CLASS 290, PRIME-MOVER DYNAMO PLANTS

SECTION I - CLASS DEFINITION

This class includes patents for the production and transmission of electric power and does not include any specific use to which the power is put. (Note. The mere reference to or the inclusion in a claim of an energy-consuming device, broadly stated--as, for example, a "lamp", "heater", or "tool"--is not sufficient to exclude the patent from this class). It includes the following groups when the invention includes some motor other than a dynamo electric machine in combination with a dynamo electric machine:

Wherein a proximate function of the entire combination is the generation of electricity by a dynamo-electric machine or such generation combined with the transmission, storage, or control of the current generated. There may be an additional function of production, transmission, storage, or control of some power other than electrical.

Wherein a proximate function of the entire combination is that of an electric motor. There may be an additional function of production, transmission, storage, or control of some power other than electrical.

Wherein the direction in which the energy flows (whether from the dynamo electric machine to the motor or from the motor to the dynamo-electric machine) is not essential to the invention. These are mostly structural combinations. Includes the combination of an internal-combustion engine and magneto unless the ignition system is claimed. A magneto in combination with a timing means is regarded as a subcombination of an internal-combustion engine.

Wherein the operation involves an interchange of energy between the motor and the dynamo-electric machine and the dynamo electric machine is not subsidiary to the motor, but may as well be a source of external energy as the motor. A magneto connected with an ignition system of an internal-combustion engine is considered subsidiary to the internal-combustion engine.

Dynamo electric-machine starters for engines, the dynamo electric machine being mechanically connected to the engine to drive the same. Claims including an engine and starter, if the latter is shown as a dynamo electric machine starter, are included. Dynamo electric machines disclosed as starters for engines are included, even through the engine is not claimed, provided the elements claimed require for their operation a reversal of energy flow to and from the engine.

Power production and transmission systems wherein the dynamo electric machine above referred to charges a storage battery.

(1) Note. Pumps operated by motors, which motors are controlled by fluid-pressure or other fluid condition produced by the pump, are excluded.

(2) Note. All patents in this class disclosing dynamo electric machines having a "rotary field and armature", special internal-combustion-engine "ignition", prime-mover "starting-motors", or "engine-control" features may be found by searching the subclasses having these terms in their titles.

(3) Note. All patents disclosing batteries may be found by searching subclasses 16, 41 and 50, and the "starting-motor" subclasses.

SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS

A compilation of all types of motors will be found in the Notes to the class definition of Class 60.

SECTION III - REFERENCES TO OTHER CLASSES

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, and 192, Clutches and Power-Stop Control, for the combinations of this class where the starter is merely a cranking means for the engine and the invention resides in the gearing or clutch connecting the starter to the engine, respectively.

123, Internal-Combustion Engines, for the combinations of this class where the starter is merely a cranking means adjunctive to means modifying the operation of an internal-combustion engine, and no other structure of the starter of its relation to the engine is claimed than would be set forth by the mere inclusion of the electric motor as an element of the combination.

SUBCLASSES

1 MISCELLANEOUS:
This subclass is indented under the class definition. Inventions not otherwise classified.

2 HEATING PLANTS:
This subclass is indented under the class definition. Prime-mover dynamo plants having as a function the production of heat.

SEE OR SEARCH CLASS:
237, Heating Systems, subclass 12.3 for heat and power plants.

3 TRAIN:
This subclass is indented under the class definition. Prime-mover dynamo plants peculiarly adapted to use on trains of vehicles. The particular construction of the vehicle is not included.

4 PLURAL PRIME MOVER:
This subclass is indented under the class definition. Prime-mover dynamo plants involving two or more motors other than dynamo-electric machines.

SEE OR SEARCH THIS CLASS, SUBCLASS:
3,

5 ALTERNATING CURRENT, ROTARY FIELD AND ARMATURE:
This subclass is indented under the class definition. Prime-mover dynamo plants including an alternating-current dynamo electric machine having a field and armature, both of which are rotatable.

6 MULTIPLE-ARMATURE DYNAMO:
This subclass is indented under the class definition. Prime-mover dynamo plants having a dynamo-electric machine which comprises two or more armatures threaded by a single magnetic flux.

SEE OR SEARCH THIS CLASS, SUBCLASS:
5, for plants of this character comprising dynamo electric machines having fields and armatures both of which rotate.

7 ELECTRIC CONTROL:
This subclass is indented under the class definition. Prime-mover dynamo plants including control of, by or through an electric circuit.

SEE OR SEARCH THIS CLASS, SUBCLASS:
3, 4 and 5.

8 Excitation dynamo:
This subclass is indented under subclass 7. Prime-mover dynamo plants comprising a dynamo in a field-excitation circuit of which is another dynamo for furnishing or controlling current in the field-excitation circuit.

Electric-control, Traction.
Electric-control prime-mover dynamo plants wherein a function of the combination is to move a load. The load may be moved by the prime mover or by a dynamo-electric machine operating as a motor. The load moved is generally that moved by the traction-wheels of a motor-vehicle.

9 Electric traction motor:
This subclass is indented under unnumbered subclass, Traction. Electric-control traction prime-mover dynamo plants having as a function thereof the movement of a load by a dynamo electric machine operating as a motor. The load moved is generally that moved by the traction-wheels of a motor-vehicle.

SEE OR SEARCH CLASS:
318, Electricity: Motive Power Systems, subclasses 140+ for generator fed motor systems having generator control.

10 With starting and generating dynamo:
This subclass is indented under subclass 9. Electric-control prime-mover dynamo plants having a dynamo electric machine which acts as a traction-motor and in addition a dynamo electric machine which acts as a motor for starting the prime mover and as a generator.

11 With generator:
This subclass is indented under subclass 10. Electric-control prime-mover dynamo plants having in addition to a dynamo electric machine which acts as a traction-motor another

dynamo-electric machine which acts as a motor for starting the prime mover and as a generator and a third dynamo electric machine which acts as a generator.

12 Rotary field and armature:
This subclass is indented under subclass 10. Electric-control traction-motor prime-mover dynamo plants having in addition to the traction-motor a starting and generating dynamo and wherein one or more of the dynamo electric machines have both field and armature rotatable.

13 Ignition:
This subclass is indented under subclass 10. Electric-control prime-mover dynamo plants including an electric traction-motor, a starting and generating dynamo, and an internal-combustion engine which is provided with special igniting means.

14 With generator:
This subclass is indented under subclass 9. Electric-control prime-mover dynamo plants including an electric traction-motor and a dynamo electric machine which operated as a generator.

15 Rotary field and armature:
This subclass is indented under subclass 14. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor and a dynamo electric machine which acts as a generator, one or both of said dynamo electric machines having both field and armature rotatable.

16 Battery:
This subclass is indented under subclass 14. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor, a dynamo electric machine which acts as a generator, and a battery.

17 Engine control:
This subclass is indented under subclass 14. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor, a dynamo electric machine which acts as a generator, and a prime mover provided with controlling means therefor.

18 As starter:
This subclass is indented under subclass 9. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor and also as a motor for starting the prime mover.

19 As generator:
This subclass is indented under subclass 18. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor, as a motor for starting the prime mover, and as an electric generator.

20 Rotary field and armature:
This subclass is indented under subclass 19. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor, as a motor for starting the prime mover, and as an electric generator, the field and armature of said machine being both rotatable.

21 Engine control:
This subclass is indented under subclass 18. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a traction-motor and as a motor for starting the prime mover, the prime mover being provided with means for controlling the same.

22 Starting and generating dynamo:
This subclass is indented under unnumbered subclass, Traction. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator.

23 Rotary field and armature:
This subclass is indented under subclass 22. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as an electric generator and having a field and armature, both of which rotate.

24 Engine control:
This subclass is indented under subclass 23. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator and has a field and

armature, both of which rotate, and a prime mover provided with means for controlling the same.

25 Engine control:
This subclass is indented under subclass 22. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor to start the prime mover and as a generator and a prime mover which is provided with means for controlling the same.

26 Ignition:
This subclass is indented under subclass 25. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator and an internal-combustion engine which is provided with special igniting means.

27 Electric-starting motor with generator:
This subclass is indented under unnumbered subclass, Traction. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and in addition a dynamo electric machine which acts as a generator.

28 Electric-starting motor:
This subclass is indented under unnumbered subclass, Traction. Electric-control traction prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover.

29 Rotary field and armature:
This subclass is indented under unnumbered subclass, Traction. Electric-control traction prime-mover dynamo plants which include a dynamo electric machine having a field and armature, both of which rotate.

30 Demand starters:
This subclass is indented under subclass 7. Prime-mover dynamo plants including a prime mover which operates a generator to supply current to a translating circuit and provided with means for automatically starting the prime mover when the translating circuit is closed or in response to predetermined electrical conditions.

31 Starting and generating dynamo:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30,

32 With generator:
This subclass is indented under subclass 31. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator and in addition a dynamo electric machine which acts as a generator.

33 Ignition:
This subclass is indented under subclass 32. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator, in addition a dynamo electric machine which acts as a generator and an internal combustion engine which is provided with special igniting means. The last-mentioned generator in general furnishes current for the ignition.

34 Engine control:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator, the prime mover having means for controlling the same.

35 Ignition:
This subclass is indented under subclass 34. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator, together with an internal-combustion engine which is provided with special igniting means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30,

36 Electric-starting motor with generator:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and in addition a dynamo electric machine which acts as a generator.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30,

37 Ignition:
This subclass is indented under subclass 36. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover, an additional dynamo electric machine which acts as a generator, and an internal-combustion engine which is provided with special igniting means.

SEE OR SEARCH THIS CLASS, SUBCLASS:
30,

38 Electric-starting motor:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover.

39 Rotary field and armature:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including a dynamo electric machine having a field and armature, both of which rotate.

40 Engine control:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants wherein the prime mover is provided with means for controlling the same. These are generally prime-mover-operated generators, the prime mover being automatically controlled in response to line-circuit conditions.

(1) Note. The combination of an internal combustion engine idle speed control and an electric generator in which is included (a) any detail of the generator, (b) any relationship between a generator part and an internal combustion engine, or (c) any control of the internal combustion engine in response to the electricity produced by the generator is found here.

SEE OR SEARCH CLASS:
123, Internal-Combustion Engines, subclasses 339.16+ for an internal combustion engine idle speed control responsive to an external load condition.
361, Electricity: Electrical Systems and Devices, subclasses 236+ for miscellaneous electrical speed responsive systems.

41 Ignition:
This subclass is indented under subclass 40. Electric-control prime-mover dynamo plants including an internal-combustion engine which is provided with special igniting means.

42 Tide and wave motors:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including tide or wave motors.

43 Fluid-current motors:
This subclass is indented under subclass 7. Electric-control prime-mover dynamo plants including a fluid-current motor.

44 Wind:
This subclass is indented under subclass 43. Electric-control prime-mover dynamo plants including a wind-motor.

45 TRACTION:
This subclass is indented under the class definition. Prime-mover dynamo plants wherein a function of the combination is to move a load. The load may be moved by the prime mover or by a dynamo electric machine operating as a motor. The load moved is generally that moved by the traction-wheels of a motor-vehicle.

46 STARTING AND GENERATING DYNAMO:
This subclass is indented under the class definition. Prime-mover dynamo plants including a dynamo electric machine which acts as a motor for starting the prime mover and as a generator.

47 ELECTRIC-STARTING MOTOR WITH GENERATOR:
This subclass is indented under the class definition. Prime-mover dynamo plants including a dynamo-electric machine which acts as a motor for starting the prime mover and in addition a dynamo electric machine which acts as a generator.

48 ELECTRIC-STARTING MOTOR:
This subclass is indented under the class definition. Prime-mover dynamo plants including a dynamo electric machine which acts as a motor to start the prime mover.

49 ROTARY FIELD AND ARMATURE:
This subclass is indented under the class definition. Prime-mover dynamo plants including a dynamo electric machine having a field and armature, both of which rotate.

50 BATTERY:
This subclass is indented under the class definition. Prime-mover dynamo plants including electric batteries.

(1) Note. For the remaining patents in this class which disclose batteries, search subclasses 16 and 30 and the subclasses whose titles disclose that they contain starting-motors.

51 ENGINE CONTROL:
This subclass is indented under the class definition. Prime-mover dynamo plants including a prime mover which has means for controlling the same.

52 TURBOGENERATORS:
This subclass is indented under the class definition. Prime-mover dynamo plants including a dynamo electric machine which operates as a generator and a turbine adapted to drive the same mechanically connected thereto.

53 TIDE AND WAVE MOTORS:
This subclass is indented under the class definition. Prime-mover dynamo plants including tide or wave motors.

SEE OR SEARCH CLASS:
60, Power Plants, subclasses 495+ for motors having a buoyant working member motivated by the vertical rise and fall of the surface of a body of fluid.
405, Hydraulic and Earth Engineering, subclasses 76+ for a method or apparatus for extracting power from waves or tides involving significant hydraulic works and only nominal recitation of the motor or dynamoelectric machine.

54 FLUID-CURRENT MOTORS:
This subclass is indented under the class definition. Prime-mover dynamo plants including a fluid current motor.

SEE OR SEARCH CLASS:
405, Hydraulic and Earth Engineering, subclasses 75+ for a method or apparatus for extracting power from a moving fluid involving significant hydraulic work structure and only nominal recitation of the fluid motor or dynamoelectric machine.

55 Wind:
This subclass is indented under subclass 54. Prime-mover dynamo plants including windmotors.

END