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(54) **Systems and methods for adjusting clearances in turbines**

(57) Embodiments of the invention can provide systems and methods for adjusting clearances (108) in a turbine (102). According to one embodiment, there is disclosed a turbine system (102). The system may include one or more turbine blades (104), a turbine casing (106) encompassing the one or more turbine blades (104), a thermoelectric element (110) disposed at least partially about the turbine casing (106), a cooling system (307) in communication with the thermoelectric element (110), and a controller (112) in communication with the cooling system (307) and the thermoelectric element (110). The controller (112) may be operable to control the expansion or contraction of the turbine casing (106) by heating or cooling at least a portion of the turbine casing (106) with the thermoelectric element (110) and by adjusting the cooling system (307) such that a clearance (108) between the one or more turbine blades (104) and the turbine casing (106) is adjusted.

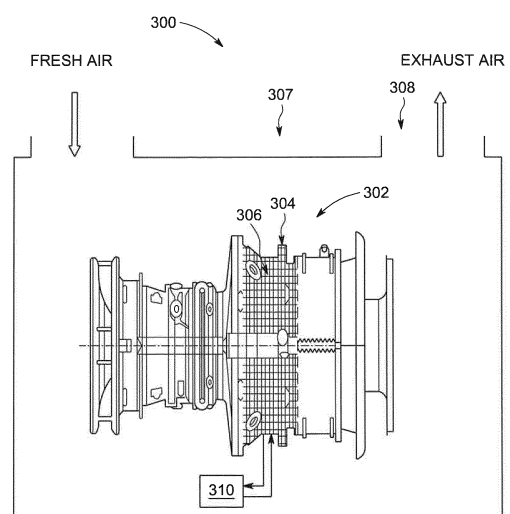


FIG. 3



EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			F01D
Place of search		Date of completion of the search	Examiner
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CATEGORY OF CITED DOCUMENTS 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 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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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The members are as contained in the European Patent Office EDP file on
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