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H. W. HILL

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LENS BLOCK CENTERING JIG

Filed May 12, 1924

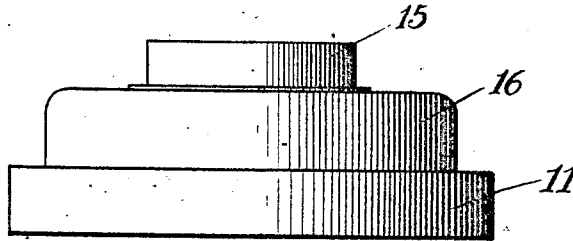


Fig. 1.

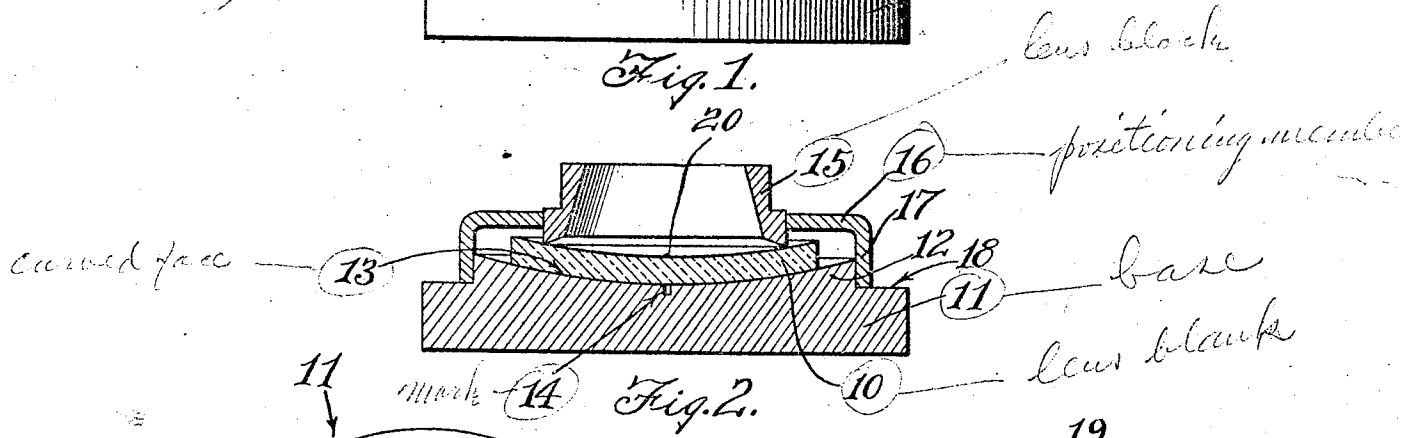


Fig. 2.

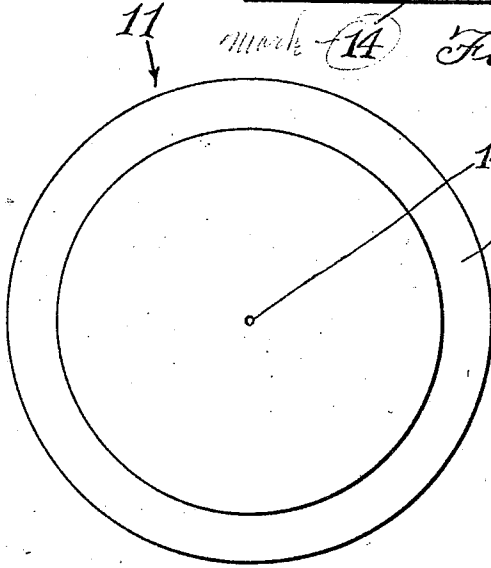


Fig. 3.

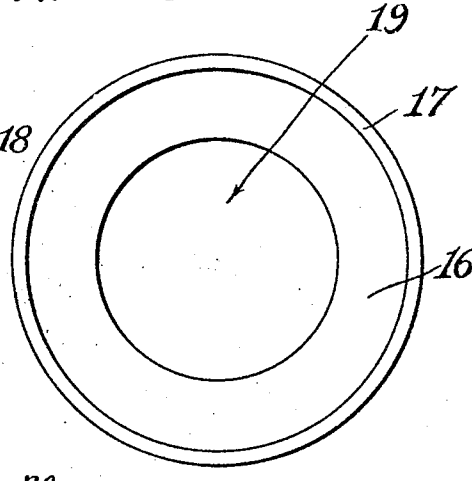


Fig. 4.

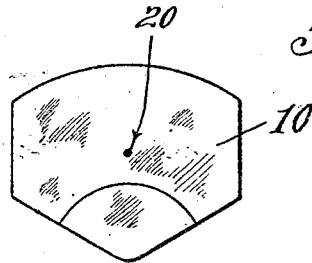


Fig. 5.

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HARRY W. HILL, OF SOUTHBRIDGE, MASSACHUSETTS, ASSIGNOR TO AMERICAN OPTICAL COMPANY, OF SOUTHBRIDGE, MASSACHUSETTS, A VOLUNTARY ASSOCIATION OF MASSACHUSETTS.

LENS-BLOCK-CENTERING JIG.

Application filed May 12, 1924. Serial No. 712,738.

To all whom it may concern:

Be it known that I, HARRY W. HILL, a citizen of the United States, residing at Southbridge, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Lens-Block-Centering Jigs, of which the following is a specification.

The present invention relates to a lens block centering jig, and has particular reference to means whereby a lens block may be accurately positioned upon a lens blank.

An important object of this invention is to provide means whereby a lens blank may be placed upon a locating base, after which a lens block may be accurately positioned upon the lens blank to facilitate the grinding and polishing of a precision lens.

Another very important object of the invention is to provide means whereby a lens blank and particularly a multifocal lens blank may be accurately associated with a lens block so that the prescription curve may be ground and polished on the said lens blank to produce a precision lens.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings, wherein like numerals are employed to designate like parts throughout the same:

Figure 1 is a side elevation of my improved construction;

Figure 2 is a longitudinal section taken therethrough;

Figure 3 is a top plan view of the lens locating base;

Figure 4 is a bottom plan of the lens block positioning member;

Figure 5 is a top plan of one form of lens blank which may be accurately blocked with my construction.

In the drawings, wherein for the purposes of illustration is shown the preferred embodiment of the invention, the numeral 10 designates a lens blank from which the finished lens is to be made. Although my invention may be used for blocking any type of lens blank, it is particularly designed for the blocking of multifocal lens blanks and especially lens blanks of the general configuration of the blank shown in Figure 5. Such blanks are usually formed two or three at a time in the follow-

ing manner: A large disc of glass is ground and polished in the case of the so-called one-piece bifocals or multifocals, with the reading portion arranged in the center of the disc. The distance portion is then ground around the said reading portion. After the reading and distance portions have been ground and polished to the desired curvatures, the disc is cut either in halves or in thirds, thus forming blanks for two or three lenses, as the case may be. This invention is used after the disc has been broken up into these individual blanks, and provides means whereby the blank may be accurately blocked so as to enable the operator to grind and polish the opposite surface of the blank, which surface is commonly known as the prescription surface.

The structure used comprises what I term a lens locating base 11. This lens locating base 11 has a centrally raised portion 12 which has a curved face 13. In the center of the raised portion 12 is formed a witness mark 14 which may either be in the form of a depression or of a different colored plug seated within the curved face 13 so as to be absolutely flush therewith. In other words, the witness mark 14 may be formed in any desired manner just so long as it is noticeable and arranged in the center of the lens locating base 11.

The lens block is designated by the numeral 15, and is preferably a hollow lens block wherein the pitch or other adhesive may be contained, although I do not wish to unnecessarily limit myself to the exact construction of the lens block used with this centering jig.

A lens block positioning member 16 is adapted to be placed on the lens locating base 11 in such a manner that the flange 17 will be seated upon the face 18 of said base. The lens block positioning member 16 is provided, as is clearly shown in Figure 4 of the drawing, with a centrally disposed cut out portion 19, the center of which is coincident with the axis of the witness mark 14.

As is clearly shown in Figures 2 and 5 of the drawing, the lens blank 5 is marked as at 20 to designate the desired center of the finished lens. This mark 20 may be formed and located in the usual manner, after which the lens blank 10 is placed upon the locating base 11 in such a manner that the mark 20

is exactly in line with the witness mark 14. It is to be understood that the mark 20 is formed on the face of the blank which has been previously ground so as to give the distance and reading fields. In other words, the opposite face of the lens from the one marked is the one to be ground and polished with the prescription curve desired. After the marks 20 and 14 have been aligned, the lens block positioning member 16 is placed on the locating base 11, as is clearly shown in Figure 2. The lens block 15 is then inserted through the opening 19 which is of a size to permit of the insertion of the block therethrough; but which is sufficiently small to prevent the block from becoming decentered when being placed upon the blank 10. When the block 15 has been placed through the opening 19 it will be accurately positioned upon the blank 10 so that the adhesive may then be placed through the bore in the block and upon the lens blank and allowed to seat thereon so as to unite the block 15 and the blank 10. After the adhesive has set up the positioning member 16 may be removed and the block and lens blank may then be applied to the necessary machines to produce the finished prescription curve desired.

As can readily be seen, in view of the fact that the lens blank is accurately positioned upon the lens locating base 11, and that the block 15 is guided upon the centered blank, no trouble will be had in blocking the lens inaccurately. Of course, any form of lens block positioning member 16 may be used, so I do not wish to limit myself to the form shown in Figure 2 of the drawing, although this form of jig works exceptionally well in use.

It is to be understood that the form of the invention herewith shown and described is to be taken as the preferred embodiment of the same and that various changes in the

size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A device for centering a lens block on a lens to be blocked, comprising a base support having a lens seat and a portion adapted to hold a lens block positioning member; a lens block positioning member held by the support and projecting therebeyond, and having an opening beyond the lens seat of the same contour as the lens block which it is adapted to position over the lens seat.

2. A device for centering a lens block on a lens to be blocked, comprising a base support having a circular shoulder and a lens seat, a lens block positioning member having a circular flange fitting over the circular shoulder of the support and having a circular opening in line with the lens seat adapted to position a circular lens block over the lens seat.

3. In a device of the character described, a base support having a raised shoulder and a lens seat, a lens block positioning member having a flange fitting over the raised shoulder of the support and extending therebeyond, and having an opening of the same contour as the lens block to be positioned and adapted to position said block over the lens seat.

4. In a device of the character described, a circular lens block support having a lens seat, a circular lens block positioning member having a circular flange fitting over the circular support and extending therebeyond, and having an opening of the same conformation as the lens block to be positioned and adapted to center the same over the lens seat.

HARRY W. HILL.