

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](#))

NOTES

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

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 {elastomeric}
- 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 [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 [{\(in selector apparatus for gearings, F16H 59/0213\)}](#)

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