TETHER SYSTEM FOR PROVIDING POWER FROM A VEHICLE TO A GARMENT

Abstract: A tether system for providing power from a vehicle to a garment is presented. The system includes a tether having a first end and a second end, at least one electrical conductor operatively between the first and second ends, and an electrical contact at the second end, the tether being adapted for connecting to the garment at the first end; and a base adapted for mounting to the vehicle, the second end of the tether being selectively connectable to the base, the base being adapted for selectively receiving the electrical contact and for providing power to the at least one electrical conductor of the tether via the electrical contact, the base, when mounted to the vehicle, being operative to stop propulsion of the vehicle when the tether is disconnected from the base.
Declarations under Rule 4.17:
— of inventorship (Rule 4.17(iv))

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))

(88) Date of publication of the international search report:

1 January 2018 (1.01.2018)
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

<table>
<thead>
<tr>
<th>IPC(8)</th>
<th>CPC</th>
<th>Box 1450, Alexandria, Virginia 22313-1450</th>
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<td>B60K 28/04</td>
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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)

See Search History Document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

See Search History Document

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

See Search History Document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
  - "A" document defining the general state of the art which is not considered to be of particular relevance
  - "B" 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
  - "Y" 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

23 October 2017

Date of mailing of the international search report

13 NOV 2017

Name and mailing address of the ISA/US

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Form PCT/ISA/210 (second sheet) (January 2015)
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.: 23/(22/20/18), 24/(23/22720/18)  
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

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

-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.: 1-20

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.:  

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.
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.

Group I: Claims 1-10, directed to a tether system for providing power from a vehicle to a garment including a tether with at least one electrical conductor operatively connected between the first and second ends, and a base, when mounted to the vehicle, being operative to stop propulsion of the vehicle when the tether is disconnected from the base.

Group II: Claims 11-20 directed to a vehicle including a propulsion system connected to the vehicle body.

Group III: Claims 21-25 directed to a garment and tether system including a garment with at least one electrical element connected to the garment body.

The inventions listed as Groups I-III 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

The invention of Group I includes the special technical feature of a tether system for providing power from a vehicle to a garment, comprising:

- a tether including:
  - at least one electrical conductor operatively connected between the first and second ends;
  - an electrical contact at the second end, not required by the claims of Group II.

The invention of Group I also includes the special technical feature of:

- a base, when mounted to the vehicle, being operative to stop propulsion of the vehicle when the tether is disconnected from the base, not required by the claims of Group III.

The invention of Group II includes the special technical feature of a propulsion system connected to the vehicle body; not required by the claims of Groups I and III.

The invention of Group III includes the special technical feature of a garment including:

- at least one electrical element connected to the garment body;
- the at least one electrical element being provided power from the vehicle; not required by the claims of Groups I and II.

COMMON TECHNICAL FEATURES

Groups I-III share the common technical features of a garment and tether system comprising:

- a garment;
- a tether including:
  - a first end and a second end, at least one electrical conductor operatively connected between the first and second ends, and an electrical contact at the second end, the tether being connected to the garment at the first end, the second end being removably connectable to a base disposed on a vehicle, the base being adapted to provide power to the at least one electrical conductor of the tether via the electrical contact.
  - a first end (78; Para. [0041]; Fig. 5) and a second end (86; Para. [0043]; Fig. 1), at least one electrical conductor (wires 74) operatively connected between the first and second ends (Paras. [0041] and [0043]), and
  - an electrical contact (contact of electrical connecter 86; Fig. 2) at the second end/Para. [0043]), the tether being connected to the garment at the first end (Para. [0041]), the second end being removably connectable to a base (electrical conductor 90, cable 114, spring 126 and bracket 120) disposed on a vehicle (motorcycle 34; Paras. [0043][0047]; Fig. 6), the base being adapted to provide power to the at least one electrical conductor of the tether via the electrical contact (Para. [0043]).

Groups I and II share the common technical features of:

- the base, when mounted to the vehicle, being operative to stop propulsion of the vehicle when the tether is disconnected from the base.

However, this shared technical feature does not represent a contribution over prior art as being anticipated by US 2015/01 4343 A1/2015/01 4343 A1 to Bernier et al. (hereinafter referred to as Bernier), which discloses a base (key receiver 132; Fig. 3A), when mounted to a vehicle (motorcycle: Para. [0074]), being operative to stop propulsion of the vehicle when a tether (lanyard 136) is disconnected from the base (Para. [0095]).

As the common technical features were known in the art at the time of the invention, these cannot be considered special technical feature that would otherwise unite the groups.

Therefore, Groups I-III lack unity under PCT Rule 13 because they do not share a same or corresponding special technical feature.