INSTRUMENTS

G05  CONTROLLING; REGULATING

G05G  CONTROL DEVICES OR SYSTEMS IN SO FAR 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  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

In this group, the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place.

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 (G05G 1/082 takes precedence)]

1/087  . . [retractable; Flush control knobs]

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
Means, e.g. links, for connecting the pedal to the controlled unit

Non-slip pedal treads; Pedal extensions or attachments characterised by mechanical features only

Non-slip treads; Pedal extensions or attachments characterised by mechanical features only

Pedal extensions

Manufacturing of pedals; Pedals characterised by the material used

[Controlling members for hand-actuation]

[Controlling members for foot-actuation]

Controlling members specially adapted for actuation by another part of the human body than hand or foot

Controlling members specially adapted for actuation by auxiliary operating members or extensions; Operating members or extensions therefor (pedal extensions)

Controlling members specially adapted for actuation by keys, screwdrivers or like tools

Rests or guides for relevant parts of the operator's body

Foot rests or foot guides

Arm rests

Means for preventing, limiting or returning the movements of parts of a control mechanism, e.g. locking controlling member

(for preventing unintentional use of a control mechanism)

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

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)

 Stops for limiting movement of members, e.g. adjustable stop

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

for holding members in one or a limited number of definite positions only (G05G 5/05, G05G 5/05, G05G 5/28 take precedence)

(using a spring-loaded ball)

Interlocking of members, e.g. locking member in a particular position before or during the movement of another member

for holding members in an indefinite number of positions, e.g. by a toothed quadrant

by locking a member with respect to a fixed quadrant, rod, or the like

by friction

by positive interengagement, e.g. by a pawl

by locking a quadrant, rod, or the like carried by the member

by friction

by positive interengagement, e.g. by a pawl

by other means than a quadrant, rod, or the like

for preventing unauthorised access to the controlling member or its movement to a command position

Manually-actuated control mechanisms provided with one single controlling member co-operating with one single controlled member; Details thereof

characterised by special provisions for conveying or converting motion, or for acting at a distance

altering the ratio of motion or force between controlling member and controlled member as a function of the position of the controlling member

in which repeated movement of the controlling member produces increments of movement of the controlled member (G05G 7/08 takes precedence)

in which repeated movement of the controlling member moves the controlling member through a cycle of distinct positions

specially adapted for remote control

specially adapted for actuating a member on a system in motion with respect to the controlling member, e.g. on a rotating shaft

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

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

Manually-actuated control mechanisms provided with two or more controlled members, e.g. selectively, simultaneously

the controlling member being movable in different independent ways, movement in each individual way actuating one controlled member only

in which movement in two or more ways can occur simultaneously

the controlling member being movable by hand about orthogonal axes, e.g. joysticks

Mounting of controlling member

with ball joint

with substantially hemispherical bearing part forced into engagement, e.g. by a spring

with orthogonal axes

with cardan or gimbal type joint

elastic, e.g. flexible shaft

with coil spring

melastomeric

with a joint having a nutating disc, e.g. forced by a spring

with six degrees of freedom
Mechanical devices for initiating a movement automatically due to a specific cause

- due to an abnormal functioning of the controlled apparatus (if speed is abnormal G05G 15/06)
- due to a dangerous situation for the operator
- due to an exerted pressure

15/00 Controlled mechanisms for locking members in one or more positions

- due to alteration of the sense of movement of a member
- due to distance or angle travelled by a member
- due to the speed of rotation or of bodily movement of a member, e.g. passing an upper or lower limit thereof (speedometers G01P)
- 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

- self-adjusting

25/00 Other details or appurtenances of control mechanisms, e.g. supporting intermediate members elastically

- Inhibiting the generation or transmission of noise (suppression of noise or vibrations in selector apparatus for gearings F16H 59/0208)
- 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

- Means for regulating or adjusting control mechanisms, e.g. devices for automatic adjustment
- 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 Control mechanisms 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

2700/29 Mechanisms for ensuring or verifying the correct positioning of parts of a control mechanism, e.g. for taking-up play

2700/30 Means for locking a single member in one position out of a number of several positions

2700/32 Means for locking or at least for blocking a member in one position out of a number of several positions

2700/34 Control mechanisms with one controlling member and one controlled member

2700/36 Control mechanisms with one elastic element as essential part, e.g. elastic components as a part of an actuating mechanism

2700/38 Mechanisms for conveying motion or signals for or in relation with control mechanisms

2700/40 Systems wherein the control element may be placed in two or more positions

2700/42 Control mechanisms not otherwise provided for

2700/44 Mechanisms linking plurality of controlling or controlled members

2700/46 Locking controlled members of selectively controlled mechanisms
with a control member moving selectively or simultaneously the controlled members

with a control member that is moved for preselection in another direction than for final actuating

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

with plurality of control members, e.g. preselection and actuating members actuating several controlled members