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(54) **Lower cost high strength single crystal superalloys with reduced Re and Ru content**

(57) A first embodiment of a nickel based alloy consists essentially of from 3.0 to 5.2 wt% chromium, from 1.5 to 3.0 wt% molybdenum, from 6.0 to 12.5 wt% tungsten, from 5.0 to 11 wt% tantalum, from 5.5 to 6.5 wt% aluminum, from 11 to 14 wt% cobalt, from 0.001 to 1.75 wt% rhenium, from 0.2 to 0.6 wt% hafnium, up to 0.05 wt% yttrium, up to 3.0 wt% ruthenium, and the balance

nickel. Another embodiment of a nickel based alloy consists essentially of from 1.0 to 3.0 wt% chromium, up to 2.5 wt% molybdenum, from 11 to 16 wt% tungsten, from 4.0 to 8.0 tantalum, from 5.7 to 6.5 wt% aluminum, from 11 to 15 wt% cobalt, from 2.0 to 4.0 wt% rhenium, from 0.2 to 0.6 wt% hafnium, up to 0.05 wt% yttrium, up to 3.0 wt% ruthenium, and the balance nickel.

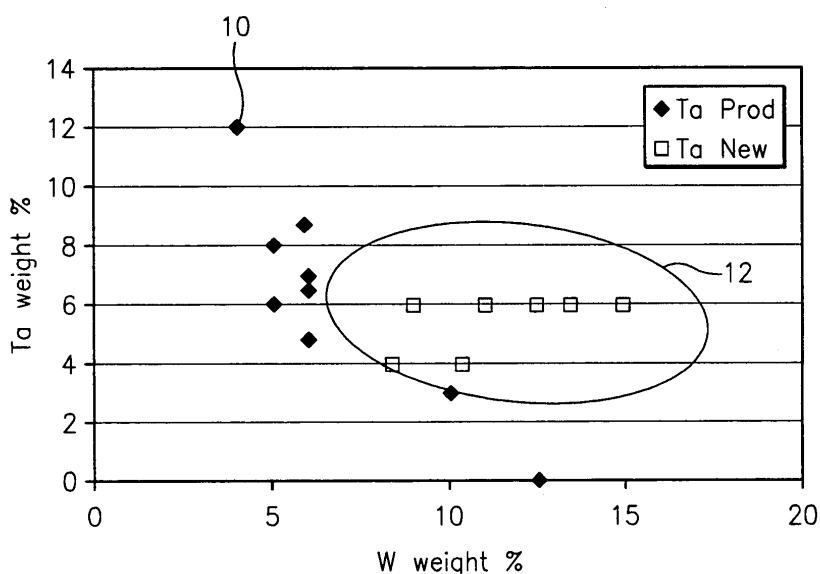


FIG. 1



EUROPEAN SEARCH REPORT

Application Number
EP 09 25 2708

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 17 October 2011	Examiner Rolle, Susett
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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