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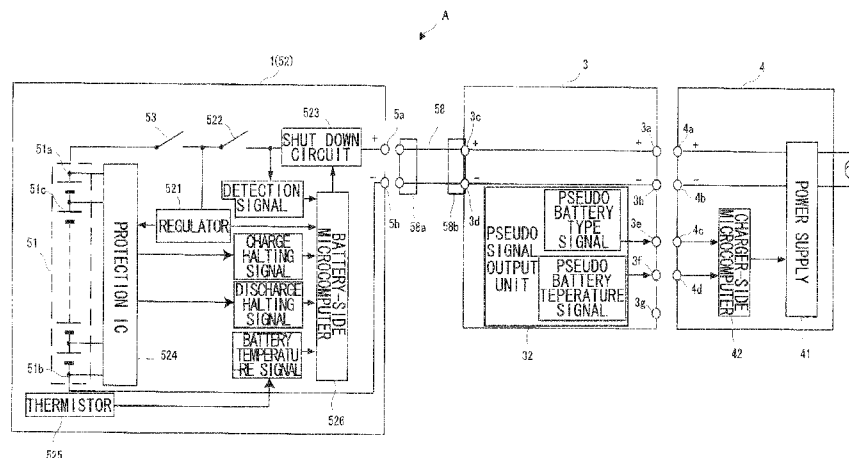
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[Continued on next page]

(54) Title: BACKPACK-TYPE POWER SUPPLY

[Fig. 7]



(57) Abstract: A rechargeable system includes: a charger (4); a battery pack (1); an adapter (3) configured to be electrically connected between the charger (4) and the battery pack (1), a cable (58) configured to be electrically connected between the battery pack (1) and the adapter. A battery-side microcomputer (526) controls the shutdown circuit (523) such that the shutdown circuit (523) disconnects the at least one of the positive terminal (5a) of the battery pack and the negative terminal (5b) of the battery pack (1) from the rechargeable battery (51) when detection of the battery-side microcomputer (526) indicates occurrence of at least one of two following events: one event is such that the rechargeable battery (51) is fully charged. Another event is such that the rechargeable battery (51) has some errors.



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- *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:**
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INTERNATIONAL SEARCH REPORT

International application No
PCT/JP2013/004151

A. CLASSIFICATION OF SUBJECT MATTER

INV. B25F3/00 H02J7/00 H01M10/42 H01M10/48
ADD.

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)

B25F H02J A45F H01M

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2011/197389 A1 (OTA TOMOYUKI [JP] ET AL) 18 August 2011 (2011-08-18) abstract paragraphs [0054], [0069] - [0082]; figures 9-13	1-3
X	US 2007/236173 A1 (KIMURA TADAO [JP]) 11 October 2007 (2007-10-11) abstract paragraphs [0049], [0050]; figures 4,5	2
A	US 6 087 815 A (PFEIFER JOHN EDWARD [US] ET AL) 11 July 2000 (2000-07-11) abstract	1-3



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

"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

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2013/004151

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:

see additional 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 an 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.:

see annex

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3

Recharge system comprising: a charger; a battery pack; an adapter characterised by a pseudo battery identification

1.1. claim: 2

Battery pack comprising a shutdown circuit and a microcomputer

2. claims: 4-6

Adapter characterised by a pseudo signal output

3. claims: 7-9

A system comprising: a battery-driven device; a battery pack; and an adapter characterised by a terminal for communication between the adapter end the battery-driven device

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/JP2013/004151

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