

**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 <a href="#">B60B 27/023</a> )}
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
<b>B62M 11/00</b>	<b>Transmissions characterised by the use of inter-engaging toothed wheels or</b>

**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**