

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

1. This subclass covers :
 - members of general applicability for mechanical control;
 - mechanical systems for moving members to one or more definite settings.
2. 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

G05G

(continued)

[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

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| 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 H01H 25/04)} |
| 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

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| 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 G06F 3/033)} |

- 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 [{\(Single lever throttle and clutch control for marine engines B63H 21/213\)}](#)
- 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 [{\(in selector apparatus for gearings, F16H 59/0213\)}](#)

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| 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 |