

F02C

GAS-TURBINE PLANTS; AIR INTAKES FOR JET-PROPULSION PLANTS; CONTROLLING FUEL SUPPLY IN AIR-BREATHING JET-PROPULSION PLANTS (construction of turbines [F01D](#); jet-propulsion plants [F02K](#); construction of compressors or fans [F04](#); gas-turbine combustion chambers [F23R](#); using gas turbines in compression refrigeration plants [F25B 11/00](#); using gas-turbine plants in vehicles, see the relevant vehicle classes)

Definition statement

This place covers:

- Combustion product or hot gas turbine plants.
- Internal combustion turbines or turbine plants.
- Turbine plants in which the working fluid is an unheated, pressurised gas.

References

Limiting references

This place does not cover:

Construction of turbines	F01D
Steam turbine plants	F01K
Special vapour plants	F01K
Jet-propulsion plants	F02K
Construction of compressors or fans	F04D
Gas-turbine combustion chambers	F23R
Using gas turbines in compression refrigeration plants	F25B 11/00

Special rules of classification

In this subclass, multi-aspect classification is applied, so that aspects of subject matter that are covered by more than one of its groups should be classified in each of those groups.

In this subclass the Indexing Code scheme [F05D](#) is used as follows:

- [F05D 2200/00](#) Mathematical features
-
- [F05D 2210/00](#) Working fluids
- [F05D 2220/00](#) Application
- [F05D 2230/00](#) Manufacture
- [F05D 2240/00](#) Components
- [F05D 2250/00](#) Geometry
- [F05D 2260/00](#) Function
- [F05D 2270/00](#) Control
- [F05D 2300/00](#) Materials; Properties thereof

F02C 1/00

Gas-turbine plants characterised by the use of hot gases or unheated pressurised gases, as the working fluid (by the use of combustion products [F02C 3/00](#), [F02C 5/00](#))

Definition statement

This place covers:

Gas-turbine plants characterised by the use of hot gases or unheated pressurised gases, as the working fluid, e.g. heated indirectly by solar power, nuclear power or the like; unheated pressurized gas that is stored and prior to use the expansion of the pressurized gas is used to drive a turbine.

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Gas-turbine plants characterized by the use of combustion products	F02C 3/00 , F02C 5/00
--------------------------------------------------------------------	-------------------------------------------------------

F02C 3/00

Gas-turbine plants characterised by the use of combustion products as the working fluid (generated by intermittent combustion [F02C 5/00](#))

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

The working fluid being generated by intermittent combustion	F02C 5/00
--------------------------------------------------------------	---------------------------

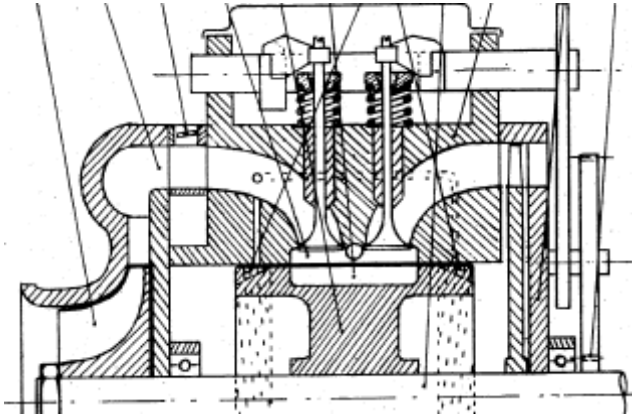
F02C 5/00

Gas-turbine plants characterised by the working fluid being generated by intermittent combustion

Definition statement

This place covers:

Gas-turbine plants characterised by the working fluid being generated by intermittent combustion, i.e. non continuous combustion e.g. in a combustion chamber having valves



taken from FR2210718

F02C 6/04

Gas-turbine plants providing heated or pressurised working fluid for other apparatus, e.g. without mechanical power output ([F02C 6/18](#) takes precedence{; for a fluidised-bed combustor [F02C 3/205](#)})

References

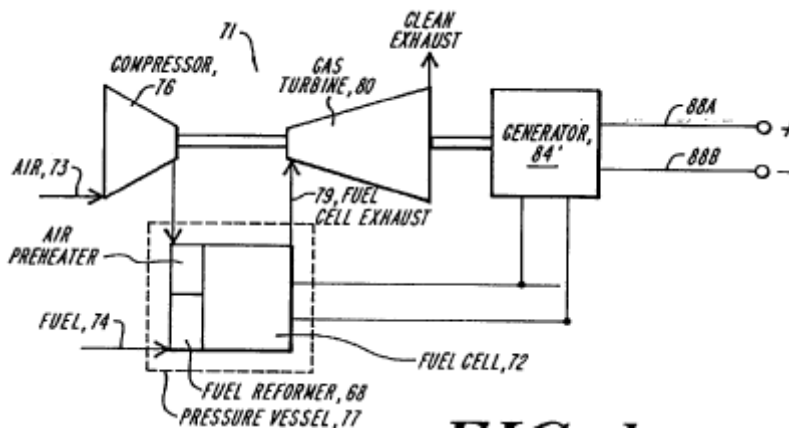
Informative references

Attention is drawn to the following places, which may be of interest for search:

If related to a fluidised-bed combustor	F02C 3/205
If waste heat from the gas turbine and usage thereof is concerned	F02C 6/18

Special rules of classification

Illustrative example of subject matter classified in [F02C 6/04](#)



taken from US2003012997

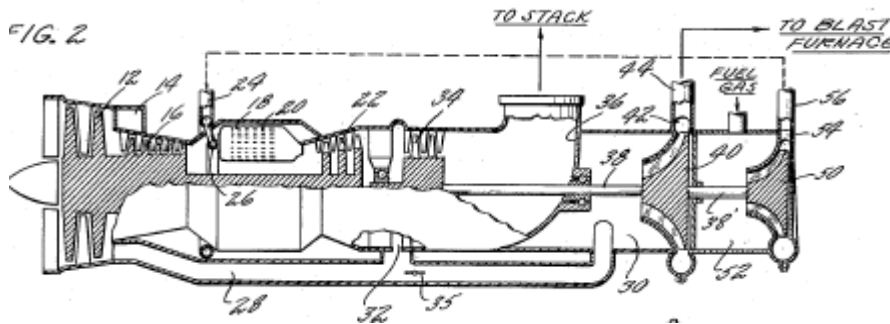
If recovery of waste heat from the gas turbine to a second process or plant is concerned, classify only in [F02C 6/18](#), which takes precedence.

F02C 6/06

providing compressed gas ([F02C 6/10](#) takes precedence)

Special rules of classification

Illustrative example of subject matter classified in [F02C 6/06](#)



taken from US3216712

F02C 6/08

the gas being bled from the gas-turbine compressor

References

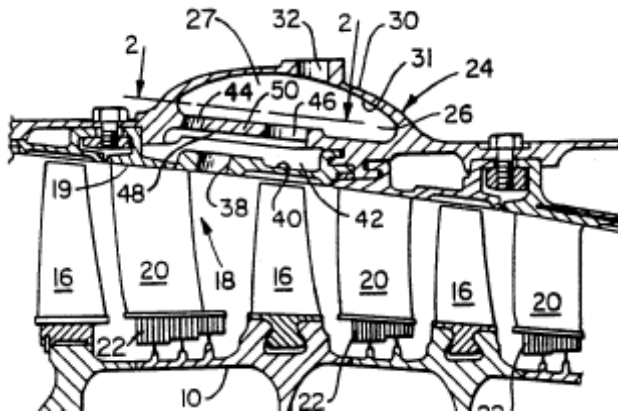
Informative references

Attention is drawn to the following places, which may be of interest for search:

For controlling of working fluid flow by bleeding or bypassing	F02C 9/18
----------------------------------------------------------------	---------------------------

Special rules of classification

Illustrative example of subject matter classified in [F02C 6/08](#)



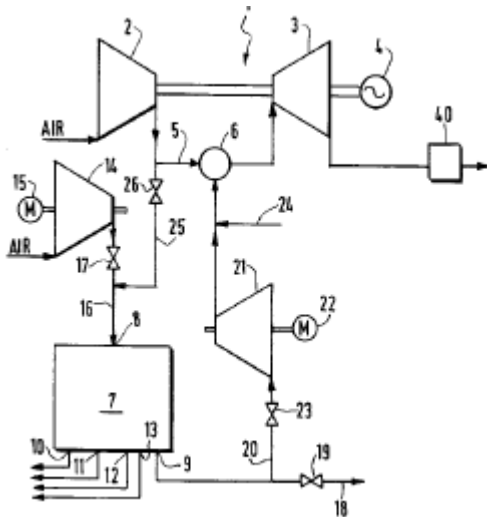
taken from US5203162

F02C 6/10

supplying working fluid to a user, e.g. a chemical process, which returns working fluid to a turbine of the plant

Special rules of classification

Illustrative example of subject matter classified in [F02C 6/10](#)



Taken from EP568431

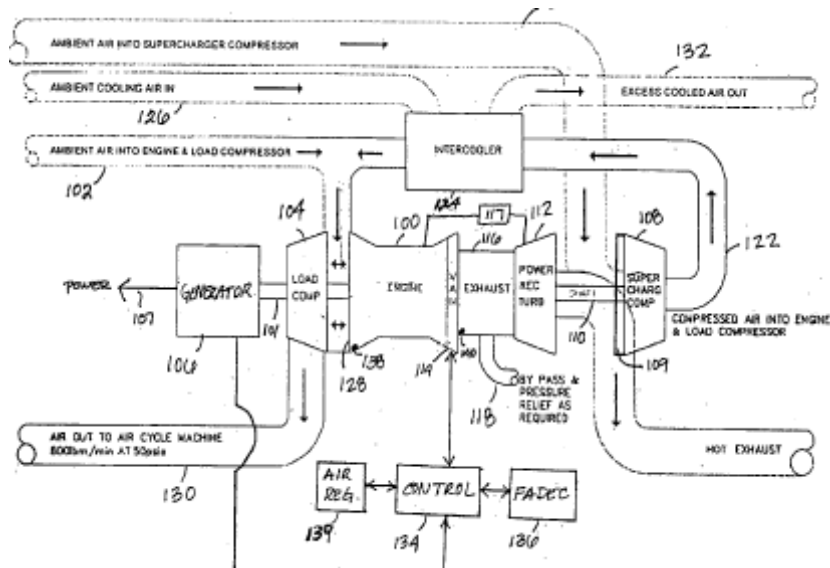
F02C 6/12

Turbochargers, i.e. plants for augmenting mechanical power output of internal-combustion piston engines by increase of charge pressure

Definition statement

This place covers:

Either turbochargers and details thereof if not covered elsewhere or plants/cycles with supercharging apparatuses or processes



taken from US2006016196

References

Limiting references

This place does not cover:

Seals	F01D 11/00
Variable geometry turbines	F01D 17/14 , F01D 17/16
Bearings	F01D 25/16
Lubrication	F01D 25/18
Casings	F01D 25/24

Special rules of classification

Use [F05D 2220/40](#) for classifying additional information

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

VGT	variable turbine geometry
-----	---------------------------

F02C 6/18

using the waste heat of gas-turbine plants outside the plants themselves, e.g. gas-turbine power heat plants (using waste heat as source of energy for refrigeration plants [F25B 27/02](#); using the waste heat of a gasturbine for steam generation or in a steam cycle see [F01K 23/10](#))

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Using the waste heat of a gasturbine for steam generation or in a steam cycle	F01K 23/10
Using waste heat as source of energy for refrigeration plants	F25B 27/02

Special rules of classification

Do not classify here if gas turbine is just an otherwise unspecific feature of a HRSG system, consider [F01K](#) and subgroups instead

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

HRSG	heat recovery steam generator
------	-------------------------------

F02C 7/00

Features, components parts, details or accessories, not provided for in, or of interest apart form groups [F02C 1/00](#) - [F02C 6/00](#); Air intakes for jet-propulsion plants (controlling [F02C 9/00](#))

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Controlling or regulation of gas turbine plants	F02C 9/00
-------------------------------------------------	---------------------------

F02C 7/05

having provisions for obviating the penetration of damaging objects or particles

Relationships with other classification places

Separation of particles from gases in general: [B01D 45/00](#)

F02C 7/22

Fuel supply systems

References

Limiting references

This place does not cover:

Injectors, mixing or premixing devices	F23D 14/00
----------------------------------------	----------------------------

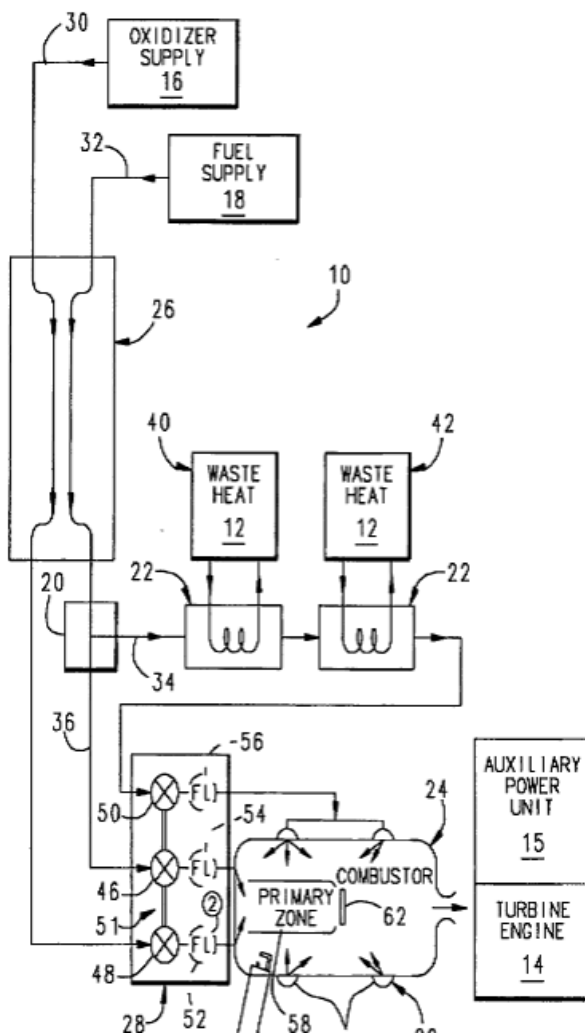
F02C 7/224

Heating fuel before feeding to the burner

Definition statement

This place covers:

Illustrative example of subject matter classified in this group: US6105370



Relationships with other classification places

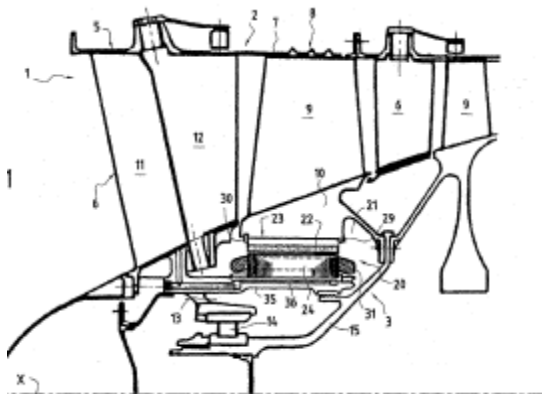
Relates to [F02C 7/08](#), [F02C 7/10](#) and [F02C 7/105](#) or [F02C 7/12](#), i.e. cooling potential of the fuel is used for cooling purposes in other parts of the engine;

F02C 7/268

Starting drives for the rotor{, acting directly on the rotor of the gas turbine to be started}

Special rules of classification

Illustrative example of subject matter classified in [F02C 7/268](#)



taken from EP1382802

F02C 7/27

Fluid drives (turbine starters [F02C 7/277](#))

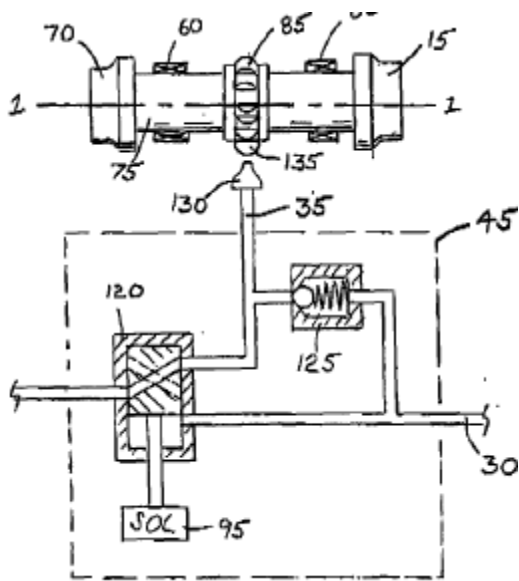
References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Turbine starters	F02C 7/277
------------------	----------------------------

Special rules of classification

Illustrative example of subject matter classified in [F02C 7/27](#)



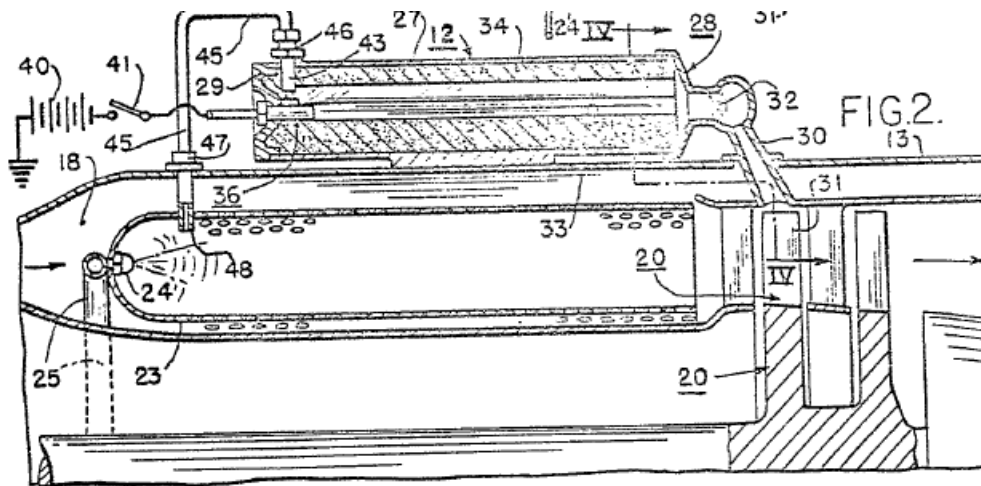
Taken from EP1298298

F02C 7/272

generated by cartridges

Special rules of classification

Illustrative example of subject matter classified in [F02C 7/272](#)



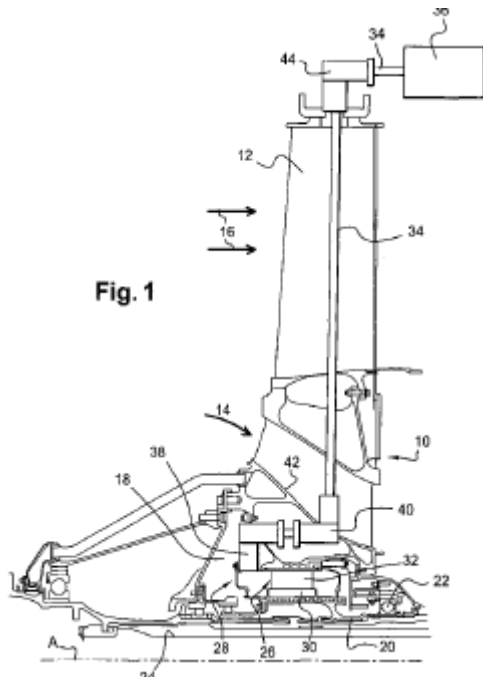
Taken from GB889105

F02C 7/275

Mechanical drives

Special rules of classification

Illustrative example of subject matter classified in [F02C 7/275](#)



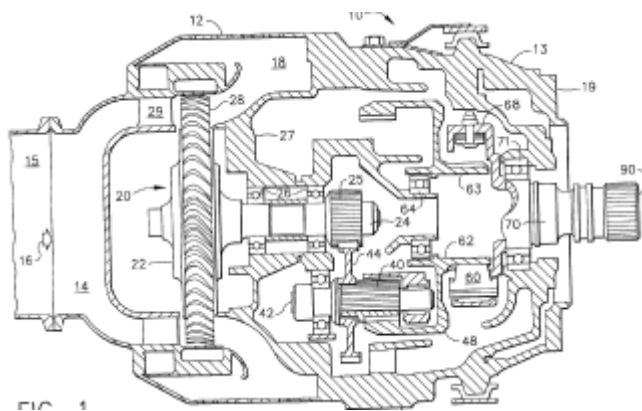
taken from EP1811132

F02C 7/277

the starter being a {separate} turbine

Special rules of classification

Illustrative example of subject matter classified in [F02C 7/277](#)

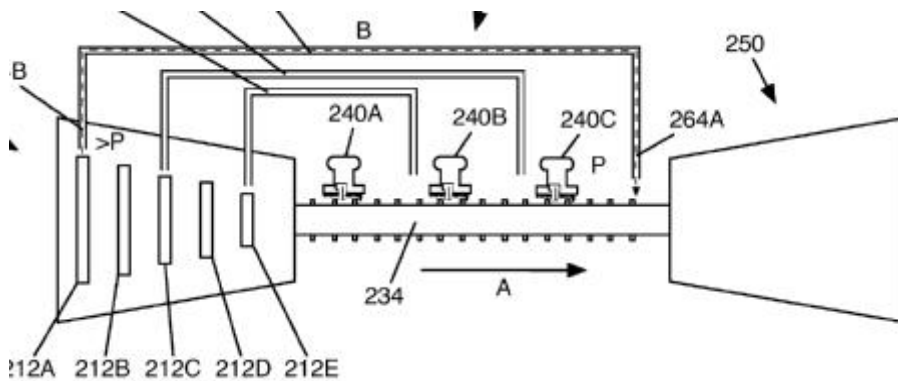


taken from US2001028845

F02C 7/28**Arrangement of seals****Definition statement**

This place covers:

Arrangement of seals in a gas or steam turbine in a macroscopic sense



taken from US2010284782

Relationships with other classification places

For details of seals in gas turbine applications: [F01D 11/00](#).

Sealing in general: [F16J](#).

F02C 7/30**Preventing corrosion {or unwanted deposits} in gas-swept spaces****References****Limiting references**

This place does not cover:

If related to blade treatment	F01D 5/286
-------------------------------	----------------------------

F02C 7/32**Arrangement, mounting, or driving, of auxiliaries****Relationships with other classification places**

Gearboxes	F16H
-----------	----------------------

Glossary of terms

In this place, the following terms or expressions are used with the meaning indicated:

PTO	Power Take Off
-----	----------------

F02C 9/00

Controlling gas-turbine plants; Controlling fuel supply in air- breathing jet-propulsion plants (controlling air intakes [F02C 7/057](#); controlling turbines [F01D](#); controlling compressors [F04D 27/00](#); controlling in general [G05](#))

Definition statement

This place covers:

Controlling gas-turbine plants, controlling fuel supply in air- breathing jet-propulsion plants

Relationships with other classification places

Controlling air intakes; [F02C 7/057](#)

Controlling compressors; [F04D 27/00](#)

Monitoring of gas turbines/performance monitoring; [G05B](#), [G05D](#)

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modelling of gas turbines	G05B 17/00
---------------------------	----------------------------