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(54) **CONTACT LENS WITH TRANSITION**

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(58) **Field of Search** ..... 351/160 R, 160 H, 351/161, 162, 177; 623/6.24, 6.27

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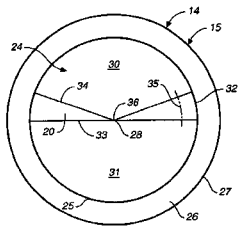
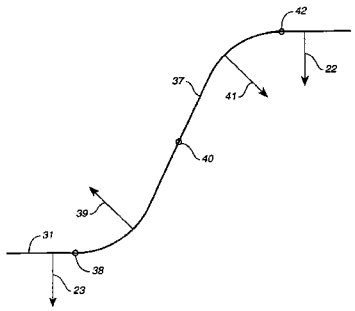
(57) **ABSTRACT**

A monocentric bifocal contact lens with upper and lower optical power zones is connected by a transition comprising a family of sigmoidal curves. The sigmoidal curve begins with a common tangent at the boundary of the near zone and, with a reversal of sign from the near zone curve, climbs with increasing positive slope to an inflection point, whereupon it continues to climb with decreasing positive slope until reaching the distance zone curve, with which it has a common tangent. There is no discontinuity in the first derivative of the curve throughout its length. A sigmoidal curve can be constructed from numerous mathematical functions, examples of which include polynomial, conic, transendental, or cumulative distribution curves.

18 Claims, 7 Drawing Sheets