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[Continued on next page]

(54) Title: GAS TURBINE APPARATUS WITH IMPROVED EXERGY RECOVERY

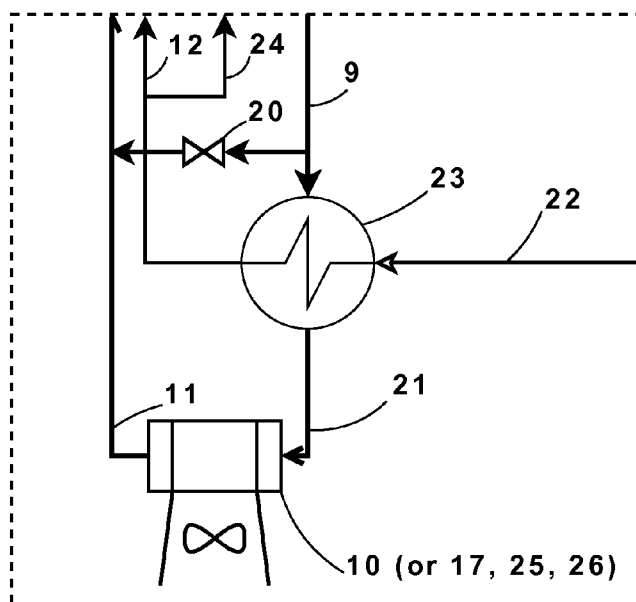


Figure 3

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(57) Abstract: A gas turbine apparatus comprising a compressor adapted to compress air; a combustion chamber, disposed downstream of the compressor and adapted to receive and combust a first portion of the compressed air is disclosed. The gas turbine apparatus further comprises a turbine, disposed downstream of the combustion chamber and adapted to receive and perform work from the combusted and compressed air, and a heat exchanger comprising a cooler, disposed parallel to the combustion chamber, downstream of the compressor and upstream of the gas turbine, which is adapted to receive and cool at least a second portion of the compressed air and provide the cooled compressed air to at least one thermally loaded part of the gas turbine. In addition, the gas turbine apparatus comprises at least one super-heater assembly, disposed downstream of the compressor and upstream of the cooler, adapted to extract and transfer energy from the compressed air to the combustion chamber and/or the turbine and/or an auxiliary energy recovering system, utilizing at least one auxiliary working medium adapted to transfer the energy.

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
F02C

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 practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X	JP 2001 214758 A (HITACHI LTD) 10 August 2001 (2001-08-10) paragraphs [0011], [0013] - [0016], [0036], [0037]; figures 1,2,5-7 -----	1-12
A	JP 11 182263 A (HITACHI LTD) 6 July 1999 (1999-07-06) figures 1,6-9 -----	1-12
A	JP 10 196316 A (HITACHI LTD) 28 July 1998 (1998-07-28) figures 2,3,5,13 -----	1-12
A	EP 1 249 581 A2 (MITSUBISHI HEAVY IND LTD [JP]) 16 October 2002 (2002-10-16) paragraphs [0007], [0008], [0016], [0045], [0047]; figures 1-5 ----- -/-	1-12



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See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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