

CPC**COOPERATIVE PATENT CLASSIFICATION****B62M****RIDER PROPULSION OF WHEELED VEHICLES OR SLEDGES;
POWERED PROPULSION OF SLEDGES OR { SINGLE-TRACK } CYCLES;
TRANSMISSIONS SPECIALLY ADAPTED FOR SUCH VEHICLES**

(arrangements or mounting of transmissions in vehicles in general [B60K](#); transmission elements per se [F16](#))

NOTE

In this subclass, the term "transmission" means all parts between the prime mover or the part to which a rider immediately applies propulsive effort, e.g. pedal cranks, and a driven ground wheel.>

Guidance heading: **Rider propulsion of wheeled vehicles** (propulsion by ground-engaging rods [B62M 29/02](#))

B62M 1/00

Rider propulsion of wheeled vehicles (rider propulsion with additional source of power [B62M 6/00](#); propulsion by ground-engaging rods [B62M 29/02](#))

NOTE

Groups [B62M 1/12-B62M 1/34](#) correspond to IPC2013.01

- [B62M 1/10](#) . involving devices which enable the mechanical storing and releasing of energy occasionally, e.g. arrangement of flywheels
- [B62M 1/105](#) . . {using elastic elements}
- [B62M 1/12](#) . operated by both hand and foot power
- [B62M 1/14](#) . operated exclusively by hand power
- [B62M 1/16](#) . . by means of a to-and-fro movable handle-bar
- [B62M 1/18](#) . by movement of rider's saddle
- [B62M 1/20](#) . . with additional rider propulsion means
- [B62M 1/24](#) . with reciprocating levers, e.g. foot levers (levers with can be immobilised as foot rests [B62M 5/00](#))
- [B62M 1/26](#) . . characterised by rotary cranks combined with reciprocating levers
- [B62M 1/28](#) . . characterised by the use of flexible drive members, e.g. chains
- [B62M 1/30](#) . . characterised by the use of intermediate gears
- [B62M 1/32](#) . . characterised by directly driving the wheel axle, e.g. by using a ratchet wheel
- [B62M 1/34](#) . by walking on an endless belt
- [B62M 1/36](#) . with rotary cranks, e.g. with pedal cranks ([B62M 1/34](#) takes precedence; combined with reciprocating levers [B62M 1/26](#); cranks which can be immobilised as foot rests [B62M 5/00](#))
- [B62M 1/38](#) . . for directly driving the wheel axle

B62M 3/00

Construction of cranks operated by hand or foot

- B62M 3/003 . {Combination of crank axles and bearings housed in the bottom bracket (bottom bracket frame details [B62K 19/34](#))}
- B62M 2003/006 . {Crank arrangements to overcome dead points }
- B62M 3/02 . of adjustable length
- B62M 3/04 . . automatically adjusting
- B62M 3/06 . with elliptical or other non-circular rotary movement
- B62M 3/08 . Pedals
- B62M 3/083 . . {Toe clip}
- B62M 3/086 . . {Attachments between shoe and pedal other than toe clips, e.g. cleats (shoes for cyclists [A43B 5/14](#))}
- B62M 3/10 . . All-metal pedals
- B62M 3/12 . . with reflectors
- B62M 3/14 . Hand-grips for hand-operated cranks
- B62M 3/16 . Accessories

B62M 5/00 **Foot-driven levers as pedal cranks which can be immobilised as foot-rests**
(immobilising against theft [B62H 5/10](#))

B62M 6/00 **Rider propulsion of wheeled vehicles with additional source of power, e.g. combustion engine or electric motor**

NOTE

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 cycles with auxiliary combustion engine
- B62M 6/15 . . Control or actuating devices therefor
- B62M 6/20 . . power-driven at crank shaft parts
- B62M 6/25 . . power-driven at axle parts
- 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
- B62M 6/35 . . power-driven by friction rollers or gears engaging the ground wheel
- B62M 6/40 . Rider propelled cycles with auxiliary electric motor
- B62M 6/45 . . Control or actuating devices therefor
- B62M 6/50 . . . characterised by detectors or sensors, or arrangement thereof
- B62M 6/55 . . power-driven at crank shafts parts
- B62M 6/60 . . power-driven at axle parts
- B62M 6/65 . . . with axle and driving shaft arranged coaxially
- 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
- B62M 6/75 . . power-driven by friction rollers or gears engaging the ground wheel
- B62M 6/80 . Accessories, e.g. power sources; Arrangements thereof
- B62M 6/85 . . Solar cells

B62M 6/90 . . Batteries

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 [B62M 6/00](#); frames characterised by position of engine [B62K 11/00](#))

- B62M 2007/005 . {the cycle being equipped with a pneumatic motor }
- B62M 7/02 . with engine between front and rear wheels
- B62M 7/04 . . below the frame
- B62M 7/06 . . directly under the saddle or seat
- B62M 7/08 . with the engine over the rear wheel
- B62M 7/10 . with the engine over the front wheel
- B62M 7/12 . with the engine beside or within the driven wheel
- B62M 7/14 . with the engine on an auxiliary wheeled unit, e.g. trailer, sidecar (trailers [B60P](#), [B62D](#); sidecars [B62K 27/00](#))
- B62M 7/16 . . with wheel of unit driven by the engine

Guidance heading: **Tranmissions** {(freewheels or freewheels clutches specially adapted for cycles [F16D 41/24](#))}

B62M 9/00 **Transmissions characterised by use of an endless chain, belt, or the like** (cycle chain guards [B62J 13/00](#))

NOTE

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 2009/002 . {Non-circular chain rings or sprockets }
- B62M 2009/005 . {Details of transmission chains specially adapted for bicycles }
- B62M 2009/007 . {Guides to prevent chain from slipping off the sprocket }
- B62M 9/02 . of unchangeable ratio
- B62M 9/04 . of changeable ratio
- B62M 9/06 . . using a single chain, belt, or the like
- B62M 9/08 . . . involving eccentrically- mounted or elliptically-shaped driving or driven wheel; with expansible driving or driven wheel
- B62M 9/085 {involving eccentrically mounted driving or driven wheel}
- B62M 9/10 . . . involving different-sized wheels, {e.g. rear sprocket chain wheels} selectively engaged by the chain, belt, or the like {(bicycle hubs rotatably arranged on axle [B60B 27/023](#))}
- B62M 9/105 { involving front sprocket chain-wheels engaged by the chain, belt or the like}
- B62M 9/12 the chain, belt, or the like being laterally shiftable, {e.g. using a rear derailleur}
- B62M 9/121 Rear derailleurs
- B62M 9/122 electrically or fluid actuated; Controls thereof
- B62M 9/123 changing gears automatically

B62M 9/124	.....	Mechanisms for shifting laterally
B62M 2009/12406	.....	{Rear derailleur comprising a rigid pivoting arm }
B62M 2009/12413	.....	{Rear derailleur comprising telescoping mechanisms }
B62M 9/1242	.....	characterised by the linkage mechanisms
B62M 9/1244	.....	limiting or positioning the movement
B62M 9/1246	.....	using cams or plates
B62M 9/1248	.....	characterised by the use of biasing means, e.g. springs; Arrangements thereof
B62M 9/125	.....	Mounting the derailleur on the frame
B62M 9/126	.....	Chain guides; Mounting thereof
B62M 9/127	.....	Mounting or guiding of cables
B62M 9/128	.....	Accessories, e.g. protectors
B62M 9/131	.....	Front derailleurs
B62M 9/132	.....	electrically or fluid actuated; Controls thereof
B62M 9/133	.....	changing gears automatically
B62M 9/134	.....	Mechanisms for shifting laterally
B62M 9/1342	.....	characterised by the linkage mechanisms
B62M 9/1344	.....	limiting or positioning the movement
B62M 9/1346	.....	using cams or plates
B62M 9/1348	.....	characterised by the use of biasing means, e.g. springs; Arrangements thereof
B62M 9/135	.....	Mounting the derailleur on the frame
B62M 9/136	.....	Chain guides; Mounting thereof
B62M 9/137	.....	Mounting or guiding of cables
B62M 9/138	.....	Accessories, e.g. protectors
B62M 9/14	....	the wheels being laterally shiftable
B62M 9/16	.	Tensioning or adjusting equipment for chains, belts or the like
B62M 11/00		Transmissions characterised by the use of inter-engaging toothed wheels or frictionally-engaging wheels (with roller engaging the periphery of ground wheel B62M 13/00)
B62M 11/02	.	of unchangeable ratio
B62M 11/04	.	of changeable ratio
B62M 11/06	..	with spur gear wheels (B62M 11/14 takes precedence)
B62M 11/08	...	with a radially-shiftable intermediate gear wheel
B62M 11/10	..	with bevel gear wheels (B62M 11/14 takes precedence)
B62M 11/12	..	with frictionally-engaging wheels (B62M 11/14 takes precedence)
B62M 11/14	..	with planetary gears
B62M 11/145	...	{built in, or adjacent to, the bottom bracket}
B62M 11/16	...	built in, or adjacent to, the ground-wheel hub
B62M 11/18	...	with a plurality of planetary gear units

B62M 13/00	Transmissions characterised by use of friction rollers engaging the periphery of the ground wheel (for rider propelled cycles with additional source of power B62M 6/35 , B62M 6/75)
B62M 13/02	. with changeable ratio, e.g. with roller of varying diameter
B62M 13/04	. with means for moving roller into driving contact with ground wheel
B62M 15/00	Transmissions characterised by use of crank shafts and coupling rods
B62M 17/00	Transmissions characterised by use of rotary shaft, e.g. cardan shaft
B62M 19/00	Transmissions characterised by use of non-mechanical gearing, e.g. fluid gearing
B62M 21/00	Transmissions characterised by use of resilient elements therein
B62M 23/00	Transmissions characterised by use of other elements; Other transmissions
B62M 23/02	. characterised by the use of two or more dissimilar sources of power, e.g. transmissions for hybrid motorcycles (transmissions for wheeled vehicles using rider propulsion with additional source of power B62M 6/00)
B62M 25/00	Actuators for gearing speed-change mechanisms specially adapted for cycles (rider operated controls for cycles in general B62K 23/00 ; gearing speed change mechanisms F16H)
B62M 2025/003	. {with gear indicating means, e.g. a display }
B62M 2025/006	. {with auxiliary shift assisting means }
B62M 25/02	. with mechanical transmitting systems, e.g. cables, levers
B62M 25/04	.. hand actuated
B62M 25/045	... {having single actuating means operating both front and rear derailleur}
B62M 25/06	.. foot actuated
B62M 25/08	. with electrical or fluid transmitting systems
B62M 27/00	Propulsion devices for sledges or the like (pushed or pulled by persons or animals B62B , B62C ; wind propulsion B62B 15/00)
B62M 27/02	. power driven
B62M 2027/021	.. {Snow bikes resembling conventional motorcycles }
B62M 2027/022	.. {Snow drive conversions for cycles with wheels }
B62M 2027/023	.. {Snow mobiles characterised by engine mounting arrangements }
B62M 2027/025	.. {Snow mobiles characterised by the skis }
B62M 2027/026	.. {Snow mobiles characterised by the suspension means }
B62M 2027/027	.. {Snow mobiles characterised by the tracks }
B62M 2027/028	.. {Snow mobiles characterised by chassis or bodywork }
B62M 29/00	Ground engaging propulsion devices for cycles, sledges, or rider-propelled wheeled vehicles, not otherwise provided for {(non-motorized scooters with skis or runners B62K 3/002)}
B62M 29/02	. using ground-engaging rods

B62M 2700/00	Rider propulsion of bicycles or vehicles having transmission mainly of unchangeable ratio
B62M 2700/001	. Propulsion of bicycles and vehicles using planetary gears transmission
B62M 2700/003	. Propulsion of bicycles and vehicles using toothed wheels transmission
B62M 2700/005	. Propulsion of bicycles and vehicles using bevel/conical wheels transmission
B62M 2700/006	. Propulsion of bicycles and vehicles using cranks having reciprocating levers
B62M 2700/008	. Propulsion of bicycles and vehicles using other means
B62M 2701/00	Transmissions for motorcycles or motorised bicycles characterised by position of engine or gear box
B62M 2701/0007	. Construction details of gear box for motorcycles
B62M 2701/0015	. Transmissions and/or engine attachment to frame
B62M 2701/0023	. Transmissions using belt, chain and friction wheel
B62M 2701/003	. . Motorcycles or bicycles with engine besides or within driven wheel
B62M 2701/0038	. . Motorcycles or bicycles with engine over the front or rear wheel
B62M 2701/0046	. Gear change control and other for motorcycles or bicycles
B62M 2701/0053	. . Control by means of a lever
B62M 2701/0061	. . Control of pulleys in transmission
B62M 2701/0069	. Engine control
B62M 2701/0076	. Chain and chainwheel
B62M 2701/0084	. Clutch control by driver
B62M 2701/0092	. Clutch arrangement in the transmission
B62M 2901/00	Rear derailleur supported by the chain-stay or rear fork of the bicycle