

Title (en)
PROCESS FOR PRODUCING Ti OR Ti ALLOY, AND PULL-UP ELECTROLYSIS METHOD APPLICABLE TO SAID PROCESS

Title (de)
VERFAHREN ZUR HERSTELLUNG VON TI ODER TI-LEGIERUNG UND DARAUF ANWENDBARE HOCHZIEHELEKTROLYSEMETHODE

Title (fr)
PROCEDE DE PRODUCTION DE Ti OU D'UN ALLIAGE DE Ti ET METHODE D'ELECTROLYSE PAR TRACTION VERS LE HAUT DE LA CATHODE APPLICABLE AUDIT PROCEDE

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Priority

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Abstract (en)
In producing Ti or a Ti alloy through reduction by Ca, an electrolytic-bath salt taken out from a reduction process is electrolyzed to recover Ca and the electrolytic-bath salt as a solid substance, and the recovered Ca and electrolytic-bath salt are delivered to the reduction process. Therefore, heat generation is suppressed in the reduction process by utilizing latent heat of fusion possessed by the solid substance, thereby largely improving production efficiency and thermal efficiency. Additionally, a reaction temperature is easily controlled, and a raw-material loading rate can be enhanced to efficiently produce Ti or the Ti alloy. At this point, using a pulling electrolysis method of the invention, the solid-state Ca and electrolytic-bath salt can be obtained at a low voltage and high current efficiency, i.e., with the relatively small power consumption. When the solid-state Ca and electrolytic-bath salt is used as a Ca source in producing Ti or the Ti alloy through reduction by Ca, the Ti or Ti alloy can efficiently be produced.

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US9725815B2; US8747644B2; US8992758B2

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