B62M

RIDER PROPULSION OF WHEELED VEHICLES OR SLEDGES; POWERED PROPULSION OF SLEDGES OR [N: SINGLE-TRACK] CYCLES; TRANSMISSIONS SPECIALLY ADAPTED FOR SUCH VEHICLES (arrangements or mounting of transmissions in vehicles in general B60K; transmission elements per se F16)

Definition statement

This subclass/group covers:

Rider propulsion of wheeled vehicles, e.g. cycles having two or more wheels, using essentially the mechanical energy of the rider, e.g. by hand or feet, to propel the vehicle.

Rider propulsion of wheeled vehicles as above with additional source of power, e.g. combustion engines or electric motors, said additional source of power might be used in addition according the need of the rider.

Propulsion devices for sledges or the like, e.g. snow vehicles with or without engine, cycles having an endless tracks rather than wheels, motor powered sledges.

Vehicles, e.g. motorcycles, characterised by position of motor or engine with respect to vehicle frame, wheels or other components. Motorcycle aspects in relation to support or mounting of engine or motor, the exhaust system, cooling system, mufflers, air intake or the arrangements of accessories.

Transmission aspects characterised by the use of an endless flexible members, e.g. chains, inter-engaging toothed wheels, or frictionally engaging wheels or friction rollers engaging the periphery of a ground wheel.

Transmission characterised by rotary shafts, e.g. cardan shafts, or non-mechanical gearing, e.g. fluid gearing.

Transmission for hybrid motorcycles, e.g. having an electric motor and a internal combustion engine.

Pedals or cranks

Actuators for speed change mechanisms specially adapted for cycles.

Relationship between large subject matter areas

There are significant overlapping between subclasses B62M and B62K, the latter dealing more with the cycles frame aspects. In practical most of the documents classified for example in B62M 25/00 (actuators for gear shifting) are also classified in B62K 23/00 (Rider operated controls specially adapted for cycles). Similarly motorcycles in main group B62M 7/00 characterised by position of motor or engine have a strong relationship with main group B62K

11/00 dealing with frames for motorcycles, engine assisted cycles or motor scooters.

References relevant to classification in this subclass

This subclass/group does not cover:

Wheelchairs	A61G 5/00
Footrests	B62J 25/00
Power driven cycles with four or more wheels	B62K 5/007
Power driven tricycles	B62K 5/025
Adaptation of engines for driving cycles	F02B 61/02

Informative references

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

Shoes for cyclist	A43B 5/14
Ski or snowboards	A63C 5/00
Skateboards	A63C 17/00
Tools for cycles	B25B 27/0071
Arrangement or mounting of transmission in vehicles	B60K 17/00
Propulsion of electrically propelled vehicles	B60L
Cycles hubs rotatable arranged on an axle	B60B 27/023
Sledges with runners	B62B 13/00
Electric or power supply devices relating to lightening	B62J 6/00

Cycle chain guards	B62J 13/00
Bicycles without a seat, e.g. non-motorised scooters	B62K 3/002
Motorcycles, engine assisted cycles or motor scooters	B62K 11/00
Handle bar grips	B62K 21/26
Twist grips, levers for rider operated controls	B62K 23/00
Levers or grips especially adapted for brake mechanism	B62L 3/00
Gas-flow silencers or exhausts apparatus for ICE	F01N
Kick-starter mechanism or the like	F02N
Means for transmitting movement in a flexible sheathing,e.g.Bowden mechanism	F16C 1/10
Gearings per se	F16H

Special rules of classification within this subclass

Where applicable, additional classification should be given in the following codes:

B62K 2202/00 Motorised scooters (e.g. 'Vespa')

B62K 2204/00 Adaptations for driving cycles by electric motor (for driving electrically assisted bicycles B62M 6/00)

Additional classification should also to be given in the codes associated with main groups B62M 3/00, B62M 7/00, B62M 9/00, B62M 9/124, B62M 25/00 and B62M 27/02

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Transmissions	The term transmission means all parts between the prime mover or the part to which a rider immediately applies propulsion effort, e.g. pedal cranks, and a driven ground wheel.

B62M 1/00

Rider propulsion of wheeled vehicles (rider propulsion with additional source of power B62M6/00; propulsion by ground-engaging rods B62M29/02)

Definition statement

This subclass/group covers:

Rider propulsions of wheeled vehicles, e.g. bicycles, using essentially the mechanical energy of the rider, e.g. by hand or feet, to propel the vehicle.

Involving devices which enable occasionally the storing and releasing of rider energy, e.g. arrangement of flywheels

References relevant to classification in this group

This subclass/group does not cover:

Ground-engaging propulsion device for cycles	B62M 29/00
Construction of cranks operated by hand or foot of adjustable lenght	B62M 3/02
Cranks which can be immobilised as foot rests	B62M 5/00
Wheelchairs	A61G 5/00
Cycles, e.g. scooters, propelled only by rider pushing his foot on the floor	B62K 3/00
Rider propulsion of wheeled vehicles with additional source of power	B62M 6/00

B62M 1/24

with reciprocating levers, e.g. foot levers (levers with can be immobilised as foot rests B62M5/00)

Definition statement

This subclass/group covers:

Rider propulsions of wheeled vehicles, e.g. bicycles, having pedals connected to crank shaft by means of reciprocating levers, wherein one end of the lever is connected to the pedal and the other end to the crank shaft. The rider propels the vehicles by pressing on the pedals alternatively in two direction.

References relevant to classification in this group

This subclass/group does not cover:

Cranks which can be immobilised as foot rests	B62M 5/00

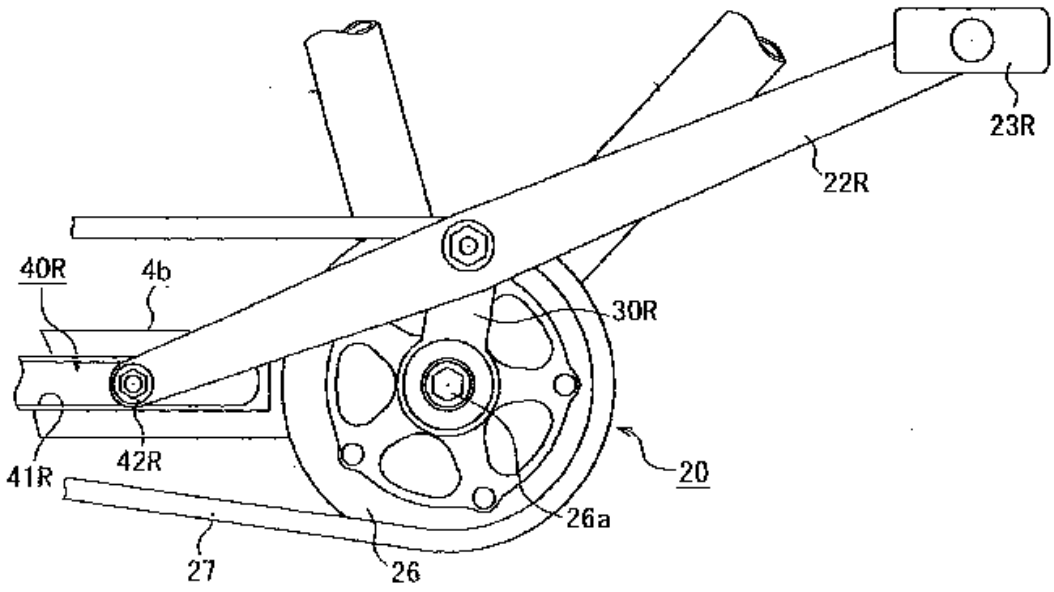
B62M 1/26

characterised by rotary cranks combined with reciprocating levers

Definition statement

This subclass/group covers:

Rider propulsion using pedals following essentially a reciprocating movement. The reciprocating levers are combined with the rotary crank mechanism, wherein usually one end of the lever is connected to the pedal, and the other end of the lever is linked to the rotary crank.



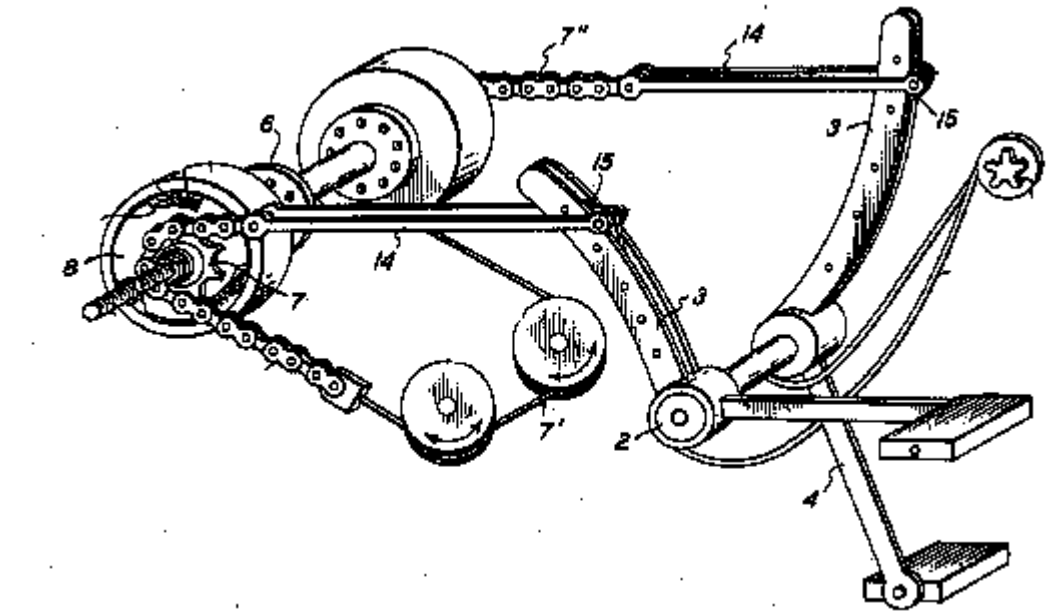
B62M 1/28

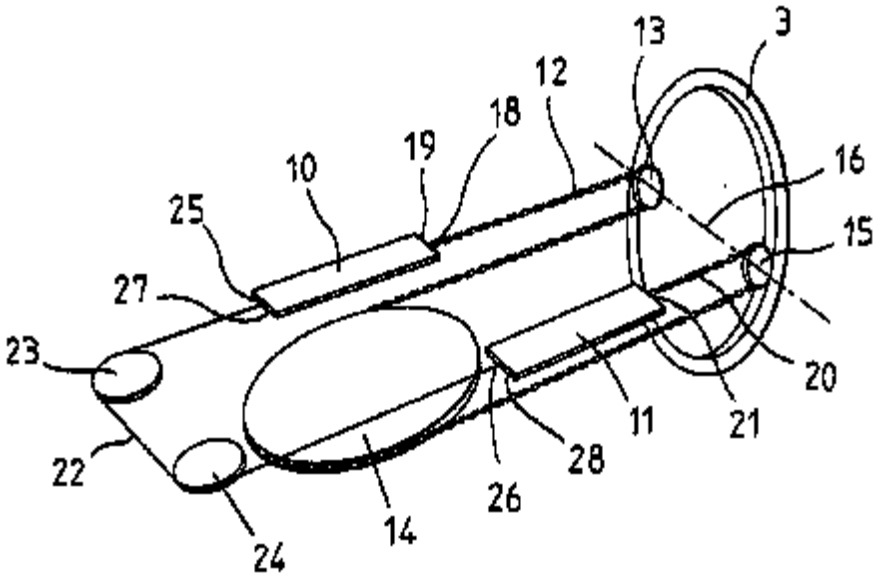
characterised by the use of flexible drive member(s) e.g. chains

Definition statement

This subclass/group covers:

Rider propulsion using pedals following essentially a reciprocating movement and being connected to the crank shaft or driven wheel by flexible members, e.g. chains, belt or cables.





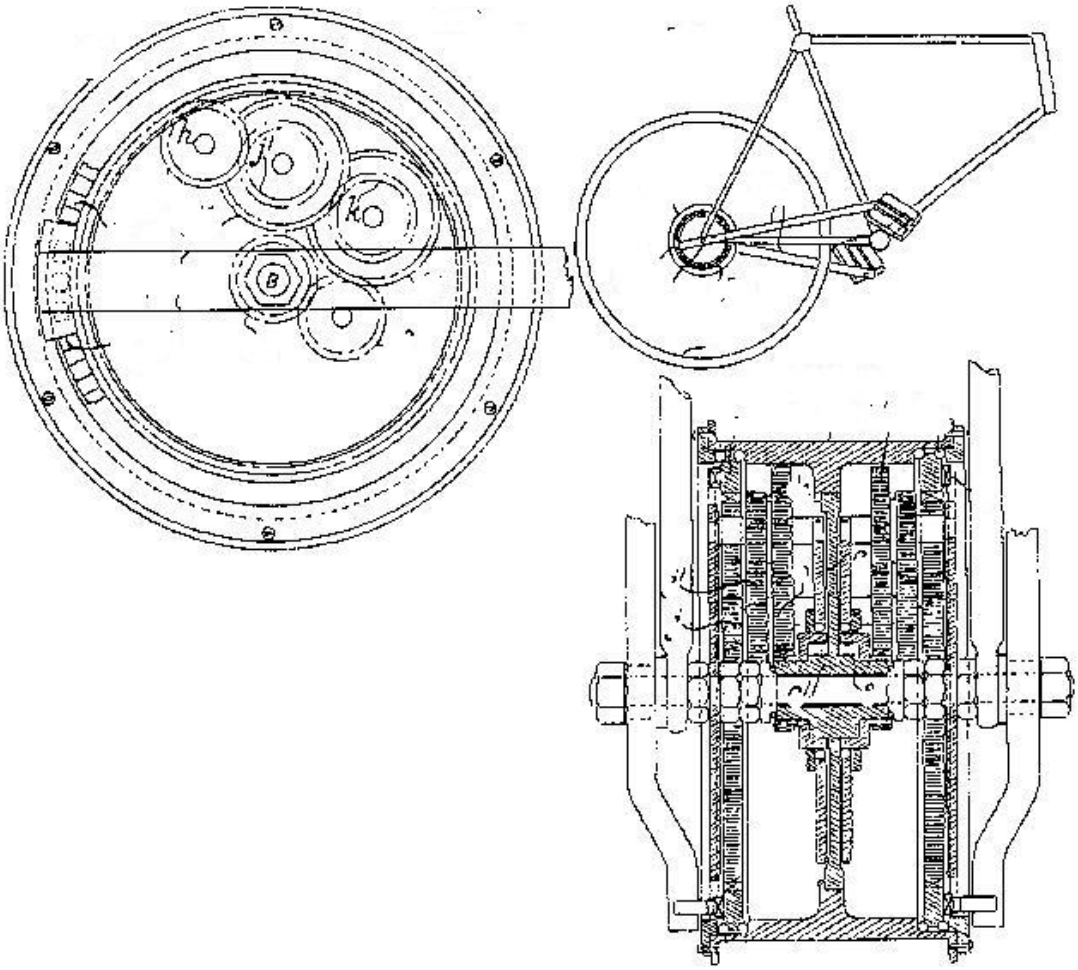
B62M 1/30

characterized by the use of intermediate gears

Definition statement

This subclass/group covers:

Rider propulsion using pedals following essentially a reciprocating movement and connected to the crank shaft or driven wheel by using intermediate toothed wheels, e.g. for speed reduction.



B62M 1/32

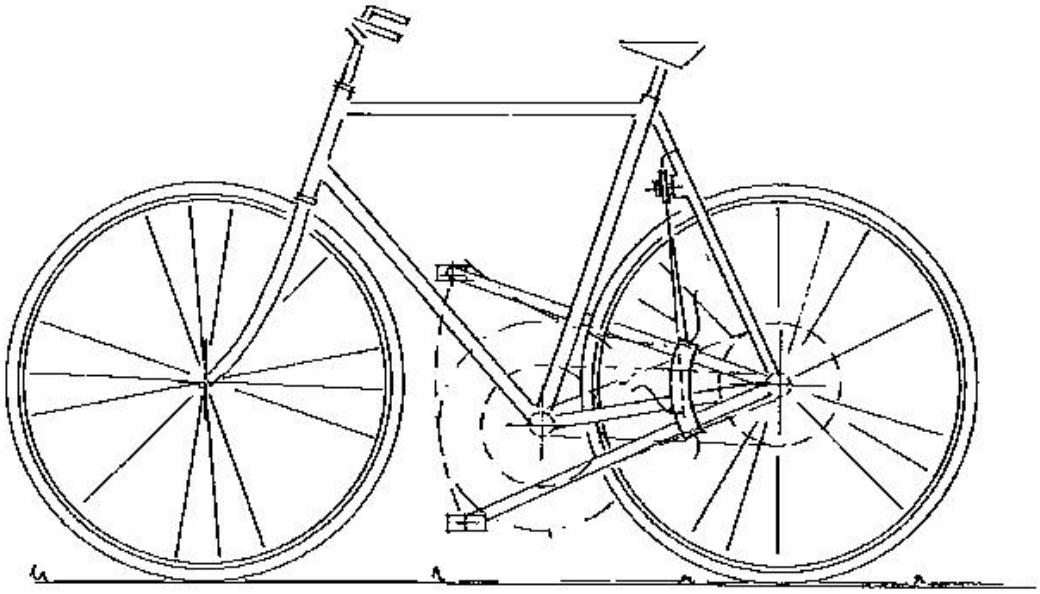
characterized by directly driving the wheel axle, e.g. by using a ratchet wheel

Definition statement

This subclass/group covers:

Rider propulsion using pedals following essentially a reciprocating movement. The levers having a first end connected to the pedal and the second end

directly connected to the driven wheel axle. The driving connection could use a ratchet wheel.



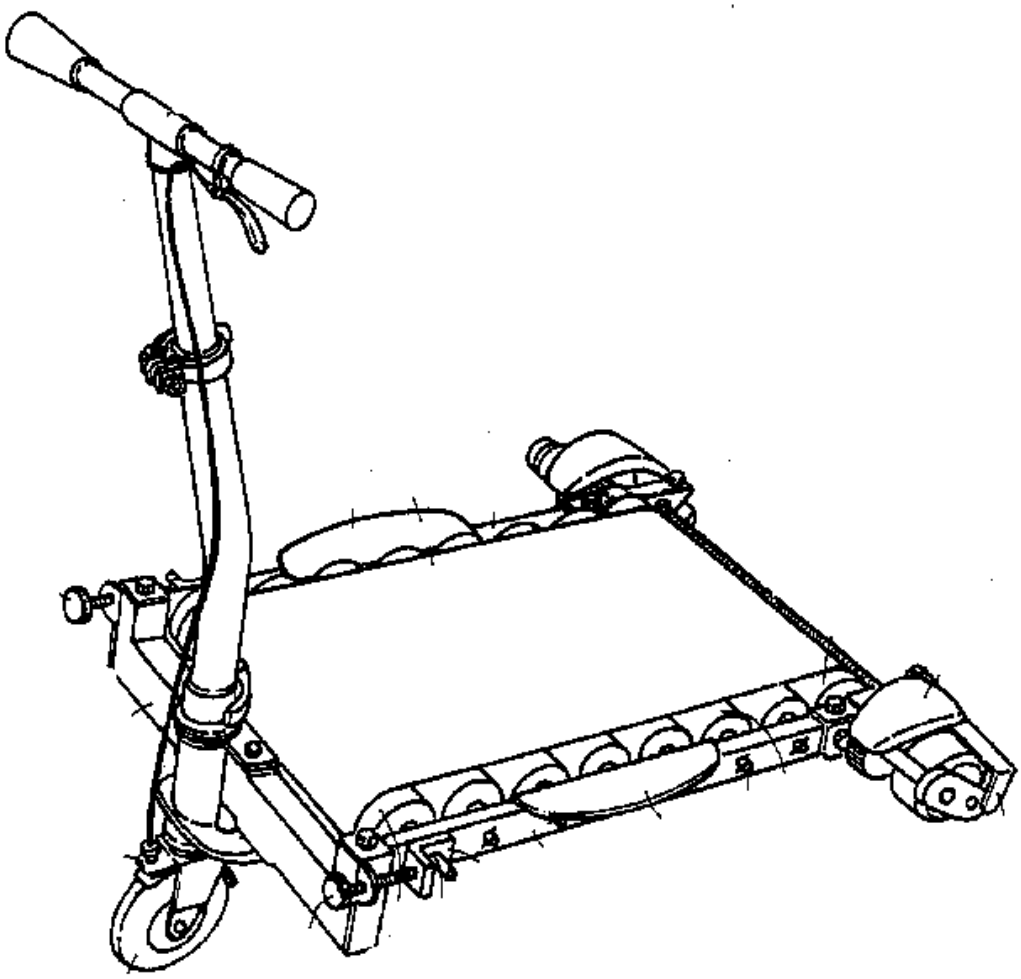
by walking on an endless belt

B62M 1/34

Definition statement

This subclass/group covers:

Rider propulsion of wheeled vehicle where the rider propels the vehicle by walking on an endless belt or the like.



B62M 1/36

with rotary cranks, e.g. with pedal cranks (combined with reciprocating levers B62M1/26; cranks which can be immobilised as foot rests B62M5/00)

Definition statement

This subclass/group covers:

Rider propulsions having rotary cranks with pedals attached to the end of the crank arms.

References relevant to classification in this group

This subclass/group does not cover:

Rotary cranks combined with reciprocating levers	B62M 1/26
Rider propulsion by walking on an endless belt	B62M 1/30

Cranks which can be immobilised as foot rests	B62M 5/00

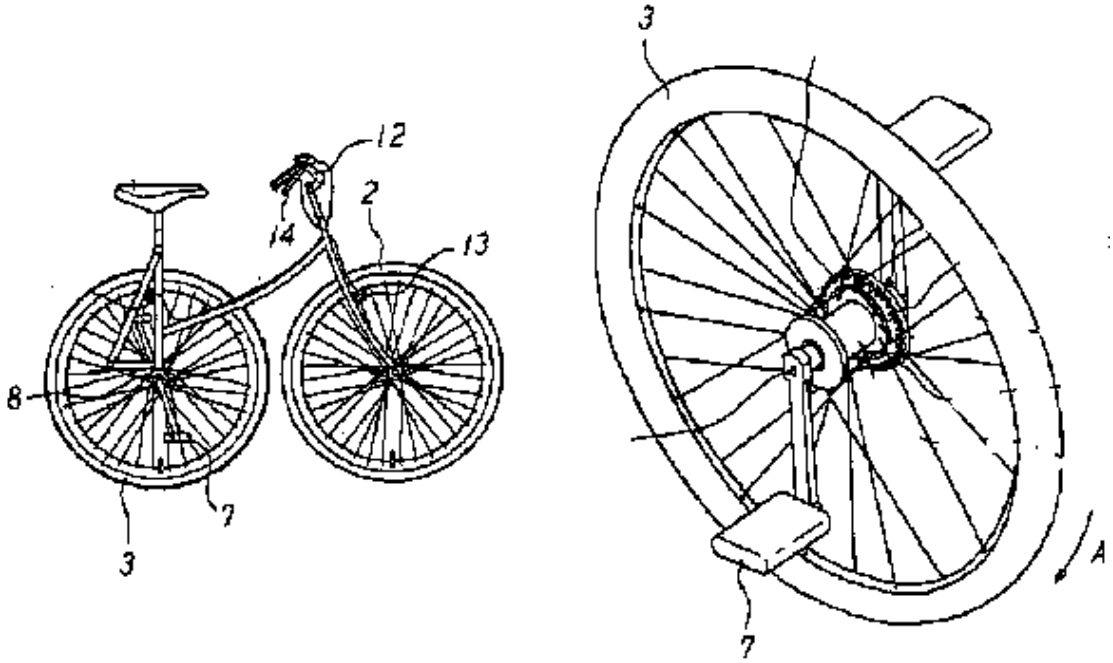
B62M 1/38

for directly driving the wheel axle

Definition statement

This subclass/group covers:

The crank levers are directly arranged on the driven axle, a freewheel could be used to uncouple the crank when driving down on a slope.



B62M 3/00

Construction of cranks operated by hand or foot

Definition statement

This subclass/group covers:

Cycle cranks, crank axle and bearings, hand cranks, pedals, toe-clip, cleat and accessories

Arrangement of cranks to facilitate rider propulsion, e.g. cranks of adjustable length.

References relevant to classification in this subclass

This subclass/group does not cover:

Cranks which can be immobilised as foot rests	B62M 5/00
Rider propulsion of wheeled vehicles characterized by rotary cranks	B62M 1/36

Informative references

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

Shoes for cyclist	A43B 5/14
Frame parts shaped to receive bottom brackets	B62K 19/34

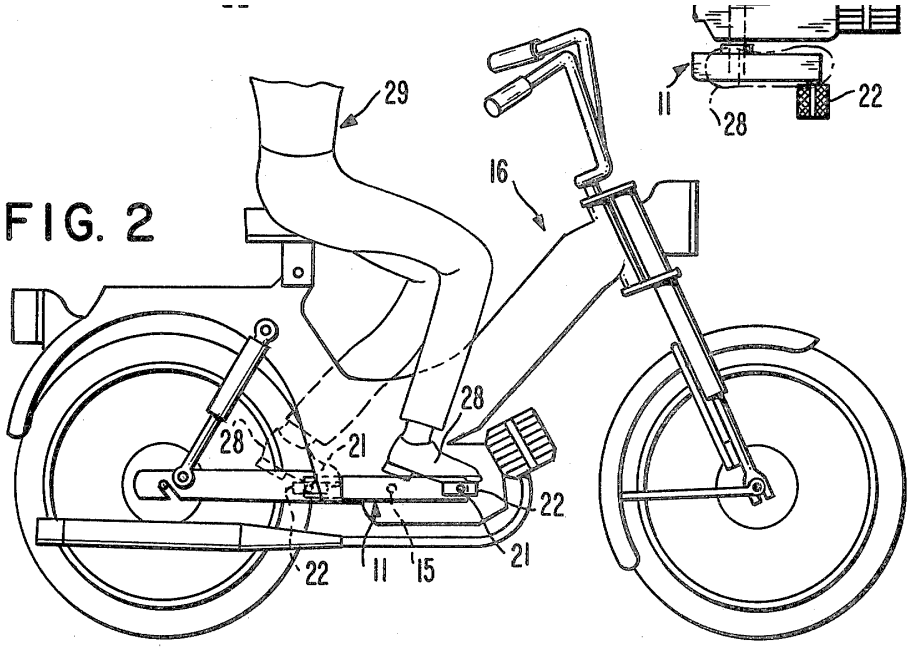
B62M 5/00

Foot-driven levers as pedal cranks which can be immobilised as foot-rests (immobilising against theft B62H5/10)

Definition statement

This subclass/group covers:

The arrangement of footrest device for use on two-wheeled engine driven vehicles and bicycles, commonly known as "moped", and represents a combination footrest and pedal.



Informative references

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

Immobilising against theft	B62H 5/10
Foot-rest	B62J 25/00
Rider propulsion of wheeled vehicle with reciprocating levers	B62M 1/24
Rider propulsion of wheeled vehicles with additional source of power	B62M 6/00

B62M 6/00

Rider propulsion with additional source of power, e.g. combustion engine or electric motor

Definition statement

This subclass/group covers:

Rider propelled cycles, e.g. bicycles, tricycles having additional source of power

Subject-matter related to the use of additional source of power in rider

propelled cycles.

Rider propelled cycle with additional source of propulsion power different from combustion engine or electric motor.

Informative references

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

Electric or power supply devices relating to the cycle power supply for lightening	B62J 6/06
Motorcycle characterized by position of motor or engine	B62M 7/00
Bicycle or tricycle having the additional source of power on a auxiliary wheel unit	B62M 7/14
Transmission characterized by use of friction roller engaging the periphery of the ground wheel	B62M 13/00
Transmission characterized by two or more dissimilar sources of power, e.g. transmission for hybrid cycles	B62M 23/02
Wheelchairs	A61G 5/00
Cycles with more than two road wheels, e.g. tricycles	B62K 5/00
Features relating to engine or motor driven bicycles, e.g. frames, steering wheel forks or handle-bar constructions associated therewith	B62K 11/00

Special rules of classification within this main group

In this main group, at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

B62M 6/10

Rider propelled cycle with auxiliary combustion engine

Definition statement

This subclass/group covers:

Bicycle having a combustion engine as an additional source of power in order to propel the vehicle when requested by the rider.

B62M 6/15

Control or actuating device therefor

Definition statement

This subclass/group covers:

Means, specially adapted for the application on bicycle, for controlling the delivery of power to the cycle by first "sensing or detecting" of parameters, e.g. rider pedaling force, torque, speed or braking force and then sending a signal to the engine in order to control the combustion engine output torque to the cycle. Arrangement of sensors or detectors on the cycle.

Informative references

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

Controlling combustion engine	F02D

B62M 6/20

power driven at crank shaft parts

Definition statement

This subclass/group covers:

Cycles where the power output of the combustion engine is transmitted to the pedal crank shaft through a power transmission arrangement at the pedal crank shaft and which together with the pedal crank arrangement permit the bicycle to be readily operated in the engine power mode or pedal power mode.

B62M 6/25

power driven at axle parts

Definition statement

This subclass/group covers:

Cycles where the power output of the combustion engine is transmitted to the rear wheel axle shaft through a power transmission arrangement at the wheel

axle shaft. The engine driving shaft might be coaxial with the driven wheel axle shaft.

B62M 6/30

power driven at single endless flexible member, e.g. chain, between cycle crankshaft and wheel axle, the engine engaging the endless flexible member.

Definition statement

This subclass/group covers:

Cycles where the power output of the combustion engine is transmitted to the flexible member which connects the rear wheel axle shaft to the pedal shaft. . The flexible member might be a chain, belt or the like and can be driven either by the engine or by the pedal-driven chain wheel or pulley. In general the power transmission arrangement includes also reduction gears.

B62M 6/35

power driven by friction rollers or gears engaging the ground wheel

Definition statement

This subclass/group covers:

Cycles where the power output of the combustion engine might be transmitted to the ground or road wheel through a power transmission arrangement which includes friction or pressure rollers or the like. The rollers might be set in contact with the periphery or the side of the ground wheel.

Informative references

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

Transmission characterized by the use of friction roller or gears engaging the ground wheel having only human propulsion	B62M 13/00

B62M 6/40

Rider propelled cycle with auxiliary electric motor

Definition statement

This subclass/group covers:

Cycle having an electric motor as additional source of power in order to propel the vehicle when requested by the rider. The electrical motor is in general fed by battery, solar power or fuel cells.

B62M 6/45

Control or actuating device therefor

Definition statement

This subclass/group covers:

Means, specially adapted for the application on bicycle, for controlling the delivery of power to the cycle by sensing or detecting of parameters, e.g. rider pedaling force, torque, speed or braking force and then sending a signal to the motor in order to control the output torque to the cycle. This subgroup deals with the way power is diverted or switched over from the motor to the cycle when requested by the rider or automatically according the circumstances or the detected parameters.

Informative references

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

Propulsion of electrically-propelled vehicles; Control therefor	B60L

B62M 6/50

characterized by detectors or sensors, or arrangement thereof

Definition statement

This subclass/group covers:

Sensing devices or detectors specially adapted for the application on the cycle for sensing or detecting control parameters, e.g. rider pedaling force, torque, speed or braking force. In particular the arrangement or the specific location on the cycle.

B62M 6/55

power driven at crank shaft parts

Definition statement

This subclass/group covers:

Cycles where the power output of the electric motor is transmitted to the pedal crank shaft through a power transmission arrangement at the pedal crank shaft and which together with the pedal crank arrangement permit the bicycle to be readily operated in the motor power mode or pedal power mode.

B62M 6/60

power driven at axle parts

Definition statement

This subclass/group covers:

Cycles where the power output of the electric motor is transmitted to the rear wheel axle shaft through a power transmission arrangement at the wheel axle shaft. The electric motor shaft might be connected to the wheel axle shaft through chain, belt or gear transmissions.

B62M 6/65

with axle and driving shaft arranged coaxially

Definition statement

This subclass/group covers:

Cycles where the power output of the electric motor is transmitted to the rear wheel axle shaft through a power transmission arrangement at the wheel axle shaft. The motor driving shaft is coaxial with the driven wheel axle shaft.

B62M 6/70

power driven at single endless flexible member, e.g. chain, between cycle crankshaft and wheel axle, the motor engaging the endless flexible member

Definition statement

This subclass/group covers:

Cycles where the power output of the electric motor is transmitted to the flexible member which connects the rear wheel axle shaft to the pedal shaft. The flexible member might be a chain, belt or the like and can be driven either by the motor or by the pedal-driven chain wheel or pulley. In general the power transmission arrangement includes also reduction gears.

B62M 6/75

power driven by friction rollers or gears engaging the ground wheel

Definition statement

This subclass/group covers:

Cycle where the power output of the electric motor might be transmitted to the ground or road wheel through a power transmission arrangement which includes friction or pressure rollers or the like. The rollers might be set in contact with the periphery or the side of the ground wheel.

Informative references

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

Transmission characterized by the use of friction roller or gears engaging the ground wheel having only human propulsion	B62M 13/00

B62M 6/80

Accessories, e.g. power sources; Arrangement thereof

Definition statement

This subclass/group covers:

Auxiliary equipment or accessories, e.g. batteries or fuel cells feeding the electric motor. Devices having special features to be considered specially adapted for the application on a power assisted cycle, e.g. cooling system specially adapted for the auxiliary electric motor. Furthermore this sub-group also deals with the location and the arrangement of the accessories on the cycle.

B62M 6/85

Solar cells

Definition statement

This subclass/group covers:

Solar cells on cycles providing a power source to batteries or electric propulsion motors. Arrangement of solar cells on the cycle.

B62M 6/90

Batteries

Definition statement

This subclass/group covers:

Batteries on cycles providing a power source for electric propulsion motors. Arrangement of these batteries on the cycle.

Informative references

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

Electric or power supply devices relating to the cycle power supply for lightening	B62J 6/06

B62M 7/00

Motorcycles characterised by position of motor or engine (rider propulsion with addition source of power, e.g. auxiliary combustion engine or electric motor B62M6/00; frames characterised by position of engine B62K11/00)

Definition statement

This subclass/group covers:

Two wheel motorized vehicle, e.g. having electric motor or internal combustion engine. The different sub-groups are to be selected in accordance with the position of the motor or engine with respect to vehicle parts or components, e.g. B62M 7/02 with engine between front and rear wheel.

Each sub-groups covers motorcycle aspects such as, e.g. engine or motor support and mounting thereof, exhaust system, cooling system, mufflers, air intake, accessories and arrangement thereof, e.g. batteries.

In this respect, attention is also drawn to correspondent groups and sub-groups concerning frame details B62K 11/00.

References relevant to classification in this subclass

This subclass/group does not cover:

Rider propulsion of wheeled vehicles with additional source of power, e.g. auxiliary combustion engine or electric motor	B62M 6/00
Transmission characterised by the use of two or more dissimilar sources of power, e.g. hybrid motorcycles	B62M 23/02

Transmission characterised by the use of two or more dissimilar sources of power, e.g. hybrid motorcycles	B62M 23/02

Informative references

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

Arrangement or mounting of electrical propulsion units	B60K 1/00
Frames of motor-cycles, engine-assisted cycles or motor-scooters and related position of engine	B62K 11/00
Adaptation of engines for driving cycles	F02B 61/02

B62M 9/00

Transmissions characterised by use of an endless chain, belt, or the like (cycle chain guards B62J13/00)

Definition statement

This subclass/group covers:

Transmission for cycles with or without engine where emphasis is placed on the flexible element, e.g. transmitting the drive from the drive to the driven component, e.g. sprocket or gear wheel. More importantly on the way the flexible element is shift or tensioned.

Informative references

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

Cycle chain guards	B62J 13/00
Cycle hubs rotatable arranged on axle	B60B 27/023
Cycles characterized by position of engine	B62M 7/00

Transmissions characterized by the use of inter-engaging toothed wheels or frictionally-engaged wheels	B62M 11/00

B62M 9/12

the chain, belt, or the like being laterally shiftable, [N: e.g. using a rear derailleur]

Definition statement

This subclass/group covers:

Devices for lateral shifting of cycle chains not specific for the rear or front cluster sprockets

Accessories for cycle derailleurs not specific for the rear or front clusters

B62M 9/121

Rear derailleurs

Definition statement

This subclass/group covers:

Devices for shifting the chain laterally on the cycle cluster sprockets situated at the rear wheel of a cycle or similar vehicle.

B62M 9/122

electrically or fluid actuated; Controls thereof

Definition statement

This subclass/group covers:

Electric or fluid assisted rear derailleur and control methods therefore for shifting chains by rear derailleur. Contrary to the directly manual actuated derailleur, these shifting devices are assisted by a small electric or fluid operated servos connected to the derailleur mechanism.

Informative references

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

Actuators for gearing speed-change mechanisms specially adapted for cycles with electrical or fluid transmitting systems	B62M 25/08

B62M 9/123

changing gear automatically

Definition statement

This subclass/group covers:

Rear derailleurs having the chain moved laterally without rider intervention. The chain guide movement is controlled automatically in accordance with pre-set parameters, e.g. the crank speed or the pressure on the pedals.

B62M 9/124

Mechanism for shifting laterally

Definition statement

This subclass/group covers:

Rear derailleurs comprising all or most of the following features: a fixed member connected to the bicycle frame, a base member, a linkage mechanism, a movable member and chain guides, cable receiving and connecting portions, springs or the like devices. The linkage mechanism insures proper lateral shift movement of the chain over the different rear sprockets by acting on the chain guide. The mechanism can comprise articulated linkages, plates, cams or telescopic shafts.

B62M 9/1242

characterised by the linkage mechanism

Definition statement

This subclass/group covers:

Details of the linkage mechanism, e.g. articulated parallelograms or quadrilateral systems, connecting the base member to the chain guide in order to move the chain guide laterally relative to the base member. In general the linkage mechanism also comprises a cable fixing portion.

B62M 9/1244

limiting or positioning the movement

Definition statement

This subclass/group covers:

Means, e.g. stops, projections, detents or the like, for improving positioning of

the mechanism or for limiting the movement of the mechanism to avoid shocks against the bicycle frame.

B62M 9/1246

using cams or plates

Definition statement

This subclass/group covers:

Means using cams or plates for limiting or positioning the shifting mechanism

B62M 9/1248

characterised by the use of biasing means, e.g. springs; Arrangement thereof

Definition statement

This subclass/group covers:

The arrangement, the location and the functioning of the biasing means in relation with the shifting mechanism. Given that all the shifting mechanism in general discloses biasing or spring means, this sub-group is meant to be used for those shifting mechanism in which a particular emphasis is placed on the arrangement of the biasing means of the shifting mechanism, the particular form of these biasing means or on special effects expected by these means.

B62M 9/125

Mounting the derailleur on the frame

Definition statement

This subclass/group covers:

Mounting or arrangement of the rear derailleur onto the bicycle frame.

Informative references

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

Frame part to receive other cycle parts or accessories	B62K 19/30

B62M 9/126

Chain guides; Mounting thereof

Definition statement

This subclass/group covers:

Chain guide components and characteristic features thereof; mounting of the chain guide on the movable member. The chain guide in general comprises a pair of cage plates and two chain pulleys rotationally supported between the cage plates. The movable member connects the chain guide to the linkage mechanism.

Informative references

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

Tensioning or adjusting equipment for chains, belts or the like	B62M 9/16

B62M 9/127

Mounting or guiding of cables

Definition statement

This subclass/group covers:

Means specially adapted for use on a rear derailleur for receiving, guiding or mounting cables in order to facilitate the smooth operation of the derailleur and the cable. These means could be for example cable pulleys, sleeves, special grooves or projections.

Informative references

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

Actuators for gearing speed change mechanism specially adapted for bicycles with mechanical transmitting systems e.g. levers, cables	B62M 25/02
Means for transmitting linear movement in a flexible sheathing, e.g. "Bowden-mechanisms"	F16C 1/10

B62M 9/128

Accessories, e.g. protectors

Definition statement

This subclass/group covers:

Devices which are not forming actual part of the derailleur but are for use with the derailleur for a particular purpose, e.g. the protection of the rear derailleur

B62M 9/131

Front derailleurs

Definition statement

This subclass/group covers:

Devices for shifting the chain laterally on the cycle cluster sprockets situated close to the pedal crank of a cycle or similar vehicle.

B62M 9/132

electrically or fluid actuated; Controls thereof

Definition statement

This subclass/group covers:

Electric or fluid assisted front derailleurs and control methods therefor for shifting chains by front derailleurs. Contrary to the directly manual actuated derailleur, these shifting devices are assisted by a small electric or fluid operated servos connected to the derailleur mechanism.

Informative references

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

Actuators for gearing speed-change mechanisms specially adapted for cycles with electrical or fluid transmitting systems	B62M 25/08

B62M 9/133

changing gear automatically

Definition statement

This subclass/group covers:

Front derailleurs having the chain moved laterally without rider intervention. The chain guide movement is controlled automatically in accordance with pre-set parameters, e.g. the crank speed or the pressure on the pedals.

B62M 9/134

Mechanism for shifting laterally

Definition statement

This subclass/group covers:

Front derailleurs comprising all or most of the following features: a fixed member connected to the bicycle frame, a base member, a linkage mechanism, a movable member and chain guides, cable receiving and connecting portions, springs or the like devices. The linkage mechanism insures proper lateral shift movement of the chain over the different rear sprockets by acting on the chain guide. The mechanism can comprise articulated linkages, plates, cams or telescopic shafts.

B62M 9/1342

characterised by the linkage mechanism

Definition statement

This subclass/group covers:

Details of the linkage mechanism, e.g. articulated parallelograms or quadrilateral systems, connecting the base member to the chain guide in order to move the chain guide laterally relative to the base member. In general the linkage mechanism also comprises a cable fixing portion.

B62M 9/1344

limiting or positioning the movement

Definition statement

This subclass/group covers:

Means, e.g. stops, projections, detents or the like, for improving positioning of the mechanism or for limiting the movement of the mechanism to avoid shocks against the bicycle frame.

B62M 9/1346

using cams or plates

Definition statement

This subclass/group covers:

Means using cams or plates for limiting or positioning the shifting mechanism

B62M 9/1348

characterised by the use of biasing means, e.g. springs; Arrangement thereof.

Definition statement

This subclass/group covers:

The arrangement, the location and the functioning of the biasing means in relation with the shifting mechanism. Given that all the shifting mechanism in general discloses biasing or spring means, this sub-group is meant to be used for those shifting mechanism in which a particular emphasis is placed on the arrangement of the biasing means of the shifting mechanism, the particular form of these biasing means or on special effects expected by these means.

B62M 9/135

Mounting the derailleur on the frame

Definition statement

This subclass/group covers:

Mounting or arrangement of the rear derailleur onto the bicycle frame.

Informative references

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

Frame part to receive other cycle parts or accessories	B62K 19/30

B62M 9/136

Chain guides; Mounting thereof

Definition statement

This subclass/group covers:

Chain guide components and characteristic features thereof; mounting of the chain guide on the movable member. The chain guide comprises, in general, a pair of cage plates and two chain pulleys rotationally supported between the cage plates. The movable member connects the chain guide to the linkage mechanism.

Informative references

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

Tensioning or adjusting equipment for chains, belts or the like	B62M 9/16

B62M 9/137

Mounting or guiding of cables

Definition statement

This subclass/group covers:

Means specially adapted for use on a front derailleur for receiving, guiding or mounting cables in order to facilitate the smooth operation of the derailleur and the cable. These means could be for example cable pulleys, sleeves, special grooves or projections.

Informative references

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

Actuators for gearing speed change mechanism specially adapted for bicycles with mechanical transmitting systems e.g. levers, cables	B62M 25/02
Means for transmitting linear movement in a flexible sheathing, e.g. "Bowden-mechanisms"	F16C 1/10

B62M 9/138

Accessories, e.g. protectors

Definition statement

This subclass/group covers:

Devices which are not forming actual part of the derailleur but are for use with the derailleur for a particular purpose, e.g. the protection of the front derailleur

B62M 11/00

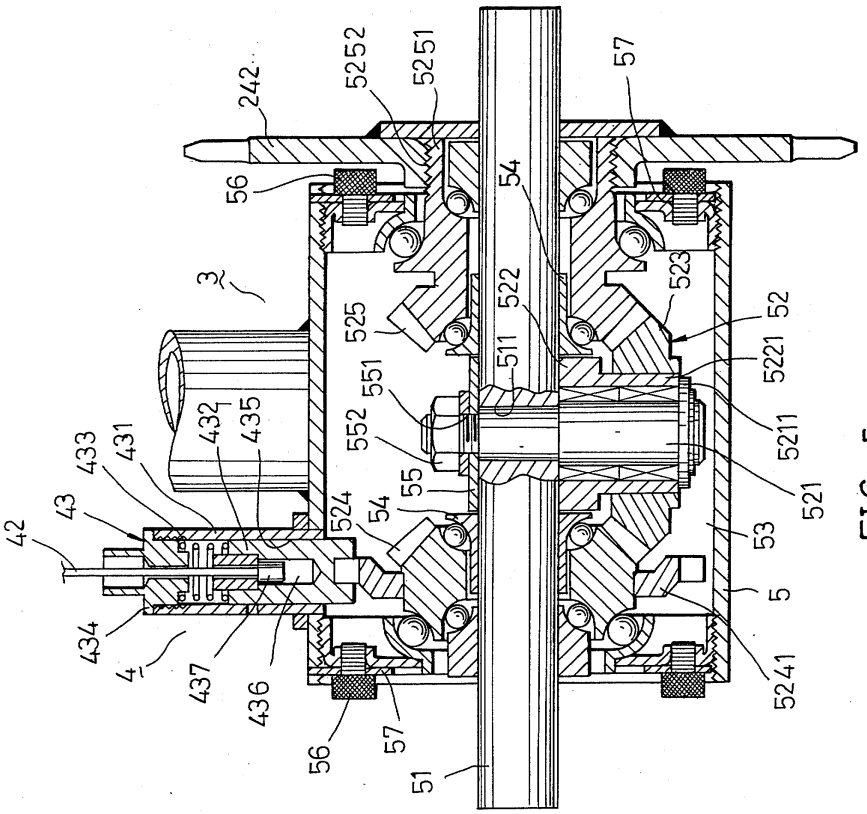
Transmission characterized by the use of inter-engaging toothed wheels or frictionally-engaging wheels

Definition statement

This subclass/group covers:

Transmission for two wheels vehicles, or equivalent, with unchangeable and changeable ratio working with spur gear wheels, bevel gear wheels, frictionally engaging wheels or planetary gears. Groups and subgroups relating to the way the vehicle is propelled such as B62M 1/00, B62M 6/00 take precedence.

Two examples of such transmissions using bevel gears (B62M 11/10) are represented in the following figures from FR2753431 and US6446995. The US document is also classified in B62M 17/00 for the cardan shaft aspects.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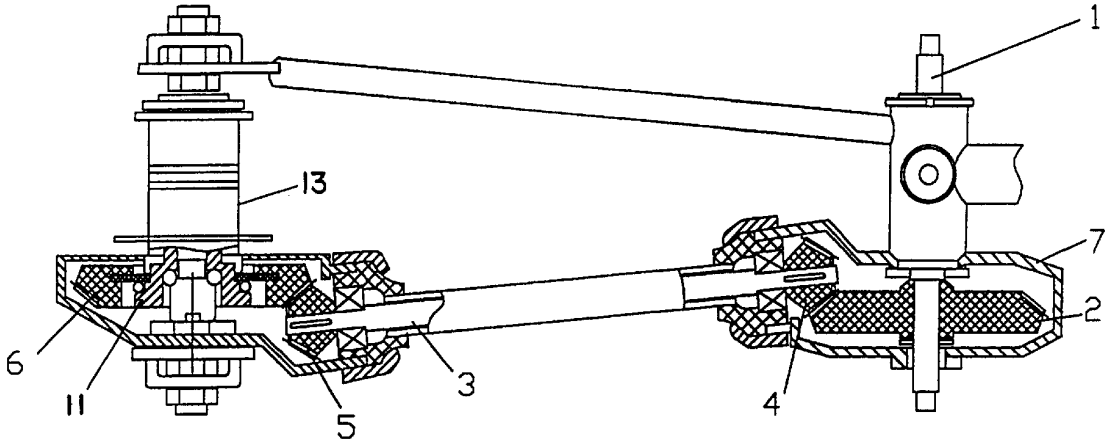
FIG·5



US6446995

References relevant to classification in this subclass

This subclass/group does not cover:

Rider propulsion of wheeled vehicles with additional source of power	B62M 6/00
Rider propulsion of wheeled vehicles with reciprocating levers characterised by the use of interengaging gears	B62M 1/30
Transmission characterised by the use of friction rollers engaging the periphery of a ground wheel	B62M 13/00

Informative references

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

Gearing per se	F16H
Arrangement or mounting of transmissions in vehicles	B60K

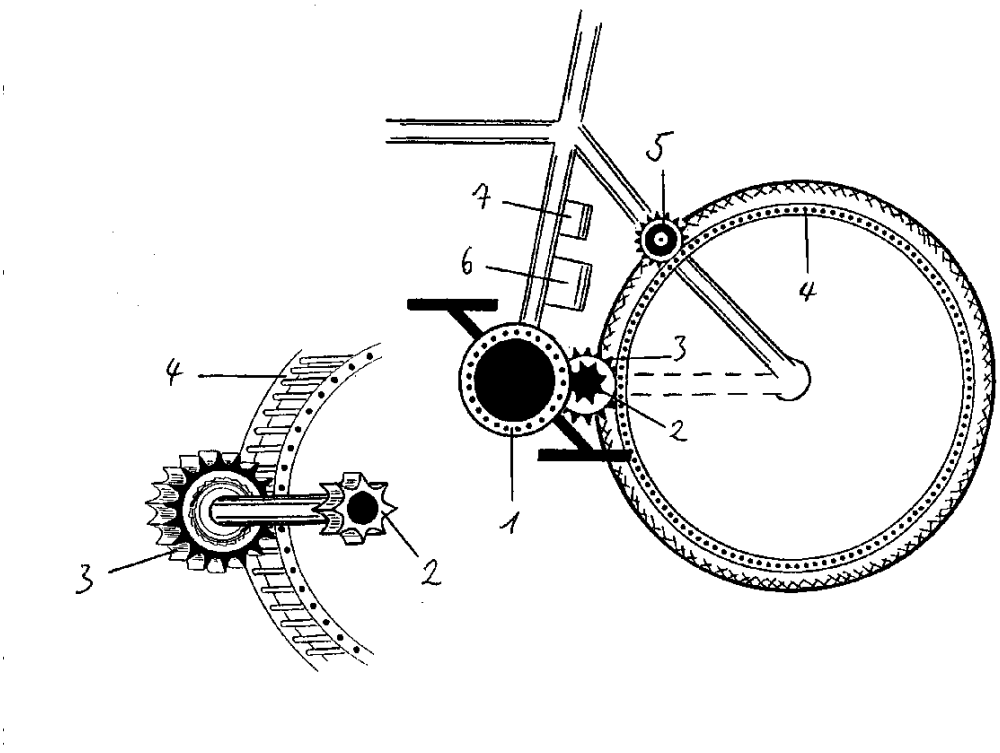
B62M 13/00

Transmission characterized by the use of friction rollers engaging the periphery of the ground wheel

Definition statement

This subclass/group covers:

Devices operated by the rider, e.g. muscle driven, such as friction rollers, toothed gears, belts or the like engaging the periphery or rim of the ground wheel. An example is given in the following figure. Similar devices driven by motor should be classified in B62M 6/75.



Informative references

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

Power driven by friction rollers or gears engaging the ground wheel	B62M 6/35 B62M 6/75

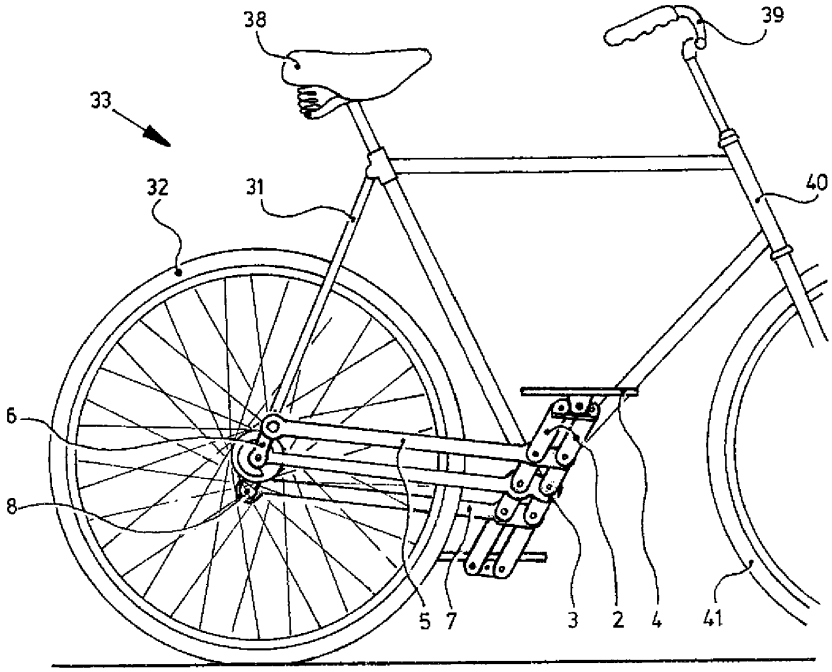
B62M 15/00

Transmission characterized by the use of crank shafts and coupling rods

Definition statement

This subclass/group covers:

Transmissions having the cycle crank shaft and the driven shaft connected by rods, as in the figure below.



Informative references

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

Rider propulsion of wheeled vehicles	B62M 1/00

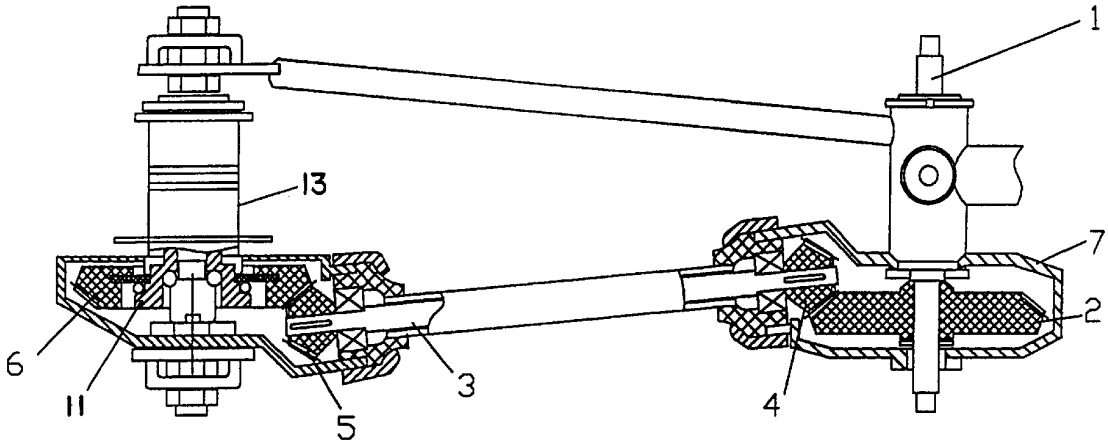
B62M 17/00

Transmission characterized by the use of rotary shaft, e.g. cardan shaft

Definition statement

This subclass/group covers:

Cycle transmissions using a rotary shaft to transmit the drive from the driving shaft to the driven shaft.



Informative references

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

Rider propulsion of wheeled vehicles	B62M 1/00
Rider propulsion of wheeled vehcle with addition source of power	B62M 6/00
Transmission characterised by the use of inter-engaging toothed wheels	B62M 11/00
Arrangement or mounting of transmission in vehicles characterised by arrangement, location, or type of main drive shafting, e.g. cardan shaft	B60K 17/22
Gearing per se	F16H

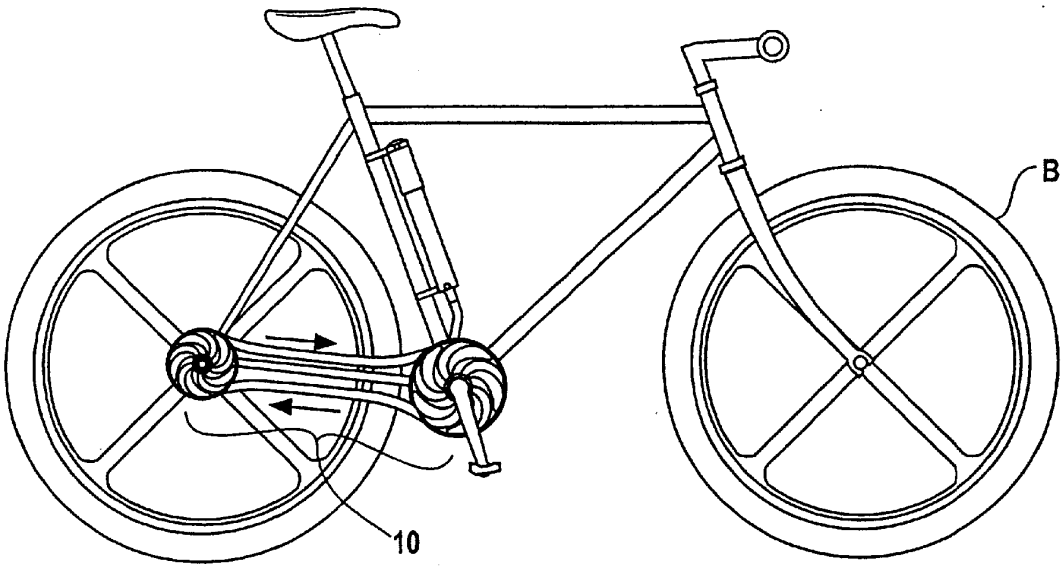
B62M 19/00

Transmission characterised by the use of non-mechanical gearing, e.g. fluid

Definition statement

This subclass/group covers:

Cycle using fluid trasmitting means, e.g. gas or oil to transmit the drive from the driving shaft to the driven shaft. as in the figure below.



References relevant to classification in this subclass

This subclass/group does not cover:

Actuator for gearing speed-change specially adapted for cycles with electrical or fluid transmitting systems	B62M 25/08

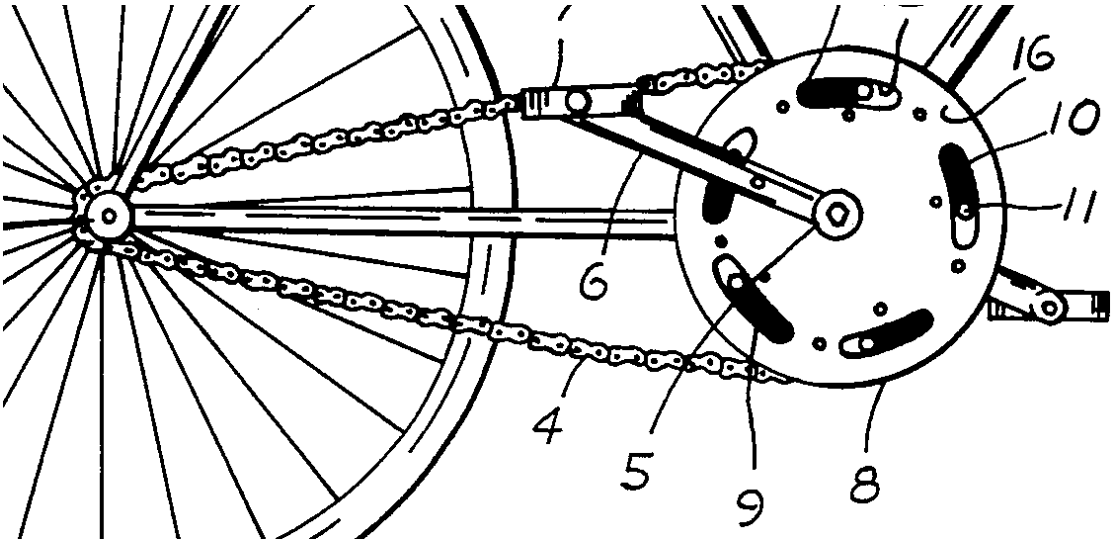
B62M 21/00

Transmission characterized by the use of resilient elements therein

Definition statement

This subclass/group covers:

Cycles transmission using resilient element such as, e.g. spring or similar element within th etransmission itself.



Informative references

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

Rider propulsion of wheeled vehicles involving devices which enable the mechanical storing and releasing of energy occasionally using elestic element	B62M 1/105

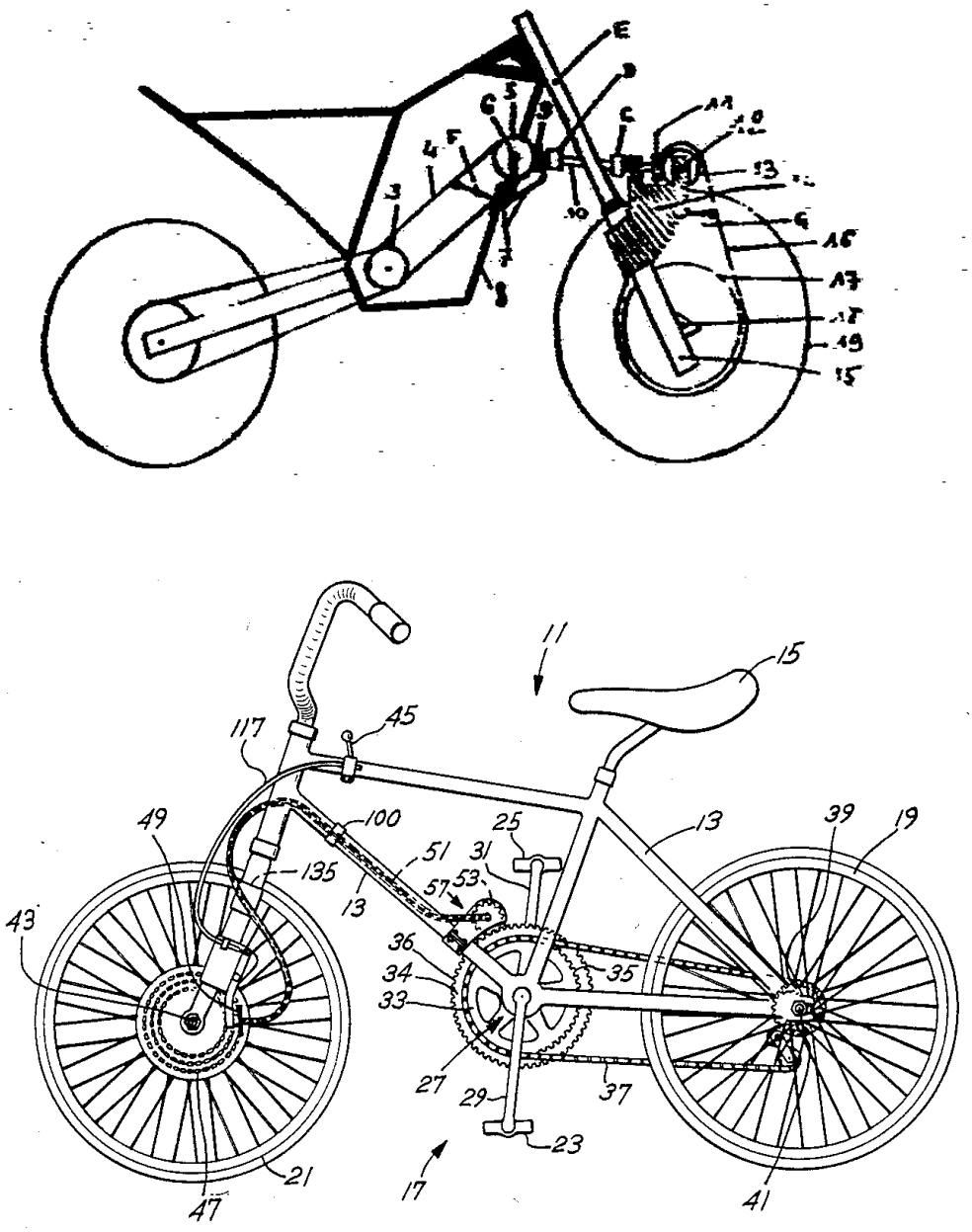
B62M 23/00

Transmission characterized by the use of other elements; other transmissions

Definition statement

This subclass/group covers:

Transmissions arrangement where the driving is transmitted to both front and rear wheel, e.g. all wheel drive cycle. The group includes transmission arrangements with or without motor or engine.



Informative references

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

Arrangement or mounting of control devices for vehicle transmissions for chamging number of driving wheel	B60K 23/08

B62M 23/02

Transmission characterised by the use of two or more

different source of power, e.g. transmission for hybrid motorcycles

Definition statement

This subclass/group covers:

Transmission arrangement in particular for cycles like motorcycle or scooter equipped with two different sources of power, e.g. electric or internal combustion engine, and able to transmit the drive by using both sources alone or together.

References relevant to classification in this group

This subclass/group does not cover:

Transmissions using rider propulsion with additional source of power	B62M 6/00

Informative references

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

Motorcycles characterised by position of motor or engine	B62M 7/00

B62M 25/00

Actuators for gearing change-speed mechanisms specially adapted for cycles

Definition statement

This subclass/group covers:

Actuators devices operated by hand, e.g. levers, or foot and using mechanical, e.g. cables, electrical or fluid systems. to control the gear speed-change transmission mechanism.

References relevant to classification in this group

This subclass/group does not cover:

Functional aspects of the components per se, e.g. the details of the lever or the handle grip, pedals, or the like

Handle bar grips	B62K 21/26

Twist grips	B62K 23/04
Levers	B62K 23/06
Levers and grips especially adapted for brake mechanism	B62L 3/00

However, in many cases documents should be classified in both groups because often show both aspects.

Informative references

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

Rider operated controls for cycles in general	B62K 23/00
Transmission characterised by the use of endless belt or the like, the chain, belt or the like being laterally shiftable	B62M 9/12

B62M 27/00

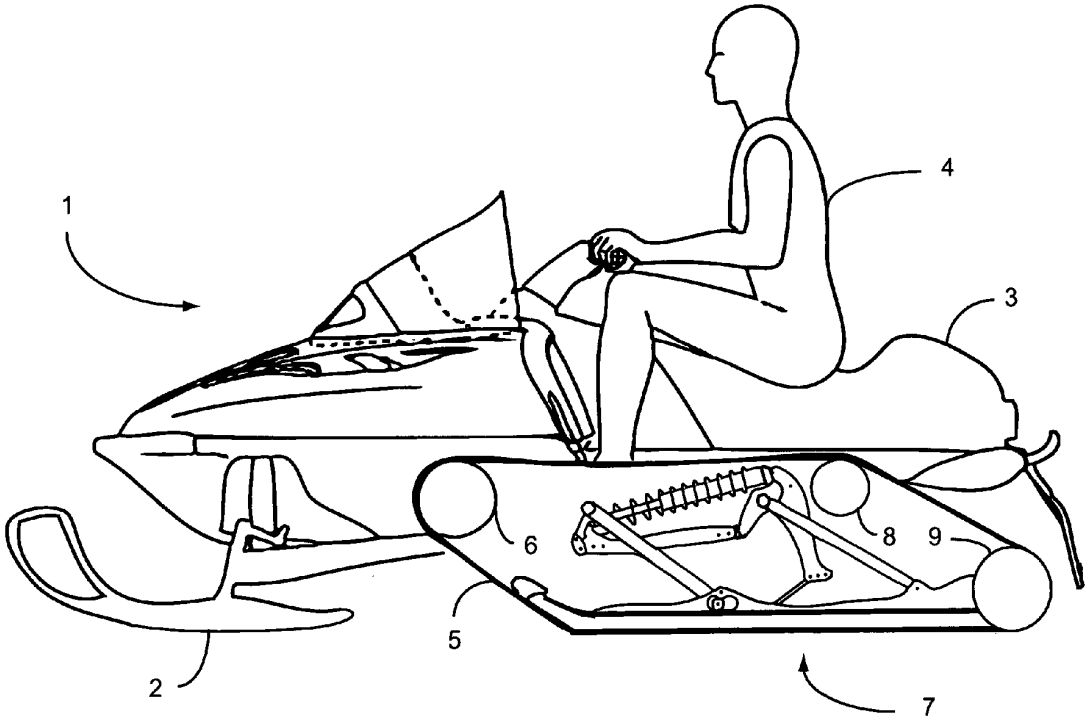
Propulsion devices for sledges or the like

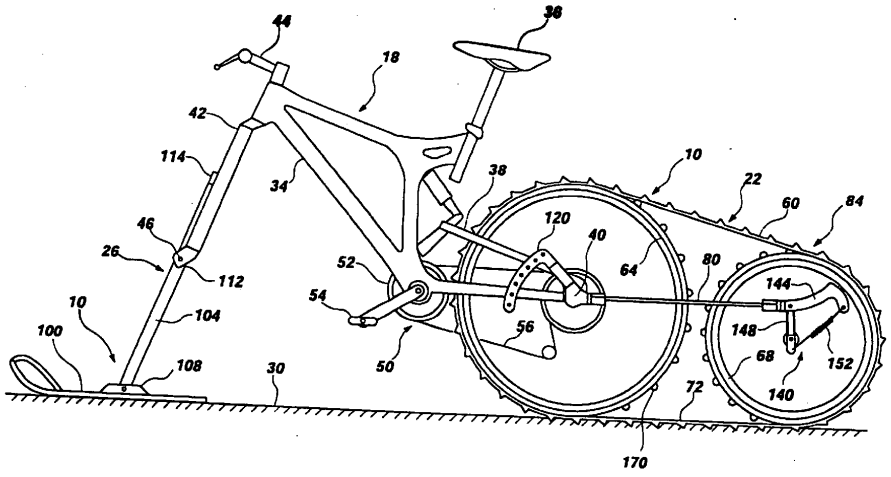
Definition statement

This subclass/group covers:

Mainly snow vehicles with or without engine or motor, e.g. cycles having a endless truck rather than a wheel, or motor-powered sledges.

Two examples are shown in the following figures.





Informative references

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

Sledges with runners	B62B 13/00
Ski or snowboards	A63C 5/00

B62M 29/00

Ground engaging propulsion devices for cycles, sledges, or rider propelled wheeled vehicles, not otherwise provided for

Definition statement

This subclass/group covers:

Similar arrangements of B62M 27/00 but with focus on the ground engaging devices for cycles or any other wheeled vehicles not provided for in other groups in B62M.

References relevant to classification in this group

This subclass/group does not cover:

Bicycles without a seat, e.g. non-motorized scooter	B62K 3/002

Informative references

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

Rider propulsion of wheeled vehicles	B62M 1/00