

**CPC****COOPERATIVE PATENT CLASSIFICATION****G05G**

**CONTROL DEVICES OR SYSTEMS INsofar AS CHARACTERISED BY MECHANICAL FEATURES ONLY** ("Bowden" or like mechanisms [F16C 1/10](#); gearings or mechanisms not peculiar to this purpose [F16H](#); speed changing or reversing mechanisms for gearings conveying rotary motion [F16H 59/00](#) to [F16H 63/00](#))

**NOTE**

This subclass covers :

- members of general applicability for mechanical control;
- mechanical systems for moving members to one or more definite settings.

Systems peculiar to the control of particular machines or apparatus provided for in a single other class are classified in the relevant class for such machines or apparatus, for example:

<a href="#">A61G 13/02</a>	Controls for adjusting operating tables
<a href="#">A61G 15/02</a>	Controls for adjusting operating chairs
<a href="#">B25J</a>	Manipulators, e.g. controls therefor
<a href="#">B60K 26/00</a>	Arrangement or mounting of propulsion-unit control devices in vehicles
<a href="#">B60T 7/00</a>	Vehicle brake-action initiating means
<a href="#">B62D 33/073</a>	Adaptations of control devices for movable vehicle cabs
<a href="#">B62K 21/00</a>	Cycle-steering devices
<a href="#">B62K 23/00</a>	Rider-operated controls specially adapted for cycles
<a href="#">B62L 3/00</a>	Brake-actuating mechanisms specially adapted for cycles
<a href="#">B63H 25/02</a>	Marine steering initiating means
<a href="#">B66B 1/00</a>	Controls for elevators
<a href="#">B66C 13/18</a>	Control systems or devices for cranes
<a href="#">B66C 13/56</a>	Arrangements of handles or pedals for crane operation
<a href="#">E02F 9/20</a>	Control devices for dredging or soil shifting machines
<a href="#">F16C 3/28</a>	Adjustable cranks or eccentrics
<a href="#">F16D 43/00</a>	Automatic clutches
{ <a href="#">F16H 59/00</a> to <a href="#">F16H 63/00</a> Speed changing or reversing mechanisms for gearings conveying rotary motion}	
<a href="#">F16K 31/00</a> , <a href="#">F16K 33/00</a>	Controls for valves
<a href="#">F16P 3/00</a>	Safety devices acting in conjunction with the control or operation of a machine
<a href="#">F16P 7/02</a>	Stopping machines on occurrence of dangerous conditions therein
<a href="#">G02B 21/32</a>	Micromanipulators structurally combined with microscopes
<a href="#">G04B 1/00</a> to <a href="#">G04B 18/00</a>	Driving mechanisms in clocks or watches

[G06C](#) Digital computers in which all the computation is effected mechanically  
[G06F 3/02](#) Manual computer input arrangements  
[G06K 11/00](#) Converting a pattern of mechanical parameters into electric signals  
[G21C 7/08](#) Displacement of solid control elements in nuclear reactors  
[H01H](#) Mechanisms for operating switch contacts  
[H03J 1/00](#) Mechanical control of resonant circuits.

**G05G 1/00**

**Controlling members, e.g. knobs or handles; Assemblies or arrangements thereof; Indicating position of controlling members** ({ means for preventing, limiting or returning the movements of parts of a control mechanism [G05G 5/00](#); providing feel, e.g. means to create a counterforce [G05G 5/03](#); specially adapted for programme control [G05G 21/00](#); vibration damping [G05G 25/02](#);) joysticks [G05G 9/04](#); steering wheels for motor vehicles [B62D](#))

**NOTE**

Within this main group the first place priority rule is applied, i.e. at each hierarchical level classification is made in the first appropriate place

- [G05G 1/01](#) . Arrangements of two or more controlling members with respect to one another (double foot control, e.g. for instruction vehicles [G05G 1/34](#); mounting units comprising an assembly with two or more pedals [G05G 1/36](#))
- [G05G 1/015](#) . Arrangements for indicating the position of a controlling member (means for continuously detecting pedal position [G05G 1/38](#); means for detecting position through tactile feedback [G05G 5/03](#))
- [G05G 1/02](#) . Controlling members for hand actuation by linear movement, e.g. push buttons
- [G05G 1/025](#) .. {actuated by sliding movement}
- [G05G 1/04](#) . Controlling members for hand actuation by pivoting movement, e.g. levers
- [G05G 1/06](#) .. Details of their grip parts {([G05G 1/10](#) takes precedence)}
- [G05G 1/08](#) . Controlling members for hand actuation by rotary movement, e.g. hand wheels
- [G05G 1/082](#) .. {having safety devices, e.g. means for disengaging the control member from the actuated member}
- [G05G 1/085](#) .. {Crank handles ([G05G 1/082](#) takes precedence)}
- [G05G 1/087](#) .. {retractable; Flush control knobs}
- [G05G 1/10](#) .. Details, e.g. of discs, knobs, wheels or handles {([G05G 1/085](#) takes precedence)}
- [G05G 1/105](#) ... {comprising arrangements for illumination}
- [G05G 1/12](#) ... Means for securing the members on rotatable spindles or the like
- [G05G 1/30](#) . Controlling members actuated by foot
- [G05G 1/305](#) .. {Compound pedal co-operating with two or more controlled members}
- [G05G 1/32](#) .. with means to prevent injury
- [G05G 1/323](#) ... means disconnecting the connection between pedal and controlled member, e.g. by breaking or bending the connecting rod
- [G05G 1/327](#) ... means disconnecting the pedal from its hinge or support, e.g. by breaking or bending the support

- G05G 1/34 .. Double foot controls, e.g. for instruction vehicles
- G05G 1/36 .. Mounting units comprising an assembly of two or more pedals, e.g. for facilitating mounting
- G05G 1/38 .. comprising means to continuously detect pedal position
- G05G 1/40 .. adjustable
- G05G 1/405 ... infinitely adjustable
- G05G 1/42 .. non-pivoting, e.g. sliding
- G05G 1/44 .. pivoting
- G05G 1/445 ... about a central fulcrum
- G05G 1/46 .. Means, e.g. links, for connecting the pedal to the controlled unit
- G05G 1/48 .. Non-slip pedal treads; Pedal extensions or attachments characterised by mechanical features only
- G05G 1/483 ... Non-slip treads; Pedal extensions or attachments characterised by mechanical features only
- G05G 1/487 ... Pedal extensions
- G05G 1/50 .. Manufacturing of pedals; Pedals characterised by the material used
- G05G 1/503 ... { Controlling members for hand-actuation }
- G05G 1/506 ... { Controlling members for foot-actuation }
- G05G 1/52 . Controlling members specially adapted for actuation by other parts of the human body than hand or foot
- G05G 1/54 . Controlling members specially adapted for actuation by auxiliary operating members or extensions; Operating members or extensions therefor ([pedal extensions](#))
- G05G 1/56 .. Controlling members specially adapted for actuation by keys, screwdrivers or like tools
- G05G 1/58 . Rests or guides for relevant parts of the operator's body
- G05G 1/60 .. Foot rests or foot guides
- G05G 1/62 .. Arm rests
  
- G05G 3/00** **Controlled members; Assemblies or arrangements thereof** ([interlocking of controlled members G05G 5/08](#))
  
- G05G 5/00** **Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member** ([G05G 17/00 takes precedence](#))
- G05G 5/005 . {for preventing unintentional use of a control mechanism ([G05G 5/28 takes precedence](#))}
- G05G 5/02 . Means preventing undesired movements of a controlling member which can be moved in two or more separate steps or ways, e.g. restricting to a stepwise movement or to a particular sequence of movements ([G05G 5/28 takes precedence](#))
- G05G 5/03 . Means for enhancing the operator's awareness of arrival of the controlling member at a command or datum position; Providing feel, e.g. means for creating a counterforce ([arrangements for indicating the position of the controlling member G05G 1/015](#))
- G05G 5/04 . Stops for limiting movement of members e.g. adjustable stop ([G05G 5/03](#), [G05G 5/05](#), [G05G 5/28 take precedence](#))

- G05G 5/05
  - Means for returning or tending to return controlling members to an inoperative or neutral position, e.g. by providing return springs or resilient end-stops ([G05G 5/28 takes precedence](#))
- G05G 5/06
  - for holding members in one or a limited number of definite positions only ([G05G 5/005](#), [G05G 5/03](#), [G05G 5/05](#), [G05G 5/28 take precedence](#))
- G05G 5/065
  - .. {using a spring-loaded ball}
- G05G 5/08
  - .. Interlocking of members, e.g. locking member in a particular position before or during the movement of another member
- G05G 5/12
  - for holding members in an indefinite number of positions, e.g. by a toothed quadrant ([G05G 5/28 takes precedence](#))
- G05G 5/14
  - .. by locking a member with respect to a fixed quadrant, rod, or the like
- G05G 5/16
  - ... by friction
- G05G 5/18
  - ... by positive interengagement, e.g. by a pawl
- G05G 5/20
  - .. by locking a quadrant, rod, or the like carried by the member
- G05G 5/22
  - ... by friction
- G05G 5/24
  - ... by positive interengagement, e.g. by a pawl
- G05G 5/26
  - .. by other means than a quadrant, rod, or the like
- G05G 5/28
  - for preventing unauthorised access to the controlling member or its movement to a command position
  
- G05G 7/00**
**Manually-actuated control mechanisms provided with one single controlling member co-operating with one single controlled member; Details thereof**  
 ([controlling members G05G 1/00](#))
- G05G 7/02
  - Characterised by special provisions for conveying or converting motion, or for acting at a distance
- G05G 7/04
  - .. altering the ratio of motion or force between controlling member and controlled member as a function of the position of the controlling member
- G05G 7/06
  - .. in which repeated movement of the controlling member produces increments of movement of the controlled member ([G05G 7/08 takes precedence](#))
- G05G 7/08
  - .. in which repeated movement of the controlling member moves the controlling member through a cycle of distinct positions
- G05G 7/10
  - .. specially adapted for remote control ([G05G 7/04 to G05G 7/08 take precedence](#))
- G05G 7/12
  - specially adapted for actuating a member on a system in motion with respect to the controlling member, e.g. on a rotating shaft
- G05G 7/14
  - characterised by means for delaying initiation of, or making more gradual throughout, the movement of the controlled member in response to a given input from the controlling member, e.g. by providing lost motion in the command train
- G05G 7/16
  - Special provisions for reducing the effect of slight relative movement between supports of the mechanism e.g. resulting from resilient mounting of a controlled mechanism
  
- G05G 9/00**
**Manually-actuated control mechanisms provided with one single controlling member co-operating with two or more controlled members, e.g. selectively, simultaneously**
- G05G 9/02
  - the controlling member being movable in different independent ways, movement in each individual way actuating one controlled member only
- G05G 9/04
  - .. in which movement in two or more ways can occur simultaneously

G05G 9/047	...	the controlling member being movable by hand about orthogonal axes, e.g. joysticks {(for switches <a href="#">H01H 25/04</a> )}
G05G 2009/04703	....	{Mounting of controlling member }
G05G 2009/04707	.....	{with ball joint }
G05G 2009/04711	.....	{with substantially hemispherical bearing part forced into engagement, e.g. by a spring }
G05G 2009/04714	.....	{with orthogonal axes }
G05G 2009/04718	.....	{with cardan or gimbal type joint }
G05G 2009/04722	.....	{elastic, e.g. flexible shaft }
G05G 2009/04725	.....	{with coil spring }
G05G 2009/04729	.....	{melastomeric }
G05G 2009/04733	.....	{with a joint having a nutating disc, e.g. forced by a spring }
G05G 9/04737	....	{with six degrees of freedom}
G05G 2009/0474	....	{characterised by means converting mechanical movement into electric signals }
G05G 2009/04744	.....	{Switches }
G05G 2009/04748	.....	{Position sensor for rotary movement, e.g. potentiometer }
G05G 2009/04751	.....	{Position sensor for linear movement }
G05G 2009/04755	.....	{Magnetic sensor, e.g. hall generator, pick-up coil }
G05G 2009/04759	.....	{Light-sensitive detector, e.g. photoelectric }
G05G 2009/04762	.....	{Force transducer, e.g. strain gauge }
G05G 2009/04766	....	{providing feel, e.g. indexing means, means to create counterforce }
G05G 2009/0477	.....	{holding the member in a number of definite positions }
G05G 2009/04774	....	{with additional switches or sensors on the handle }
G05G 2009/04777	....	{with additional push or pull action on the handle }
G05G 2009/04781	....	{with additional rotation of the controlling member }

**NOTE**

Provisional indexing codes related to scheme of trilateral project T021

G05G 9/04785	....	{the controlling member being the operating part of a switch arrangement}
G05G 9/04788	.....	{comprising additional control elements}
G05G 9/04792	.....	{for rotary control around the axis of the controlling member}
G05G 9/04796	.....	{for rectilinear control along the axis of the controlling member}
G05G 9/053	....	the controlling member comprising a ball {(graph-reading using a tracing ball or mouse <a href="#">G06F 3/033</a> )}
G05G 9/06	.	the controlled members being actuated successively by repeated movement of the controlling member
G05G 9/08	.	the controlled members being actuated successively by progressive movement of the controlling member {(Single lever throttle and clutch control for marine engines <a href="#">B63H 21/213</a> )}
G05G 9/085	..	{the controlling member acting on a set of cams or slot cams}

- G05G 9/10
  - . with preselection and subsequent movement of each controlled member by movement of the controlling member in two different ways, e.g. guided by a shift gate
  
- G05G 11/00**      **Manually-actuated control mechanisms provided with two or more controlling members co-operating with one single controlled member**
  
- G05G 13/00**      **Manually-actuated control mechanisms provided with two or more controlling members and also two or more controlled members ([interlocking G05G 5/08](#))**
- G05G 13/02
  - . with separate controlling members for preselection and shifting of controlled members
  
- G05G 15/00**      **Mechanical devices for initiating a movement automatically due to a specific cause**
- G05G 15/002
  - . {[due to an abnormal functioning of the controlled apparatus \(if speed is abnormal G05G 15/06\)](#)}
- G05G 15/005
  - . {[due to a dangerous situation for the operator](#)}
- G05G 15/007
  - . {[due to an exerted pressure](#)}
- G05G 15/02
  - . due to alteration of the sense of movement of a member
- G05G 15/04
  - . due to distance or angle travelled by a member
- G05G 15/06
  - . due to the speed of rotation or of bodily movement of a member, e.g. passing an upper or lower limit thereof ([speedometers G01P](#))
- G05G 15/08
  - . due to the load or torque on a member, e.g. if exceeding a predetermined value thereof
  
- G05G 17/00**      **Mechanical devices for moving a member after being released; Trip or release mechanisms characterised thereby**
  
- G05G 19/00**      **Servo-mechanisms with follow-up action, e.g. occurring in steps**
  
- G05G 21/00**      **Mechanical apparatus for control of a series of operations, i.e. programme control, e.g. involving a set of cams ([G05G 5/02 takes precedence](#))**
  
- G05G 23/00**      **Means for ensuring the correct positioning of parts of control mechanisms, e.g. for taking-up play**
- G05G 23/02
  - . self-adjusting
  
- G05G 25/00**      **Other details or appurtenances of control mechanisms, e.g. supporting intermediate members elastically**
- G05G 25/02
  - . Inhibiting the generation or transmission of noise {([suppression of noise or vibrations in selector apparatus for gearings F16H 59/0208](#))}
- G05G 25/04
  - . Sealing against entry of dust, weather or the like {([in selector apparatus for gearings, F16H 59/0213](#))}
  
- G05G 2505/00**      **Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member**
  
- G05G 2700/00**      **Control mechanisms or elements therefor applying a mechanical movement**
- G05G 2700/02
  - . Means for regulating or adjusting control mechanisms, e.g. devices for automatic adjustment
- G05G 2700/04
  - . Control mechanisms limiting amplitude or adjusting datum position

- G05G 2700/06 . . Control mechanisms for holding members in a number of positions comprising a device to limit the control range
- G05G 2700/08 . . Control mechanisms for locking members in one or more positions
- G05G 2700/10 . . Control mechanisms for locking or at least for blocking a member in one position out of a number of several positions
- G05G 2700/12 . Control mechanisms with one controlling member and one controlled member
- G05G 2700/14 . . with one elastic element as essential part, e.g. elastic components as a part of an actuating mechanism
- G05G 2700/16 . . Mechanisms for conveying motion or signals for or in relation with control mechanisms
- G05G 2700/18 . . Systems wherein the control element may be placed in two or more positions
- G05G 2700/20 . Control mechanisms not otherwise provided for
- G05G 2700/22 . Mechanisms linking plurality of controlling or controlled members
- G05G 2700/24 . . Locking controlled members of selectively controlled mechanisms
- G05G 2700/26 . . with a control member moving selectively or simultaneously the controlled members
- G05G 2700/28 . . . with a control member that is moved for preselection in another direction than for final actuating
- G05G 2700/30 . . . without preselection or differentiation between selection and actuating, e.g. control members with a fix control sequence, after a determined advance cycle, in which the control device comprises cams actuating separately the controlled members
- G05G 2700/32 . . with plurality of control members, e.g. preselection and actuating members actuating several controlled members