

## SECTION B — PERFORMING OPERATIONS; TRANSPORTING

### B66 HOISTING; LIFTING; HAULING

**B66B ELEVATORS; ESCALATORS OR MOVING WALKWAYS** (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) [4]

#### Note(s)

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

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

#### Subclass index

##### COMMON FEATURES OF ELEVATORS

Control; signalling; checking, safety; other.....1/00, 3/00, 5/00, 7/00

##### LIFTS FOR BUILDINGS

Kinds; component parts; gates.....9/00, 11/00, 13/00

##### LIFTS FOR MINES

Kinds, hoistway equipment; component parts.....17/00, 19/00, 15/00

##### OTHER ELEVATORS.....20/00

##### ESCALATORS, MOVING WALKWAYS

Kinds; component parts; accessories.....21/00, 23/00, 31/00

Control; indicating operating conditions; safety devices.....25/00, 27/00, 29/00

#### Common features of elevators

- 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)
- 1/02 • Control systems without regulation, i.e. without retroactive action
- 1/04 • • hydraulic
- 1/06 • • electric
- 1/08 • • • with devices, e.g. handles or levers, in the cars or cages for direct control of movements
- 1/10 • • • • specially adapted for mining hoists
- 1/12 • • • with devices, e.g. handles or levers, located at a control station for direct control of movements, e.g. electric mining-hoist control systems
- 1/14 • • • with devices, e.g. push-buttons, for indirect control of movements
- 1/16 • • • • with means for storing pulses controlling the movements of a single car or cage
- 1/18 • • • • with means for storing pulses controlling the movements of several cars or cages
- 1/20 • • • • • and for varying the manner of operation to suit particular traffic conditions, e.g. "one-way rush-hour traffic"
- 1/22 • • • • with means for taking account of delayed calls
- 1/24 • Control systems with regulation, i.e. with retroactive action, for influencing travelling speed, acceleration, or deceleration

- 1/26 • • mechanical
- 1/28 • • electrical (detecting excessive speed B66B 5/04)
- 1/30 • • • effective on driving gear
- 1/32 • • • effective on braking devices
- 1/34 • Details
- 1/36 • • Means for stopping the cars, cages, or skips at predetermined levels
- 1/38 • • • and for returning the controlling handle or lever to its neutral position
- 1/40 • • • and for correct levelling at landings
- 1/42 • • • • separate from the main drive
- 1/44 • • • and for taking account of disturbance factors, e.g. variation of load weight
- 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)
- 1/48 • • • Adaptations of mechanically-operated limit switches (for cranes B66C 13/50; for winding mechanisms B66D 1/56)
- 1/50 • • • with operating or control mechanisms mounted in the car or cage or in the lift well or hoistway
- 1/52 • • • Floor selectors
- 3/00 Applications of devices for indicating or signalling operating conditions of elevators**
- 3/02 • Position or depth indicators

**5/00 Applications of checking, fault-correcting or safety devices in elevators**

- 5/02 • responsive to abnormal operating conditions
- 5/04 • • for detecting excessive speed
- 5/06 • • • electrical
- 5/08 • • for preventing overwinding
- 5/10 • • • electrical
- 5/12 • • in case of rope or cable slack
- 5/14 • • in case of excessive loads
- 5/16 • • Braking or catch devices operating between cars, cages, or skips and fixed guide elements or surfaces in hoistway or well
- 5/18 • • • and applying frictional retarding forces
- 5/20 • • • • by means of rotatable eccentrically- mounted members (B66B 5/24 takes precedence)
- 5/22 • • • • by means of linearly-movable wedges (B66B 5/24 takes precedence)
- 5/24 • • • • by acting on guide ropes or cables
- 5/26 • • • Positively-acting devices, e.g. latches, knives
- 5/28 • Buffer-stops for cars, cages, or skips

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

- 7/02 • Guideways; Guides (arrangements in mine shafts E21D 7/02)
- 7/04 • • Shoes; Rollers
- 7/06 • Arrangements of ropes or cables
- 7/08 • • for connection to the cars or cages, e.g. couplings
- 7/10 • • for equalising rope or cable tension
- 7/12 • Checking, lubricating, or cleaning means for ropes, cables, or guides

**Lifts in, or associated with, buildings****9/00 Kinds or types of lift 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)

- 9/02 • actuated mechanically otherwise than by rope or cable
- 9/04 • actuated pneumatically or hydraulically (platforms for lifting or lowering through short distances B66F 7/00)
- 9/06 • inclined, e.g. serving blast furnaces
- 9/08 • • associated with stairways, e.g. for transporting disabled persons
- 9/10 • paternoster type (with devices for transferring goods into, or out of, the compartments B65G 17/00)
- 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 B66F 9/06)
- 9/187 • • with liftway specially adapted for temporary connection to a building or other structure (B66B 9/193 takes precedence) [6]
- 9/193 • • with inclined liftways [6]

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

- 11/02 • Cages (doors, gates, or other apparatus controlling access to, or exit from, cages B66B 13/00)
- 11/04 • Driving gear
- 11/06 • • with hoisting rope or cable positively attached to a winding drum

- 11/08 • • with hoisting rope or cable operated by frictional engagement with a winding drum or sheave

**13/00 Doors, gates, or other apparatus controlling access to, or exit from, cages or lift-well landings** (door fittings, locks E05)

- 13/02 • Door or gate operation (of general application E05F)
- 13/04 • • of swinging doors
- 13/06 • • of sliding doors
- 13/08 • • • guided for horizontal movement
- 13/10 • • • by car or cage movement
- 13/12 • • Arrangements for effecting simultaneous opening or closing of cage and landing doors
- 13/14 • • Control systems or devices
- 13/16 • • • Door or gate locking devices controlled or primarily controlled by condition of cage, e.g. movement or position
- 13/18 • • • • without manually-operable devices for completing locking or unlocking of doors
- 13/20 • • • • Lock mechanisms actuated mechanically by abutments or projections on the cages
- 13/22 • Operation of door or gate contacts
- 13/24 • Safety devices in passenger lifts, not otherwise provided for, for preventing trapping of passengers
- 13/26 • • between closing doors
- 13/28 • • between car or cage and wells
- 13/30 • Constructional features of doors or gates (of interest apart from this application E06B)

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

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

**17/00 Hoistway equipment**

- 17/02 • mounted in head-frames (winding towers for mines E04H 12/26)
- 17/04 • Mining-hoist cars or cages
- 17/06 • • with tiltable platforms
- 17/08 • Mining skips
- 17/10 • • adapted for passenger transport
- 17/12 • Counterpoises
- 17/14 • Applications of loading and unloading equipment (of general application B65G)
- 17/16 • • for loading and unloading mining-hoist cars or cages
- 17/18 • • • Swinging bridges, e.g. for compensating for differences in level between car or cage and landing
- 17/20 • • • by moving vehicles into, or out of, the cars or cages
- 17/22 • • • Securing vehicles in cars or cages
- 17/24 • • • • mounted on the car or cage
- 17/26 • • for loading or unloading mining-hoist skips
- 17/28 • • electrically controlled (for elevators in general B66B 1/06)
- 17/30 • • • for cars or cages
- 17/32 • • • for skips
- 17/34 • Safe lift clips; Keps
- 17/36 • Gates or other apparatus controlling access to, or exit from, cars, cages, or hoistway landings

**19/00 Mining-hoist operation**

- 19/02 • Installing or exchanging ropes or cables
- 19/04 • Installing or removing mining-hoist cars, cages, or skips
- 19/06 • Applications of signalling devices (depth indicators B66B 3/02; order telegraphs G08B)

**20/00 Elevators not provided for in groups B66B 1/00-B66B 19/00 [2006.01]****Escalators or moving walkways [4]****21/00 Kinds or types of escalators or moving walkways [4]**

- 21/02 • Escalators [4]
- 21/04 • • linear type [4]
- 21/06 • • spiral type [4]
- 21/08 • • paternoster type, i.e. the escalator being used simultaneously for climbing and descending (B66B 21/06 takes precedence) [4]
- 21/10 • Moving walkways [4]
- 21/12 • • of variable speed type [4]

**23/00 Component parts of escalators or moving walkways [4]**

- 23/02 • Driving gear [4]
- 23/04 • • for handrails [4]
- 23/06 • • • with means synchronising the operation of the steps or the carrying belts and the handrails [4]
- 23/08 • Carrying surfaces [4]

- 23/10 • • Carrying belts [4]
- 23/12 • • Steps [4]
- 23/14 • Guiding means for carrying surfaces [4]
- 23/16 • Means allowing tensioning of the endless member [4]
- 23/18 • • for carrying surfaces [4]
- 23/20 • • for handrails [4]
- 23/22 • Balustrades [4]
- 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) [4]
- 23/26 • • • of variable speed type [4]
- 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) [4]
- 27/00 **Indicating operating conditions of escalators or moving walkways** (of general application G08) [4]
- 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) [4]
- 29/02 • responsive to, or preventing, jamming by foreign objects [4]
- 29/04 • • for balustrades or handrails [4]
- 29/06 • • Combplates [4]
- 29/08 • Means to facilitate passenger entry or exit (moving handrails B66B 23/24) [4]
- 31/00 **Accessories for escalators, or moving walkways, e.g. for sterilising or cleaning** (for safety B66B 29/00) [4]
- 31/02 • for handrails [4]