

Title (en)
IMPROVED ELECTRODE PLATE STRUCTURE

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Application
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Abstract (en)
[origin: EP0370534A2] The present invention relates to batteries and battery systems. In particular, a battery is described which comprises a container which houses a plurality of cells. Each of the cells share a common negative terminal (4). Two or more positive terminal cells are provided. The specification also describes the use of such batteries to power cranking and auxiliary circuits according to a cell discharge management scheme. Methods of forming such batteries are disclosed in which alternate positive and negative electrode plates are provided and methods of forming such plates are disclosed in which layered structures are provided and by varying the number of layers thick and thin plates can be provided with different discharge characteristics.

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IPC 8 full level
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Citation (search report)

- [X] US 4883728 A 19891128 - WITEHIRA PITA [NZ]
- [X] DE 119215 C
- [X] DE 130917 C
- [X] FR 359732 A 19060403 - HUMBERT CHARLES [FR]
- [X] US 4175168 A 19791120 - ARMSTRONG WILLIAM A [CA], et al
- [X] US 3069486 A 19621218 - FRANK SOLOMON, et al
- [X] US 1347832 A 19200727 - ALLEN JAMES M
- [X] GB 191325607 A 19141008 - NAYLOR ERASMUS HENRY [GB]
- [X] GB 525374 A 19400827 - ALBERT REIFFER
- [E] US 5045415 A 19910903 - WITEHIRA PITA [NZ]
- [E] EP 0370534 A2 19900530 - WITEHIRA PITA
- [X] PATENT ABSTRACTS OF JAPAN vol. 11, no. 309 (E-547)(2756) 8 October 1987 & JP-A-62 103 975 (SHIN KOBE ELECTRIC MACH CO. LTD.) 14 May 1987
- See also references of WO 9111828A1

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DOCDB simple family (application)
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