

# CPC COOPERATIVE PATENT CLASSIFICATION

## G PHYSICS (NOTES omitted)

### INSTRUMENTS

## G05 CONTROLLING; REGULATING (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.

### WARNING

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

|       |  |       |  |
|-------|--|-------|--|
| 1/00  | <b>Controlling members, e.g. knobs or handles; Assemblies or arrangements thereof; Indicating position of controlling members</b> ({means for preventing, limiting or returning the movements of parts of a control mechanism <a href="#">G05G 5/00</a> ; providing feel, e.g. means to create a counterforce <a href="#">G05G 5/03</a> ; specially adapted for programme control <a href="#">G05G 21/00</a> ; vibration damping <a href="#">G05G 25/02</a> ;} joysticks <a href="#">G05G 9/04</a> ; steering wheels for motor vehicles <a href="#">B62D</a> ) | 1/08  | • Controlling members for hand actuation by rotary movement, e.g. hand wheels  |
|       |  | 1/082 | • • {having safety devices, e.g. means for disengaging the control member from the actuated member}                          |
|       |  | 1/085 | • • {Crank handles ( <a href="#">G05G 1/082</a> takes precedence)}   |
|       |  | 1/087 | • • {retractable; Flush control knobs}   |
|       |  | 1/10  | • • Details, e.g. of discs, knobs, wheels or handles {( <a href="#">G05G 1/085</a> 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  |
| 1/01  | • Arrangements of two or more controlling members with respect to one another (double foot control, e.g. for instruction vehicles <a href="#">G05G 1/34</a> ; mounting units comprising an assembly with two or more pedals <a href="#">G05G 1/36</a> )  |       |  |
| 1/015 | • Arrangements for indicating the position of a controlling member (means for continuously detecting pedal position <a href="#">G05G 1/38</a> ; means for detecting position through tactile feedback <a href="#">G05G 5/03</a> )  |       |  |
| 1/02  | • Controlling members for hand actuation by linear movement, e.g. push buttons   |       |  |
| 1/025 | • • {actuated by sliding movement}   |       |  |
| 1/04  | • Controlling members for hand actuation by pivoting movement, e.g. levers   |       |  |
| 1/06  | • • Details of their grip parts {( <a href="#">G05G 1/10</a> takes precedence)}  |       |  |

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|-------------|--|-------------|--|
| 1/46        | • • Means, e.g. links, for connecting the pedal to the controlled unit   | 5/16        | • • • by friction  |
| 1/48        | • • Non-slip pedal treads; Pedal extensions or attachments characterised by mechanical features only   | 5/18        | • • • by positive interengagement, e.g. by a pawl  |
| 1/483       | • • • Non-slip treads; Pedal extensions or attachments characterised by mechanical features only   | 5/20        | • • by locking a quadrant, rod, or the like carried by the member  |
| 1/487       | • • • Pedal extensions   | 5/22        | • • • by friction  |
| 1/50        | • • Manufacturing of pedals; Pedals characterised by the material used   | 5/24        | • • • by positive interengagement, e.g. by a pawl  |
| 1/503       | • • • {Controlling members for hand-actuation}   | 5/26        | • • by other means than a quadrant, rod, or the like   |
| 1/506       | • • • {Controlling members for foot-actuation}   | 5/28        | • for preventing unauthorised access to the controlling member or its movement to a command position   |
| 1/52        | • Controlling members specially adapted for actuation by other parts of the human body than hand or foot   | <b>7/00</b> | <b>Manually-actuated control mechanisms provided with one single controlling member co-operating with one single controlled member; Details thereof (controlling members G05G 1/00)</b>  |
| 1/54        | • Controlling members specially adapted for actuation by auxiliary operating members or extensions; Operating members or extensions therefor (pedal extensions)  | 7/02        | • characterised by special provisions for conveying or converting motion, or for acting at a distance  |
| 1/56        | • • Controlling members specially adapted for actuation by keys, screwdrivers or like tools  | 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   |
| 1/58        | • Rests or guides for relevant parts of the operator's body  | 7/06        | • • in which repeated movement of the controlling member produces increments of movement of the controlled member (G05G 7/08 takes precedence)   |
| 1/60        | • • Foot rests or foot guides  | 7/08        | • • in which repeated movement of the controlling member moves the controlling member through a cycle of distinct positions  |
| 1/62        | • • Arm rests  | 7/10        | • • specially adapted for remote control (G05G 7/04 - G05G 7/08 take precedence)   |
| <b>3/00</b> | <b>Controlled members; Assemblies or arrangements thereof (interlocking of controlled members G05G 5/08)</b>   | 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  |
| <b>5/00</b> | <b>Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member (G05G 17/00 takes precedence)</b>  | 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 |
| 5/005       | • {for preventing unintentional use of a control mechanism (G05G 5/28 takes precedence)}   | 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   |
| 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)                     | <b>9/00</b> | <b>Manually-actuated control mechanisms provided with one single controlling member co-operating with two or more controlled members, e.g. selectively, simultaneously</b>   |
| 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) | 9/02        | • the controlling member being movable in different independent ways, movement in each individual way actuating one controlled member only   |
| 5/04        | • Stops for limiting movement of members, e.g. adjustable stop (G05G 5/03, G05G 5/05, G05G 5/28 take precedence)   | 9/04        | • • in which movement in two or more ways can occur simultaneously   |
| 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)   | 9/047       | • • • the controlling member being movable by hand about orthogonal axes, e.g. joysticks {(for switches H01H 25/04)}   |
| 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)   | 2009/04703  | • • • • {Mounting of controlling member}   |
| 5/065       | • • {using a spring-loaded ball}   | 2009/04707  | • • • • {with ball joint}  |
| 5/08        | • • Interlocking of members, e.g. locking member in a particular position before or during the movement of another member  | 2009/04711  | • • • • {with substantially hemispherical bearing part forced into engagement, e.g. by a spring}   |
| 5/12        | • for holding members in an indefinite number of positions, e.g. by a toothed quadrant (G05G 5/28 takes precedence)  | 2009/04714  | • • • • {with orthogonal axes}   |
| 5/14        | • • by locking a member with respect to a fixed quadrant, rod, or the like   | 2009/04718  | • • • • {with cardan or gimbal type joint}   |
|             |  | 2009/04722  | • • • • {elastic, e.g. flexible shaft}   |
|             |  | 2009/04725  | • • • • {with coil spring}   |
|             |  | 2009/04729  | • • • • {melastomeric}   |
|             |  | 2009/04733  | • • • • {with a joint having a nutating disc, e.g. forced by a spring}   |
|             |  | 9/04737     | • • • • {with six degrees of freedom}  |

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| 2009/0474   | . . . . {characterised by means converting mechanical movement into electric signals}  | 15/02          | . due to alteration of the sense of movement of a member   |
| 2009/04744  | . . . . . {Switches}   | 15/04          | . due to distance or angle travelled by a member   |
| 2009/04748  | . . . . . {Position sensor for rotary movement, e.g. potentiometer}  | 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> )                 |
| 2009/04751  | . . . . . {Position sensor for linear movement}  | 15/08          | . due to the load or torque on a member, e.g. if exceeding a predetermined value thereof   |
| 2009/04755  | . . . . . {Magnetic sensor, e.g. hall generator, pick-up coil}   | <b>17/00</b>   | <b>Mechanical devices for moving a member after being released; Trip or release mechanisms characterised thereby</b>   |
| 2009/04759  | . . . . . {Light-sensitive detector, e.g. photoelectric}   | <b>19/00</b>   | <b>Servo-mechanisms with follow-up action, e.g. occurring in steps</b>   |
| 2009/04762  | . . . . . {Force transducer, e.g. strain gauge}  | <b>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> |
| 2009/04766  | . . . . . {providing feel, e.g. indexing means, means to create counterforce}  | <b>23/00</b>   | <b>Means for ensuring the correct positioning of parts of control mechanisms, e.g. for taking-up play</b>  |
| 2009/0477   | . . . . . {holding the member in a number of definite positions}   | 23/02          | . self-adjusting   |
| 2009/04774  | . . . . . {with additional switches or sensors on the handle}  | <b>25/00</b>   | <b>Other details or appurtenances of control mechanisms, e.g. supporting intermediate members elastically</b>  |
| 2009/04777  | . . . . . {with additional push or pull action on the handle}  | 25/02          | . Inhibiting the generation or transmission of noise {( <a href="#">suppression of noise or vibrations in selector apparatus for gears F16H 59/0208</a> )}           |
| 2009/04781  | . . . . . {with additional rotation of the controlling member}   | 25/04          | . Sealing against entry of dust, weather or the like {(in selector apparatus for gears, <a href="#">F16H 59/0213</a> )}  |
| <b>NOTE</b>   |  | <b>2505/00</b> | <b>Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member</b>                                    |
| Provisional indexing codes related to scheme of trilateral project T021 |  | <b>2700/00</b> | <b>Control mechanisms or elements therefor applying a mechanical movement</b>  |
| 9/04785   | . . . . {the controlling member being the operating part of a switch arrangement}  | 2700/02        | . Means for regulating or adjusting control mechanisms, e.g. devices for automatic adjustment  |
| 9/04788   | . . . . . {comprising additional control elements}   | 2700/04        | . Control mechanisms limiting amplitude or adjusting datum position  |
| 9/04792   | . . . . . {for rotary control around the axis of the controlling member}   | 2700/06        | . . Control mechanisms for holding members in a number of positions comprising a device to limit the control range   |
| 9/04796   | . . . . . {for rectilinear control along the axis of the controlling member}   | 2700/08        | . . Control mechanisms for locking members in one or more positions  |
| 9/053   | . . . . the controlling member comprising a ball {( <a href="#">graph-reading using a tracing ball or mouse G06F 3/033</a> )}  | 2700/10        | . . Control mechanisms for locking or at least for blocking a member in one position out of a number of several positions  |
| 9/06  | . the controlled members being actuated successively by repeated movement of the controlling member  | 2700/12        | . Control mechanisms with one controlling member and one controlled member   |
| 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 B63H 21/213</a> )} | 2700/14        | . . with one elastic element as essential part, e.g. elastic components as a part of an actuating mechanism  |
| 9/085   | . . {the controlling member acting on a set of cams or slot cams}  | 2700/16        | . . Mechanisms for conveying motion or signals for or in relation with control mechanisms  |
| 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                                       | 2700/18        | . . Systems wherein the control element may be placed in two or more positions   |
| <b>11/00</b>  | <b>Manually-actuated control mechanisms provided with two or more controlling members co-operating with one single controlled member</b>   | 2700/20        | . Control mechanisms not otherwise provided for  |
| <b>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>                           | 2700/22        | . Mechanisms linking plurality of controlling or controlled members  |
| 13/02   | . with separate controlling members for preselection and shifting of controlled members  | 2700/24        | . . Locking controlled members of selectively controlled mechanisms  |
| <b>15/00</b>  | <b>Mechanical devices for initiating a movement automatically due to a specific cause</b>  |                |  |
| 15/002  | . {due to an abnormal functioning of the controlled apparatus (if speed is abnormal <a href="#">G05G 15/06</a> )}  |                |  |
| 15/005  | . {due to a dangerous situation for the operator}  |                |  |
| 15/007  | . {due to an exerted pressure}   |                |  |

## G05G

- 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