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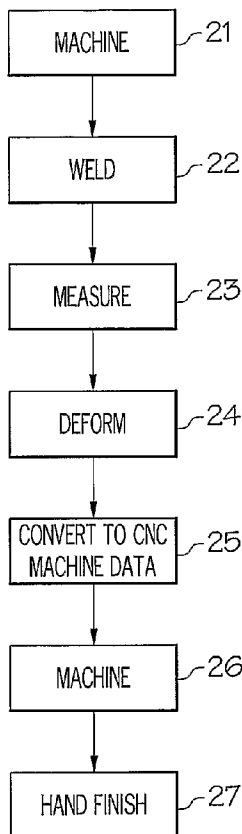
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(54) Title: ADAPTIVE MACHINING AND WELD REPAIR PROCESS



(57) Abstract: The present invention provides an apparatus and method for an adaptive machining and weld repair process useful for repairing airfoils (10), particularly damage to an airfoil leading edge (17) and tip. The process first machines away (21) damaged portions of an airfoil (10). Filler material is then added to the machined area through a process such as laser welding (22). At this point, the actual profile of the welded airfoil is measured (23) using a Coordinate Measuring Machine. This data is then used to generate a "deformation" profile (24), an airfoil profile that approximates the ideal shape of the airfoil. The airfoil (10) is then machined (26) using the data of the deformation profile to produce that shape. The adaptive technology minimizes the amount of stock on material that needs to be removed by hand. The technique thereby significantly reduces costly manual processing.

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <span style="margin-left: 200px;"><input checked="" type="checkbox"/> See patent family annex.</span>		
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