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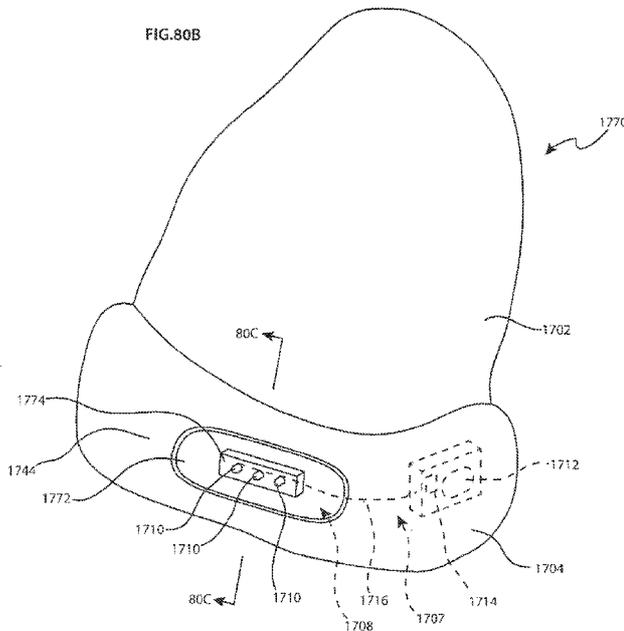
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Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

[Continued on nextpage]

(54) **Title:** LIGHTED HAT



(57) **Abstract:** Lighted headgear is described having a head-fitting portion with a light assembly mounted thereto. The light assembly includes a light source, a power source, and a switch device. The light source is mounted to the head-fitting portion to provide illumination forwardly and/or downwardly thereof. The head-fitting portion can include a loop of material so that the light assembly can be disposed therein to substantially conceal the light assembly from view with the light source thereof projecting through an opening the loop of material. A light module for mounting to the brim of headgear is also described that includes a housing sized to receive a light assembly therein including light sources, a power source, and a switch device. The light module includes a forwardly and downwardly projecting light mount having cavities therein to receive the light sources.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 14/28613

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - F21V 21/084 (2014.01)
CPC - A42B 3/044; A42B 1/244
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 IPC(8) - F21V 21/084 (2014.01)
 CPC - A42B 3/044; A42B 1/244

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 IPC(8) - F21V 21/084 (2014.01)
 CPC - A42B 3/044; A42B 1/244; USPC - 362/105 ; 362/106 (keyword delimited)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 Patbase; Google Scholar, FreePatentsonline
 Search terms used: light headband headgear hat stocking beanie waters michael power battery switch applique decal patch bexel holder frame pocket adhesive

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2006/0198122 A1 (Senter et al.) 07 September 2006 (07.09.2006), para [0043]-[0050], Fig 5-10	15-17, 19 ----- 1-14, 18, 20, 21
Y	US 2012/0014095 A1 (Waters) 19 January 2012 (19.01.2012), Fig 6, 14, 23; para [0066], [0075], [0087]-[0094]	1-14, 20, 21
Y	US 5,117,510 A (Broussard et al.) 02 June 1992 (02.06.1992), col 1, ln 7-11; col 2, ln 58-61	18
Y	US 2011/0210685 A1 (Liao) 01 September 2011 (01.09.2011), Fig 4; para [0018], [0021] [0025]	10, 12-14
A	US 6,721,962 B1 (Polaire) 20 April 2004 (20.04.2004), entire document	1-21
A	US 7,942,543 B2 (Ritter) 17 May 2011 (17.05.2011), entire document	1-21
A	US 20080130272 A1 (Waters) 05 June 2008 (05.06.2008), entire document	1-21

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
 "A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier application or patent but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed
 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search 03 September 2014 (03.09.2014)	Date of mailing of the international search report 19 SEP 2014
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

- see extra sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-21

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

Continuation of Box No. III - Observations where unity of invention is lacking

Group I: Claims 1-21, drawn to lighted headgear comprising: a head-fitting portion having inner and outer surfaces; a light source for projecting illumination forwardly from the head-fitting portion; a power source mounted to the head-fitting portion and electrically coupled to the one or more light sources to provide power thereto; a switch device mounted to the head-fitting portion and electrically coupled to the power source and the light source for selectively energizing the light source; a light holder in which the light source is received and mounted to the head-fitting portion to orient the light source to project light forwardly from the head-fitting portion.

Group II: Claims 22-30 drawn to a light module for mounting to headgear, the light module comprising: an electronic assembly including a plurality of light sources, a power source, and a switch device; a module housing for the electronic assembly including a main housing portion and a light holder portion extending outwardly therefrom, the light holder portion disposed generally centrally in a lateral direction relative to the main housing portion; and a plurality of cavities of the light holder portion sized to receive individual ones of the plurality of light sources and orient the light sources to project light forwardly and downwardly of the main housing portion; wherein the power source includes a plurality of batteries received in the main housing portion so that the light holder portion extends laterally in an area between the batteries, and the switch device is disposed within the module housing with an actuator thereof extending to an exterior of the module housing to be accessible to a user.

The inventions listed as Groups I through II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

Special Technical Features

Group I includes the special technical feature of power source mounted to the head-fitting portion wherein the power source, the switch device, and the electrical connections are all disposed within the interior space of the headband portion to be concealed from view, not included in the other groups.

Group II includes the special technical feature of a light holder portion disposed generally centrally in a lateral direction relative to the main housing portion; and a plurality of cavities of the light holder portion sized to receive individual ones of the plurality of light sources.

Common Technical Features:

The only technical features shared by Groups I and II that would otherwise unify the groups, are headgear, light sources, a power source, a switch device, a light holder portion and light sources to project light forwardly. However, these shared technical features do not represent a contribution over prior art, because the shared technical features are disclosed by US 2010/0214767 A1 (Waters).

Waters discloses headgear (700), a power source (762), a switch device (742), a light holder portion (703, 710) and light sources to project light forwardly (705, 754) (para [0105], [0106]).

As the technical feature was known in the art at the time of the invention, this cannot be considered a special technical feature that would otherwise unify the groups.

Therefore, Groups I-II lack unity under PCT Rule 13.