

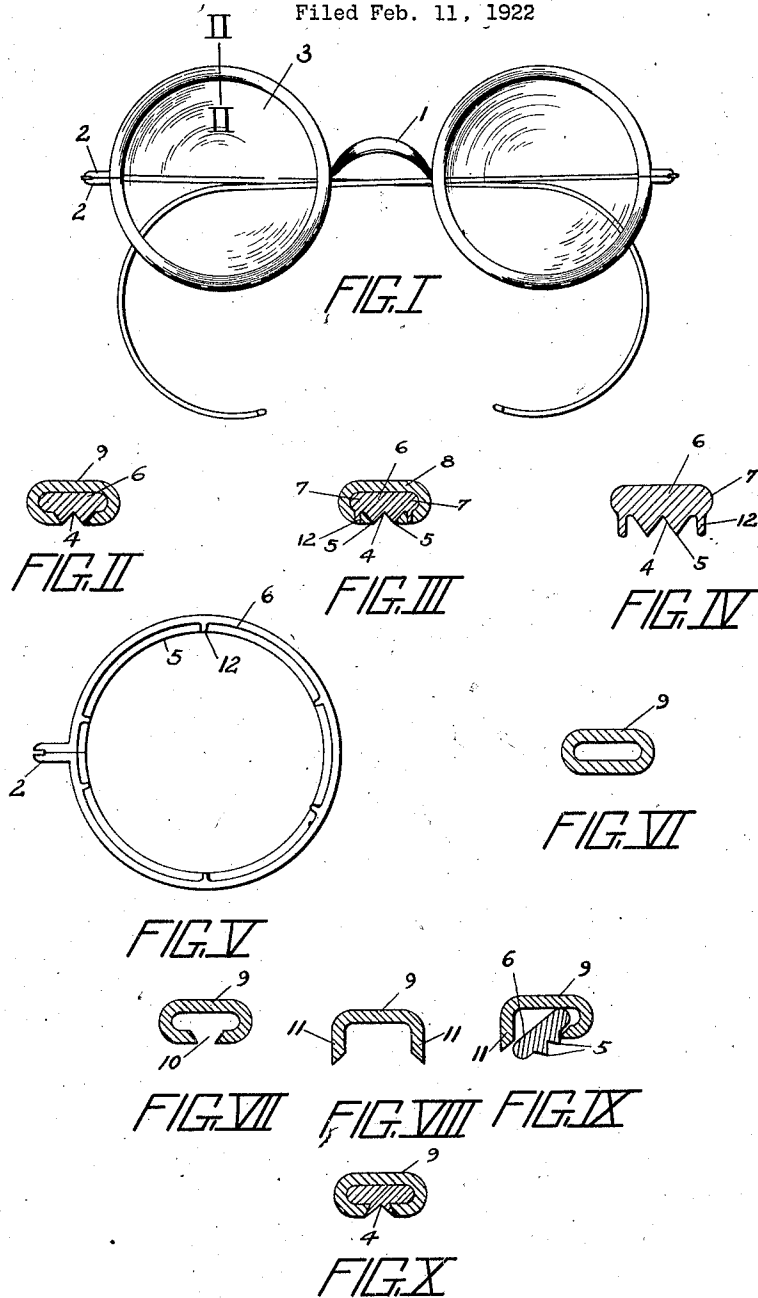
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OPHTHALMIC MOUNTING

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OPHTHALMIC MOUNTING.

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This invention relates to improvements in ophthalmic mountings, and has particular reference to mountings formed from a combination of metallic and non-metallic parts.

5 One of the problems up to the present time in the construction of frames of this character has been the satisfactory connecting or uniting of the parts in such manner that they will be firmly held together under
10 all conditions, and at the same time the fastenings will be inconspicuous. There have been difficulties involved in this due to the fact that the zylonite or composition material employed is sensitive to changes of
15 temperature, tending to expand and contract under varying conditions, and also due to the manner of construction. There have been in the past two general methods of constructing frames of this character employed;
20 the one making use of a strip of rod stock milled to provide a metal or lens receiving groove, as the case may be; and the other, sheet stock which is suitably bent up or molded to produce the frame. In
25 either event either mechanical fastening devices have been employed so positioned as to be conspicuous and to an extent detract from the appearance of the mounting, or attempts have been made to mold the sheet
30 stock around the metal liner. The difficulty in this connection lies in the fact that this composition material, while it may be molded and set in a certain position, has a tendency when heated of resuming its
35 original form, thus loosening up from the device into which it has been molded.

It is, therefore, the purpose and object of my invention to obviate these difficulties and provide a construction which will remain
40 firm and rigid under all conditions, and which may either make use of inconspicuous fastening devices, or if desired, may dispense with such devices without materially affecting the permanence and durability of
45 the mounting.

Other objects and advantages of my improved construction should be readily apparent by reference to the following specification taken in connection with the accompanying drawings, and it will be understood
50 that I may make any modifications in the specific details of construction shown and described within the scope of the appended

claims without departing from or exceeding the spirit of my invention.

Figure I represents a front view of a mounting embodying my improvements.

Figure II represents a sectional view as on the line II—II of Figure I.

Figure III represents a similar view
60 through the fastening devices.

Figure IV represents a sectional view of the frame taken through the fastening devices with the covering removed.

Figure V represents a side elevation of
65 the frame as shown in Figure IV.

Figure VI represents a sectional view illustrating one of the steps in the process of producing my frame.

Figure VII represents a further view
70 thereof.

Figure VIII represents an additional step.

Figure IX represents an alternative manner of assembling.

Figure X represents a section through a
75 slightly modified form.

In the drawings, the numeral 1 designates the bridge of an ophthalmic mounting bearing at each end a lens receiving frame provided with end pieces 2, the frame being
80 split at the ends so that it may be readily opened for insertion or removal of the lens 3. I preferably so shape the frame as to provide the lens receiving groove 4 formed by the pair of depending ribs 5 of the flattened eye wire 6, which has portions 7 extending laterally from the ribs 5. This
85 shape provides a substantially flat eye wire portion around which the composition covering 8 may be readily shaped and brought substantially flush with the inner edges of
90 the ribs 5 so that while the lens will fit within the groove enclosed by the ribs 5 and be securely held, the ribs themselves will be concealed by the composition coating or
95 covering. I preferably form this covering as indicated in Figures VI to IX inclusive by first extruding the composition material in a seamless flattened tube 9 of substantially the general shape of the frame 6, dis-
100 regarding the ribs 5. I then suitably mill or cut the slot 10 in this tube of size to just receive the ribs 5, and enclosed groove, after which I may either, as shown in Figure VIII, under the influence of heat, open
105 up both of the wings 11 provided by the

slot 10, or only one of said wings 11, as indicated in Figure IX, this opening up being just sufficient to permit of the snapping into place of the frame 6 within the tube. After this has taken place I prefer to heat the tube and force it down upon and around the metallic frame member, this forcing down, it will be noted, restoring the tube to substantially its original shape, as will be clearly understood by a comparison of Figures II and VII, for example. It will thus be seen that the tube instead of being shaped or molded around the metal, as has been customary in connection with the prior art, starting in with a flat sheet is simply restored to its original form so that any heating action, or the like, will simply tend to make the composition material more tightly grip the enclosed metal in place of opening up therefrom.

It is to be understood, however, that I need not depend entirely upon this property of the composition material for retaining it in place, but that I may in addition during the formation of the eye wire, suck or draw up therefrom a plurality of studs or rivets 12, which project adjacent the ribs 5, the material when heated being pressed or molded down onto these studs which will either pierce their way into the composition material or the composition material will be first pierced. In either event the studs will interlock with the composition material and if desired may be slightly riveted over after the frame is assembled. In this manner the parts are doubly held, first by the inherent resiliency or gripping effect of the composition material itself, and secondly by the employment of the metallic fasteners so that a most durable and satisfactory construction is provided.

The form of construction shown in Figure X is similar to those previously described, with the exception that in this form the ribs are slightly under-cut to receive and interlock with the ends of the composition material, in place of being inwardly bevelled as shown in Figure II, for example. This effect may be produced either by original formation in this shape, or by suitable rolling of the frame while the composition material is still held in the compressing dies, slightly forcing out or flaring the ribs and causing them to most tightly grip and fit against the composition material to aid in retaining it in place.

I claim:

1. The process of producing an ophthalmic mounting consisting in forming a metallic rim to desired shape, forming by extrusion a tube of composition material in shape corresponding to that of the rim, opening the tube at one side, and snapping the same over the metallic rim whereby it will be held in position by the inherent resiliency thereof.

2. A composition rim including a metallic member having a lens receiving groove formed therein and additional grooves formed therein adjacent the lens receiving groove, and a composition covering therefor having its terminal edges fitting into the last mentioned grooves.

3. In a construction of the character described, the combination with a metal frame member having a relatively wide and a relatively narrow part wherein the narrow part has integral ribs extending inwardly whereby said ribs form the lateral bounds for a central lens edge receiving groove at their inward sides and at their outer sides form, in connection with the laterally projecting portions of the frame, additional grooves, and a composition covering surrounding the outer face of the metal frame member and having its edges fitting into said laterally formed grooves.

4. A rim member for an ophthalmic mounting comprising a metallic member having a straight flat outer surface and an inner surface having its outer portion parallel to the outer surface, two pointed ribs between the outer portions forming a lens receiving groove between them, and a split non-metallic member surrounding three sides of the metallic member and having its end portions brought over the parallel portions of the inner surface and abutting the pointed ribs, substantially as shown and described.

5. An ophthalmic mounting having, in combination, an inner metal rim having an inner lens receiving groove of narrower width than the largest cross sectional width of the rim, the groove being joined to the portion of larger cross sectional width by concave walls, and an outer non-metallic rim having wings forming between them an inner annular slot within which the metal rim is seated, the outer portions of the wings being curved, the wall of the slot and the exterior surface of the metal rim being shaped to conform to each other and the curved outer portions of the wings engaging in the concave walls.

6. An ophthalmic mounting having in combination an inner metal rim, the cross sectional contour of which comprises a relatively large portion and a relatively small portion, the relatively small portion having an inner lens-receiving groove, substantially plane walls leading from the groove and being joined to the relatively large portion by reentrant angles, and an outer non-metallic rim having an inner annular slot within which the metal rim is seated, the wall of the slot being shaped to conform to the exterior surface of the metal rim.

7. An ophthalmic mounting having, in combination, an inner metal rim the cross sectional contour of which comprises a rela-

tively large portion and a relatively small portion joined together by two reentrant angles, the relatively small portion having an inner lens receiving groove disposed between the reentrant angles, and an outer non-metallic rim having an inner annular slot within which the metal rim is seated, the wall of the slot being shaped to conform to the exterior surface of the metal rim.

8. An ophthalmic mounting having, in combination, an inner metal rim having an inner lens receiving groove of narrower width than the largest cross sectional width of the rim, the groove being joined to the portion of larger cross sectional width by walls, the portions of the said portion adjacent to the joining point to the walls being arc shaped in cross section and merging with the walls in the form of reentrant angles, and a split outer rim constituted of non-metallic material having an inner annular slot within which the metal rim is seated, the non-metallic material snugly engaging against the arc shaped portions to maintain the rims together.

In testimony whereof I have affixed my signature.

E. L. SCHUMACHER.