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

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

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(54) ILLUMINATING APPARATUS AND METHOD THEREOF

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 340 days

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(58) Field of Classification Search
USPC ..... 315/185 R, 192, 193, 291, 294, 299, 315/308, 360
See application file for complete search history

(56) References Cited
U.S. PATENT DOCUMENTS
[illegible]
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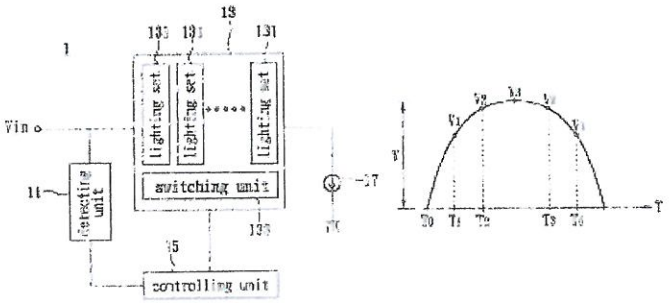
(57) ABSTRACT

An illuminating apparatus adapted to receive an input power which is a pulse DC includes a lighting unit, a detecting unit and a controlling unit. The lighting unit includes a plurality of lighting sets and a switching unit. The switching unit may be used to cause the lighting sets interconnected in a serial fashion and/or in a parallel manner. The detecting unit detects a voltage of the input power. The control unit couples the detecting unit and the lighting unit, and according the switching unit according to the detecting unit detecting the state of the input power. As such, the turn-on voltages of the lighting unit may adjust at different stages of the input power.

14 Claims, 6 Drawing Sheets