion.

Other features and advantages of my invention will be apparent from the following particular description of an embodiment thereof which is illustrated in the accompanying drawings in which:

Fig. 1 is a front elevation of a pair of goggles constructed in accordance with my invention;

Fig. 2 is a plan of the same with one of the eyecups in section;

Fig. 3 is an enlarged fragmentary transverse section;

Fig. 4 is an end elevation of one of the eyecups, illustrating the nasal end of the eyecup;

Fig. 5 is a longitudinal section of the same;

Fig. 6 is a perspective of the reinforcing band;

Fig. 7 is a front elevation of the cushion;

Fig. 8 is a plan of the same; and

Fig. 9 is an enlarged fragmentary section showing the connection between the cushion and the reinforcing band.

In the goggles shown in the drawings, the eyecups 1 are connected together by a bridge member 2 and are identical, with the exception that one is reversed with respect to the other. Each eyecup is provided with a bearing socket 3 formed in the eyecup wall at the nasal end and adapted to receive the legs 4 of the bridge member. The eyecup is split transversely through the bearing socket, dividing the bearing socket into two sections, one on either side of the transverse split. The transverse split in the eyecup permits flexing of the eyecup to insert and remove the lens 5. The lens is mounted in a frame 6 which has an outer flange 7 that abuts against the outer edge of the eyecup, and an inwardly extending flange 8 which is beaded over the edge of the lens at the inner end. This frame member is clamped by the eyecup when the eyecup is in the closed position and is retained in the eyecup by the clamping action thereof.

At the bottom and top of the eyecup, there is provided raised hollow portions 9 and 10 respectively. As clearly shown in Fig. 5, these raised hollow portions extend a substantial distance behind the lens so as to form a passage between the rear wall of the hollow portion and the lens, which passage opens into the eyecup. The forward wall of the lower raised hollow portion is provided with a series of small openings which are adapted to permit air to enter the raised hollow portion. The rear wall of the upper raised hollow portion is likewise provided with a series of small openings which are adapted to permit air to be exhausted from the eyecup. Thus, air may enter through openings in the forward wall of the lower raised portion and, by virtue of the curvature of the rear wall of the hollow portion, the air is directed along the surface of the lens to the upper raised hollow portion from which it is exhausted through the openings in the rear wall thereof. Air, passing through the eyecup in this manner, serves to prevent the formation of a mist on the lens of the goggle, which would impair the visibility of the wearer.

Each eyecup is provided with a cushion 11, and as shown in Figs. 7 and 8, the cushion, which is of soft rubber, is molded to form a

seat for the eyecup which fits snugly against the eyecup, and an outwardly extending, circumferential lip 12 which extends into the eyecup and engages the inner surface thereof. On the inner surface of the lip 12, there is formed a series of projections or buttons 13. These buttons are also molded and are integral with the lip of the cushion. The buttons on the inner surface of the lip of the cushion are adapted to cooperate with openings in a reinforcing band 14 to hold the lip of the cushion to the reinforcing band.

The reinforcing band is made from a single piece of sheet metal and is pressed into the shape of the inner surface of the eyecup. The ends of the strip of metal from which the band is constructed are brought together at the nasal end of the reinforcing band and are bent laterally thereto and form a lateral lug 15. Diametrically opposite to lug 15, at the temple end of the band, there is a lug 16 secured to the outer surface of the reinforcing band. The reinforcing band is provided with a series of openings 17 corresponding to the buttons on the inner surface of the lip 12 of the cushion. These openings are slightly smaller in diameter than the head of the buttons which are adapted to be pressed through these openings to secure the cushion to the band. In addition to the button connection between the band and the lip of the cushion, the band is also provided with a series of inclined pointed projections 18 at the rear edge thereof which extend into the cushion and serve to aid in preventing longitudinal movement of the cushion with respect to the reinforcing band. The lugs at the temple and nasal ends of the reinforcing band extend through the lip of the cushion and are provided with openings for a purpose which will hereinafter appear.

The lug 16 on the reinforcing band at the temple end is adapted to extend through an opening formed through the wall of the eyecup and the lug 15 at the nasal end is adapted to extend into the transverse split at the nasal end of the eyecup, between the sections of the bearing socket on either side of the split. The opening through the lug 15 is adapted to be aligned with the bearing socket so that the leg of the bridge member passes through the lug when the bridge member is in position, and serves to lock the nasal end of the reinforcing band in position in the eyecup. The opening through the lug 16 at the temple end of the eyecup is adapted to receive a connector for a head-band. Thus, the reinforcing band is secured to the eyecup at two points, the nasal end and the temple end, and holds the cushion firmly in place.

The legs 4 of the bridge member are split longitudinally to permit the legs to expand and contract transversely. At the upper end, they are provided with integral collars 19 which abut against the upper edges of the

walls of the bearing sockets to limit the inward movement of the legs, and at one side of the lower end of each leg member there is formed a lateral projection 20 which forms a shoulder 21. The leg member is such that when the projection 20 on the end thereof is within the bearing socket, the leg member is contracted transversely and as the projection 20 passes out of the bearing sockets, the leg expands and the shoulder 21 engages the lower edge of the wall of the bearing sockets, locking the eyecup in the closed position. The eyecup may be opened by contracting the end of, and withdrawing the leg member. Thus the bridge member serves to lock the eyecups in the closed position.

It is obvious that various changes may be made in the details of the embodiment described above by those skilled in the art within the spirit and scope of my invention as expressed in the appended claims.

I claim:

1. In a goggle, in combination, a bridge member including a cross piece and a leg member at an angle to the cross piece and adapted to expand transversely, an eyecup having a bearing socket for the leg of the bridge member and being split transversely thereof at the nasal end through the bearing socket, a shoulder on the leg of the bridge member adjacent the cross piece adapted to abut against one end of the bearing socket to limit the inward movement of the leg member, and a shoulder on the leg member adjacent the free end thereof and adapted upon expansion of the leg member to engage the opposite end of the bearing socket.

2. In a goggle, in combination, a bridge member including a cross piece and a leg member at an angle to the cross piece, said leg member being split longitudinally forming resilient arms, an eyecup having a bearing socket for the leg of the bridge member and being split transversely thereof at the nasal end through the bearing socket, a shoulder on the leg of the bridge member adjacent the cross piece and adapted to abut against the end of the walls of the bearing socket to limit the inward movement of the leg member, and a shoulder on the leg member adjacent the free end thereof adapted to engage the other end of the wall of the bearing socket when the eyecup is closed.

3. In a goggle, in combination, an eyecup having a nasal and temple end and an opening therethrough at one end and being split transversely thereof at the other end, a reinforcing band for a cushion adapted to fit within the eyecup, a lug on one end of the reinforcing band adapted to extend through the opening through the eyecup, and means for securing the opposite end of the reinforcing band in the transverse split of the eyecup.

4. In a goggle, in combination, an eyecup having a nasal and temple end and an open-

ing therethrough at one end, the eyecup having a socket at the other end and being split transversely through the socket, a reinforcing band for a cushion, a lug on one end of the reinforcing band adapted to extend through the opening through the eyecup, a lug on the other end of the eyecup having an opening therethrough adapted to be aligned with the bearing socket between the sections thereof on either side of the transverse split in the eyecup, and means adapted to extend through the bearing socket and the lug and lock the eyecup in the closed position.

5. In a goggle, in combination, a bridge member including a cross piece and a leg member adapted to expand transversely, an eyecup having a bearing socket at the nasal end adapted to receive the leg of the bridge member and an opening therethrough at the temple end, the eyecup being split transversely thereof through the bearing socket, a reinforcing band for a cushion adapted to fit within the eyecup, a lug on the temple end of the reinforcing band adapted to extend through the opening through the temple end of the eyecup, a lug on the nasal end of the reinforcing band having an opening therethrough adapted to be received between the sections of the bearing socket on either side of the transverse split with the opening therethrough aligned with the bearing socket, a shoulder on the leg member adjacent the cross piece adapted to abut against the end of the wall of the bearing socket, and another shoulder on the leg member adjacent the free end thereof for engaging the other end of the wall of the bearing socket when the eyecup is closed.

6. In a goggle, in combination, a soft rubber cushion, an outwardly extending lip on the cushion, buttons formed on the surface of the outwardly extending lip, and a reinforcing band for the lip of the cushion having openings therethrough adapted to receive the buttons formed on the surface of the lip of the cushion.

7. In a goggle, in combination, a soft rubber cushion, an outwardly extending lip on the cushion, buttons formed on the inner surface of the lip, a reinforcing band engaging the inner surface of the lip and having openings therethrough for the buttons, and a series of pointed projections on the edge of the reinforcing band extending into the cushion.

8. A reinforcing band for the lip of a goggle cushion comprising a sheet metal band adapted to reinforce the lip of a cushion, and a series of pointed projections on the reinforcing band adapted to extend into the cushion for securing the cushion to the band.

9. A reinforcing band for the lip of a goggle cushion comprising a sheet metal band adapted to reinforce the lip of a cushion, and a series of pointed projections on the edge of

the reinforcing band adapted to extend into the cushion for securing the cushion to the band.

10. A reinforcing band for the lip of a  
5 goggle constructed from a single piece of sheet metal and comprising a band adapted to lie against the lip of a cushion and reinforce the same, and a series of pointed projections on the edge of the reinforcing band  
10 adapted to extend into the cushion for securing the cushion to the reinforcing band.

11. In a goggle, in combination, an eyecup, a flexible cushion, an outwardly extending lip on the cushion extending into the eyecup, a reinforcing band for the lip of the  
15 cushion including a sheet metal band in contact with the inner surface of the lip of the cushion, and a series of pointed projections on said band extending into the cushion for  
20 securing the cushion to the reinforcing band.

12. In a goggle, in combination an eyecup, a soft rubber cushion having an outwardly extending lip extending into the eyecup, the radially outer surface of the lip of the cushion contacting with the inner surface of the  
25 eyecup, a reinforcing band for the lip of the cushion including a flexible sheet metal band in contact with the radially inner surface of the lip of the cushion, and a series of pointed  
30 projections extending from the outer edge of the reinforcing band and into the cushion for securing the cushion to the reinforcing band.

13. In a goggle, in combination, a bridge  
35 member including a cross piece and a leg member at an angle to the cross piece adapted to expand transversely, an eyecup having a bearing socket for the leg of the bridge member, an abutment on the leg of  
40 the bridge member adjacent the cross piece adapted to abut against one end of the bearing socket to limit the inward movement of the leg member, and a shoulder on the leg member adjacent the free end thereof and  
45 adapted upon expansion of the leg member to engage the opposite end of the bearing socket.

In witness whereof, I hereunto subscribe my signature.

50 EMIL B. MEYROWITZ.

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