

**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
  - [A63F 13/20](#), [A63F 13/98](#) Accessories for games using an electronically generated display
  - [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
  - [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

## G05G

(continued)

- [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 [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

G05G 9/04785	<ul style="list-style-type: none"> <li>. . . . {the controlling member being the operating part of a switch arrangement}</li> </ul>
G05G 9/04788	<ul style="list-style-type: none"> <li>. . . . . {comprising additional control elements}</li> </ul>
G05G 9/04792	<ul style="list-style-type: none"> <li>. . . . . {for rotary control around the axis of the controlling member}</li> </ul>
G05G 9/04796	<ul style="list-style-type: none"> <li>. . . . . {for rectilinear control along the axis of the controlling member}</li> </ul>
G05G 9/053	<ul style="list-style-type: none"> <li>. . . . the controlling member comprising a ball {(graph-reading using a tracing ball or mouse <a href="#">G06F 3/033</a>)}</li> </ul>
G05G 9/06	<ul style="list-style-type: none"> <li>. the controlled members being actuated successively by repeated movement of the controlling member</li> </ul>
G05G 9/08	<ul style="list-style-type: none"> <li>. 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>)}</li> </ul>
G05G 9/085	<ul style="list-style-type: none"> <li>. . {the controlling member acting on a set of cams or slot cams}</li> </ul>
G05G 9/10	<ul style="list-style-type: none"> <li>. 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</li> </ul>
<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	<ul style="list-style-type: none"> <li>. with separate controlling members for preselection and shifting of controlled members</li> </ul>
<b>G05G 15/00</b>	<b>Mechanical devices for initiating a movement automatically due to a specific cause</b>
G05G 15/002	<ul style="list-style-type: none"> <li>. {due to an abnormal functioning of the controlled apparatus (if speed is abnormal <a href="#">G05G 15/06</a>)}</li> </ul>
G05G 15/005	<ul style="list-style-type: none"> <li>. {due to a dangerous situation for the operator}</li> </ul>
G05G 15/007	<ul style="list-style-type: none"> <li>. {due to an exerted pressure}</li> </ul>
G05G 15/02	<ul style="list-style-type: none"> <li>. due to alteration of the sense of movement of a member</li> </ul>
G05G 15/04	<ul style="list-style-type: none"> <li>. due to distance or angle travelled by a member</li> </ul>
G05G 15/06	<ul style="list-style-type: none"> <li>. 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>)</li> </ul>
G05G 15/08	<ul style="list-style-type: none"> <li>. due to the load or torque on a member, e.g. if exceeding a predetermined value thereof</li> </ul>
<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</a> takes precedence)</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	<ul style="list-style-type: none"> <li>self-adjusting</li> </ul>
<b>G05G 25/00</b>	<b>Other details or appurtenances of control mechanisms, e.g. supporting intermediate members elastically</b>
G05G 25/02	<ul style="list-style-type: none"> <li>Inhibiting the generation or transmission of noise <a href="#">{(suppression of noise or vibrations in selector apparatus for gearings F16H 59/0208)}</a></li> </ul>
G05G 25/04	<ul style="list-style-type: none"> <li>Sealing against entry of dust, weather or the like <a href="#">{(in selector apparatus for gearings, F16H 59/0213)}</a></li> </ul>
<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	<ul style="list-style-type: none"> <li>Means for regulating or adjusting control mechanisms, e.g. devices for automatic adjustment</li> </ul>
G05G 2700/04	<ul style="list-style-type: none"> <li>Control mechanisms limiting amplitude or adjusting datum position</li> </ul>
G05G 2700/06	<ul style="list-style-type: none"> <li>Control mechanisms for holding members in a number of positions comprising a device to limit the control range</li> </ul>
G05G 2700/08	<ul style="list-style-type: none"> <li>Control mechanisms for locking members in one or more positions</li> </ul>
G05G 2700/10	<ul style="list-style-type: none"> <li>Control mechanisms for locking or at least for blocking a member in one position out of a number of several positions</li> </ul>
G05G 2700/12	<ul style="list-style-type: none"> <li>Control mechanisms with one controlling member and one controlled member</li> </ul>
G05G 2700/14	<ul style="list-style-type: none"> <li>with one elastic element as essential part, e.g. elastic components as a part of an actuating mechanism</li> </ul>
G05G 2700/16	<ul style="list-style-type: none"> <li>Mechanisms for conveying motion or signals for or in relation with control mechanisms</li> </ul>
G05G 2700/18	<ul style="list-style-type: none"> <li>Systems wherein the control element may be placed in two or more positions</li> </ul>
G05G 2700/20	<ul style="list-style-type: none"> <li>Control mechanisms not otherwise provided for</li> </ul>
G05G 2700/22	<ul style="list-style-type: none"> <li>Mechanisms linking plurality of controlling or controlled members</li> </ul>
G05G 2700/24	<ul style="list-style-type: none"> <li>Locking controlled members of selectively controlled mechanisms</li> </ul>
G05G 2700/26	<ul style="list-style-type: none"> <li>with a control member moving selectively or simultaneously the controlled members</li> </ul>
G05G 2700/28	<ul style="list-style-type: none"> <li>with a control member that is moved for preselection in another direction than for final actuating</li> </ul>
G05G 2700/30	<ul style="list-style-type: none"> <li>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</li> </ul>
G05G 2700/32	<ul style="list-style-type: none"> <li>with plurality of control members, e.g. preselection and actuating members actuating several controlled members</li> </ul>