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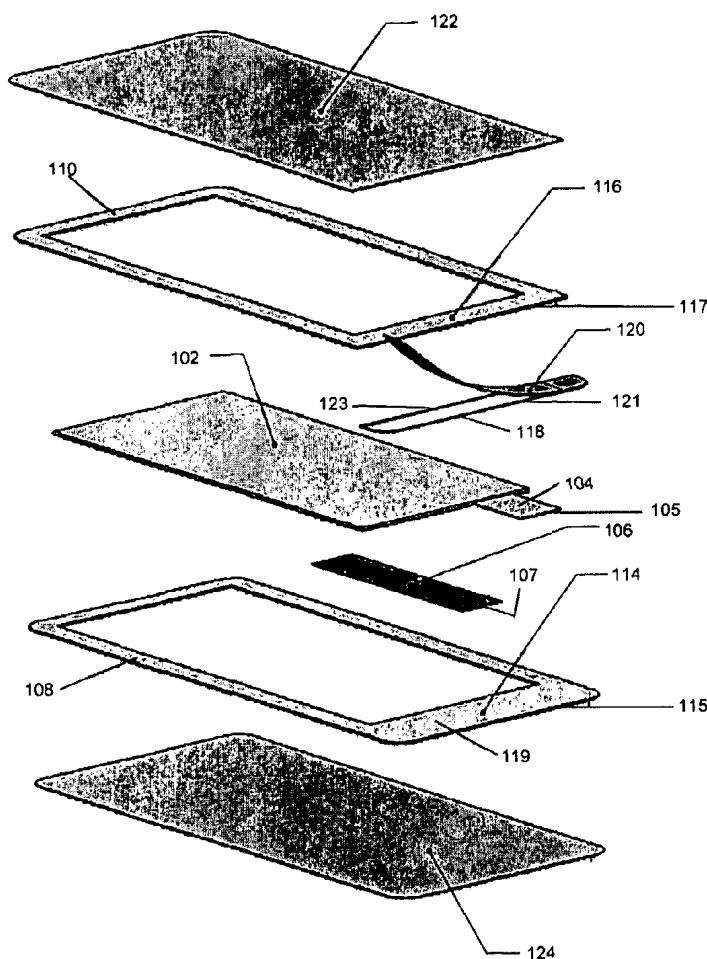
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[Continued on next page]

(54) Title: IMPROVED BATTERY TAB AND PACKAGING DESIGN



(57) Abstract: Improved battery packaging and constructions for batteries, particularly thin, flatprofile packaged batteries are provided. The battery packaging constructions may eliminate the need for soldering by providing current collector tabs coated by electrically conductive adhesive tape such as z-axis conductive tape and may provide support for current collector tabs and a regular battery perimeter by providing supportive battery packaging and/or frame materials. Better fabrication results, particularly when the batteries are used in smart cards, RFID tags, and medical devices.

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European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/26189

A. CLASSIFICATION OF SUBJECT MATTER

IPC: H01M 2/18(2006.01),2/16(2006.01),6/12(2006.01),6/46(2006.01)

USPC: 429/129,130,138,144,162

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)

U.S. : 429/129,130,138,144,162

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,429,026 (Bruder) 31 January 1984 (31.01.1984), column 10 lines 10-20, column 11 lines 5-35, column 11 lines 1-10	20-33
Y	US 2004/0029001 A1 (Neudecker et al.) 11 March 2004 (11.03.2004), Paragraph 0004	34, 35

☐ 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	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

23 June 2008 (23.06.2008)

Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/26189

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:

Group I, Claims 1-8 drawn to a battery with at least one current collector tab extending from the battery cell and an electrically conductive tape disposed on the at least one current collector tab

Group II, Claims 9-25 drawn to a battery with a current collector tab having a distal end extending from the battery cell and a lower packaging material disposed below the battery cell and having an outer edge that extends beyond a periphery of the battery cell.

Group III, Claims 26-35 drawn to a battery with lower packaging material disposed below the battery cell and having an outer edge that extends beyond a periphery of the battery cell and a tab support frame disposed below the battery cell and having an outer edge that extends beyond the periphery of the battery cell.

Group IV, Claims 36-43 drawn to a battery with a tab support frame disposed below the battery cell and having an outer edge that extends beyond the periphery of the battery cell and an opposing frame disposed above the battery cell, opposite the tab support frame

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 any 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.: 26-34

- 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.