



US009217880B2

(12) **United States Patent**  
**Pugh et al.**

(10) **Patent No.:** **US 9,217,880 B2**  
(45) **Date of Patent:** **Dec. 22, 2015**

(54) **ENERGIZABLE OPHTHALMIC LENS  
DEVICE WITH A PROGRAMMAABLE  
MEDIA INSERT**

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,171,266 A 12/1992 Wiley et al.  
2009/0189830 A1 7/2009 Deering et al.  
2010/0259719 A1 10/2010 Sabeta

FOREIGN PATENT DOCUMENTS

DE 102006005652I A1 9/2007  
WO WO 2005112825 A2 12/2005  
WO WO 2012006691 A1 1/2012

OTHER PUBLICATIONS

Babak A. Parviz. For Your Eyes Only. (IEEE Spectrum) Sep. 2009.\*  
Lingley et al. A Single-Pixel Wireless Contact Lens Display. Pub-  
lished Nov. 22, 2011.\*  
PCT International Search Report for PCT/US2014/039526 Dated:  
Sep. 5, 2014.

\* cited by examiner

*Primary Examiner* — Hung Dang

(71) Applicant: **Johnson & Johnson Vision Care, Inc.,**  
Jacksonville, FL (US)

(72) Inventors: **Randall B. Pugh**, St. Johns, FL (US);  
**Sharika Snook**, St. Augustine, FL (US);  
**Camille Higham**, Jacksonville, FL (US);  
**Karson S. Putt**, Jacksonville, FL (US)

(73) Assignee: **Johnson & Johnson Vision Care, Inc.,**  
Jacksonville, FL (US)

(\* ) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 268 days.

(21) Appl. No.: **13/905,760**

(22) Filed: **May 30, 2013**

(65) **Prior Publication Data**

US 2014/0354942 A1 Dec. 4, 2014

(51) **Int. Cl.**

**G02B 7/04** (2006.01)  
**G02C 7/02** (2006.01)  
**G02C 7/04** (2006.01)  
**G02C 7/08** (2006.01)  
**G02C 7/10** (2006.01)

(52) **U.S. Cl.**

CPC **G02C 7/022** (2013.01); **G02C 7/04** (2013.01);  
**G02C 7/083** (2013.01); **G02C 7/086** (2013.01);  
**G02C 7/101** (2013.01)

(58) **Field of Classification Search**

CPC ..... G02C 7/04; G02C 11/10; G02C 7/083  
USPC ..... 351/159.03, 159.25, 159.02  
See application file for complete search history.

(57) **ABSTRACT**

The present invention discloses an Ophthalmic Lens device with a programmable Media Insert. In some embodiments, a Media Insert may be programmable to allow for further customization of the energized Ophthalmic Lens. The programming may occur after the electrical components have been encapsulated in the programmable Media Insert. In some embodiments, the Media Insert may be programmed prior to or during the manufacturing process. Alternatively, the Media Insert may be programmable after manufacturing process, such as, for example, through use of a wireless programming apparatus or device. In some such embodiments, the programming device may comprise an overlay, wherein the overlay may program the Media Insert when placed in proximity to the Media Insert.

**24 Claims, 6 Drawing Sheets**

