

The  
United  
States  
of  
America



**The Director of the United States  
Patent and Trademark Office**

*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

*Therefore, this*

**United States Patent**

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.*

*Joseph Matal*

*Performing the Functions and Duties of the*

*Under Secretary of Commerce for Intellectual Property and*

*Director of the United States Patent and Trademark Office*



US009791143B2

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

(10) **Patent No.:** **US 9,791,143 B2**  
(45) **Date of Patent:** **Oct. 17, 2017**

(54) **DOUBLY-SEALED WATERPROOF FLOODLIGHT AND METHOD FOR SAME**

(71) Applicant: **E-GM TECH**, Gum-si, Gyeongsangbuk-do (KR)

(72) Inventors: **Seoung Hun Kim**, Daegu (KR); **Young Min Jeon**, Daegu (KR)

(73) Assignee: **E—GM TECH**, Gumi-si, Gyeongsangbuk-Do (KR)

(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 16 days.

(21) Appl. No.: **14/770,972**

(22) PCT Filed: **Apr. 4, 2014**

(86) PCT No.: **PCT/KR2014/002905**

§ 371 (c)(1),

(2) Date: **Aug. 27, 2015**

(87) PCT Pub. No.: **WO2014/168379**

PCT Pub. Date: **Oct. 16, 2014**

(65) **Prior Publication Data**

US 2016/0018098 A1 Jan. 21, 2016

(30) **Foreign Application Priority Data**

Apr. 9, 2013 (KR) ..... 10-2013-0038856

(51) **Int. Cl.**  
**F21V 31/00** (2006.01)  
**F21V 29/00** (2015.01)

(Continued)

(52) **U.S. Cl.**  
CPC ..... **F21V 31/005** (2013.01); **F21K 9/90** (2013.01); **F21V 29/2212** (2013.01); (Continued)

(58) **Field of Classification Search**  
CPC ..... **F21V 31/005**; **F21V 29/763**; **F21V 31/00** (Continued)

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

7,445,352 B2 \* 11/2008 Lin ..... F21S 8/00  
362/101  
9,039,238 B2 \* 5/2015 Kim ..... F21K 9/00  
362/218

(Continued)

*Primary Examiner* — Peggy Neils

*Assistant Examiner* — William N Harris

(74) *Attorney, Agent, or Firm* — LRK Patent Law Firm

(57) **ABSTRACT**

A doubly-sealed waterproof floodlight includes a heat dissipating portion, a lighting portion coupled to the bottom end of the heat dissipating portion, and a cover filled and coated with a sealing material, doubly-sealed, and integrally coupled to the heat dissipating portion. The heat dissipating portion includes a sealing portion formed on a side end of the heat dissipation portion, coated with the sealing material, and coupled to the cover. The cover includes a coupling portion formed on the top end of a side surface thereof. The coupling portion includes a sealing groove into which sealing material is filled for adhering and coupling the heat dissipating portion, a protruding support portion extending from the sealing groove, and a bottom surface portion which is flatly formed at a position lower than the protruding support portion, and in which the sealing material coated on the sealing portion is filled.

**12 Claims, 7 Drawing Sheets**

