The following classification changes will be effected by this order:

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Title Change:

Cross-Reference Art Collections: 903 944-947 3618 ELEC0000

Indent Change:

Cross-Reference Art Collections: 903 944-947 3618 ELEC0000

No other classes were impacted by this order.

This order includes the following:

A. CLASSIFICATION MANUAL CHANGES
B. LISTING OF PRINCIPAL SOURCE OF ESTABLISHED AND DISPOSITION OF ABOLISHED SUBCLASSES
C. CHANGES TO THE USPC-TO-IPC CONCORDANCE
D. DEFINITION CHANGES AND NEW OR ADDITIONAL definitions
CLASSIFICATION ORDER 1881

JANUARY 6, 2009

PROJECT M-A180

Project Leaders: Joseph Falk
Examiners: Frank Vanaman, Chris Bottorff, Jeffery Restifo, Brian Swenson
Editor: David Delzingaro
Publications Specialist: Louise Bogans
WITH POWERED MEANS FOR CREATING FLUID FORCE TO ATTRACT VEHICLE TO SURFACE OF TRAVEL

SURFACE EFFECT VEHICLES (I.E., GROUND EFFECT MACHINES)

Having propulsion or control means

Responsive to instability condition

Surface contacting control

Integrated with working fluid

With plural cushions

With dynamic seal or fluid curtain

Spray deflector

Expansible chamber

Fluid bearing or fluid pad

Rigid side walls

Flexible skirt

Having outlet for working fluid

Dynamic seal or fluid curtain

Recirculating

WITH FLUID OR MECHANICAL MEANS TO ACCUMULATE ENERGY (1) DERIVED FROM MOTION OF VEHICLE OR (II) OBTAINED FROM OPERATION OF VEHICLE MOTOR, AND GIVE UP THE ENERGY (1) WHEN NEEDED FOR VEHICLE ACCELERATION OR (2) TO POWER AN AUXILIARY SYSTEM OF THE VEHICLE

WITH MEANS FOR CONTROLLING OPERATION RESPONSIVE TO ELECTROMAGNETIC RADIATION, MAGNETIC FORCE, OR SOUND WAVES RECEIVED FROM SOURCE, OR REFLECTED FROM OBJECT OR SURFACE, LOCATED APART FROM VEHICLE

Having controlling means adapted to interact with stationary means which describes course of vehicle's travel

Radiation, force, or waves reflected from external object or surface

WITH MEANS RESPONSIVE TO SPEED OF VEHICLE FOR MAINTAINING SPEED AT, OR PREVENTING IT FROM EXCEEDING, A PARTICULAR VALUE

Including device to signal to operator existence of unusual or unintended speed

Including device responsive to centrifugal force

And means to prevent tampering or unauthorized use

Having electrical switch

Including fluid pressure actuated servomechanism

And electrical quantities comparison means for development of input pressure

And one or more electrical components for establishing or regulating input pressure
WITH DEVICE FOR PROGRAMMABLY OPERATING VEHICLE'S STEERABLE WHEELS

6.2 STEERING BY DRIVING
6.24 Combined with manual steering
6.26 Interlocked
6.28 Electrical
6.3 Fluid
6.32 Lever and/or linkage
6.34 With controller cam
6.36 Lost motion type
6.38 Geared
6.4 With flexible and/or yieldable link
6.44 Auxiliary steering motor
6.48 Independently operable drive motors
6.5 Electrical
6.54 Variable contact
6.58 Controlled from rotatably mounted superstructure
6.6 Steering responsive to rotary movement of superstructure
6.62 Combined
6.64 Swinging traction frame responsive to differential drive
6.66 Reversing drive to traction element
6.7 Endless flexible track
7.1 SPECIAL DRIVING DEVICE
7.2 Spiral type element
7.3 Reaction jet propulsion
7.4 Propeller type
7.5 Vehicle mounted winch for pulling vehicle
8.1 Stepper
8.2 Step or abutment ascending/descending type vehicle
8.3 Wheel and stepper type
8.4 Nonsupporting pusher type stepper
8.5 With alternately lifted supporting base and leg
8.6 With alternately lifted foot or skid
8.7 Endless or rotary type
9.1 Portable track
9.21 Endless, flexible
9.22 Track substituted for drive wheel
9.23 Guided by walking attendant
9.25 With attendant station
9.27 Rider straddles vehicle (e.g., motorcycle)
9.29 Convertible from wheel type
9.28 Track remains with vehicle
9.3 Wheel or track contacts ground
9.32 With auxiliary obstacle surmounting means
9.34 With ground wheel
9.36 Opposite and laterally spaced
9.38 Steering
9.4 With hitch
9.42 Combined
9.44 With track-related steering means
9.46 Pivoted track frame
9.48 Laterally extendable track
9.5 Track support mounted for vertical movement
9.52 Adjustable
SPECIAL WHEEL BASE
..With mechanism of occupant-powered type for developing torque for supplementing, alternating with, or replacing torque of motor
207 ..Including member utilized in common by occupant-powered mechanism and motor for transmitting torque output of each to wheel
208 ..Collapsible or knockdown for storage or transport
209 ..With means for changing number of supporting wheels, or for adjusting relative location thereof
210 ..Having only three wheels
211 ..Including steerable and driven wheel
212 ..All wheels motor driven
213 ..Having motor mounted to swing with steerable wheel
214 ..Electrical-type motor
215 ..Including two wheels driven and having common axis of rotation
216 ..Electrical-type motor
217 ..Including endless element for transmitting drive to wheels
218 ..Having only two wheels
219 ..Arranged in tandem
220 ..Electrical-type motor
221 ..Including rotating element for frictionally engaging and driving a wheel
222 ..And means for steering that wheel
223 ..Including steerable and driven wheel
224 ..Either wheels motor driven
225 ..Having frame element or fender constituting also exhaust or fuel passageway or fuel reservoir
226 ..Including longitudinally extending shaft for transmitting drive to wheel
227 ..Including resilient means for mounting driven wheel
228 ..Including resilient means for mounting motor
229 ..With means for cooling motor
230 ..With change-speed means between motor and driven wheel
231 ..Including endless element for transmitting drive and means for adjust tension of element
36 STEAM TRACTION ENGINES
37 ..Driven steering wheel type
38 ..Four wheels driven
39 ..With boiler leveler
40 ..Spring mounted on axle
232 ..With means for (1) protecting motor from impact of collision, (2) utilizing mass of motor to absorb force thereof, or (3) protecting occupant region of vehicle from impact-induced shifting of motor
41 WITH LEVELING DEVICE
233 ..Having four wheels driven
234 ..With means for steering all driven wheels
HAVING AT LEAST ONE WHEEL BOTH DRIVEN AND STEERABLE

Steerable wheel has exclusive axis of pivot (i.e., stub-axle type)
..Including flexible, axially rotatable means having one portion fixed to vehicle and another portion pivotable with wheel for transmitting drive thereto

Pivotable portion of means has additional structure of gear-like nature in driving engagement with corresponding structure on wheel

Means comprises rotatable shaft containing plural universal joints

Having at least one joint located on each side of axis of pivot

Pivotable portion of means includes ball or socket element of ball-and-socket type universal joint

Joint includes intermediate ball, floating in groove, for positively engaging ball with socket

Pivotable portion of means includes gear element of intermeshing gear type universal joint

Joint includes at least one gear element rotatable on axis of pivot and intermeshing with gear element on pivotable portion

Joint also includes gear element on fixed portion engaging gear element on axis of pivot and vertically offset from gear element on pivotable portion

Having axis of pivot disposed between parallel planes defined by opposite sides of wheel

With driven axle, mounting two or more wheels, swingable about axis of pivot, and motor mounted to swing therewith

Having axle offset longitudinally from axis of pivot

With driven axle, mounting two or more wheels, swingable about axis of pivot, and swingable also about a horizontal axis

With driven axle, mounting two or more wheels, swingable about axis of pivot, and shaft for transmitting drive coincident with axis

With belt or harness for restraining occupant, and means whereby the belt or harness controls, or is controlled by, the functioning of a vehicle system or component

System comprises transmission or element thereof

System comprises ignition circuit or starter circuit or element of one or other

With means for promoting safety of vehicle, its occupant or load, or an external object

Responsive to absence or inattention of operator, or negatively reactive to attempt to operate vehicle by person

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not qualified mentally or physically to do so

Utilizing weight, or lack thereof, of operator on seat or other support to determine presence or absence

Responsive to engagement of portion of perimeter of vehicle with external object

And causing application of vehicle brake

Brake comprises or includes element moved or deformed into engagement with ground

And also interruption of at least one operational system of the vehicle or its motor

System comprises clutch

And causing interruption of an electrical system of the vehicle or its motor

Comprising either movable closure member or fastening device therefor responsive to forward or rearward movement, or variations therein, of vehicle

Responsive to sensing of acceleration, deceleration, or tilt of vehicle

And also impeding movement of fuel

And causing disruption of drive train between motor and wheels

Comprising vehicle system or component responsive either to position of movable closure member or to status of fastening device therefor

By preventing unauthorized or unintended access or use

Responsive to failure of taxicab operator to activate fare meter upon boarding of passenger

Comprising device, mechanism, or system for either repositioning a movable or removable closure member or operating a fastening device therefor

Responsive to weight of cargo load transported by vehicle

MOTOR AS SOURCE OF POWER FOR OTHER MACHINE

Other machine is creeper drive on motor vehicle

Other machine is mounted by three point hitch (i.e., Ford-Ferguson hitch)

Hydraulic drive to other machine

Electric drive to other machine

# Title Change
* Newly Established Subclass

@ Indent Change
& Position Change
MOTOR AS SOURCE OF POWER FOR OTHER MACHINE

53.6 Drive to other machine by power take-off (PTO) driven by wheel or axle of motor vehicle

53.61 PTO mounted directly or engaging drive wheel to rotate therewith

53.62 PTO constantly driven with wheel selectively driven

53.7 Drive to other machine by power take-off (PTO) at front end of vehicle

53.8 Other machine is vehicle accessory

54.1 POWER

54.2 With spring powered motor

55 On lower running gear

56 Rear axle and body

57 Longitudinal shaft

58 Frame

59 ...Pivoted support on axle

60 ...Electric

61 ...Pivoted support on axle

62 ...Rear axle

63 Motor moved by axle

291 Having specific motor-to-body-frame relationship

292 Including change-speed gearing, or clutch, mounted in common with motor

293 ...With member or mechanism for controlling gearing or clutch, and means for minimizing transfer of movement, caused by operation of motor, to member or mechanism

294 ...With means enabling repositioning of motor and gearing or clutch

295 ...With wheeled auxiliary frame, resiliently joined to body frame, for supporting motor and gearing or clutch

296 ...Including means on body frame or motor for handling exhaust

297 ...Having motor shaft parallel to rotational axis of driven wheel

298 ...Including means enabling repositioning of motor

299 ...Including auxiliary frame for motor and resilient means for connecting auxiliary frame to body frame

300 ...Including means of nonsupporting nature for minimizing operation-induced movement of motor

65.1 Electric

* 65.21 Hybrid vehicle (IPC)

* 65.22 Specific vehicle architecture (IPC)

* 65.225 Series and parallel (IPC)

* 65.23 Switching type (IPC)

* 65.235 Differential gearing type (IPC)

* 65.24 Electrical distribution type (IPC)

* 65.245 Series (IPC)

* 65.25 Parallel (IPC)

* 65.26 Motor assist (IPC)

* 65.265 Control of multiple systems specific to hybrid operation

* 65.27 ...Control of external device in conjunction with specific hybrid function

* 65.275 ...Control of individual subunit specific to hybrid operation

* 65.28 ...Control of engine specific to hybrid operation

* 65.285 ...Control of motor or generator specific to hybrid operation

* 65.29 ...Control of battery specific to hybrid operation

* 65.31 ...With means on vehicle for generating power for the electric motor

* 65.315 ...With motor in or moveable with wheel

65.6 With gearing between electric motor and drive wheel

65.7 ...Gearing is a changeable ratio gearing

65.8 ...With electronic devices (logic gates, semi-conductors, vacuum tubes, etc.) in control circuit

301 ...Including traction motor of turbine type driven by fluid product of combustion

302 ...Including traction motor of kind driven by expandable fluid from source external of motor

303 ...Gas is product of treatment of a volatile fluid (e.g., gas is steam)

304 ...With means to condense gas discharged from motor

305 ...Including traction motor of kind driven by noncompressible fluid received under pressure from a pump

306 ...Vehicle includes another system operated by same fluid

307 ...Having variable displacement type motor or pump

308 ...Having separate motor for each driven, surface-engaging member

309 ...With means for handling motor exhaust

310 ...With means to generate steam for a propulsion purpose

60.1 ...With means to guide and/or control air for power plant cooling

60.2 ...With further means to utilize power plant cooling air for other purposes

60.3 ...With means to guide and/or control combustion air for power plant

60.4 Radiators and condensers, mounting

60.6 ...With protector for the radiator or condenser

60.5 ...Battery mountings and holders

69.2 ...Hoods

69.21 ...Pivoted about horizontal axis extending transversely of vehicle (e.g., alligator type or front end pivot)

69.22 ...With noise suppression means

69.23 ...Noise suppression means prevents hood from vibrating (i.e., anti rattlers)

59.24 ...With access openings having moveable or removable closures

59.25 ...Water deflectors

# Title Change

* Newly Established Subclass

© Indent Change

& Position Change
POWER

. Hoods

. Water deflectors

. With means to increase idle speed of internal combustion engine to compensate for accessory load

. With fuel supply for internal combustion engine

. Engine uses gaseous fuel

. Vehicle has plural power plants

. Underpans

TRANSMISSION MECHANISM

. Condition responsive (e.g., responsive to speed, load, etc.)

. With temperature control, lubrication or sealing

. With laterally movable wheel

. Wheel driven parallel wheel

. Tire directly driven

. With particular gear structure

. Assembly feature

. Traction aid

. With protective guard or casing

. Mechanical movement transmission

. Final drive axle movable

. Rigid axle

. Belt or chain drive

. With tensioning means

. With lateral support between the differential or axle housing and the vehicle frame

. With sprung differential

. . And differential support feature

. . And final gear drive

. . Belt or chain drive

. . Swinging axle, single pivot

. . With sprung differential

. . And differential support feature

. . And final gear drive

. . And transverse leaf spring suspension

. . And final gear drive

. Variable speed or direction

. . Plural

. . Belt or chain

. . Fluid drive

. . Friction drive

. . Planetary

. . With brake

. Final gear drive at each of two parallel wheels

. . Planetary

. . Belt or chain

. . Gear transmission relationship to frame or axle

. . Transmission is differential

. . Shaft relationship to frame or shaft

. . Transmission support

. . Differential or axle housing

. . Shaft

. . With propeller shaft casing (e.g., torque tube)

. . Vibration damping

. . Flexible support

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. . Vibration damping

. . Flexible support

@ Indent Change

* Newly Established Subclass

& Position Change
STEERING GEAR

With fluid power assist
With swinging axle
...Including flexible power transmitting means
Steering column supported
...Including rack gear means
With rack and pinion gearing
...Intermediate steering shaft and power assist
Having rotary working member
...Having flexible working member
...Including engaging gear means
With plural working members
...Working member movement traverses vehicle path
Working member movement traverses vehicle path
...Moves separate rod for each wheel steering arm
...Working member part engages wheel steering arm
...Working member part engages tie rod
...Movable working member engages wheel steering arm
...Movable working member is a moving cylinder
...With linkage intermediate working member and wheel steering arm
...Device to control pressure (e.g., valve)
...Hydraulic circuit
...With electric power assist
...Specific mechanical feature
...Controlling rear wheels
...Condition modulated
...With mechanical power assist
...Swinging axle
...Bogie truck having more than one axle
...Dust guards

BODIES

With passenger compartment having article receiving or removing means
Tractor and similar vehicle cabs
Movable cab or operator's station
...Tilting
...Via power or power enhancing means
Overmotor cab
...Movable body portion facilitating engine access
...Cab portion
...Overmotor cab
...With means for handling exhaust of a motor
Dashboards
Footboards and pedal guards

FRAME

With structure adapted to receive or support a motor, change-speed gearing, or other power train element

MISCELLANEOUS

CROSS-REFERENCE ART COLLECTIONS

POWER (180/54.1)
Electric (180/65.1)
...Combined with nonelectric drive means (180/65.2)
...Generating means is driven by a prime mover (180/65.4)

ARGICULTURAL-TYPE TRACTORS
DEVICES FOR TRAVERSING VERTICAL SURFACES
SHOCK OR VIBRATION ABSORBING OR TRANSMITTING MEANS BETWEEN WHEEL SUSPENSION AND MOTOR
AIRSTREAM REACTIVE VEHICLE OR VEHICLE STRUCTURE
TRACTION DOLLSIES FOR AIRCRAFT (Cross Reference Art Collection created in companion project)
AXLES
ADJUSTABLE AXLES
MOTORIZED WHEELCHAIRS
MOTOR VEHICLES WITH SHORT WHEELBASE

FOREIGN ART COLLECTIONS

FOR 000
CLASS-RELATED FOREIGN DOCUMENTS

Any foreign patents or nonpatent literature from subclasses that have been re-classified have been transferred directly to the FOR Collections listed below. These Collections contain ONLY foreign patents or nonpatent literature. The parenthetical references in the Collection titles refer to the abolished subclasses from which these Collections were derived.

POWER (180/54.1)
Electric (180/65.1)
...Combined with nonelectric drive means (180/65.2)
...Generating means is driven by a prime mover (180/65.4)
CLASS 903 HYBRID ELECTRIC VEHICLES (HEVS)

CROSS-REFERENCE ART COLLECTIONS

PRIME MOVERS COMPRISING ELECTRICAL AND INTERNAL COMBUSTION MOTORS (EPO/JPO)

Having energy storing means (e.g., battery, capacitor) (EPO/JPO)

Component specially adapted for HEV (EPO/JPO)

Combustion engine (EPO/JPO)

Motor or generator (EPO/JPO)

Electricity storage (e.g., battery, capacitor) (EPO/JPO)

Fuel cell (EPO/JPO)

Gearing (EPO/JPO)

Orbital (e.g., planetary gears) (EPO/JPO)

....With two or more gear sets (EPO/JPO)

....Drive line clutch (EPO/JPO)

....One way (EPO/JPO)

....Actuated (e.g., engaged or disengaged by electrical, hydraulic or mechanical means) (EPO/JPO)

....Specific drive or transmission adapted for HEV (EPO/JPO)

....With plurality of drive axles (EPO/JPO)

....With transmission for changing gear ratio (EPO/JPO)

....Continuously variable (EPO/JPO)

....Stepped shift (EPO/JPO)

..Conjoint control of different elements (EPO/JPO)

..Characterized by control of fuel cell (EPO/JPO)

..Characterized by control of gearing (e.g., control of transmission ratio) (EPO)

..Characterized by control of driveline clutch (EPO/JPO)

..Characterized by control of braking (e.g., blending of regeneration, friction braking) (EPO/JPO)

..Assembly or relative location of components (EPO/JPO)

..Housing details (EPO/JPO)

..Having chargeable mechanical accumulator (EPO/JPO)

# Title Change
* Newly Established Subclass
# Indent Change
& Position Change
# SOURCE CLASSIFICATION(S) OF PATENTS IN NEWLY ESTABLISHED SUBCLASSES REPORT

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### Disposition Classification(s) of Patents from Abolished Subclasses Report

Generated by Data Control Division

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### C. CHANGES TO THE USPC-TO-IPC CONCORDANCE

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D. CHANGES TO THE DEFINITIONS

CLASS 180 – MOTOR VEHICLES

Definitions Abolished:

Subclasses

65.2 through 65.5

Definitions Modified:

Subclass 205: Under SEE OR SEARCH THIS CLASS, SUBCLASS

Delete:

The reference to subclasses 65.1+

Insert:

65.1, through 65.8, for a motor vehicle, generally, provided with an electric motor for driving it; and particularly subclass 65.21, for a motor vehicle having other than a special wheel base and provided with both electric and nonelectric means for driving it.

Definitions established:

65.21 Hybrid vehicle (IPC):
This subclass is indented under subclass 65.1. Subject matter wherein an electric motor in the body or on the body-frame drives the vehicle, combined with a prime mover, other than another electric motor, for generating power for the electric motor or for driving the vehicle.

(1) Note. The electric motor and the prime mover may act on the same or different wheels of the vehicle and may be usable alternately or jointly, but both remain on the vehicle at all times.

65.22 Specific vehicle architecture (IPC):
This subclass is indented under subclass 65.21. Subject matter having a specific or particular functional arrangement of or interconnection between two or more major components (e.g. wheel, motor/generator, engine, etc.) of a drive train.
D.  CHANGES TO THE DEFINITIONS

65.225 Series and parallel (IPC):
This subclass is indented under subclass 65.22. Subject matter having a functional arrangement which allows operation in both a first mode wherein the electric motor is supplied with electric power generated by a generating means carried on the vehicle, the generating means being driven by a prime mover other than another electric motor which does not directly drive the wheels; and a second mode wherein the electric motor, generator and prime mover are mechanically interconnected with the drive wheels for driving the vehicle.

65.23 Switching type (IPC):
This subclass is indented under subclass 65.225. Subject matter wherein a series or parallel drive mode can be either selected by a user or is changed automatically.

65.235 Differential gearing type (IPC):
This subclass is indented under subclass 65.225. Subject matter wherein a differential gear (e.g. planetary differential gear, etc.) is used for power distribution, in both a series and parallel drive mode.

65.24 Electrical distribution type (IPC):
This subclass is indented under subclass 65.225. Subject matter wherein an electric motor which can operate differentially is provided for power distribution, in both series and parallel drive mode.

65.245 Series (IPC):
This subclass is indented under subclass 65.22. Subject matter wherein the electric motor is supplied with electric power generated by a generating means carried on the vehicle, the generating means being driven by a prime mover other than another electric motor, the prime mover not directly driving the wheels.

65.25 Parallel (IPC):
This subclass is indented under subclass 65.22. Subject matter wherein the electric motor and prime mover are mechanically interconnected with the drive wheels for driving the vehicle.

65.26 Motor assist (IPC):
This subclass is indented under subclass 65.25. Subject matter wherein the electric motor provides an assist force for driving the vehicle (i.e., it is not capable of driving the vehicle alone).

65.265 Control of multiple systems specific to hybrid operation:
This subclass is indented under subclass 65.21. Subject matter provided with a control arrangement of multiple subunits (e.g. engine, battery, motor, etc.) of a hybrid propulsion power train.

(1) Note. A control arrangement lacking a recitation of vehicle structure, or including only broad recitation of a vehicle, or of such parts as are necessarily involved in the definition of a vehicle, would not be placed in this subclass.
D. CHANGES TO THE DEFINITIONS

65.27 Control of external device in conjunction with specific hybrid function:
This subclass is indented under subclass 65.21. Subject matter including vehicle having a control arrangement specific to the operation of a device external to the hybrid power train relative to hybrid operation, or the control of a portion of a hybrid power train in relation to an external device.

(1) Note. A control arrangement lacking a recitation of vehicle structure, or including only broad recitation of a vehicle, or of such parts as are necessarily involved in the definition of a vehicle, would not be placed in this subclass.

65.275 Control of individual subunit specific to hybrid operation:
This subclass is indented under subclass 65.21. Subject matter including vehicle having an arrangement for control of an individual subunit of a hybrid electric power train (e.g. control of fuel cell, etc.).

(1) Note. A control arrangement lacking a recitation of vehicle structure, or including only broad recitation of a vehicle, or of such parts as are necessarily involved in the definition of a vehicle, would not be placed in this subclass.

65.28 Control of engine specific to hybrid operation:
This subclass is indented under 65.275. Subject matter including vehicle having a control arrangement specific to the operation of the prime mover.

(1) Note. A control arrangement lacking a recitation of vehicle structure, or including only broad recitation of a vehicle, or of such parts as are necessarily involved in the definition of a vehicle, would not be placed in this subclass.

65.285 Control of motor or generator specific to hybrid operation:
This subclass is indented under 65.275. Subject matter including vehicle having a control arrangement specific to the operation of a motor or generator.

(1) Note. A control arrangement lacking a recitation of vehicle structure, or including only broad recitation of a vehicle, or of such parts as are necessarily involved in the definition of a vehicle, would not be placed in this subclass.

65.29 Control of battery specific to hybrid operation:
This subclass is indented under 65.275. Subject matter including vehicle having a control arrangement specific to the operation of the battery.

(1) Note. A control arrangement lacking a recitation of vehicle structure, or including only broad recitation of a vehicle, or of such parts as are necessarily involved in the definition of a vehicle, would not be placed in this subclass.

65.31 With means on vehicle for generating power for the electric motor:
This subclass is indented under subclass 65.1. Subject matter including vehicle wherein the electric motor is supplied with electric power generated by means carried on the vehicle.
D. CHANGES TO THE DEFINITIONS

(1) Note. The generating means may be a generator driven by a prime mover or the running gear of the vehicle including the drive wheels, the drive axle, drive shaft, or shock absorbing means. The drive may be direct or indirect through an energy conversion mechanism. Although the systems in this and the indented subclass may include batteries, for purposes of this subclass, a storage battery is not considered to be means for generating electric power.

SEE OR SEARCH THIS CLASS, SUBCLASS:

2.2, for generating means on a vehicle driven by a wind motor or in the form of a solar cell.

65.51 With motor in or moveable with wheel:
This subclass is indented under subclass 65.1. Subject matter including vehicle wherein the electric motor is mounted in the wheel to form part of the wheel or is mounted on the wheel to move with the wheel as the wheel moves relative to the vehicle body or frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

55, for wheel mounted motors other than electric or hydraulic.
308, for hydraulically driven motors mounted in or on the wheels.

SEE OR SEARCH CLASS:

310, Electrical Generator or Motor Structure, subclass 67 for electric motors combined with wheels.

FOREIGN ART COLLECTIONS

The definitions below correspond to the abolished subclasses from which these collections were formed. See the Foreign Art Collection schedule of this class for specific correspondences. [Note: The titles and definitions for indented art collections include all the details of the one(s) that are hierarchically superior.]

FOR 100 Combined with nonelectric drive means:
Foreign art collections including vehicles wherein the electric motor is combined with a prime mover, other than another electric motor, for driving the vehicle.

(1) Note. The electric motor and the prime mover may act on the same or different wheels of the vehicle and may be usable alternately or jointly but both remain on the vehicle at all times.
D. CHANGES TO THE DEFINITIONS

(2) Note. This subclass is intended to include a prime-mover-generator-electric motor drive train provided they are all mechanically interconnected with the drive wheels. Such an apparatus is known as a hybrid drive vehicle.

FOR 101 Generating means is driven by a prime mover:
Foreign art collections including vehicles wherein the means for generating power for the electric motor is driven by a prime mover other than another electric motor.

(1) Note. The prime mover is usually a gasoline or diesel engine and the drive system is usually referred to as a gas-electric or diesel-electric drive.
D. CHANGES TO THE DEFINITIONS

CLASS 903 – HYBRID ELECTRIC VEHICLES (HEVS)

Definitions Abolished:

Subclasses

920-927, 940-943, and 948

Definitions Modified:

Class Definition: Section I

Delete:

The entire class definition.

Insert:

This class includes arrangement or mounting of plural prime movers for mutual or common propulsion of a vehicle. This Class includes specific HEV topologies, components, and arrangements of components specially adapted for HEVs, as well as controls of components specially adapted for HEVs.

This class was initially established as a result of a joint reclassification project of HEV technology completed by the Japanese Patent Office (JPO) and the European Patent Office (EPO). At the time of introduction, all U.S. documents in these subclasses were either classified directly by the EPO or JPO, or through family member processing of classified documents. The subclasses also contain foreign documents classified directly by these countries.

Since Class 903 was established, many of the related IPC subclasses were abolished. Additionally, some of the subclasses that had been in Class 903 when it was established were transferred to Class 180 in January 2009. The U.S. patents are updated with classifications assigned by U.S. examiners. Foreign patents for subclasses existing in the IPC are updated on a regular basis from the EPO and JPO databases.
D. CHANGES TO THE DEFINITIONS

Subclass 902: In the title:

Delete:

The current title.

Insert:

PRIME MOVERS COMPRISING ELECTRICAL AND INTERNAL COMBUSTION MOTORS (EPO/JPO):

Subclass 904: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

903

Subclass 905: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

904

Subclass 906: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

904
D. CHANGES TO THE DEFINITIONS

Subclass 907: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

904

Subclass 908: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

904

Subclass 909: In the hierarchy line of the subclass definition:

Delete:

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904

Subclass 910: In the hierarchy line of the subclass definition:

Delete:

902

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909
D. CHANGES TO THE DEFINITIONS

Subclass 911: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

910

Subclass 912: In the hierarchy line of the subclass definition:

Delete:

902

Insert:

904

Subclass 913: In the hierarchy line of the subclass definition:

Delete:

902

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912

Subclass 914: In the hierarchy line of the subclass definition:

Delete:

902
D. CHANGES TO THE DEFINITIONS

Insert:

912

Subclass 915: In the hierarchy line of the subclass definition:

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902

Insert:

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D. CHANGES TO THE DEFINITIONS

Subclass 918: In the hierarchy line of the subclass definition:

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Subclass 919: In the hierarchy line of the subclass definition:

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Subclass 930: In the hierarchy line of the subclass definition:

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Subclass 944: In the hierarchy line of the subclass definition:

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D. CHANGES TO THE DEFINITIONS

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903

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The subclass title

Insert:

Characterized by control of fuel cell (EPO/JPO):

Subclass 945: In the hierarchy line of the subclass definition:

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902

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903

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The subclass title

Insert:

Characterized by control of gearing (e.g. control of transmission ratio) (EPO/JPO):

Subclass 946: In the hierarchy line of the subclass definition:

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902

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D. CHANGES TO THE DEFINITIONS

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Characterized by control of driveline clutch (EPO/JPO):

Subclass 947: In the hierarchy line of the subclass definition:

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The subclass title

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Characterized by control of braking (e.g. blending of regeneration, friction braking) (EPO/JPO):

Subclass 951: In the hierarchy line of the subclass definition:

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902

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903
D. CHANGES TO THE DEFINITIONS

Subclass 952: In the hierarchy line of the subclass definition:

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Subclass 960: In the hierarchy line of the subclass definition:

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