

**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:

[A61G 13/02](#) Controls for adjusting operating tables  
[A61G 15/02](#) Controls for adjusting operating chairs  
[B25J](#) Manipulators, e.g. controls therefor  
[B60K 26/00](#) Arrangement or mounting of propulsion-unit control devices in vehicles  
[B60T 7/00](#) Vehicle brake-action initiating means  
[B62D 33/073](#) Adaptations of control devices for movable vehicle cabs  
[B62K 21/00](#) Cycle-steering devices  
[B62K 23/00](#) Rider-operated controls specially adapted for cycles  
[B62L 3/00](#) Brake-actuating mechanisms specially adapted for cycles  
[B63H 25/02](#) Marine steering initiating means  
[B66B 1/00](#) Controls for elevators  
[B66C 13/18](#) Control systems or devices for cranes  
[B66C 13/56](#) Arrangements of handles or pedals for crane operation  
[E02F 9/20](#) Control devices for dredging or soil shifting machines  
[F16C 3/28](#) Adjustable cranks or eccentrics  
[F16D 43/00](#) Automatic clutches  
{ [F16H 59/00](#) to [F16H 63/00](#) Speed changing or reversing mechanisms for gearings conveying rotary motion }  
[F16K 31/00](#), [F16K 33/00](#) Controls for valves  
[F16P 3/00](#) Safety devices acting in conjunction with the control or operation of a machine  
[F16P 7/02](#) Stopping machines on occurrence of dangerous conditions therein  
[G02B 21/32](#) Micromanipulators structurally combined with microscopes  
[G04B 1/00](#) to [G04B 18/00](#) 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 {( <a href="#">graph-reading using a tracing ball or mouse</a> <a href="#">G06K 11/18</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 {( <a href="#">Single lever throttle and clutch control for marine engines</a> <a href="#">B63H 21/22B</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

<b>G05G 11/00</b>	<b>Manually-actuated control mechanisms provided with two or more controlling members co-operating with one single controlled member</b>
<b>G05G 13/00</b>	<b>Manually-actuated control mechanisms provided with two or more controlling members and also two or more controlled members ( <a href="#">interlocking G05G 5/08</a> )</b>
G05G 13/02	. with separate controlling members for preselection and shifting of controlled members
<b>G05G 15/00</b>	<b>Mechanical devices for initiating a movement automatically due to a specific cause</b>
G05G 15/002	. { <a href="#">due to an abnormal functioning of the controlled apparatus ( if speed is abnormal G05G 15/06 )</a> }
G05G 15/005	. { <a href="#">due to a dangerous situation for the operator</a> }
G05G 15/007	. { <a href="#">due to an exerted pressure</a> }
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 ( <a href="#">speedometers G01P</a> )
G05G 15/08	. due to the load or torque on a member, e.g. if exceeding a predetermined value thereof
<b>G05G 17/00</b>	<b>Mechanical devices for moving a member after being released; Trip or release mechanisms characterised thereby</b>
<b>G05G 19/00</b>	<b>Servo-mechanisms with follow-up action, e.g. occurring in steps</b>
<b>G05G 21/00</b>	<b>Mechanical apparatus for control of a series of operations, i.e. programme control, e.g. involving a set of cams ( <a href="#">G05G 5/02 takes precedence</a> )</b>
<b>G05G 23/00</b>	<b>Means for ensuring the correct positioning of parts of control mechanisms, e.g. for taking-up play</b>
G05G 23/02	. self-adjusting
<b>G05G 25/00</b>	<b>Other details or appurtenances of control mechanisms, e.g. supporting intermediate members elastically</b>
G05G 25/02	. Inhibiting the generation or transmission of noise {( <a href="#">suppression of noise or vibrations in selector apparatus for gearings F16H 59/0208</a> )}
G05G 25/04	. Sealing against entry of dust, weather or the like {( <a href="#">in selector apparatus for gearings,</a>

[F16H 59/0213](#) )}

<b>G05G 2505/00</b>	<b>Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member</b>
<b>G05G 2700/00</b>	<b>Control mechanisms or elements therefor applying a mechanical movement</b>
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