Aug. 12, 1941. L. J. PAGE 2,252,093

ADJUSTABLE OPHTHALMIC BRIDGE

Filed Aug. 3, 1939

Fig. 1.

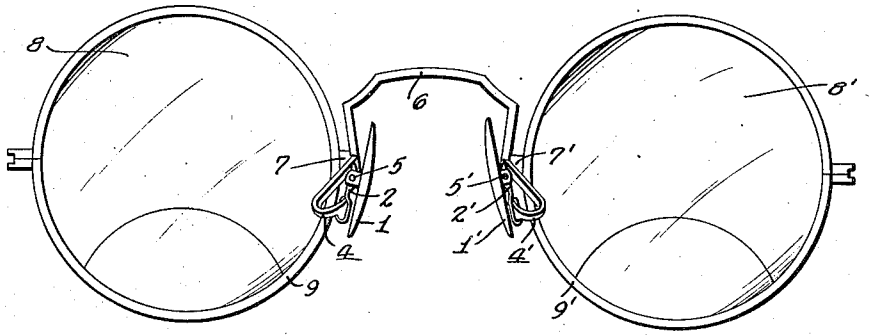


Fig. 2.

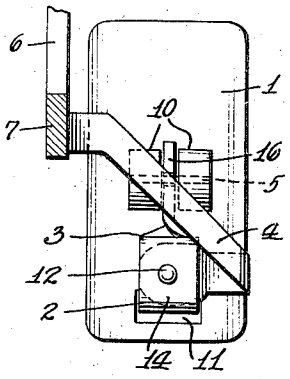


Fig. 3.

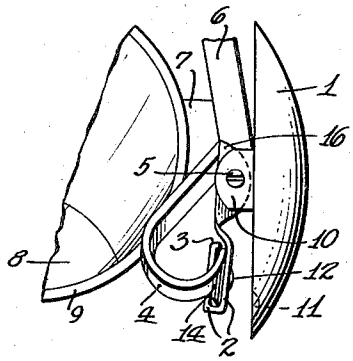


Fig. 4.

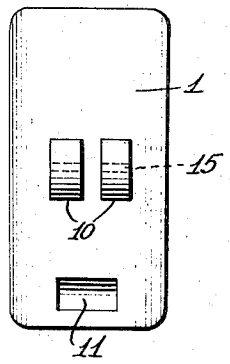
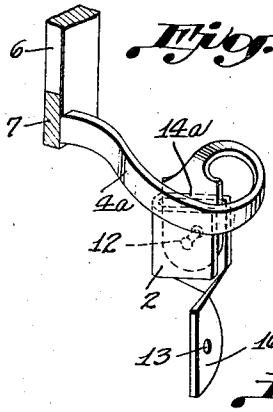


Fig. 5.



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ADJUSTABLE OPHTHALMIC BRIDGE

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Application August 3, 1939, Serial No. 288,136

6 Claims. (Cl. 88—49)

The adjustable feature of the bridge is to allow the wearer of bifocal lenses to raise or lower the lenses before the eyes so that a better and more comfortable vision may be attained.

Another object of this invention is the construction of the bridge arm, so as to better lend itself to manufacture, durability and function.

Another object of this invention is the attaching means of supporting the nose pad so that the pad will incline to fit the nose automatically.

Another object of this invention is the construction of the nose pad, made entirely of a plastic material, for better appearance, reduced cost, and a novel means of attaching it to the arm, so that it is removable. A third element is used to attach the nose pad to the arm. The nose pad rocks on the arm or hanger in a plane substantially parallel to the plane of the bridge. These and other objects and advantages reside in certain novel features of construction, arrangement and combination of parts as will hereinafter be more fully described.

Referring to the drawing:

Figure 1 is a rear elevation of a pair of spectacles embodying my invention.

Figure 2 is an enlarged fragmentary side view of the left side arm and nose pad.

Figure 3 is an enlarged fragmentary rear view of the left side arm and nose pad.

Figure 4 is a rear elevation of the nose pad.

Figure 5 is a rear perspective fragmentary view of a modified type of arm and hanger with the nose pad detached.

Referring to Figure 1, the vertical members of the bridge 6 support studs 7 and 7'. To the studs 7 and 7' are attached the rims 9 and 9' which hold the lenses 8 and 8'. The arms 4 and 4' are attached to the rear side of the vertical members of the bridge 6, directed down and out from the center of the bridge, looping, terminating in a rounded oblong flange 14 as shown in Figure 2. The plane of the flange 14 is substantially vertical and perpendicular to the plane of the bridge 6. At the center of the rounded end of the flange 14 is a hole to receive a pivot 12. A hanger 2 has a fold at one end, each of its sides pierced so that the flange 14 can be mounted pivotally within said fold by means of the pivot 12. The hanger 2 pivots on arm 4 through 180 degrees, stopping in vertical positions up or down as the hanger and arm contact. The outer side of the fold on hanger 2 terminates in a lip 3 overhanging the edge of the flange 14 which acts as a catch. The inner side of the hanger 2 continuing in a twist of 90 degrees terminates in a semicircular plate 16, the curved side toward the center of the bridge as shown in Figure 3. The plate 16 has an opening to receive a pin 5 which mounts the nose pad 1 to the hanger 2. The nose pad 1 as shown in Figures 3 and 4 has two projecting blocks 10, having openings 15 so that the plate 16 when placed between the blocks 10 allows the pin 5 to pass through openings 15 in the nose pad 1 and through the opening in the plate 16 as shown in Figure 2. The holes in the blocks 10 are slightly smaller than the hole in the plate 16 so that the pin 5 fits the holes 15 tightly and moves freely in the hole of the plate 16. The pin 5 may be fluted to prevent any possible slipping in the nose pad blocks. The edge of the plate 16 is curved to allow the nose pad 1 a limited swing. An indentation 11 in the rear lower part of the nose pad 1 allows the nose pad to swing to a greater degree. The nose pad 1 can be made without the indentation 11 with equally good results attained, this being only an added feature. The nose pad 1' is removably attached to the hanger 2' by means of the pin 5'.

Figure 5 is a modified type of arm. The arm 4a terminates in a flange 14a directed downward. The hanger 2 has a 90 degree twist intermediate its ends and one end of which is rebent upon itself to form a U-shaped fold. The other end terminates in a plate 16, having a hole 13. The flange 14a is disposed in the U-shaped fold and pivotally mounted to same by means of the pivot 12. The plate 16 is the support for the nose pad.

Another modification of my invention is to make the hanger without the fold, with only an L-shaped flange at the lower edge to act as a stop. The other parts of the hanger being the same as those already described function in a like manner. The hanger 2 also can be made without the lip 3. The hanger and attached nose pad is held in position by the pull of the temples, holding the bridge against the nose.

Another modification of my invention is an arm similar to the one shown in Figure 5 with the exception of the pivoting arrangement, the arm continuing in one piece from beginning to end. This type of arm would be used to support nose pads featured in my invention on bridges for use without bifocal lenses.

The hanger can also be constructed at the free end to fit other types of nose pads now in use. The nose pad can be easily attached to the arm or hanger by the use of a pin, although a screw or other similar means may be used. When a screw is used it will cut its own thread in the blocks on the back of the nose pad.

The blocks on the back of the nose pad are one unit with the front, the whole being molded into shape by means of heat and pressure. The nose pads could be cut and shaped by other methods but would be more costly. The nature of the plastic material permits a pin to be forced into position or to be removed, thus making the nose pad removable without any difficulty.

The manipulation of the bridge is simple and is performed by removing the spectacles from the face. Holding the bridge with one hand, the hanger and attached nose pad is rotated to either vertical positions with the other hand. When the nose pads are down the lenses are positioned higher and when they are up the lenses are positioned lower.

The nose pad may be made of any suitable material which becomes plastic under heat so that it can be molded. I have found a satisfactory substance in a cellulose acetate material. Zylonite or other suitable substances such as phenolic resin materials can be used for making the nose pad.

I am aware that prior to my invention ophthalmic bridges have been patented for the purpose of raising and lowering the position of lenses before the eyes of the wearer and that nose pads have been made to rock on the bridge arm. I am also aware that nose pads are made using a plastic material in conjunction with metal backs or inserts, but as the construction of my invention is new and has certain novel features I do claim:

1. In an ophthalmic frame or mounting, a bridge, means for attaching lenses to said bridge, nose pads having projecting blocks on the rear thereof, means for attaching said nose pads to said bridge, said attaching means comprising an arm directed away from said bridge, curving outward and downward, looping, terminating in a rounded end oblong flange, the plane of said flange being substantially vertical and directed toward said bridge, a hanger, said hanger having a fold, said flange mounted pivotally within said fold, said hanger terminating in a semi-circular plate, the plane of said plate directed substantially parallel to the plane of said bridge, said plate mounted between said projecting blocks on said nose pad by means of a screw, said hanger and attached nose pad rotating in planes substantially at right angles to the plane of said bridge, for the purposes set forth.

2. In an ophthalmic frame or mounting, a bridge, means for attaching lenses to said bridge, nose pads having projecting blocks on the rear thereof, means for attaching said nose pads to said bridge, said attaching means comprising an arm directed away from said bridge, curving outward and downward, looping, terminating in a rounded end oblong flange, the plane of said flange being substantially vertical and directed toward said bridge, a hanger, said hanger having a fold, said flange mounted pivotally within said fold, said hanger terminating in a plate, the plane of said plate being substantially parallel to the plane of said bridge, said plate mounted between said projecting blocks on said nose pad by means of a pin, said pin releasably secured in said blocks by flutes on said pin, said nose pad rocking on said hanger in planes parallel to the plane of said bridge, said hanger and attached nose pad rotating in planes substantially perpendicular to the plane of said bridge, releasably secured in vertical positions by means of friction, for purposes set forth.

3. In an ophthalmic frame or mounting, a bridge, means for attaching lenses to said bridge, non-metallic nose pads having projecting blocks on the rear thereof, means for attaching said nose pads to said bridge, said attaching means comprising an arm directed away from said bridge, curved, terminating in a vertical flange, directed toward said bridge, a hanger, said hanger having an L-shaped flange, said hanger mounted pivotally to said vertical flange, said L-shaped flange on said hanger limiting pivoting to vertical positions, the free end of said hanger terminating in a plate, the plane of said plate being substantially parallel to the plane of said bridge, a means for attaching said plate to said nose pad, said attaching means comprising a pin releasably secured in said blocks formed on said nose pad, said pin passing through a hole in said plate positioned between said blocks, said hanger and attached nose pad releasably secured in predetermined positions by friction of the hanger against the arm flange, for purposes set forth.

4. In an ophthalmic frame or mounting, a bridge, means for attaching lenses to said bridge, arms, each of said arms projecting from the sides of said bridge, curving, terminating in a vertical flange directed toward said bridge, a plastic nose pad having projecting blocks on the rear thereof, means for attaching said nose pad to said arm flange, said means comprising a hanger provided with a fold at one end, said arm flange pivotally mounted within said fold, the free end of said hanger terminating in a plate, said plate provided with a hole, means for attaching said plate to said nose pad. said attaching means comprising a pin, said pin pivotally mounting said plate between said projecting blocks on said nose pad, said nose pad rocking on said hanger in planes parallel to the plane of said bridge, said hanger and attached nose pad pivoting on said arm in planes substantially perpendicular to the plane of said bridge, said hanger and attached nose pad being releasably secured in vertical positions by means of a lip on said hanger overhanging the edge of said arm flange, for the purposes set forth.

5. In an ophthalmic frame or mounting, a bridge, means for attaching lenses to said bridge, nose pads, means for attaching said nose pads to said bridge, said attaching means comprising an arm directed away from said bridge, looping, redirected downward, terminating in a rounded-end oblong flange, a hanger, said hanger having a 90 degree twist intermediate its ends, one end of said hanger being provided with a fold, said flange pivotally mounted within said fold, the free end of said hanger being attached to said nose pad, said nose pad and attached hanger pivoting in planes substantially at right angles to the plane of said bridge, being releasably secured in predetermined positions by means of a lip on said fold overhanging the edge of said flange, for the purposes set forth.

6. In an ophthalmic frame or mounting, a bridge, means for attaching lenses to said bridge, arms, said arms being attached to said bridge, the free end of each of said arms terminating in a semi-circular flange, the plane of said flange directed substantially parallel to the plane of said bridge, said flange provided with a hole, all plastic nose pads, each of said nose pads having integrally formed plastic projecting blocks, each of said blocks provided with a hole, said flange mounted between said blocks by means of a pin, said pin removably secured in said blocks by means of friction, said nose pad and pin rocking on said flange for the purposes set forth.

LOUIS JOHN PAGE.