the molding of the lens for the left eye, to accomplish this purpose.

Referring now to FIGS. 13 to 18 inclusive, the molding of the lens will now be described.

For this purpose, an annular ring or collar **19** is provided, having an inwardly projecting spacing rib **20** extending around its inner surface and against which the mold pieces are pressed by means of C-clamps **21**. Only one such clamp is shown, but it will be understood that a number of these clamps are disposed around the mold assembly.

Prior to attachment of the C-clamps **21** to the mold assembly, the mold pieces **10** and **2** are placed in the ring **19** against the rib **20**, and are centered in the ring by means of set screws **22** and **23** mounted in apertures **24** in the ring, and by a plunger **25** which bears resiliently against the mold piece **10** to clamp the mold piece **10** to the mold piece **2**. The plunger **25** is slidably mounted in an aperture **26** in the ring, and is urged against the mold piece **1** by means of a compression coil spring **27**, against which an adjustable screw **28** bears. The pressure of the spring **27** may be adjusted by means of the screw **28**.

A gasket **29** (FIGS. 15 and 16) is then inserted in the ring **19**, this gasket having a thickness approximately that of the rib **20**, and an external diameter substantially the same as the internal diameter of the rib **20**, so that the gasket fits snugly inside this rib. The gasket **29** is split, as at **30**, for a purpose to be presently described.

A disk **31** (FIGS. 13 and 14) of glass having flat ground sides is then inserted in the ring **19** and bears against the rib **20** and gasket **29** to provides a mold piece which coacts with the mold pieces **10** and **2** to form a mold for molding the lens.

The liquid plastic material or monomer, of which the lens is formed, is introduced into the cavity of the mold assembly by means of a hypodermic needle **32**, the inner end of which extends into the split **30** of the gasket **29**.

The plastic lens, as thus molded, is allowed to solidify or polymerize by placing the assembly in an oven for curing, and when the curing process is complete, the mold assembly is removed from the oven and disassembled, the molds being removed from the lens.

The inner surface of the glass disk **31**, instead of being flat, may have its central portion of any desired curvature, such as spherical or cylindrical, for the purpose of forming the concave side of the lens.

When the lenses for the left and right eyes have been molded in this manner, they are assembled with a frame in which the reading fields are set with their centers at the proper interpupillary distance for reading, and the distance fields will automatically have their centers set at the proper interpupillary distance for distance vision.

Since the reading fields or segments are entirely independent of the distance segments, and are not superimposed thereon, the wearer of the glasses, in looking through the reading segments, does not have his eye muscles subjected to the strain of simultaneously looking through the portion of the distance segments which he would have to look through if the reading segments were superimposed on the distance segments.

Consequently, the wearer of the glasses, being relieved of such eyestrain, can read with comfort for long periods.

The disks used for molding the lenses are ground and polished to provide the desired finished curvatures for both sides of the lenses, and no auxiliary or subsequent grinding or polishing is required, as in the Whitney patent.

Since no fusion of the mold pieces to each other is required, no distortion of the mold surfaces can occur, so that accuracy in the molding or casting of the lenses is assured.

Due to the fact that the mold cavities for the reading and distance fields of the lenses are ground to substantially the same depth, the extent or area of the line of division between the fields in the finished lenses is reduced to a minimum, and this adds to the comfort of the wearer.

Instead of having the upper edge of the reading segment in FIG. 11 spaced below the line O–P to the extent shown, this upper edge may coincide with this line, or placed at any other point between the position shown and said line. This merely involves reducing the area of the distance segment, and increasing the area of the reading segment.

Moreover, the cavities may be ground in circular areas of larger diameter than those shown, and may, in fact, be ground to diameters approaching the peripheries of the mold pieces.

The molds, as thus described, have a straight line between the distance and reading fields. This line, may, however, assume a slightly curved form, as shown, for example, in FIGS. 19 and 20, wherein the meeting edges **33** and **34** respectively of the distance and reading fields of the mold pieces have an arcuate form. This may be accomplished by using blanks as shown in FIGS. 1 and 3, but having curved abutting edges, or by grinding these edges to this form, if the blanks have edges which are initially flat.

In FIGS. 21 and 22 of the drawings, a modification of the invention is shown, in which mold pieces are provided for molding trifocal lenses. In this modification, the mold pieces **35** and **36**, containing the cavities for the distance and reading fields, are similar to the pieces **2** and **10** respectively in FIGS. 11 and 12, but portions of the lower part of the mold piece **2** and the upper part of the mold piece **10** are ground to provide a space between the mold pieces **35** and **36** to accommodate a mold piece **37** having a cavity therein designed to provide an intermediate distance field in the molded lens.

As shown in FIG. 21, the cavity in the piece **37** is decentered from the cavity in the piece **35**, and the cavity in the piece **36** is decentered from the cavity in the piece **37**, the decentering, in each case, being such that in the finished trifocal glasses, the distance, intermediate, and reading fields will each be independent of each other and each will be at the required interpupillary distance.

It is to be understood that the form of my invention, herewith shown and described, is to be taken as a preferred example of the same, and that various changes may be made in the shape, size and arrangement of parts thereof, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. The method of forming a mold and molding plastic lens comprising providing a first pair of semi-circular pieces of rigid material, placing said pieces with their flat edges in abutment with each other, providing a second pair of semi-circular pieces of a rigid material, placing said last-named pieces with their flat edges in abutment with each other, grinding a cavity in the first pair to provide a finished distance field for the lenses to be molded which cavity is disposed in both pieces of the first pair, grinding a cavity of lesser area than the first-named cavity in the second pair of pieces to provide a finished reading field for the lenses to be molded which cavity is disposed in both pieces of said second pair, said second cavity having a center which is decentered laterally from the center of said second pair of pieces, selecting a piece from each pair, positioning and mounting the selected piece from the first pair with its flat edge in abutment with the flat edge of the selected piece from the second pair, and with the cavity in the selected piece from the first pair adjacent the cavity in the selected piece from the second pair, and with the center of the cavity in the selected piece from the second pair decentered in relation to the center of the cavity of the selected piece from the first pair and with the circular marginal edges of the abutting selected pieces in registry at the juncture between said abutting pieces, said positioning and mounting being