

CPC COOPERATIVE PATENT CLASSIFICATION

G PHYSICS (NOTES omitted)

INSTRUMENTS

G05 **CONTROLLING; REGULATING** (specially adapted to a particular field of use, [see the relevant place for that field, e.g. A62C 37/00, B03B 13/00, B23Q](#))
(NOTES omitted)

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](#) - [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
G02B 21/32	Micromanipulators structurally combined with microscopes
G04B 1/00 - 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.

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)	1/46	. . Means, e.g. links, for connecting the pedal to the controlled unit
		1/48	. . Non-slip pedal treads; Pedal extensions or attachments characterised by mechanical features only
		1/483	. . . Non-slip treads; Pedal extensions or attachments characterised by mechanical features only
		1/487	. . . Pedal extensions
		1/50	. . Manufacturing of pedals; Pedals characterised by the material used
		1/503	. . . {Controlling members for hand-actuation}
		1/506	. . . {Controlling members for foot-actuation}
		1/52	. Controlling members specially adapted for actuation by other parts of the human body than hand or foot
		1/54	. Controlling members specially adapted for actuation by auxiliary operating members or extensions; Operating members or extensions therefor (pedal extensions)
		1/56	. . Controlling members specially adapted for actuation by keys, screwdrivers or like tools
		1/58	. Rests or guides for relevant parts of the operator's body
		1/60	. . Foot rests or foot guides
		1/62	. . Arm rests
	NOTE	3/00	Controlled members; Assemblies or arrangements thereof (interlocking of controlled members G05G 5/08)
	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	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)
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)	5/005	. {for preventing unintentional use of a control mechanism (G05G 5/28 takes precedence)}
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)	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)
1/02	. Controlling members for hand actuation by linear movement, e.g. push buttons	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)
1/025	. . {actuated by sliding movement}	5/04	. Stops for limiting movement of members, e.g. adjustable stop (G05G 5/03 , G05G 5/05 , G05G 5/28 take precedence)
1/04	. Controlling members for hand actuation by pivoting movement, e.g. levers	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)
1/06	. . Details of their grip parts ({ G05G 1/10 takes precedence})	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)
1/08	. Controlling members for hand actuation by rotary movement, e.g. hand wheels	5/065	. . {using a spring-loaded ball}
1/082	. . {having safety devices, e.g. means for disengaging the control member from the actuated member}	5/08	. . Interlocking of members, e.g. locking member in a particular position before or during the movement of another member
1/085	. . {Crank handles (G05G 1/082 takes precedence)}	5/12	. for holding members in an indefinite number of positions, e.g. by a toothed quadrant (G05G 5/28 takes precedence)
1/087	. . {retractable; Flush control knobs}	5/14	. . by locking a member with respect to a fixed quadrant, rod, or the like
1/10	. . Details, e.g. of discs, knobs, wheels or handles ({ G05G 1/085 takes precedence})		
1/105	. . . {comprising arrangements for illumination}		
1/12	. . . Means for securing the members on rotatable spindles or the like		
1/30	. Controlling members actuated by foot		
1/305	. . {Compound pedal co-operating with two or more controlled members}		
1/32	. . with means to prevent injury		
1/323	. . . means disconnecting the connection between pedal and controlled member, e.g. by breaking or bending the connecting rod		
1/327	. . . means disconnecting the pedal from its hinge or support, e.g. by breaking or bending the support		
1/34	. . Double foot controls, e.g. for instruction vehicles		
1/36	. . Mounting units comprising an assembly of two or more pedals, e.g. for facilitating mounting		
1/38	. . comprising means to continuously detect pedal position		
1/40	. . adjustable		
1/405	. . . infinitely adjustable		
1/42	. . non-pivoting, e.g. sliding		
1/44	. . pivoting		
1/445	. . . about a central fulcrum		

5/16	. . . by friction	2009/0474	. . . . {characterised by means converting mechanical movement into electric signals}
5/18	. . . by positive interengagement, e.g. by a pawl	2009/04744	. . . . {Switches}
5/20	. . by locking a quadrant, rod, or the like carried by the member	2009/04748	. . . . {Position sensor for rotary movement, e.g. potentiometer}
5/22	. . . by friction	2009/04751	. . . . {Position sensor for linear movement}
5/24	. . . by positive interengagement, e.g. by a pawl	2009/04755	. . . . {Magnetic sensor, e.g. hall generator, pick-up coil}
5/26	. . by other means than a quadrant, rod, or the like	2009/04759	. . . . {Light-sensitive detector, e.g. photoelectric}
5/28	. for preventing unauthorised access to the controlling member or its movement to a command position	2009/04762	. . . . {Force transducer, e.g. strain gauge}
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)	2009/04766	. . . . {providing feel, e.g. indexing means, means to create counterforce}
7/02	. characterised by special provisions for conveying or converting motion, or for acting at a distance	2009/0477	. . . . {holding the member in a number of definite positions}
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	2009/04774	. . . . {with additional switches or sensors on the handle}
7/06	. . in which repeated movement of the controlling member produces increments of movement of the controlled member (G05G 7/08 takes precedence)	2009/04777	. . . . {with additional push or pull action on the handle}
7/08	. . in which repeated movement of the controlling member moves the controlling member through a cycle of distinct positions	2009/04781	. . . . {with additional rotation of the controlling member}
7/10	. . specially adapted for remote control (G05G 7/04 - G05G 7/08 take precedence)	NOTE Provisional indexing codes related to scheme of trilateral project T021	
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	9/04785	. . . . {the controlling member being the operating part of a switch arrangement}
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	9/04788	. . . . {comprising additional control elements}
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	9/04792	. . . . {for rotary control around the axis of the controlling member}
9/00	Manually-actuated control mechanisms provided with one single controlling member co-operating with two or more controlled members, e.g. selectively, simultaneously	9/04796	. . . . {for rectilinear control along the axis of the controlling member}
9/02	. the controlling member being movable in different independent ways, movement in each individual way actuating one controlled member only	9/053	. . . . the controlling member comprising a ball (graph-reading using a tracing ball or mouse G06F 3/033)
9/04	. . in which movement in two or more ways can occur simultaneously	9/06	. the controlled members being actuated successively by repeated movement of the controlling member
9/047	. . . the controlling member being movable by hand about orthogonal axes, e.g. joysticks (for switches H01H 25/04)	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)
2009/04703	. . . . {Mounting of controlling member}	9/085	. . {the controlling member acting on a set of cams or slot cams}
2009/04707	. . . . {with ball joint}	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
2009/04711	. . . . {with substantially hemispherical bearing part forced into engagement, e.g. by a spring}	11/00	Manually-actuated control mechanisms provided with two or more controlling members co-operating with one single controlled member
2009/04714	. . . . {with orthogonal axes}	13/00	Manually-actuated control mechanisms provided with two or more controlling members and also two or more controlled members (interlocking G05G 5/08)
2009/04718	. . . . {with cardan or gimbal type joint}	13/02	. with separate controlling members for preselection and shifting of controlled members
2009/04722	. . . . {elastic, e.g. flexible shaft}	15/00	Mechanical devices for initiating a movement automatically due to a specific cause
2009/04725	. . . . {with coil spring}	15/002	. {due to an abnormal functioning of the controlled apparatus (if speed is abnormal G05G 15/06)}
2009/04729	. . . . {melastomeric}	15/005	. {due to a dangerous situation for the operator}
2009/04733	. . . . {with a joint having a nutating disc, e.g. forced by a spring}	15/007	. {due to an exerted pressure}
9/04737	. . . . {with six degrees of freedom}		

- 15/02 . . due to alteration of the sense of movement of a member
- 15/04 . . due to distance or angle travelled by a member
- 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](#))
- 15/08 . . due to the load or torque on a member, e.g. if exceeding a predetermined value thereof
- 17/00 Mechanical devices for moving a member after being released; Trip or release mechanisms characterised thereby**
- 19/00 Servo-mechanisms with follow-up action, e.g. occurring in steps**
- 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](#))**
- 23/00 Means for ensuring the correct positioning of parts of control mechanisms, e.g. for taking-up play**
 - 23/02 . . self-adjusting
- 25/00 Other details or appurtenances of control mechanisms, e.g. supporting intermediate members elastically**
 - 25/02 . . Inhibiting the generation or transmission of noise {([suppression of noise or vibrations in selector apparatus for gearings F16H 59/0208](#))}
 - 25/04 . . Sealing against entry of dust, weather or the like {(in selector apparatus for gearings, [F16H 59/0213](#))}
- 2505/00 Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member**
- 2700/00 Control mechanisms or elements therefor applying a mechanical movement**
 - 2700/02 . . Means for regulating or adjusting control mechanisms, e.g. devices for automatic adjustment
 - 2700/04 . . Control mechanisms limiting amplitude or adjusting datum position
 - 2700/06 Control mechanisms for holding members in a number of positions comprising a device to limit the control range
 - 2700/08 Control mechanisms for locking members in one or more positions
 - 2700/10 Control mechanisms for locking or at least for blocking a member in one position out of a number of several positions
 - 2700/12 . . Control mechanisms with one controlling member and one controlled member
 - 2700/14 with one elastic element as essential part, e.g. elastic components as a part of an actuating mechanism
 - 2700/16 Mechanisms for conveying motion or signals for or in relation with control mechanisms
 - 2700/18 Systems wherein the control element may be placed in two or more positions
 - 2700/20 . . Control mechanisms not otherwise provided for
 - 2700/22 . . Mechanisms linking plurality of controlling or controlled members
 - 2700/24 Locking controlled members of selectively controlled mechanisms
 - 2700/26 with a control member moving selectively or simultaneously the controlled members
 - 2700/28 with a control member that is moved for preselection in another direction than for final actuating
 - 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
 - 2700/32 with plurality of control members, e.g. preselection and actuating members actuating several controlled members