ric function $Z_{m(x,y)}$ and peripheral portions defined by the function $Z_{n(x,y)}$, and wherein:

$$Z_{m(x,y)} = Z_{mo(x)} + \frac{1}{B_{(x)}}\left(\sqrt{\rho_{(X)}^2 + B_{(x)}y^2} - \rho_{(x)}\right) - \frac{1}{n_{(x)}} C_{(x)}y^{n}(x)$$

and

$$Z_{n(x,y)} = Z_{no(x)} + R_{p(x)} - \sqrt{R_{p(x)}^2 - y^2}$$

where:

$Z_{mo(x)}$ is the function that describes the geometry of the umbilical line of the lens surface;

$B_{(x)}$ is the conic constant for the conic component of the function;

$\rho_{(x)}$ is the y,z component of local radius of curvature $R_{m(x)}$ of the umbilical line defined by the function $Z_{mo(x)}$;

$C_{(x)}$ is a very small parameter to suppress the contribution of the exponential component, $1/n_{(x)}C_{(x)}y^n$ (x), in the central portion of the curve;

$n_{(x)}$ is the parameter responsible for the smooth connection of the curve $Z_{m(x,y)}$ to the curve $Z_{n(x,y)}$, the value of $n_{(x)}$ being found by solving the equation

$$\frac{dZ_{m(x,y)}}{dy} = \frac{dZ_{n(x,y)}}{dy}$$

for the values of y equal to the points of connection;

$$Z_{no(x)} = \frac{1}{BL}\left(\sqrt{R_L^2 + B_{L(x)}^2} - R_L\right)$$

wherein:

B_L and R_L are chosen to provide the desired width for the reading portion of the lens surface, $R_{p(x)} = R_{(x)}(1 - A_{(x)})$

where $R_{(x)}$ equals the distance between a point $x_i y_i$ on the curve and the line parallel to the x axis and intersecting the center of curvature of the distance portion of the lens surface; and

$A_{(x)}$ is a modifying factor for correcting the distortion in horizontal and vertical lines in the temple side of the peripheral portion after rotation of the lens to accommodate for left or right eye.

2. A lens as recited in claim **1** wherein the bottom half of said lens surface comprising the progressive corridor, the reading portion and the peripheral portions comprise the portion of said surface that is defined in said parametric form.

3. A lens as recited in claim **2** wherein said distance portion comprises substantially the top half of said lens surface and is of a spherical curvature.

4. A lens as recited in claim **1** wherein said progressive corridor is designed such that along the vertical length of the corridor, the curvature of a vertical element of the corridor is of a weaker dioptric power than the curvature of the corresponding horizontal cross-section at that element.

5. A lens as recited in claim **4** wherein the power difference between the curvature of a vertical element of the corridor and the curvature of its corresponding horizontal cross-section equals about 20% of the add power at the top of the corridor and gradully decreases to approach zero at the bottom of the corridor.

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