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(54) Title: METHOD FOR PRODUCING LAYERED SHEET STRUCTURES FROM TITANIUM OR TITANIUM ALLOYS FOR
USE IN ELECTRODES OF PEM-TYPE ELECTROLYZERS AND/OR FUEL CELLS

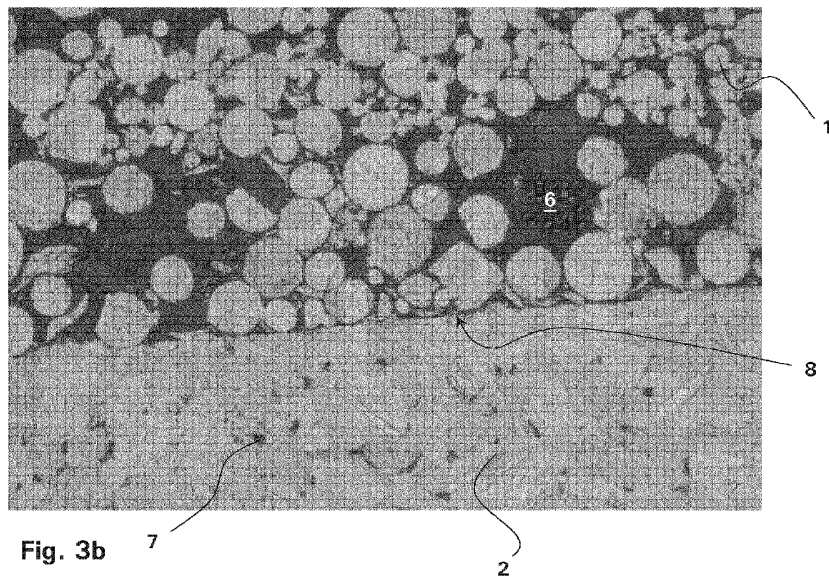


Fig. 3b

(57) Abstract: A method for producing layered sheet structures from titanium or titanium alloy metal for use in or as electrodes of PEM-type electrolyzers and/or fuel cells comprising the following steps: a) providing a first sheet-like green part that is formed from a powder of titanium metal, titanium alloy metal and/or titanium hydride and from at least one binder material by selectively positioning material and leaving voids or open spaces therebetween, said first sheet-like green part being a green part of a first metal sheet layer, or providing a first metal sheet layer comprising a metallic frame structure including voids or open spaces, b) providing a second sheet-like green part that is formed from a powder of titanium metal, titanium alloy metal and/or titanium hydride and from at least one binder material, said second sheet-like green part being a green part of a second, porous metal sheet layer, or providing a second metal sheet layer in the form of a porous metal sheet layer, c) forming a stack comprising i. the first sheet-like green part and the second sheet-

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like green part or ii. the first sheet-like green part and the second metal sheet or iii. the first metal sheet and the second sheet-like green part, d) debinding the green part or green parts and sintering the stack to densify the green part or green parts contained therein and to simultaneously bond the metal sheet layers of the stack.