

CPC**COOPERATIVE PATENT CLASSIFICATION****B66B**

ELEVATORS ; ESCALATORS OR MOVING WALKWAYS ({ apparatus for raising or lowering persons on theatrical stages or the like [A63J 5/12](#) } ; funicular railbound systems with rigid ground-supported tracks and cable traction, e.g. cliff railways, [B61B 9/00](#) ; arrangements of ammunition handlers in vessels [B63G 3/00](#) ; hoists, lifts, or conveyers for loading or unloading in general [B65G](#) ; braking or detent devices controlling normal movements of winding drums or barrels [B66D](#) ; ship-lifting devices [E02C](#) ; garages for many vehicles with mechanical means for lifting vehicles [E04H 6/12](#) ; hoists for feeding ammunition or projectiles to launching apparatus or to loading mechanisms [F41A 9/00](#))

NOTE

In this subclass, the following term is used with the meaning indicated:

- "elevator" covers the term "lift", and the two terms are interchangeable

Guidance heading: Common features of elevators

B66B 1/00

Control systems of elevators in general (safety devices [B66B 5/00](#) ; controlling door or gate operation [B66B 13/00](#) ; systems of general application [G05](#))

- B66B 1/02 . Control systems without regulation, i.e. without retroactive action
- B66B 1/04 .. hydraulic
- B66B 1/06 .. electric
- B66B 1/08 ... with devices, e.g. handles or levers, in the cars or cages for direct control of movements
- B66B 1/10 specially adapted for mining hoists
- B66B 1/12 ... with devices, e.g. handles or levers, located at a control station for direct control movements, e.g. electric mining-hoist control systems
- B66B 1/14 ... with devices, e.g. push-buttons, for indirect control of movements
- B66B 1/16 with means for storing pulses controlling the movements of a single car or cage { ([B66B 1/2433](#) takes precedence) }
- B66B 1/18 with means for storing pulses controlling the movements of several cars or cages { ([B66B 1/2458](#) takes precedence) }
- B66B 1/20 and for varying the manner of operation to suit particular traffic conditions, e.g. "one-way rush-hour traffic", { ([B66B 1/2466](#) takes precedence) }
- B66B 1/22 with means for taking account of delayed calls
- B66B 1/24 . Control systems with regulation, i.e. with retroactive action, for influencing travelling speed, acceleration, or deceleration
- B66B 1/2408 .. { where the allocation of a call to an elevator car is of importance, i.e. by means of a supervisory or group controller }
- B66B 1/2416 ... { For single car elevator systems }

- B66B 1/2433 . . . { For elevator systems with a single shaft and multiple cars }
- B66B 1/2458 . . . { For elevator systems with multiple shafts and a single car per shaft }
- B66B 1/2466 . . . { For elevator systems with multiple shafts and multiple cars per shaft }
- B66B 1/2491 . . . { For elevator systems with lateral transfers of cars or cabins between hoistways }
- B66B 1/26 .. mechanical
- B66B 1/28 .. electrical (detecting excessive speed [B66B 5/04](#)) ; { (control of electrical motor [H02P](#)) }
- B66B 1/285 . . . { with the use of a speed pattern generator }

WARNING

This group is not complete due to reorganisation in progress, see also [B66B 1/28](#)

- B66B 1/30 . . . effective on driving gear, { e.g. acting on power electronics, on inverter or rectifier controlled motor }
- B66B 1/302 { for energy saving }
- B66B 1/304 { with starting torque control }
- B66B 1/306 { with DC powered elevator drive }
- B66B 1/308 { with AC powered elevator drive }
- B66B 1/32 . . . effective on braking devices, { e.g. acting on electrically controlled brakes (brake control [H02P](#) , lift brakes per se [B66B 5/02](#)) }
- B66B 1/34 . . Details, { e.g. call counting devices, data transmission from car to control system, devices giving information to the control system }
- B66B 1/3407 .. { Setting or modification of parameters of the control system }
- B66B 1/3415 .. { Control system configuration and the data transmission or communication within the control system }
- B66B 1/3423 . . . { Control system configuration, i.e. lay-out }
- B66B 1/343 { Fault-tolerant or redundant control system configuration }
- B66B 1/3438 { Master-slave control system configuration }
- B66B 1/3446 . . . { Data transmission or communication within the control system }
- B66B 1/3453 { Procedure or protocol for the data transmission or communication }
- B66B 1/3461 { between the elevator control system and remote or mobile stations }
- B66B 1/3469 .. { mechanical }
- B66B 1/3476 .. { Load weighing or car passenger counting devices ([B66B 5/14](#) takes precedence) }
- B66B 1/3484 . . . { using load cells }
- B66B 1/3492 .. { Position or motion detectors or driving means for the detector ([B66B 1/40](#) , [B66B 1/50](#) take precedence; length measuring [G01B](#) ; speed measuring [G01P](#)) }
- B66B 1/36 .. Means for stopping the cars, cages, or skips at predetermined levels
- B66B 1/365 . . . { mechanical }
- B66B 1/38 . . . and for returning the controlling handle or lever to its neutral position
- B66B 1/40 . . . and for correct levelling at landings
- B66B 1/405 { for hydraulically actuated elevators }
- B66B 1/42 separate from the main drive

- B66B 1/425 { adapted for multi-deck cars in a single car frame }
- B66B 1/44 . . . and for taking account of disturbance factors, e.g. variation of load weight
- B66B 1/46 . . Adaptations of switches or switchgear (switches or switchgear in general, applications of switches or switchgear for floor-levelling purpose [H01H](#) ; panels for boards or switching arrangements [H02B 1/015](#))
- B66B 1/461 . . . { characterised by their shape or profile }
- B66B 1/462 { Mechanical or piezoelectric input devices }
- B66B 1/463 { Touch sensitive input devices }
- B66B 1/465 { being resistant to damage }
- B66B 1/466 { facilitating maintenance, installation, removal, replacement or repair }
- B66B 1/467 . . . { characterised by their mounting position }
- B66B 1/468 . . . { Call registering systems }
- B66B 1/48 . . . Adaptations of mechanically-operated limit switches (for cranes [B66C 13/50](#) ; for winding mechanisms [B66D 1/56](#))
- B66B 1/50 . . . with operating or control mechanisms mounted in the car or cage or in the lift well or hoistway
- B66B 1/52 . . . Floor selectors

B66B 3/00 Applications of devices for indicating or signalling operating conditions of elevators

- B66B 3/002 . { Indicators }
- B66B 3/004 . . { Mechanical devices that can be illuminated }
- B66B 3/006 . . { for guiding passengers to their assigned elevator car }
- B66B 3/008 . . { Displaying information not related to the elevator, e.g. weather, publicity, internet or TV }
- B66B 3/02 . Position or depth indicators
- B66B 3/023 . . { characterised by their mounting position }
- B66B 3/026 . . { Mechanical devices that can be illuminated }

B66B 5/00 Application of checking, fault-correcting, or safety devices in elevators

- B66B 5/0006 . { Monitoring devices or performance analysers ([B66B 5/02](#) takes precedence) }
- B66B 5/0012 . . { Devices monitoring the users of the elevator system }
- B66B 5/0018 . . { Devices monitoring the operating condition of the elevator system }
- B66B 5/0025 . . . { for maintenance or repair }
- B66B 5/0031 . . . { for safety reasons }
- B66B 5/0037 . . { Performance analysers }
- B66B 5/0043 . { Devices enhancing safety during maintenance }
- B66B 5/005 . . { Safety of maintenance personnel }
- B66B 5/0056 . . . { by preventing crushing }
- B66B 5/0062 { by devices, being operable or not, mounted on the elevator car }
- B66B 5/0068 { by activating the safety brakes when the elevator car exceeds a certain

- upper or lower position in the elevator shaft }
- B66B 5/0075 { by anchoring the elevator car or counterweight }
- B66B 5/0081 . . . { by preventing falling by means of safety fences or handrails, being operable or not, mounted on top of the elevator car }
- B66B 5/0087 . { Devices facilitating maintenance, repair or inspection tasks (devices incorporated in the buffer [B66B 5/288](#) ; railings on top of the car [B66B 11/0226](#)) }
- B66B 5/0093 . . { Testing of safety devices }
- B66B 5/02 . responsive to abnormal operating conditions
- B66B 5/021 . . { the abnormal operating conditions being independent of the system (alarm systems in general [G08B](#)) }
- B66B 5/022 . . . { where the abnormal operating condition is caused by a natural event, e.g. earthquake }
- B66B 5/024 . . . { where the abnormal operating condition is caused by an accident, e.g. fire }
- B66B 5/025 . . . { where the abnormal operating condition is caused by human behaviour or misbehaviour, e.g. forcing the doors }
- B66B 5/027 . . { to permit passengers to leave an elevator car in case of failure, e.g. moving the car to a reference floor or unlocking the door }
- B66B 5/028 . . { Safety devices separate from control system in case of power failure, for hydraulic lifts, e.g. braking the hydraulic jack ([B66B 5/16](#) takes precedence) }
- B66B 5/04 . . for detecting excessive speed
- B66B 5/042 . . . { with characteristic location of the governor cable }
- B66B 5/044 . . . { Overspeed governors }
- B66B 5/046 { of the pendulum or rocker arm type }
- B66B 5/048 . . . { Testing of overspeed governor }
- B66B 5/06 . . . electrical
- B66B 5/08 . . for preventing overwinding
- B66B 5/10 . . . electrical
- B66B 5/12 . . in case of rope or cable slack
- B66B 5/125 . . . { electrical }
- B66B 5/14 . . in case of excessive loads
- B66B 5/145 . . . { electrical }
- B66B 5/16 . . Braking or catch devices operating between cars, cages, or skips and fixed guide elements or surfaces in hoistway or well
- B66B 5/18 . . . and applying frictional retarding forces
- B66B 5/185 { by acting on main ropes or main cables }
- B66B 5/20 by means of rotatable eccentrically-mounted members ([B66B 5/24](#) takes precedence)
- B66B 5/22 by means of linearly-movable wedges ([B66B 5/24](#) takes precedence)
- B66B 5/24 by acting on guide ropes or cables
- B66B 5/26 . . . Positively-acting devices, e.g. latches, knives
- B66B 5/28 . Buffer-stops for cars, cages, or skips
- B66B 5/282 . . { Structure thereof }
- B66B 5/284 . . { mounted on cars or counterweights }

- B66B 5/286 . . . { between two cars or two counterweights }
- B66B 5/288 . . { with maintenance features (if not incorporated in the buffer [B66B 5/0087](#)) }

B66B 7/00**Other common features of elevators**

- B66B 7/02 . Guideways ; Guides (arrangements in mine shafts [E21D 7/02](#))
- B66B 7/021 . . { with a particular position in the shaft }
- B66B 7/022 . . { with a special shape }
- B66B 7/023 . . { Mounting means therefor }
- B66B 7/024 . . . { Lateral supports }
- B66B 7/025 . . . { End supports, i.e. at top or bottom }
- B66B 7/026 . . . { Interconnections }
- B66B 7/027 . . . { for mounting auxiliary devices }
- B66B 7/028 . . { with earthquake protection devices }
- B66B 7/04 . . { Riding means, e.g. } Shoes, Rollers, { between car and guiding means, e.g. rails, ropes (rollers adapted to match the shape of a special guiding means [B66B 7/02](#) ; vibration attenuation systems acting between car and its supporting frame [B66B 11/026](#)) }
- B66B 7/041 . . . { including active attenuation system for shocks, vibrations }
- B66B 7/042 { with rollers, shoes }
- B66B 7/043 { using learning }
- B66B 7/044 { with magnetic or electromagnetic means }
- B66B 7/045 { using learning }
- B66B 7/046 . . . { Rollers }
- B66B 7/047 . . . { Shoes, sliders }
- B66B 7/048 . . . { including passive attenuation system for shocks, vibrations }
- B66B 7/06 . Arrangements of ropes or cables
- B66B 7/062 . . { Belts }
- B66B 7/064 . . { Power supply or signal cables }
- B66B 7/066 . . { Chains }
- B66B 7/068 . . { Cable weight compensating devices }
- B66B 7/08 . . for connection to the cars or cages, e.g. couplings
- B66B 7/085 . . . { Belt termination devices }
- B66B 7/10 . . for equalising rope or cable tension
- B66B 7/12 . Checking, lubricating, or cleaning means for ropes, cables or guides
- B66B 7/1207 . . { Checking means }
- B66B 7/1215 . . . { specially adapted for ropes or cables }
- B66B 7/1223 { by analysing electric variables }
- B66B 7/123 { by analysing magnetic variables }
- B66B 7/1238 { by optical techniques }
- B66B 7/1246 . . . { specially adapted for guides }
- B66B 7/1253 . . { Lubricating means }

- B66B 7/1261 . . . { specially adapted for ropes or cables }
- B66B 7/1269 . . . { specially adapted for guides }
- B66B 7/1276 . . { Cleaning means }
- B66B 7/1284 . . . { specially adapted for ropes or cables }
- B66B 7/1292 . . . { specially adapted for guides }

Guidance heading: Lifts in, or associated with, buildings

B66B 9/00 **Kinds or types of lifts in, or associated with, buildings or other structures (characterised by control systems [B66B 1/00](#) ; apparatus for raising or lowering persons on stages of theatres [A63J 5/12](#))**

- B66B 9/003 . { for lateral transfer of car or frame, e.g. between vertical hoistways or to/from a parking position }
- B66B 9/02 . actuated mechanically otherwise than by rope or cable
- B66B 9/022 . . { by rack and pinion drives }
- B66B 9/025 . . { by screw-nut drives }
- B66B 9/027 . . { by rope climbing devices }
- B66B 9/04 . actuated pneumatically or hydraulically (platforms for lifting or lowering through short distances [B66F 7/00](#))
- B66B 9/06 . inclined, e.g. serving blast furnaces
- B66B 9/08 . . associated with stairways, e.g. for transporting disabled persons { (facilitating access of invalids to vehicles [A61G 3/02](#)) }
- B66B 9/0807 . . . { Driving mechanisms }
- B66B 9/0815 { Rack and pinion, friction rollers }
- B66B 9/0823 { Screw and nut }
- B66B 9/083 { Pull cable, pull chain }
- B66B 9/0838 . . . { Levelling gears }
- B66B 9/0846 . . . { Guide rail ([B66B 9/0807](#) takes precedence) }
- B66B 9/0853 . . . { Lifting platforms, e.g. constructional features }
- B66B 9/0861 . . . { Hanging lifts, e.g. rope suspended seat or platform }
- B66B 9/0869 . . . { Collapsible stairways, e.g. operable between a lower level and an upper level }
- B66B 9/10 . Paternoster type (with devices for transferring goods into, or out of, the compartments [B65G 17/00](#))
- B66B 9/16 . Mobile or transportable lifts specially adapted to be shifted from one part of a building or other structure to another part or to another building or structure (devices for lifting or lowering bulky or heavy goods for loading or unloading purposes [B66F 9/00](#) , e.g. fork-lift trucks [B66B 9/06](#))
- B66B 9/187 . . with a liftway specially adapted for temporary connection to a building or other structure ([B66B 9/193](#) takes precedence)
- B66B 9/193 . . with inclined liftways

B66B 11/00 **Main component parts of lifts in, or associated with, buildings or other structures**

- B66B 11/0005 . { Constructional features of hoistways }
- B66B 11/001 . { Arrangement of controller, e.g. location }
- B66B 11/0015 .. { in the machine room }
- B66B 11/002 .. { in the hoistway }
- B66B 11/0025 ... { on the car }
- B66B 11/003 ... { on the counterweight }
- B66B 11/0035 . { Arrangement of driving gear, e.g. location or support }
- B66B 11/004 .. { in the machine room }
- B66B 11/0045 .. { in the hoistway }
- B66B 11/005 ... { on the car }
- B66B 11/0055 ... { on the counterweight }
- B66B 11/006 . { Applications of loading and unloading equipment for lifts associated with buildings (of general application [B65G](#) ; for paternoster lifts [B65G 17/00](#) ; for mine lifts [B66B 17/14](#)) }
- B66B 11/0065 . { Roping (Mining hoist [B66B 15/08](#)) }
- B66B 11/007 .. { for counterweightless elevators }
- B66B 11/0075 .. { with hoisting rope or cable positively attached to a winding drum }
- B66B 11/008 .. { with hoisting rope or cable operated by frictional engagement with a winding drum or sheave }
- B66B 11/0085 ... { of rucksack elevators }
- B66B 11/009 ... { with separate traction and suspension ropes }
- B66B 11/0095 ... { where multiple cars drive in the same hoist way }
- B66B 11/02 . Cages, { i.e. cars } (doors, gates or other apparatus controlling access to, or exit from, cages [B66B 13/00](#))
- B66B 11/0206 .. { Car frames }
- B66B 11/0213 ... { for multi-deck cars }
- B66B 11/022 { with changeable inter-deck distances }
- B66B 11/0226 .. { Constructional features, e.g. walls assembly, decorative panels, comfort equipment, thermal or sound insulation }
- B66B 11/0233 ... { Lighting systems }
- B66B 11/024 ... { Ventilation systems }
- B66B 11/0246 ... { Maintenance features (devices facilitating maintenance in general [B66B 5/0087](#)) }
- B66B 11/0253 ... { Fixation of wall panels }
- B66B 11/026 .. { Attenuation system for shocks, vibrations, imbalance, e.g. passengers on the same side (acting between car or supporting frame and guides [B66B 7/04](#) ; acting between car and ropes, cables [B66B 7/08](#) ; correcting levelling between car and floor [B66B 1/40](#)) }
- B66B 11/0266 ... { Passive systems (aerodynamic structure [B66B 11/0226](#)) }
- B66B 11/0273 { acting between car and supporting frame }
- B66B 11/028 ... { Active systems }

- B66B 11/0286 { acting between car and supporting frame }
- B66B 11/0293 . . . { Suspension locking or inhibiting means to avoid movement when car is stopped at a floor (locking car to building while loading to avoid movement [B66B 17/34](#)) }
- B66B 11/04 . Driving gear; { Details thereof, e.g. seals (braking devices acting on the driving gear [B66B 5/02](#) ; of mining-hoist winding devices [B66B 15/08](#)) }
- B66B 11/0407 . . { actuated by an electrical linear motor (in the counterweight [B66B 17/12](#)) }
- B66B 11/0415 . . { actuated manually, e.g. additional safety system }
- B66B 11/0423 . . { actuated pneumatically or hydraulically }
- B66B 11/043 . . { actuated by rotating motor; Details, e.g. ventilation (Roping on drum, sheave, winch or pulley [B66B 11/0065](#) ; Power supply or control [B66B 1/28](#) , [H02P](#) ; Motor construction [H02K](#)) }
- B66B 11/0438 . . . { with a gearless driving, e.g. integrated sheave, drum or winch in the stator or rotor of the cage motor }
- B66B 11/0446 . . . { with screw-nut or worm-screw gear }
- B66B 11/0453 . . . { with planetary or epicycloidal gear, e.g. differential gear }
- B66B 11/0461 . . . { with rack and pinion gear }
- B66B 11/0469 . . . { with chain, pinion gear }
- B66B 11/0476 . . . { with friction gear, e.g. belt linking motor to sheave }
- B66B 11/0484 . . . { with a clutch or a coupling system between several motors, e.g. switching different speeds, progressive starting, torque limitation, flywheel (control [B66B 1/28](#)) }
- B66B 11/0492 . . { actuated by other systems, e.g. combustion engines }
- B66B 11/06 . . with hoisting rope or cable positively attached to a winding drum { [B66B 11/0075](#) takes precedence }
- B66B 11/08 . . with hoisting rope or cable operated by frictional engagement with a winding drum or sheave { [B66B 11/008](#) takes precedence }
- B66B 13/00** **Doors, gates, or other apparatus controlling access to, or exit from, cages or lift well landings (door fittings, locks [E05](#))**
 - B66B 13/02 . Door or gate operation (of general application [E05F](#))
 - B66B 13/04 . . of swinging doors
 - B66B 13/06 . . of sliding doors
 - B66B 13/08 . . . guided for horizontal movement
 - B66B 13/10 . . . by car or cage movement
 - B66B 13/12 . . Arrangements for effecting simultaneous opening or closing of cage and landing doors
 - B66B 13/125 . . . { electrical }
 - B66B 13/14 . . Control systems or devices
 - B66B 13/143 . . . { electrical }
 - B66B 13/146 { method or algorithm for controlling doors }
 - B66B 13/16 . . . Door or gate locking devices controlled or primarily controlled by condition of cage, e.g. movement or position
 - B66B 13/165 { electrical }
 - B66B 13/18 without manually-operable devices for completing locking or unlocking of

doors

- B66B 13/185 { [electrical](#) }
- B66B 13/20 Lock mechanisms actuated mechanically by abutments or projections on the cages
- B66B 13/22 . Operation of door or gate contacts
- B66B 13/24 . Safety devices in passenger lifts, not otherwise provided for, for preventing trapping of passengers
- B66B 13/245 . . { [mechanical](#) }
- B66B 13/26 . . between closing doors
- B66B 13/28 . . between car or cage and wells
- B66B 13/285 . . . { [Toe guards or apron devices](#) }
- B66B 13/30 . Constructional features of doors or gates ([of interest apart from this application E06B](#))
- B66B 13/301 . . { [Details of door sills](#) }
- B66B 13/303 . . { [Details of door panels](#) }
- B66B 13/305 . . . { [Slat doors for elevators](#) }
- B66B 13/306 . . { [Details of door jambs](#) }
- B66B 13/308 . . { [Details of seals and joints](#) }

Guidance heading: Lifts in hoistways of mines**B66B 15/00 Main component parts of mining-hoist winding devices**

- B66B 15/02 . Rope or cable carriers
- B66B 15/04 . . Friction sheaves ; "Koepe" pulleys
- B66B 15/06 . . Drums
- B66B 15/08 . Driving gear

B66B 17/00 Hoistway equipment

- B66B 17/02 . mounted in head-frames ([winding towers for mines E04H 12/26](#))
- B66B 17/04 . Mining-hoist cars or cages
- B66B 17/06 . . with tiltable platforms
- B66B 17/08 . Mining skips
- B66B 17/10 . . adapted for passenger transport
- B66B 17/12 . Counterpoises
- B66B 17/14 . Applications of loading and unloading equipment ([of general application B65G](#))
- B66B 17/16 . . for loading and unloading mining-hoist cars or cages

- B66B 17/18 . . . Swinging bridges, e.g. for compensating for differences in level between car or cage and landing
- B66B 17/20 . . . by moving vehicles into, or out of, the cars or cages
- B66B 17/22 . . . Securing vehicles in cars or cages
- B66B 17/24 mounted on the car or cage
- B66B 17/26 . . for loading or unloading mining-hoist skips
- B66B 17/28 . . electrically controlled (for elevators in general [B66B 1/06](#))
- B66B 17/30 . . . for cars or cages
- B66B 17/32 . . . for skips

B66B 17/34 . Safe lift clips ; Keps

B66B 17/36 . Gates or other apparatus controlling access to, or exit from, cars, cages, or hoistway landings

B66B 19/00 Mining-hoist operation

- B66B 19/002 . { installing or exchanging guide rails (details of rails [B66B 7/02](#)) }
- B66B 19/005 . { installing or exchanging the elevator drive }
- B66B 19/007 . { method for modernisation of elevators }
- B66B 19/02 . installing or exchanging ropes or cables
- B66B 19/04 . installing or removing mining-hoist cars, cages, or skips
- B66B 19/06 . Applications of signalling devices (depth indicators [B66B 3/02](#) ; order telegraphs [G08B](#))

B66B 20/00 Elevators not provided for in groups [B66B 1/00](#) to [B66B 19/00](#)

Guidance heading: Escalators or moving walkways

B66B 21/00 Kinds or types of escalators or moving walkways

- B66B 21/02 . Escalators
- B66B 21/025 . . { of variable speed type }
- B66B 21/04 . . Linear type
- B66B 21/06 . . Spiral type
- B66B 21/08 . . Paternoster type, i.e. the escalator being used simultaneously for climbing and descending ([B66B 21/06](#) takes precedence)
- B66B 21/10 . Moving walkways
- B66B 21/12 . . of variable speed type

B66B 23/00 Component parts of escalators or moving walkways

- B66B 23/02 . Driving gear
- B66B 23/022 .. { with polygon effect reduction means }
- B66B 23/024 .. { Chains therefor }
- B66B 23/026 .. { with a drive or carrying sprocket wheel located at end portions }
- B66B 23/028 .. { with separate drive chain or belt that engages directly the carrying surface chain }
- B66B 23/04 .. for handrails
- B66B 23/06 ... with means synchronising the operation of the steps or the carrying belts and the handrails

- B66B 23/08 . Carrying surfaces
- B66B 23/10 .. Carrying belts
- B66B 23/12 .. Steps

- B66B 23/14 . Guiding means for carrying surfaces
- B66B 23/145 .. { Roller assemblies }
- B66B 23/147 .. N: End portions, i.e. means for changing the direction of the carrying surface]

- B66B 23/16 . Means allowing tensioning of the endless member
- B66B 23/18 .. for carrying surfaces
- B66B 23/20 .. for handrails

- B66B 23/22 . Balustrades
- B66B 23/225 .. { Lighting systems therefor }
- B66B 23/24 .. Handrails (driving gear therefor [B66B 23/02](#) ; tensioning means therefor [B66B 23/16](#) ; preventing jamming thereof by foreign objects [B66B 29/04](#) ; accessories therefor [B66B 31/02](#))
- B66B 23/26 ... of variable speed type

- B66B 25/00** **Control of escalators or moving walkways** (walkways of variable speed type [B66B 21/12](#) ; handrails of variable speed type [B66B 23/26](#) ; of general application [G05](#))

- B66B 25/003 . { Methods or algorithms therefor }
- B66B 25/006 . { Monitoring for maintenance or repair (for security reasons [B66B 29/005](#)) }

- B66B 27/00** **Indicating operating conditions of escalators or moving walkways** (of general application [G08](#))

- B66B 29/00** **Safety devices of escalators or moving walkways** (walkways of variable speed type [B66B 21/12](#) ; handrails of variable speed type [B66B 23/26](#))

- B66B 29/005 . { Applications of security monitors }

- B66B 29/02 . responsive to, or preventing, jamming by foreign objects
- B66B 29/04 .. for balustrades or handrails
- B66B 29/06 .. Combplates

B66B 29/08 . Means to facilitate passenger entry or exit ([moving handrails B66B 23/24](#))

B66B 31/00 **Accessories for escalators, or moving walkways, e.g. for sterilising or cleaning (for safety [B66B 29/00](#))**

B66B 31/003 . { for cleaning steps or pallets }

B66B 31/006 . { for conveying hand carts, e.g. shopping carts (hand carts per se [B62B 1/00](#) , [B62B 3/00](#)) }

B66B 31/02 . for handrails

Guidance heading:

B66B 2001/00 **Control systems of elevators in general (safety devices [B66B 5/00](#) ; controlling door or gate operation [B66B 13/00](#) ; systems of general application [G05](#))**

B66B 2001/24 . Control systems with regulation, i.e. with retroactive action, for influencing travelling speed, acceleration, or deceleration

B66B 2001/2408 . . { where the allocation of a call to an elevator car is of importance, i.e. by means of a supervisory or group controller }

B66B 2001/2416 . . . { For single car elevator systems }

[B66B 2001/2425](#) { Zone definition for two cars in the same hatchway }

B66B 2001/2433 . . . { For elevator systems with a single shaft and multiple cars }

[B66B 2001/2441](#) { with the use of a speed pattern generator }

[B66B 2001/245](#) { for high-speed elevators which do not attain the maximum speed during shorts runs (control of acceleration and deceleration [G05B 19/407](#)) }

B66B 2001/2466 . . . { For elevator systems with multiple shafts and multiple cars per shaft }

[B66B 2001/2475](#) { by using cost function computing }

[B66B 2001/2483](#) { by predicting the traffic, e.g. with statistical or learning procedures }

B66B 2009/00 **Kinds or types of lifts in, or associated with, buildings or other structures (characterised by control systems [B66B 1/00](#) ; apparatus for raising or lowering persons on stages of theatres [A63J 5/12](#))**

[B66B 2009/006](#) . Ganged elevator

B66B 2009/06 . inclined, e.g. serving blast furnaces

B66B 2009/08 . . associated with stairways, e.g. for transporting disabled persons { ([facilitating access of invalids to vehicles A61G 3/02](#)) }

[B66B 2009/0876](#) . . . Details

[B66B 2009/0884](#) Control systems

[B66B 2009/0892](#) Seats` constructional features

B66B 2023/00 **Component parts of escalators or moving walkways**

- B66B 2023/14 . Guiding means for carrying surfaces
- B66B 2023/142 . . paternoster return type system

Guidance heading:

B66B 2201/00

Aspects of control systems of elevators

- B66B 2201/10 . Details with respect to the type of call input
- B66B 2201/101 . . Single call input
- B66B 2201/102 . . Up or down call input
- B66B 2201/103 . . Destination call input before entering the elevator car
- B66B 2201/104 . . Call input for a preferential elevator car or indicating a special request
- B66B 2201/20 . Details of the evaluation method for the allocation of a call to an elevator car
- B66B 2201/21 . . Primary evaluation criteria
- B66B 2201/211 . . Waiting time, i.e. response time
- B66B 2201/212 . . Travel time
- B66B 2201/213 . . . where the number of stops is limited
- B66B 2201/214 . . Total time, i.e. arrival time
- B66B 2201/215 . . Transportation capacity
- B66B 2201/216 . . Energy consumption
- B66B 2201/22 . . Secondary evaluation criteria
- B66B 2201/221 . . Penalisation of transfers
- B66B 2201/222 . . Taking into account the number of passengers present in the elevator car to be allocated
- B66B 2201/223 . . Taking into account the separation of passengers or groups
- B66B 2201/224 . . Avoiding potential interference between elevator cars
- B66B 2201/225 . . Taking into account a certain departure interval of elevator cars from a specific floor, e.g. the ground floor
- B66B 2201/226 . . Taking into account the distribution of elevator cars within the elevator system, e.g. to prevent clustering of elevator cars
- B66B 2201/23 . . Other aspects of the evaluation method
- B66B 2201/231 . . Sequential evaluation of plurality of criteria
- B66B 2201/232 . . . where the time needed for a passenger to arrive at the allocated elevator car from where the call is made is taken into account
- B66B 2201/233 . . Periodic re-allocation of call inputs
- B66B 2201/234 . . Taking into account uncertainty terms for predicted values, e.g. the predicted arrival time of an elevator car at the floor where a call is made
- B66B 2201/235 . . Taking into account predicted future events, e.g. predicted future call inputs
- B66B 2201/24 . . Control of empty elevator cars
- B66B 2201/241 . . Standby control
- B66B 2201/242 . . Parking control
- B66B 2201/243 . . Distribution of elevator cars, e.g. based on expected future need

- B66B 2201/30 . Details of the elevator system configuration
- B66B 2201/301 .. Shafts divided into zones
- B66B 2201/302 ... with variable boundaries
- B66B 2201/303 .. Express or shuttle elevators
- B66B 2201/304 .. Transit control
- B66B 2201/305 ... with sky lobby
- B66B 2201/306 .. Multi-deck elevator cars
- B66B 2201/307 .. Tandem operation of multiple elevator cars in the same shaft
- B66B 2201/308 .. Ganged elevator cars

- B66B 2201/34 . details

- B66B 2201/40 . Details of the change of control mode
- B66B 2201/401 .. by time of the day
- B66B 2201/402 .. by historical, statistical or predicted traffic data, e.g. by learning
- B66B 2201/403 .. by real-time traffic data
- B66B 2201/404 .. by cost function evaluation
- B66B 2201/405 .. by input of special passenger or passenger group
- B66B 2201/406 .. by input of human supervisor
- B66B 2201/46 .. Switches or switchgear
- B66B 2201/4607 ... Call registering systems
- B66B 2201/4615 Wherein the destination is registered before boarding
- B66B 2201/4623 Wherein the destination is registered after boarding
- B66B 2201/463 Wherein the call is registered through physical contact with the elevator system
- B66B 2201/4638 Wherein the call is registered without making physical contact with the elevator system
- B66B 2201/4646 using voice recognition
- B66B 2201/4653 wherein the call is registered using portable devices
- B66B 2201/4661 for priority users
- B66B 2201/4669 using passenger condition detectors
- B66B 2201/4676 for checking authorization of the passengers
- B66B 2201/4684 for preventing accidental or deliberate misuse
- B66B 2201/4692 for payment for use