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EUROPEAN PATENT APPLICATION

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F-92134 Issy-les-Moulineaux Cédex(FR)(54) **Steam injected engine with auxillary high pressure steam turbine.**

(57) A steam injected gas turbine engine, including a compressor, a combustor, a high pressure turbine and a power turbine for producing the output power for the engine. A high pressure boiler is included downstream of the power turbine to produce superheated steam at very high pressures and high temperatures. The steam passes through an auxillary steam turbine for extracting power output from the steam to increase the engine output. The steam is injected back into the engine, as for example, directly into the combustor. The thermal efficiency and power output of the engine system is substantially increased thereby at constant high pressure turbine rotor inlet temperature.

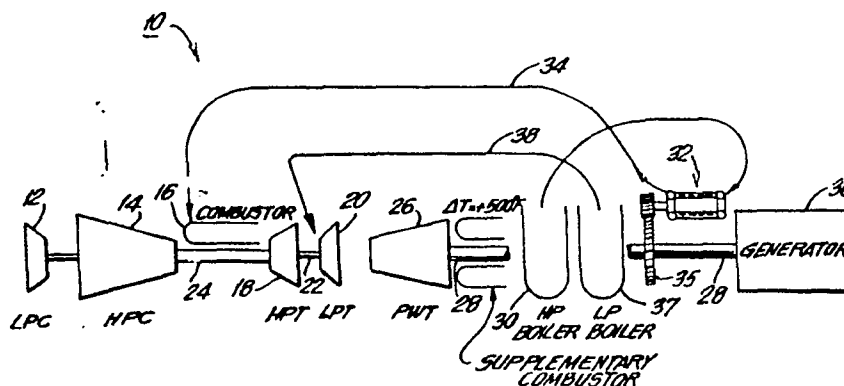


FIG.1

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid.
namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

X LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.

namely:

1. Claims 1-4,14-18: Injecting superheated steam for reheater into the combustor.
2. Claims 5,6,19: Cooling hot parts of the engine by steam
3. Claims 7-9,20: Gearing for steam turbine
4. Claims 10-13: Additional boiler

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid.
namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

namely claims: 1-4,14-18

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DOCUMENTS CONSIDERED TO BE RELEVANT

- 2 -

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
A	FR-A-1 530 850 (AEG)		
A	GB-A- 713 553 (MAN) 		
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX			
Place of search		Date of completion of the search	Examiner
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			