April 24, 1934. J. W. WELSH 1,955,843

NOSE GUARD AND METHOD OF MAKING THE SAME

Filed March 25, 1931

Fig. 1

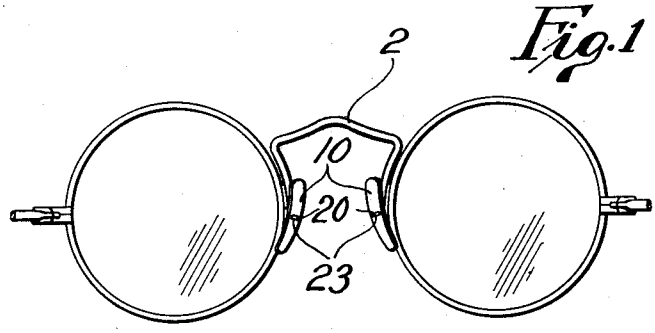


Fig. 3

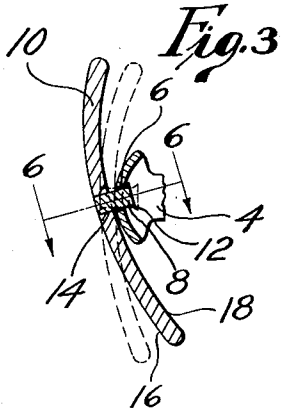


Fig. 2

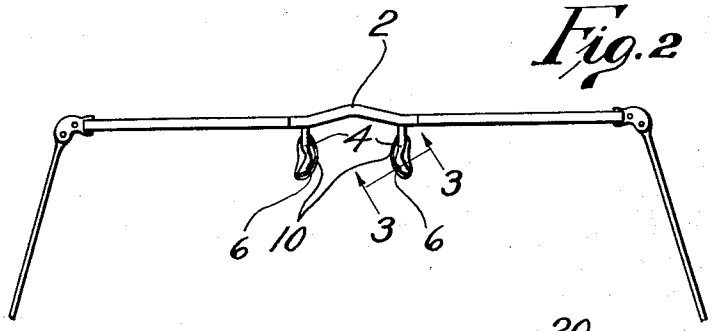


Fig. 4

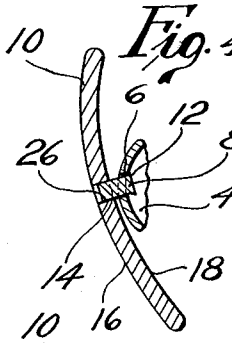


Fig. 7

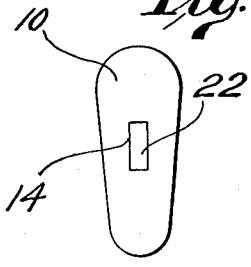


Fig. 6

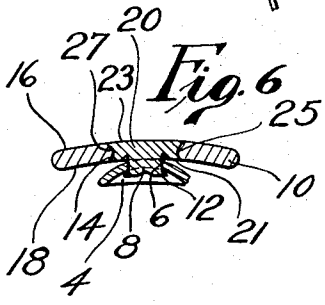


Fig. 5

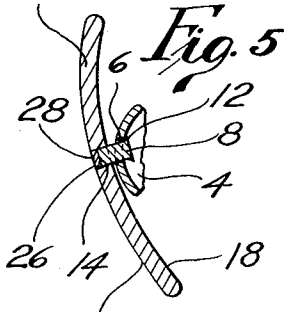


Fig. 9

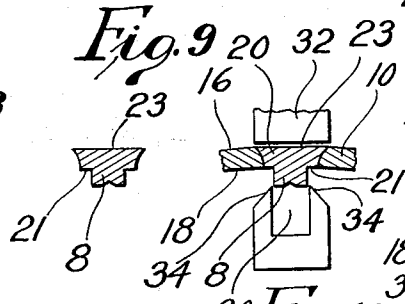


Fig. 8

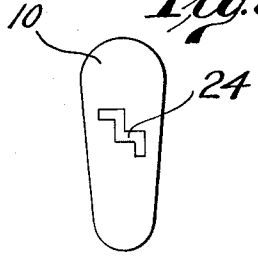
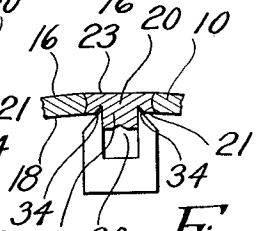


Fig. 10

Fig. 11



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UNITED STATES PATENT OFFICE

1,955,843

NOSE GUARD AND METHOD OF MAKING THE SAME

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Application March 25, 1931, Serial No. 525,090

12 Claims. (Cl. 88—49)

The present invention relates to nose guards for ophthalmic mountings, particularly nose guards comprising non-metal material, and to methods of making the same.

An object of the invention is to provide a new and improved nose guard that shall have essentially the flexibility, softness and other characteristics of the non-metal material, but shall nevertheless be reinforced to compensate for the weakness of such non-metal material.

Another object is to provide a new and improved method of making nose guards.

Other objects will be explained hereinafter and will be particularly pointed out in the appended claims.

The invention will be explained in connection with the accompanying drawing, in which Fig. 1 is a rear elevation of an ophthalmic mounting embodying the present invention; Fig. 2 is a plan of the same; Fig. 3 is an enlarged section taken upon the line 3—3 of Fig. 2, looking in the direction of the arrows; Figs. 4 and 5 are views, corresponding to Fig. 3, of modifications; Fig. 6 is a section taken upon the line 6—6 of Fig. 3, looking in the direction of the arrows; Figs. 7 and 8 are views of further modifications; and Figs. 9, 10 and 11 illustrate steps in the manufacture.

The ophthalmic mounting of the present invention comprises a one-piece bridge comprising a bridge proper 2 and guard supports 4, each support 4 having an opening 6 into which fits a rivet 8 carried by a nose guard or rest 10. The rivets are headed over, as shown at 12, so that the guards may be secured on the guard supports 4 with a universally rocking motion.

Each guard or nose rest 10 is composed of some non-metal material, like celluloid, unbacked by any reinforcing or supporting member, such as metal. Each guard 10 is provided with an opening 14 extending, in the direction of the thickness dimension of the guard, from the outer face 16 to the oppositely disposed inner face 18 of the guard. The thickness distance between the oppositely disposed faces 16 and 18 is, of course, small compared with the dimensions along said faces in the direction of the length or the width of the nose rest. The rivet 8 has integral therewith a metal member 20 that is inserted in the opening from the face 18 substantially to the face 16 of the guard. The parts are rigidly secured together, thus forming an integral, one-piece, unbacked non-metal guard, except for the metal portion 20.

If desired, the metal portion 20, instead of extending horizontally across the guard, as shown in Figs. 1 to 6, may extend vertically thereof, as shown at 22 in Fig. 7, or it may have a zig-zag appearance, as illustrated at 24 in Fig. 8, or it may have any other desired shape. Various configurations for the metal 20, 22, 24 may be employed, both for appearance and also to help to support and reinforce different parts of the non-metal guard 10. In all cases, of course, the opening 14, into which the metal is received, extends over a distance, in a direction along the faces 16 and 18, that is of substantial extent compared with the dimensions of the guard, so as to provide for the use of a substantial amount of metal which is of corresponding extent. The metal may be secured in its opening 14 in any desired manner. For example, the member 20 may be tapered outwardly from its inner face 21 to its outer face 23, as shown in Fig. 6, and the ends thereof may be recessed or concaved, as shown at 25 and 27, and the non-metal material forced into the recesses.

Instead of forcing the non-metal material into the recesses 25, 27, it is preferred to upset the metal over against the non-metal walls of the opening 14. A preferred method is illustrated in Figs. 9, 10 and 11. A metal blank, as illustrated in Fig. 9, having opposite faces 23 and 21, is slipped into the opening 14, with the pronged, rivet portion 8 projecting therebeyond into a die 30. A plunger 32 is then caused to descend against the face 23 of the metal blank, thereby forcing sharp-pointed edges 34 of the die 30 into the face 21 and upsetting the metal and forcing it outwardly. The metal near the face 23 tapers slightly inward, and a similar taper is produced by this upsetting operation near the face 21, with the result that the metal blank is rendered of greater width near each of the faces 21 and 23 than between the faces, thus producing the concaved faces 25 and 27.

Other methods may also be employed to fasten the parts together, though the described method has been found to eliminate all possibility of the parts becoming accidentally separated, either forwardly or backwardly. The pronged, projecting rivet portion 8 is later inserted into the opening 6 of the guard support 4, and headed over at 12, as before described.

In some cases, it is desirable to have the metal stop just short of the face 16 of the guard, as illustrated at 26 in Figs. 4 and 5, whereby the metal is depressed below the face 16 of the guard. In this manner, the skin of the nose may be kept out of contact with the metal. Indeed, if desired, the depression at 26 may be filled in, as shown at 28 in Fig. 5, and this may be done in any desired way

as by applying a thin layer of celluloid either in solid form or in the form of a liquid, in the latter case permitting the liquid to dry and harden.

Other modifications will occur to persons skilled in the art and all such are considered to fall within the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. A guard comprising an unbacked non-metal nose rest having an opening of substantial extent compared with the dimensions of the nose rest and extending from one face of the nose rest to near the opposite face of the nose rest, a metal support for the nose rest having a portion of corresponding extent disposed in the opening, whereby the said portion is depressed below the said opposite face, and a non-metal filling in the depression.

2. A method of making a guard comprising providing a non-metal nose rest with an opening extending from face to face of the nose rest, inserting a metal member in the opening from one face to near the opposite face of the nose rest, whereby the member is depressed below the said opposite face, applying a liquid layer of the non-metal material in the depression, and permitting the liquid layer to harden.

3. A method of making a guard comprising providing a non-metal nose rest with an opening extending from face to face of the nose rest, inserting a tapering metal member in the opening from one face to near the opposite face of the nose rest, upsetting an intermediate portion of the metal member into the non-metal nose rest, inserting the smaller end of the metal member in an opening of a nose-rest support, and upsetting the said smaller end of the metal member to secure the metal member to the nose-rest support.

4. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nost rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, the nost rest having an opening extending from one of said faces toward the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, and a metal support for the nose rest having a portion of corresponding extent disposed in the opening, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

5. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nose rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, the nose rest having an opening extending from one of said faces toward the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, and a metal support for the nose rest having a portion of corresponding extent disposed in the opening, said portion of the metal support being of greater width near its outside faces than between the faces, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

6. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or width of the nose rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, the nose rest having an opening extending through the nose rest between said faces over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, and a metal support for the nose rest having a portion of corresponding extent disposed in the opening, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

7. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nose rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, the nose rest having an opening extending from one of said faces to near the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, and a metal support for the nose rest having a portion of corresponding extent disposed in the opening, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

8. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nose rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, the nose rest having an opening extending from one of said faces to near the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, and a metal support for the nose rest having a portion of corresponding extent disposed in the opening from one face of the nose rest to near the opposite face of the nose rest, said portion of the metal support being of greater width near its outside faces than between the faces, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

9. A method of making a guard comprising providing, in a non-metal nose rest having oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nose rest, an opening extending from one of said faces toward the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, inserting a metal member in the opening from one face to near the opposite face of the nose rest, and upsetting the metal member against the non-metal walls of

the opening, whereby the metal member becomes rigidly secured to the non-metal nose rest.

10. A method of making a guard comprising providing a non-metal nose rest with an opening extending from face to face of the nose rest, inserting a metal member in the opening from one face to near the opposite face of the nose rest, upsetting an intermediate portion of the metal member into the non-metal nose rest, inserting an end of the metal member in an opening of a nose-rest support, and upsetting the said end of the metal member to secure the metal member to the nose-rest support.

11. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nose rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, and a metal support for the nose rest having embedded in the nose rest a portion extending from one of said faces toward the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

12. A guard comprising a non-metal nose rest having two oppositely disposed faces the distance between which, in the direction of the thickness dimension of the nose rest, is small compared with the dimension along said faces in the direction of the length or the width of the nose rest, the nose rest being unbacked in order that it shall have essentially the flexibility, softness and other characteristics of the non-metal material, and a metal support for the nose rest having embedded in the nose rest a portion extending from one of said faces to near the other face over a distance, in a direction along said faces, that is of substantial extent compared with the dimensions of the nose rest, whereby the metal support serves as a reinforcement to compensate for the weakness of the non-metal material.

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