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(54) Method of surface treatment of titanium metal

(57) A method of carburizing treatment is proposed in which if carburizing is carried out at a low temperature, carbon will not turn amorphose and deposit on the surface of a titanium metal but reliably penetrate into between metallic atoms. It is a method of surface treatment of a titanium metal comprising the steps of heating the titanium metal to a temperature of 400-690 °C in a cleaning gas atmosphere containing hydrogen gas, subjecting the surface of the titanium metal to cleaning by applying a DC voltage of 200-1500 V, and plasma carburizing in an atmosphere comprising a carburizing gas having the molar ratio of hydrogen atoms (H) to carbon atoms (C) adjusted to (H/C) ≦ 9 at a pressure of 13-400 Pa and a temperature of 400-690 °C . Ionization reaction in the gas is suppressed suitably. Because there exists no excessive carbon which is not used for carburization but turns soot or glass-like carbon, in the atmosphere during carburization, carburizing reaction progresses smoothly.

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EUROPEAN SEARCH REPORT

Application Number
EP 01 11 7022

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C23C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	19 December 2002	Elsen, D

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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