

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 2001/2425	....	{Zone definition for two cars in the same hatchway}
B66B 1/2433	...	{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}
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 2001/2475	....	{by using cost function computing}
B66B 2001/2483	....	{by predicting the traffic, e.g. with statistical or learning procedures}
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 2009/006 . {Ganged elevator}
- 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 2009/0876 ... {Details}
- B66B 2009/0884 {Control systems}
- B66B 2009/0892 {Seats` constructional features}

- 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 2023/142 . . {paternoster return type system}
- 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
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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