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(71) Applicant: INNOLITH TECHNOLOGY AG [CH/CH];

Hirzbodenweg 95, 4052 Basel (CH).

(72) Inventors: ZINCK, Laurent; 28, Rue de la vallée, 67470 Mothern (FR). PSZOLLA, Christian; Rheinstraße 105, 76185 Karlsruhe (DE). BORCK, Markus; Richterstraße 8D, 70567 Stuttgart (DE). RAMAR, Vishwanathan; Konstanzerstraße 23, 69126 Heidelberg (DE).

(74) Agent: LEMCKE, BROMMER & PARTNER PATEN-

TANWÄLTE PARTNERSCHAFT MBB; Siegfried-Kühn-Str. 4, 76135 Karlsruhe (DE).

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(54) Title: RECHARGEABLE BATTERY CELL WITH ACTIVE ELECTRODE DEPOLARIZER

(57) Abstract: A rechargeable battery cell is proposed which comprises a housing (1), at least one positive electrode (4), at least one negative electrode (5) and a sulfur dioxide-based electrolyte which serves as an active electrode depolarizer, whereby the positive electrode (4) contains carbon and has a thickness of at least 0.2 mm, preferably at least 0.4 mm, more preferably at least 0.6 mm, more preferably at least 0.8 mm, more preferably at least 1.0 mm, more preferably at least 1.5 mm, more preferably at least 2.0 mm and most preferably at least 4.0 mm.

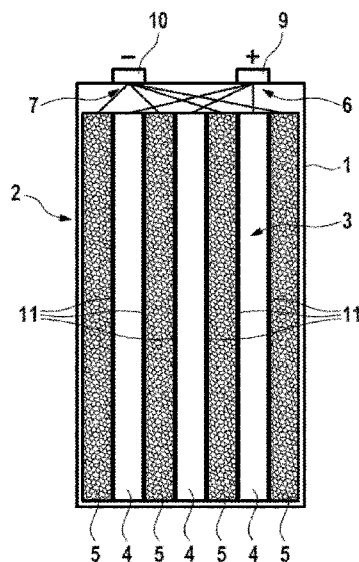


Fig. 1

**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))*
- *sl*

**(88) Date of publication of the international search report:**  
08 October 2020 (08.10.2020)

**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/EP2020/055035

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. H01M4/133  
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)  
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.
X	EP 3 435 448 A1 (INNOLITH ASSETS AG [CH]) 30 January 2019 (2019-01-30)	1,5-10
Y	[0047] mit [0037-9] -----	11-14
Y	US 9 263 745 B2 (ZINCK LAURENT [FR]; PSZOLLA CHRISTIAN [DE] ET AL.) 16 February 2016 (2016-02-16) Sp. 8, Z. 57 bis Sp. 9, Z. 8 -----	11-14
A	DE 30 37 060 A1 (DURACELL INT [US]) 16 April 1981 (1981-04-16) the whole document -----	1,5-14
A	EP 2 742 551 A2 (ALEVO RES AG [CH]) 18 June 2014 (2014-06-18) the whole document -----	1,5-14
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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
- "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  27 August 2020	Date of mailing of the international search report  08/09/2020
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Radeck, Stephanie
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## INTERNATIONAL SEARCH REPORT

International application No  
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 101 899 212 B1 (UNIV KOREA IND UNIV COOP FOUND [KR]) 14 September 2018 (2018-09-14)	2,5-12
Y	paragraph [0007] - paragraph [0026]; claim 1	13,14
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	paragraph [0022] - paragraph [0026]; claim 13	
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Y	14 February 2013 (2013-02-14) figs. 1-4 with [0002-5], [0063-80]	11-14
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X	US 2013/189566 A1 (ZINCK LAURENT [FR] ET AL) 25 July 2013 (2013-07-25)	3,4
	paragraph [0119] - paragraph [0174]	
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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2020/055035

## 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.:

### 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(completely); 5-14(partially)

Kathoden mit Kohlenstoff und einer Dicke von min 0,2mm

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2. claims: 2(completely); 5-14(partially)

Kathoden mit Kohlenstoff und einem Metalloxid

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3. claims: 3, 4(completely); 5-14(partially)

Kathoden mit einem Ableitelement aus einer porösen  
Metallstruktur

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2020/055035

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