COOPERATIVE PATENT CLASSIFICATION

B PERFORMING OPERATIONS; TRANSPORTING

TRANSPORTING

B65 CONVEYING; PACKING; STORING; HANDLING THIN OR FILAMENTARY MATERIAL

B65G TRANSPORT OR STORAGE DEVICES, e.g. CONVEYORS FOR LOADING OR TIPPING, SHOP CONVEYOR SYSTEMS OR PNEUMATIC TUBE CONVEYORS (packaging B65B; handling thin or filamentary materials, e.g. paper sheets or thread, B65H; cranes B66C; portable mobile or lifting or hauling appliances, e.g. hoists, B66D; devices for lifting or lowering goods for loading or unloading purposes, e.g. fork-lift trucks, B66F 9/00; emptying bottles, jars, casks, barrels or similar containers, not otherwise provided for, B67C 9/00; delivering or transferring liquids B67D; filling or discharging vessels for liquefied, solidified or compressed gases F17C; pipe-line systems for fluids F17D)

NOTE
This subclass does not cover road or railway vehicles, waterborne vessels or aircraft per se, or their adaptation for transport purposes. This subject matter is covered by classes B60 - B64, for example in the following places:
- vehicles adapted for load transportation B60P;
- railway wagons adapted for load transportation B61D;
- hand carts B62B;
- superstructures for load-carrying vehicles B62D 33/00;
- loading or load-accommodating arrangements on ships or vessels B63B 25/00, B63B 27/00;
- equipment for handling freight in aircraft B64D 9/00

WARNINGS
1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:
   - B65G 47/10 covered by B65G 1/1373
   - B65G 47/86 covered by B65G 47/842, B65G 47/847
   - B65G 69/32 covered by B65G 69/28
   - B65G 69/34 covered by B65G 69/28

2. 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.

Storing; Storage devices

1/00 Storing articles, individually or in orderly arrangement, in warehouses or magazines (conveyor combinations in warehouses, magazines or workshops B65G 37/00; stacking of articles B65G 57/00; removing articles from stacks B65G 59/00; loading machines B65G 65/02)
1/02 Storage devices (furniture A47B; shop fittings A47F)
1/023 {Arrangements of article supporting rollers on racks}
1/026 {Racks equipped with a replaceable load carrying surface to facilitate loading or unloading}
1/04 mechanical
1/0407 {using stacker cranes (constructional features of stacker cranes B65F 9/06)}
1/0414 {provided with satellite cars adapted to travel in storage racks}
1/0421 . . . {with control for stacker crane operations}
1/0428 . . . {Transfer means for the stacker crane between the alleys}
1/0435 . . . {with pulling or pushing means on either stacking crane or stacking area}
1/0442 . . . {for elongated articles (drill pipe racking E21B 19/14)}
1/045 . . . {in a circular arrangement, e.g. towers}
1/0457 . . . {with suspended load carriers}
1/0464 . . . {with access from above}
1/0471 . . . {with access from beneath}
1/0478 . . . {for matrix-arrangements}
1/0485 . . . {Check-in, check-out devices}
1/0492 . . . {with cars adapted to travel in storage aisles}
1/06 . . . with means for presenting articles for removal at predetermined position or level (B65G 1/12 takes precedence)
1/065 . . . {with self propelled cars}
E02C equally applicable to handcarts B62B wheeled devices or pedestrian-controlled, power-driven vehicles cushion vehicles B60V camping A45F 5/00 holders or carriers for hand articles or for use while travelling or B65G 11/00 distances, e.g. in storage depots, warehouses or factories Devices assisting manual conveyance of articles over short 3/00 [in porous layers] Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers 3/00 Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers 3/00 Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers 3/00 Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers 3/00 Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers 3/00 Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers 3/00 Storing bulk material or loose, i.e. disorderly, articles (filling or emptying storage spaces or containers, spreading-out or piling-up bulk material or loose articles B65G 65/28, B65G 65/30, B65G 69/04) 3/02 in the open air (B65G 3/04 takes precedence) 7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/28) 3/04 in bunkers, hoppers, or like containers
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

13/00  Roller-ways (storage devices comprising roller-ways B65G 1/02; endless-chain conveyors comprising load-supporting rollers B65G 17/00; rollers or arrangements thereof B65G 39/00)

13/02 . having driven rollers
13/04 . all rollers driven
13/06 . Roller driving means
13/065 . [with displacement of the roller]
13/07 . having endless driving elements
13/071 . with frictional engagement
13/073 . comprising free-wheel gearing
13/075 . Braking means
13/08 . of curved form; with branch-offs
13/10 . Switching arrangements
13/11 . Roller frames
13/12 . adjustable

15/00  Conveyors having endless load-carrying surfaces, i.e. belts and like continuous members, to which tractive effort is transmitted by means other than endless driving elements of similar configuration (having load-carrying surfaces formed by interconnected longitudinal links B65G 17/06)

15/005 . [the surface being formed by one rope]
15/02 . for conveying in a circular arc
15/04 . the load being carried on the lower run of the endless surface
15/06 . with oppositely-moving parts of the endless surface located in the same plane and parallel to one another
15/08 . the load-carrying surface being formed by a concave or tubular belt, e.g. a belt forming a trough
15/10 . comprising two or more co-operating endless surfaces with parallel longitudinal axes, or a multiplicity of parallel elements, e.g. ropes defining an endless surface
15/105 . [the surface being formed by two or more ropes]
15/12 . with two or more endless belts
15/14 . the load being conveyed between the belts
{(B65G 15/18; B65G 15/20 take precedence)}
15/16 . between an auxiliary belt and a main belt
15/18 . the belts being sealed at their edges
15/20 . arranged side by side, e.g. for conveyance of flat articles in vertical position
15/22 . comprising a series of co-operating units
15/24 . in tandem
15/26 . extensible, e.g. telescopic {(adjustment of length or configuration of load-carrier B65G 21/14)}
15/28 . Conveyors with a load-carrying surface formed by a single flat belt, not otherwise provided for
15/30 . Belts or like endless load-carrriers (co-operating with rails or the like B65G 21/22; co-operating with rollers B65G 39/20)
15/32 . made of rubber or plastics
15/34 . with reinforcing layers, e.g. of fabric
15/36 . the layers incorporating ropes, chains, or rolled steel sections
15/38 . with flame-resistant layers, e.g. of asbestos, glass
15/40 . trenched or tubular; formed with joints facilitating troughing
15/42 . having ribs, ribs, or other surface projections
15/44 . for impelling the loads
15/46 . formed with guides
15/48 . metallic
15/50 . Endless load-carriers consisting of a series of parallel ropes or belt strips
15/52 . interconnected by transverse slats
15/54 . Endless load-carriers made of interwoven ropes or wires
15/56 . with edge-protecting or reinforcing means
15/58 . with means for holding or retaining the loads in fixed position, e.g. magnetic
15/60 . Arrangements for supporting or guiding belts, e.g. by fluid jets
15/62 . Guides for sliding belts
15/64 . for automatically maintaining the position of the belts

17/00  Conveyors having an endless traction element, e.g. a chain, transmitting movement to a continuous or substantially-continuous load-carrying surface or to a series of individual load-carrriers; Endless-chain conveyors in which the chains form the load-carrying surface

17/002 . [comprising load carriers resting on the traction element]
17/005 . [comprising individual load carriers which are movably mounted (B65G 17/16 takes precedence)]
17/007 . [for conveying the load on the lower run or on both upper and lower runs of the conveyor]
17/02 . comprising a load-carrying belt attached to or resting on the traction element
17/04 . the belt having loops forming load-receiving pockets
17/06 . having a load-carrying surface formed by a series of interconnected, e.g. longitudinal, links, plates, or platforms
17/061 . [the load carrying surface being formed by profiles, rods, bars, rollers or the like attached to a single traction element (B65G 17/24 takes precedence)]
17/062 . [the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
17/063 . [the load carrying surface being formed by profiles, rods, bars, rollers or the like attached to more than one traction element (B65G 17/24 takes precedence)]
17/064 . [the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
17/065 . [the load carrying surface being formed by plates or platforms attached to a single traction element]
17/066 . [specially adapted to follow a curved path (for individual load carriers B65G 17/22)]
17/067 . [the load carrying surface being formed by plates or platforms attached to more than one traction element]
17/068 . [specially adapted to follow a curved path (for individual load carriers B65G 17/22)]
17/08 . the surface being formed by the traction element
17/083 . [the surface being formed by profiles, rods, bars, rollers or the like]
17/086 . [specially adapted to follow a curved path (for individual load carriers B65G 17/22)]
17/10 . the surface forming a longitudinal trough
17/12 . comprising a series of individual load-carriers fixed, or normally fixed, relative to traction element
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of... B65G

... [arranged to keep the load-carriers horizontally during at least a part of the conveyor run]

... (Bucket elevators)

... with two spaced connections to traction element

... comprising individual load-carriers which are pivotally mounted, e.g. for free-swinging movement (guides inverting or tilting load-carriers for emptying (B65G 47/38; B65G 17/20 takes precedence))

... and move in contact with a guiding surface

... comprising load-carriers suspended from overhead traction chains

... with oppositely-moving parts of the conveyor located in a common plane (and being formed by individual load carriers only)

... comprising a series of rollers which are moved (e.g. over a supporting surface, by the traction element to effect conveyance of loads or load-carriers)

... comprising a series of co-operating units, e.g. interconnected by pivots

... extensible, e.g. telescopic ((adjustment of length or configuration of traction element B65G 21/14))

... Details; Auxiliary devices (belts B65G 15/30; framework B65G 21/00)

... Individual load-carriers

... [Grippers, e.g. suction or magnetic]

... [Clamps, constituted by articulated chain links]

... having flat surfaces, e.g. platforms, grids, forks

... having flat surfaces, e.g. platforms, grids, forks

... having concave surfaces, e.g. buckets

... having open bottom buckets

... Chains or like traction elements (drive chains F16G 13/00): Connections between traction elements and load-carriers

... adapted to follow three-dimensionally curved paths

... Chains acting as load-carriers

... Attaching load carriers to traction elements

... by means excluding relative movements

... Means for holding or retaining the loads in fixed position on the load-carriers, e.g. magnetic

... Controlling attitudes of load-carriers during movement (B65G 17/18 takes precedence; guides B65G 21/20; inverting or tilting load carriers to discharge contents B65G 47/38)

... [the load carriers being suspended]

Conveyors comprising an impeller or a series of impellers carried by an endless traction element and arranged to move articles or materials over a supporting surface or underlying material, e.g. endless scraper conveyors

... for articles, e.g. for containers

... for suspended articles

... for moving bulk material in open troughs or channels

... the impellers being scrapers similar in size and shape to the cross-section of the trough or channel

... and attached to a single belt, rope or chain

... and attached to a pair of belts, ropes or chains

... the impellers being plates having an area substantially smaller than that of the trough of channel cross-section

... for moving bulk material in closed conduits, e.g. tubes

... the impellers being elements having an area substantially smaller than that of the conduit cross-section

... [the impellers being endless helical springs]

Details

... for article conveyors, e.g. for container conveyors (B65G 19/20, B65G 19/22, B65G 19/28 take precedence)

... Traction chains, ropes, or cables

... [for article conveyors, e.g. for container conveyors]

... Impellers, e.g. push-plates, scrapers; Guiding means therefor

... [for article conveyors, e.g. for container conveyors]

... Troughs, channels, or conduits

... [for article conveyors, e.g. for container conveyors (B65G 19/30 takes precedence)]

... [with detachable or replaceable parts, e.g. replaceable wear channels (B65G 19/282 takes precedence)]

... [Coupling means for trough sections (B65G 19/282 takes precedence)]

... with supporting surface modified to facilitate movement of loads, e.g. friction reducing devices

... [for article conveyors, e.g. for container conveyors]

... [the supporting surface being provided with rollers]

Supporting or protective framework or housings for endless load-carriers or traction elements of belt or chain conveyors

... for conveyors floating on liquids

... consisting essentially of struts, ties, or like structural elements

... the ties being formed by longitudinal cables or ropes

... constructed to facilitate rapid assembly or dismantling

Protective roofs or arch supports therefor

... movable, or having interchangeable or relatively movable parts; Devices for moving framework or parts thereof

... [having demountable driving or return heads]

... to allow adjustment of position of load-carrier or traction element as a whole

... to allow adjustment of length or configuration of load-carrier or traction element (varying speed of conveyance by adjusting configuration of load-carrier B65G 23/00; (tensioning arrangements for belt or chain B65G 23/441)
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

23/00 Driving gear for endless conveyors; Belt- or chain-tensioning arrangements

23/02 . . Belt- or chain-engaging elements
23/04 . . Drums, rollers, or wheels (B65G 23/18 takes precedence)
23/06 . . with projections engaging abutments on belts or chains, e.g. sprocket wheels
23/08 . . with self-contained driving mechanisms, e.g. motors and associated gearing
23/10 . . arranged intermediate the ends of the conveyors
23/12 . . Arrangements of co-operating drums or rollers to augment tractive effort applied to the belts
23/14 . . Endless driving elements extending parallel to belt or chain (B65G 23/18 takes precedence)
23/16 . . with dogs engaging abutments on belts or chains
23/18 . . Suction or magnetic elements
23/19 . . Suction elements
23/20 . . Screws
23/22 . . Arrangements or mountings of driving motors (B65G 23/08 takes precedence)
23/23 . . of electric linear motors
23/24 . . Gearing between driving motor and belt- or chain-engaging elements (contained in drums, rollers or wheels B65G 23/08)
23/26 . . Applications of clutches or brakes
23/28 . . Arrangements for equalising the drive to several elements
23/30 . . Variable-speed gearing

23/32 . . for effecting drive at two or more points spaced along the length of the conveyors
23/34 . . comprising a single motor coupled to spaced driving elements
23/36 . . comprising two or more driving motors each coupled to a separate driving element, e.g. at either end of the conveyors
23/38 . . for effecting intermittent movement of belts or chains
23/40 . . Applications of pawl and ratchet mechanisms or Geneva wheels
23/42 . . Reciprocating members engaging successive abutments on belts or chains
23/44 . . Belt or chain tensioning arrangements

25/00 Conveyors comprising a cyclically-moving, e.g. reciprocating, carrier or impeller which is disengaged from the load during the return part of its movement (jigging B65G 27/00)

25/02 . . the carrier or impeller having different forward and return paths of movement, e.g. walking beam conveyors
25/04 . . the carrier or impeller having identical forward and return paths of movement, e.g. reciprocating conveyors
25/06 . . having carriers, e.g. belts
25/065 . . . [Reciprocating floor conveyors]
25/08 . . having impellers, e.g. pushers
25/10 . . . with impeller pivotally mounted on a reciprocating bar
25/12 . . . with impeller fixed to a reciprocating bar and the bar being rotated about its longitudinal axis on its return stroke

27/00 Jigging conveyors

27/02 . . comprising helical or spiral channels or conduits for elevation of materials
27/04 . . Load carriers other than helical or spiral channels or conduits
27/06 . . Joints connecting load-carrier sections
27/08 . . Supports or mountings for load-carriers, e.g. framework, bases, spring arrangements (spring arrangements as jigging movement transmitting units B65G 27/10)
27/10 . . Applications of devices for generating or transmitting jigging movements
27/12 . . . of shaking devices, i.e. devices for producing movements of low frequency and large amplitude
27/14 . . . hydraulic
27/16 . . . of vibrators, i.e. devices for producing movements of high frequency and small amplitude
27/18 . . . Mechanical devices (B65G 27/26 takes precedence)
27/20 . . . . rotating unbalanced masses
27/22 . . . . Hydraulic or pneumatic devices
27/24 . . . . Electromagnetic devices
27/26 . . . . with elastic coupling between vibrator and load carrier
27/28 . . . with provision for dynamic balancing
27/30 . . . by means of an oppositely-moving mass, e.g. a second conveyor
27/32 . . . with means for controlling direction, frequency or amplitude of vibration or shaking movement
Conveyors of... B65G

327/4 ... comprising a series of co-operating units

29/00 Rotary conveyors, e.g. rotating discs, arms, star-wheels or cones (mechanical projectors B65G 31/00; screw or rotary spiral conveyors B65G 33/00)

29/02 ... for inclined or vertical transit

31/00 Mechanical throwing machines for articles or solid materials

31/02 ... comprising belts

31/04 ... comprising discs, drums, or like rotary impellers

33/00 Screw or rotary spiral conveyors

33/02 ... for articles

33/04 ... conveyed between a single screw and guiding means

33/06 ... conveyed and guided by parallel screws

33/08 ... for fluent solid materials

33/10 ... with non-enclosed screws

33/12 ... with screws formed by straight tubes or drums having internal threads, or by spiral or helical tubes

33/14 ... comprising a screw or screws enclosed in a tubular housing

33/16 ... with flexible screws operating in flexible tubes

33/18 ... with multiple screws in parallel arrangements [, e.g. concentric]

33/20 ... the housing being rotatable relative to the screw

33/22 ... with means for retarding material flow at the delivery end of the housing

33/24 ... Details

33/26 ... Screws

33/265 ... [with a continuous helical surface (flexible screws B65G 33/16)]

33/30 ... with a discontinuous helical surface

33/32 ... Adaptors of bearings or couplings for supporting and connecting screws (B65G 33/16 takes precedence)

33/34 ... Applications of driving gear

33/36 ... for rotating housing and screw at different speeds

33/38 ... for effecting simultaneous rotation and reciprocation of screw

35/00 Mechanical conveyors not otherwise provided for

35/005 ... [with peristaltic propulsion along a flexible tube]

35/02 ... comprising an endless traction element, e.g. a belt, arranged to roll cylindrical articles over a supporting surface

35/04 ... comprising a flexible load carrier, e.g. a belt, which is wound up at one end and paid out at the other (reciprocating belt conveyors B65G 25/06)

35/06 ... comprising a load-carrier moving along a path, e.g. a closed path, and adapted to be engaged by any one of a series of traction elements spaced along the path (effecting drive at two or more points spaced along the length of an endless conveyor B65G 23/32)

35/063 ... [the traction element being a rotating bar or tube]

35/066 ... [the bar or the tube being provided with a helical or annular channel]

35/08 ... comprising trains of unconnected load-carriers, e.g. belt sections, movable in a path, e.g. a closed path, adapted to contact each other and to be propelled by means arranged to engage each load-carrier in turn

37/00 Combinations of mechanical conveyors of the same kind, or of different kinds, of interest apart from their application in particular machines or use in particular manufacturing processes (series of co-operating belt conveyor units B65G 15/22; series of co-operating chain conveyor units B65G 17/26; sequence control of combined conveyors B65G 43/10)

37/005 ... (comprising two or more co-operating conveying elements with parallel longitudinal axes (the conveying elements being endless surfaces B65G 15/10))

37/02 ... Flow-sheets for conveyor combinations in warehouses, magazines or workshops

Common features or details of, or auxiliary devices applicable to, conveyors of different kinds or types: Feeding or discharging devices incorporated in, or operatively associated with, conveyors

39/00 Rollers, e.g. drive rollers, or arrangements thereof incorporated in roller-ways or other types of mechanical conveyors (driving gear for rollers of roller-ways B65G 13/06)

39/02 ... Adaptations of individual rollers and supports therefor

39/025 ... [having spherical roller elements]

39/04 ... the rollers comprising a number of roller forming elements mounted on a single axle

39/06 ... the roller sleeves being shock-absorbing, e.g. formed by helically-wound wires

39/07 ... Other adaptations of sleeves

39/071 ... for aligning belts or sheets

39/073 ... for cleaning belts

39/08 ... the rollers being magnetic

39/09 ... Arrangements of bearing or sealing means

39/10 ... Arrangements of rollers (on a single axle B65G 39/04)

39/12 ... mounted on framework

39/125 ... [for selectively adjusting troughing of the conveying belt]

39/14 ... Spring-supported sets, e.g. permitting troughing of a load-carrying belt

39/145 ... [attached to ties formed by longitudinal cables or ropes]

39/16 ... for aligning belts or chains

39/18 ... for guiding loads

39/20 ... attached to moving belts or chains

41/00 Supporting frames or bases for conveyors as a whole, e.g. transportable conveyor frames

41/001 ... [with the conveyor adjustably mounted on the supporting frame or base]

41/002 ... [Pivoting mounted]

41/003 ... [mounted for linear movement only]

41/005 ... [mounted for both pivotal and linear movement]

41/006 ... [with the conveyor not adjustably mounted on the supporting frame or base]

41/007 ... [Means for moving conveyor frames and control arrangements therefor (B65G 41/02 takes precedence)]

41/008 ... [frames mounted on wheels or caterpillar (for movement on rail tracks B65G 41/02)]

41/02 ... Frames mounted on wheels for movement on rail tracks
Feeding or...

**Control devices, e.g. for safety, warning or fault-correcting**

**NOTE**

in this group the following indexing codes are used:

B65G 2811/0673
B65G 2812/02099 - B65G 2812/02108

43/02 Detecting dangerous physical condition of load carriers, e.g. for interrupting the drive in the event of overheating

43/04 Detecting slip between driving element and load-carrier, e.g. for interrupting the drive

43/06 Interrupting the drive in case of driving element breakage; Braking or stopping loose load-carriers

43/08 Control devices operated by article or material being fed, conveyed or discharged

43/10 Sequence control of conveyors operating in combination

**Lubricating, cleaning, or clearing devices**

45/00 Devices for feeding articles or materials to conveyors (B65G 47/256 takes precedence)

45/02 Lubricating devices

45/04 For rollers

45/06 Forming belt troughing structure

45/08 For chains

45/10 Cleaning devices (adaptations of roller sleeves for cleaning belts B65G 39/073)

45/105 Comprising vibrating means

45/12 Comprising scrapers

45/14 Moving scrapers

45/16 With scraper biasing means

45/18 Comprising brushes

45/20 Comprising screws

45/22 Comprising fluid applying means

45/24 Comprising plural diverse cleaning devices

45/26 For gathering residue after cleaning

**Article or material-handling devices associated with conveyors; Methods employing such devices**

47/00 Devices for feeding articles or materials to conveyors

47/02 For feeding articles

47/04 From a single group of articles arranged in an orderly pattern, e.g. workpieces in magazines (de-stacking devices B65G 59/00)

47/08 Spacing or grouping the articles during feeding (during transit by conveyor B65G 47/27)

47/082 Grouping articles in rows

47/084 Grouping articles in a predetermined 2-dimensional pattern

47/086 Cubiform articles

47/088 Cylindrical articles

47/12 From disorderly-arranged article piles or from loose assemblages of articles

47/14 Arranging or orientating the articles by mechanical or pneumatic means during feeding (during transit by conveyor B65G 47/24, B65G 47/26)

47/1407 The articles being fed from a container, e.g. a bowl

47/1414 By means of movement of at least the whole wall of the container

47/1421 Vibratory movement

47/1428 Rotating movement

47/1435 Using the centrifugal effect to arrange or orientate the articles

47/1442 By means of movement of the bottom or a part of the wall of the container (devices using suction or magnetic forces B65G 47/1485)

47/145 Jigging or reciprocating movement

47/1457 Rotating movement in the plane of the rotating part

47/1464 Using the centrifugal effect to arrange or orientate the articles

47/1471 Movement in one direction, substantially outwards

47/1485 By means of pick-up devices, the container remaining immobile

47/1485 By means of suction or magnetic forces

47/1492 The articles being fed from a feeding conveyor

47/16 For feeding materials in bulk

47/18 Arrangements or applications of hoppers or chutes

47/19 Having means for controlling material flow, e.g. to prevent overloading

47/20 The hoppers or chutes being movable

47/22 Devices influencing the relative position or the attitude of articles during transit by conveyors (during feeding B65G 47/14)

47/24 Orienting the articles

47/244 By turning them about an axis substantially perpendicular to the conveying plane

47/2445 By means of at least two co-operating endless conveying elements

47/248 By turning over or inverting them (B65G 47/244 takes precedence)

47/252 About an axis substantially perpendicular to the conveying direction

47/256 Removing incorrectly orientated articles

47/26 Arranging the articles, e.g. varying spacing between individual articles

47/261 Accumulating articles

47/263 The conveyor drive is taken from a longitudinally extending shaft

47/265 With one or more load advancing units travelling along the entire length of the accumulation line

47/266 By means of a series of pivotable stop elements

47/268 By means of belt or chain conveyor

47/28 During transit by a single conveyor

47/29 By temporarily stopping movement (stopping elements B65G 47/88)

47/295 By means of at least two stopping elements

47/30 During transit by a series of conveyors

47/31 By varying the relative speeds of the conveyors forming the series

47/32 Applications of transfer devices (such devices per se B65G 47/74)

47/34 Devices for discharging articles or materials from conveyor (B65G 47/256 takes precedence)
Feeding or...

Common features or details of, or auxiliary devices applicable to, conveyors of different kinds or types:

- 47/36 . . . . by detaching suspended articles
- 47/38 . . . . by dumping, tripping, or releasing load carriers (by flexing or tilting travelling structures B65G 47/94)
- 47/40 . . . . by tilting conveyor buckets
- 47/42 . . . . operated by article or material being conveyed and discharged (B65G 47/46 takes precedence)
- 47/44 . . . . Arrangements or applications of hoppers or chutes
- 47/46 . . . . and distributing, e.g. automatically, to desired points (in tube mail systems B65G 51/36)
- 47/48 . . . . according to bodily destination marks on either articles or load-carriers
- 47/482 . . . . [using exclusively mechanical transmitting means between destination marks and switching means]
- 47/485 . . . . [using electric or electronic transmitting means between destination marks and switching means]
- 47/487 . . . . [the system comprising endless moving means]
- 47/50 . . . . according to destination signals stored in separate systems
- 47/503 . . . . [the bodily destination marks being mechanically detected]
- 47/49 . . . . without bodily contact between article or load carrier and automatic control device, e.g. the destination marks being electrically or electronically detected
- 47/493 . . . . [by use of light responsive means]
- 47/496 . . . . [by use of magnetic responsive means]
- 47/50 . . . . according to destination signals stored in separate systems
- 47/503 . . . . [the system comprising endless moving means]
- 47/506 . . . . [the system comprising a shift-register]
- 47/51 . . . . according to unprogrammed signals, e.g. influenced by supply situation at destination
- 47/5104 . . . . [for articles]
- 47/5109 . . . . [First In - First Out systems: FIFO]
- 47/5113 . . . . [using endless conveyors (B65G 47/5145 takes precedence)]
- 47/5118 . . . . [with variable accumulation capacity]
- 47/5122 . . . . [by displacement of the conveying-guiding means, e.g. of the loose pulley-type (B65G 47/5127 takes precedence)]
- 47/5127 . . . . [by relative displacement between conveyor and input or output]
- 47/5131 . . . . [by relative displacement between conveyors or conveyor parts and bridging means therebetween]
- 47/5136 . . . . [using rotary conveyors]
- 47/514 . . . . [by displacement of the conveying-guiding means, e.g. of the loose pulley type (B65G 47/5168 takes precedence)]
- 47/5145 . . . . [by displacement of conveyor-guiding means, e.g. of the loose pulley type (B65G 47/5168 takes precedence)]
- 47/515 . . . . [First In-Last Out systems [FILO]; Last In-First Out systems [LIFO]]
- 47/5154 . . . . [using endless conveyors (B65G 47/5168 takes precedence)]
- 47/5159 . . . . [with variable accumulation capacity]
- 47/5163 . . . . [by displacement of conveyor-guiding means, e.g. of the loose pulley type (B65G 47/5168 takes precedence)]
- 47/5168 . . . . [by relative displacement between conveyor and conveyor in- or output means]
- 47/5172 . . . . [by relative displacement between conveyors or conveyor parts and bridging means therebetween]
- 47/5177 . . . . [using rotary conveyor(s)]
- 47/5181 . . . . [using stacking or destacking arrangements or stacks of articles or article-carriers]
- 47/5186 . . . . [with recirculation means]
- 47/519 . . . . [collecting tables or bins as end-station]
- 47/5195 . . . . [for materials in bulk]
- 47/52 . . . . Devices for transferring articles or materials between conveyors i.e. discharging or feeding devices (loading or unloading by means not incorporated in, or not operatively associated with, conveyors B65G 65/00: transfer of workpieces during metal rolling B21B 41/00)
- 47/525 . . . . [by using fluid jets]
- 47/53 . . . . between conveyors which cross one another
- 47/54 . . . . [at least one of which is a roller-way]
- 47/56 . . . . [to or from inclined or vertical conveyor sections]
- 47/57 . . . . [for articles]
- 47/58 . . . . [for materials in bulk]
- 47/60 . . . . [for articles or load-carriers]
Feeding or...

[47/689] [Lane boundaries which are of such shape that tight arrays of articles are broken up or prevented from forming]

[47/69] the articles being accumulated temporarily ([accumulating articles during transit B65G 47/261])

[47/70] with precedence controls among incoming article flows

[47/71] the articles being discharged {or distributed} to several {distinct separate} conveyors {or to a broader conveyor lane}

[47/715] {a broader conveyor lane}

[47/72] transferring materials in bulk from one conveyor to several conveyors, or vice versa

[47/74] Feeding, transfer, or discharging devices of particular kinds or types

[47/76] Fixed or adjustable ploughs or reverse scrapers

[47/763] [Fixed ploughs or reverse scrapers]

[47/766] [Adjustable ploughs or reverse scrapers]

[47/78] Troughs having discharge openings and closures ((in air-slides B65G 53/20))

[47/80] Turntables carrying articles or materials to be transferred, e.g. combined with ploughs or scrapers

[47/82] Rotary or reciprocating members for direct action on articles or materials, e.g. pushers, rakes, shovels (means for pushing glass articles onto a conveyor C03B 9/453)

[47/84] Star-shaped wheels or devices having endless travelling belts or chains, the wheels or devices being equipped with article-engaging elements

[47/841] [Devices having endless travelling belts or chains equipped with article-engaging elements]

[47/842] [the article-engaging elements being grippers]

[47/843] [the article-engaging elements being suction or magnetic means]

[47/844] [the article-engaging elements being pushers transversally movable on the supporting surface, e.g. pusher-shoes]

[47/845] [the article engaging elements being pushers moving in parallel and independently from the supporting conveyor]

[47/846] [Star-shaped wheels or wheels equipped with article-engaging elements]

[47/847] [the article-engaging elements being grippers]

[47/848] [the article-engaging elements being suction or magnetic means]

[47/88] Separating or stopping elements, e.g. fingers (attached to star-shaped wheels B65G 47/84)

[47/8807] [with one stop]

[47/8815] [Reciprocating stop, moving up or down in the path of the article]

[47/8823] [Pivoting stop, swinging in or out of the path of the article]

[47/883] [Fixed stop]

[47/8838] [with a linearly movable pusher element which lifts or releases the article]

[47/8846] [with a pivoting pusher element which lifts or releases the article]

[47/8853] [with conveyors, e.g. pivoting or rotating, to transfer the article]

[47/8861] [Stop in the form of a clamp on one or both sides of the article]

[47/8869] [stopping or lifting all articles from a conveyor]

[47/8876] [with at least two stops acting as gates]

[47/8884] [Stops acting asynchronously, e.g. one stop open, next one closed or the opposite]

[47/8892] [Stops acting independently of each other]

[47/90] Devices for picking-up and depositing articles or materials

[47/901] [provided with drive systems with rectilinear movements only]

[47/902] [provided with drive systems incorporating rotary and rectilinear movements]

[47/904] [provided with rotary movements only]

[47/905] [Control arrangements]

[47/907] [with at least two picking-up heads]

[47/908] [with inflatable picking-up means (inflatable gripping members on load engaging elements for cranes B66C 1/46)]

[47/91] incorporating pneumatic, e.g. suction, grippers

[47/911] [with air blasts producing partial vacuum]

[47/912] [provided with drive systems with rectilinear movements only]

[47/914] [provided with drive systems incorporating rotary and rectilinear movements]

[47/915] [provided with drive systems with rotary movements only]

[47/917] [control arrangements]

[47/918] [with at least two picking-up heads]

[47/92] incorporating electrostatic or magnetic grippers

[47/94] Devices for flexing or tilting travelling structures; Throw-off carriages

[47/945] [tilting endless surfaces, e.g. belts]

[47/95] adapted for longitudinal delivery

[47/96] Devices for tilting links or platform ((releasing load-carriers B65G 47/38))

[47/962] [tilting about an axis substantially parallel to the conveying direction]

[47/965] [tilting about a sided-axis, i.e. the axis is not located near the center-line of the load-carrier]

[47/967] [tilting about an axis perpendicular to the conveying direction]

[49/00] Conveying systems characterised by their application for specified purposes not otherwise provided for

[49/002] for conveying workpieces through baths of liquid

[49/025] [conveyor feeding and discharging means]

[49/04] the workpieces being immersed and withdrawn by movement in a vertical direction

[49/0404] [specially adapted for very long workpieces, e.g. chains, cables or belts]

[49/0409] [specially adapted for workpieces of definite length]

[49/0413] [arrangements for conveyance through the bath]

[49/0418] [chain or belt conveyors]

[49/0422] [screws]

[49/0427] [jigging conveyors]

[49/0431] [reciprocating conveying means]

[49/0436] [arrangements for conveyance from bath to bath]

CPC - 2020.02
Feeding or...

Common features or details of, or auxiliary devices applicable to, conveyors of different kinds or types: B65G

49/044...{along a continuous circuit}
49/045...{the circuit being movable vertically as a whole}
49/045...{the circuit being fixed}
49/045...{by means of containers - orbits workpieces - carriers (containers or carriers as such see C25D 17/00)}
49/045...{movement in a vertical direction is caused by self-contained means}
49/046...{movement in a vertical direction is caused by lifting means or fixed or adjustable guiding means located at the bath area}
49/046...{without container or workpieces carriers}
49/047...{along a non continuous circuit}
49/047...{with lifting means for circuit parts}
49/048...{with lifting means locating at the bath area}
49/048...{provided with rotating or pivoting arms}
49/049...{provided with vertical guiding means}
49/049...{conveying by flows of fluids}
49/05...for fragile or damageable materials or articles
49/06...for fragile sheets, e.g. glass

**NOTE**

In group B65G 49/06 and subgroups it is desirable to add indexing codes for specific aspects of conveying systems. The indexing codes are chosen from groups B65G 2249/00 - B65G 2249/045

49/061...{Lifting, gripping, or carrying means, for one or more sheets forming independent means of transport, e.g. suction cups, transport frames (suction means as load-engaging elements attached to the lifting or lowering gear of cranes B66C 1/02; suction cups for attaching purposes F16B 47/00; suction cups on gripping heads B25J 15/0616; suction cups in general B65G 47/91; suction cups combined with cutting means on vertical conveyors C03B 33/00 - C03B 33/10; devices for turning sheets B65G 49/067; suspending devices B65G 49/066}

49/062...{Easels, stands or shelves, e.g. castor-shelves, supporting means on vehicles; (vehicles adapted to carry glass sheets B60P 3/002; storing articles B65G 1/00 or A47B 53/02; packaging for glass sheets B65D 85/48)}

49/063...{Transporting devices for sheet glass}
49/064...{in a horizontal position (B65G 49/066 takes precedence)}
49/065...{supported partially or completely on fluid cushions, e.g. a gas cushion (in general B65G 51/00)}
49/066...{being suspended; Suspending devices, e.g. clamps, supporting tongs}
49/067...{Sheet handling, means, e.g. manipulators, devices for turning or tilting sheet glass (suction cups B65G 49/061; combined with vertical conveyors C03B 33/00 - C03B 33/10; stacking and destacking B65G 49/068)}

49/068...{Stacking or destacking devices; Means for preventing damage to stacked sheets, e.g. spaces (stacking in general B65G 57/00; destacking in general B65G 39/00; spacer sheets in general B65H)}

49/069...{Means for avoiding damage to stacked plate glass, e.g. by interposing paper or powder spacers in the stack (maculation per se B65H 39/00)}

49/07...for semiconductor wafers {Not used, see H01L 21/677} (specially adapted for conveying of semiconductor wafers during manufacture or treatment of semiconductor or electric solid state devices or components H01L 21/677)

49/08...for ceramic mouldings
49/085...{for loading or unloading racks or similar frames; loading racks therefor}

**Non-mechanical conveying through pipes or tubes** (pipe-line systems F17D): Floating in troughs

51/00 Conveying articles through pipes or tubes by fluid flow or pressure: Conveying articles over a flat surface, e.g. the base of a trough, by jets located in the surface

51/01...{Hydraulic transport of articles (B65G 51/04 takes precedence; water roundabouts A63G 3/00)

51/02...{Directly conveying the articles, e.g. slips, sheets, stockings, containers or workpieces, by flowing gases}

51/025...{Conveying ammunition through pipes)
51/03...{over a flat surface or in troughs
51/035...{[for suspended articles, e.g. bottles]
51/04...{Conveying the articles in carriers having a cross-section approximating that of the pipe or tube; Tube mail systems
51/06...{Despatch carriers for tube mail
51/08...{Controlling or conditioning the operating medium
51/10...{at section junctions of pneumatic systems
51/12...{Pneumatic gates
51/14...{Pneumatic sluices
51/16...{varying, e.g. starting or stopping, gas pressure or flow
51/18...{Adaptations of pipes or tubes; Pipe or tube joints
51/20...{Braking arrangements
51/22...{Arrangements for stopping the carriers en route in order to control carrier sequence; Blocking or separating devices
51/24...{Switches
51/26...{Stations
51/28...{for despatch
51/30...{for delivery
51/32...{for despatch, delivery, and transit
51/34...{Two-way operation
51/36...{Other devices for indicating or controlling movements of carriers, e.g. for supervising individual tube sections, for counting carriers, for reporting jams or other operating difficulties
51/38...{Contact devices on interior of tubes for detecting passage of carriers
51/40...{Automatically distributing the carriers to desired stations
51/42...{according to indications on carriers
Non-mechanical conveyors not otherwise provided for

Stacking or de-stacking; Loading or unloading (by means incorporated in, or operatively associated with, conveyors B65G 47/00; lift trucks B60P; B66F; handling sheet material or flat articles made therefrom B65H; cranes B66C; loading or unloading by soil-shifting or like equipment E02F; stacking or de-stacking data record cards in association with machines for marking or sensing data G06K)

NOTE
In groups B65G 57/00 - B65G 61/00, the following term is used with the meaning indicated:
• “stacking” means disposing articles individually or in layers one above each other

57/00 Stacking of articles (B65G 60/000 takes precedence: feeding, piling or stacking sheets B65H)
57/005 . . . . (by using insertions or spacers between the stacked layers)
57/002 . . . by adding to the top of the stack
57/003 . . . from above
57/0035 . . . (with a stepwise downward movement of the stack)
57/004 . . . by suction or magnetic devices
57/006 . . . Gates for releasing articles
57/008 . . . articles being tilted or inverted prior to depositing
57/0081 . . . alternate articles being inverted
Stacking or de-stacking; Loading or unloading

57/09 . . from alongside
57/10 . . by devices, e.g. reciprocating, acting directly on articles for horizontal transport to the top of stack
57/11 . . the articles being stacked by direct action of the feeding conveyor
57/12 . . the conveyor being adjustable in height
57/14 . . the articles being transferred from carriers moving in an endless path adjacent to the stacks
57/16 . . Stacking of articles of particular shape
57/165 . . [nested]
57/18 . . elongated, e.g. sticks, rods, bars
57/183 . . . [Angle irons]
57/186 . . . [Cylindrical articles, e.g. tubes, rods, etc.]
57/20 . . . three-dimensional, e.g. cubiform, cylindrical
57/22 . . . in layers each of predetermined arrangement
57/24 . . . , the layers being transferred as a whole, e.g. on pallets
57/245 . . . . . . . . [with a stepwise downward movement of the stack]
57/26 . . . . . . . . the arrangement providing for spaces between the articles
57/28 . . by assembling the articles and tilting the assembled articles to a stacked position
57/30 . . by adding to the bottom of the stack
57/301 . . . [by means of reciprocatory or oscillatory lifting and holding or gripping devices]
57/302 . . . [added articles being lifted to substantially stationary grippers or holders]
57/303 . . . [the stack being lowered by mobile grippers or holders onto added articles]
57/305 . . . [by means of rotary devices or endless elements]
57/306 . . . [the rotary devices being wheels]
57/307 . . . [the rotary devices being screws]
57/308 . . . [by means of endless elements]
57/32 . . characterised by stacking during transit
59/00 De-stacking of articles (B65G 60/00 takes precedence)
59/005 . . [by using insertions or spacers between the stacked layers]
59/02 . . De-stacking from the top of the stack
59/023 . . . [by means insertable between the stacked articles or layers]
59/026 . . . [with a stepwise upward movement of the stack]
59/04 . . by suction or magnetic devices
59/045 . . . [with a stepwise upward movement of the stack]
59/06 . . De-stacking from the bottom of the stack
59/061 . . . [articles being separated substantially along the axis of the stack]
59/062 . . . [by means of reciprocating or oscillating escapement-like mechanisms]
59/063 . . . . [comprising lifting means]
59/065 . . . . [by angularly displacing the stack relatively to the lower most article or vice versa]
59/066 . . . [by means of rotary devices or endless elements]
59/067 . . . [articles being separated substantially perpendicularly to the axis of the stack]
59/068 . . . [by means of endless elements]
59/08 . . De-stacking after preliminary tilting of the stack
59/10 . . De-stacking nested articles
59/101 . . . [by means of oscillating escapement-like mechanisms]
59/102 . . . . [the axis of oscillation being substantially parallel to the axis of the stack]
59/103 . . . . [comprising lifting or gripping means]
59/105 . . . [by means of reciprocating escapement-like mechanisms]
59/106 . . . . [comprising lifting or gripping means]
59/107 . . . . [by means of rotary devices or endless elements]
59/108 . . . . [the axis of rotation being substantially parallel to the axis of the stack]
59/12 . . characterised by de-stacking during transit
60/00 Simultaneously or alternatively stacking and de-stacking of articles
61/00 Use of pick-up or transfer devices or of manipulators for stacking or de-stacking articles not otherwise provided for
63/00 Transferring or trans-shipping at storage areas, railway yards or harbours [or in opening mining cuts]; Marshalling yard installations
63/002 . . . [for articles]
63/004 . . . . [for containers]
63/006 . . . . . [using slanted guides]
63/008 . . . [for bulk material]
63/02 . . with essentially horizontal transit otherwise than by bridge
63/022 . . . [for articles]
63/025 . . . . . [for containers]
63/027 . . . . . [for bulk material]
63/04 . . with essentially-horizontal transit by bridges equipped with conveyors
63/042 . . . [for articles]
63/045 . . . . . [for containers]
63/047 . . . . . [for bulk material]
63/06 . . with essentially-vertical transit
63/062 . . . . . [for articles]
63/065 . . . . . . [for containers]
63/067 . . . . . . [for bulk material]
65/00 Loading or unloading (of vehicles B65G 67/00)
65/005 . . . [Control arrangements]
65/02 . . Loading or unloading machines comprising essentially a conveyor for moving the loads associated with a device for picking-up the loads
65/04 . . with pick-up shovels (constructions of shovels E02F)
65/06 . . . with endless scraping or elevating pick-up conveyors
65/08 . . with reciprocating pick-up conveyors
65/10 . . . . Raking or scraping devices
65/12 . . . . . operations at positions off-set from the conveyor centreline
65/14 . . with jigging pick-up conveyors, e.g. duck-bills
65/16 . . with rotary pick-up conveyors
65/18 . . . . Discs
65/20 . . . . Paddle wheels
65/22 . . . . Screws
65/23 . . Devices for tilting and emptying of containers
65/24 . . . for manual tilting of barrels or casks
Staking or de-stacking; Loading or unloading

65/38 . . . . Mechanical devices
65/40 . . . . Devices for emptying otherwise than from the top
65/42 . . . . using belt or chain conveyors
65/425 . . . . { arranged to be movable }
65/44 . . . . using reciprocating conveyors, e.g. jiggging conveyors
65/46 . . . . using screw conveyors
65/463 . . . . { arranged vertically or substantially vertically within the container (B65G 65/46 takes precedence) }
65/466 . . . . { arranged to be movable }
65/48 . . . . using other rotating means, e.g. rotating pressure sluices in pneumatic systems (B65G 65/46 takes precedence)
65/4809 . . . . { rotating about a substantially vertical axis }
65/4818 . . . . { and having the form of rotating tables or pans }
65/4827 . . . . . { with particular surface features, e.g. ribs, roughening }
65/4836 . . . . { and moving material over a stationary surface, e.g. sweep arms or wheels }
65/4845 . . . . . { flexible, e.g. chains, cables, spring arms }
65/4854 . . . . . { mounted on a carriage, e.g. for movement along slit-like outlets }
65/4863 . . . . . { by means of eccentric motion }
65/4872 . . . . { through which material passes, e.g. fan-like wheels }
65/4881 . . . . { rotating about a substantially horizontal axis }
65/489 . . . . { in the form of rotating tubular chutes }

67/00 Loading or unloading vehicles (by means incorporated in the vehicles B60-B64, e.g., B60P 1/00, B61D 9/00, B63B 27/00, B64D 9/00; ground or aircraft-carrier-deck installations for aircraft B64F 1/32)
67/02 . . . . Loading or unloading land vehicles
67/04 . . . . Loading land vehicles { (loading or unloading boats to or from land vehicles B60P 3/10) }
67/06 . . . . Feeding articles or materials from bunkers or tunnels
67/08 . . . . using endless conveyors
67/10 . . . . using conveyors covering the whole length of vehicle trains
67/12 . . . . Loading elongated articles, e.g. rails, logs
67/14 . . . . Loading hardened bricks, briquettes, or the like
67/16 . . . . Loading coke-oven products (discharging coke-ovens C10B 33/00)
67/18 . . . . Refuelling locomotives with solid fuels
67/20 . . . . Loading covered vehicles
67/22 . . . . Loading moving vehicles
67/24 . . . . Unloading land vehicles
67/26 . . . . using rakes or scrapers
67/28 . . . . External transverse blades attached to endless conveyors
67/30 . . . . using transportable tipping apparatus
67/32 . . . . using fixed tipping installations
67/34 . . . . Apparatus for tipping wagons or mine cars (inverting wagons B65G 67/48)
67/36 . . . . . endwise
67/38 . . . . . comprising a turntable
67/40 . . . . . toward one end only
67/42 . . . . . sideways
67/44 . . . . . by passing the vehicles over a stretch of transversely-inclined rails
67/46 . . . . . Apparatus for lifting and tilting
67/48 . . . . . Vehicle tipplers
67/50 . . . . . Rotary vehicle tipplers, i.e. rotating through 360 degrees
67/52 . . . . . having several decks
67/54 . . . . . Vehicle-locking means
67/56 . . . . . Vehicle and tippler interlocking controls
67/60 . . . . Loading or unloading ships (arrangement of ship-based loading or unloading equipment for cargo or passengers B63B 27/00)
67/603 . . . . . (using devices specially adapted for articles)
67/606 . . . . . (using devices specially adapted for bulk material)
67/62 . . . . . using devices influenced by the tide or by the movements of the ship, e.g. devices on pontoons
69/00 Auxiliary measures taken, or devices used, in connection with loading or unloading (by means incorporated in, or operatively associated with, conveyors B65G 47/00; preventing fire A62C 300; in vehicles, see the relevant subclasses, e.g., B60P 1/58, B61D 7/32, B62D 33/00, B63B 25/00, B64D 9/00)
69/001 . . . . . { Buffers for vehicles at loading stations }
69/003 . . . . . { Restraining movement of a vehicle at a loading station using means not being part of the vehicle }
69/005 . . . . . { the means engaging at least one wheel of the vehicle }
69/006 . . . . . { Centring or aligning a vehicle at a loading station using means not being part of the vehicle }

NOTE
Methods or devices for filling bunkers, hoppers, or containers are only classified in group B65G 65/30 if they are of general application apart from their use in particular processes or their application in particular machines or if they are not covered by a single other subclass
Stacking or de-stacking; Loading or unloading

69/008 . . . [Dock- or bumper-seals]
69/02 . . . Filling storage spaces as completely as possible, e.g. application of vibrators
69/04 . . . Spreading out the materials conveyed over the whole surface to be loaded; Trimming heaps of loose materials
69/0408 . . . [by relatively moving an endless feeding means ($B65G 69/0458$ takes precedence)]
69/0416 . . . [with scraping belts or chains]
69/0425 . . . [with vibrating or shaking means]
69/0433 . . . [with screw conveyors]
69/0441 . . . [with chutes, deflector means or channels ($B65G 69/0458$ takes precedence)]
69/045 . . . [with scraping devices ($B65G 69/0416$ takes precedence)]
69/0458 . . . [with rotating means, e.g. tables, arms]
69/0466 . . . [with throwing devices]
69/0475 . . . [with air jets]
69/0483 . . . [with electric or magnetic means]
69/0491 . . . [with a pneumatic feeding conveyor]
69/06 . . . Fluidising
69/08 . . . Devices for emptying storage spaces as completely as possible (devices preventing the formation of bridges in large containers $B65D 88/64$)
69/10 . . . Obtaining an average product from stored bulk material
69/12 . . . Sieving bulk materials during loading or unloading
69/14 . . . Pulverising loaded or unloaded materials
69/16 . . . Preventing pulverisation, deformation, breakage, or other mechanical damage to the goods or materials
69/165 . . . [using descending or lowering endless conveyors]
69/18 . . . Preventing escape of dust
69/181 . . . [by means of sealed systems]
69/182 . . . [with aspiration means]
69/183 . . . [with co-operating closure members on each of the parts of a separable transfer channel]
69/185 . . . [by means of nonsealed systems]
69/186 . . . [with aspiration means]
69/187 . . . [with non-return closures]
69/188 . . . [with spraying means]
69/20 . . . Auxiliary treatments, e.g. aerating, heating, humidifying, deaerating, cooling, de-watering or drying, during loading or unloading; Loading or unloading in a fluid medium other than air
69/22 . . . Horizontal loading or unloading platforms (as road or railway equipment $B61B 1/00$, $E01F 1/00$)
69/24 . . . [having platform level adjusting means]
69/26 . . . Rotatable platforms
69/28 . . . Loading ramps; Loading docks (as road or railway equipment $B61B 1/00$, $E01F 1/00$)
69/2805 . . . [permanently installed on the dock]
69/2811 . . . [pivoting ramps]
69/2817 . . . [with fluid-operated means]
69/2823 . . . [extensible by pivoting parts]
69/2829 . . . [extensible by sliding parts]
69/2835 . . . [with spring-operated means]
69/2841 . . . [extensible by pivoting parts]
69/2847 . . . [extensible by sliding parts]
69/2852 . . . [with electric motor-operated means]
69/2858 . . . [with weight counterbalancing means]
69/2864 . . . [adjustable with respect to the dock]
69/287 . . . [Constructional features of deck or surround]
69/2876 . . . . . . [Safety or protection means, e.g. skirts]
69/2882 . . . . . . [operated by detectors or sensors]
69/2888 . . . . . . [Vehicle barriers mounted on deck]
69/2894 . . . . . . [Safety legs]
69/30 . . . Non-permanently installed loading ramps, e.g. transportable

2201/00 Indexing codes relating to handling devices, e.g. conveyors, characterised by the type of product or load being conveyed or handled

2201/02 . . . Articles
2201/0202 . . . . . . Agricultural and processed food products
2201/0205 . . . . . . Biscuits
2201/0208 . . . . . . Eggs
2201/0211 . . . . . . Fruits and vegetables
2201/0214 . . . . . . Articles of special size, shape or weigh
2201/0217 . . . . . . Elongated
2201/022 . . . . . . Flat
2201/0223 . . . . . . Heavy
2201/0226 . . . . . . Cigarettes
2201/0229 . . . . . . Clothes, clothes hangers
2201/0232 . . . . . . Coils, bobbins, rolls
2201/0235 . . . . . . Containers
2201/0238 . . . . . . Bags
2201/0241 . . . . . . Barrels, drums
2201/0244 . . . . . . Bottles
2201/0247 . . . . . . Suspended bottles
2201/025 . . . . . . Boxes
2201/0252 . . . . . . Cans
2201/0255 . . . . . . Milkcans
2201/0258 . . . . . . Trays, totes or bins
2201/0261 . . . . . . Puck as article support
2201/0264 . . . . . . Luggage
2201/0267 . . . . . . Pallets
2201/027 . . . . . . Tablets, capsules, pills or the like
2201/0273 . . . . . . Tires
2201/0276 . . . . . . Tubes and pipes
2201/0279 . . . . . . Wheelbarrows
2201/0282 . . . . . . Wooden articles, e.g. logs, trunks or planks
2201/0285 . . . . . . Postal items, e.g. letters, parcels
2201/0288 . . . . . . Signatures, i.e. sections of printed magazines, papers or books
2201/0291 . . . . . . Pig used in pipe conveyors, e.g. a Molch
2201/0294 . . . . . . Vehicle bodies
2201/0297 . . . . . . Wafer cassette
2201/0298 . . . . . . Bulk
2201/04 . . . . . . Granular material
2201/045 . . . . . . Sand, soil and mineral ore
2201/047 . . . . . . Articles manipulated as bulk
2201/06 . . . . . . Articles and bulk

Storing; Storage devices

2203/00 Indexing code relating to control or detection of the articles or the load carriers during conveying

2203/02 . . . Control or detection
2203/0208 . . . . . . relating to the transported articles
2203/0216 . . . . . . Codes or marks on the article
2203/0225 . . . . . . Orientation of the article
2203/0233 . . . . . . Position of the article
2203/0241 . . . . . . Quantity of articles
Storing; Storage devices

2249/00  Aspects relating to conveying systems for the manufacture of fragile sheets

2209/00  Indexing codes relating to order picking devices in General

2209/02  Batch order forming, e.g. several batches simultaneously

2209/04  Indication location means

2209/06  Use of order trucks

2209/08  Orders with a high and a low volume

2209/10  Partial order forming

2207/00  Indexing codes relating to constructional details, configuration and additional features of a handling device, e.g. Conveyors

2207/02  Use of adhesive

2207/04  Advertising elements

2207/06  Air cushion support of articles

2207/08  Adjustable and/or adaptable to the article size

2207/10  Antistatic features

2207/12  Chain pin retainers

2207/14  Combination of conveyors

2207/16  Convertible to another type of conveyor

2207/18  Crossing conveyors

2207/20  Earthquake protection

2207/22  Heat or fire protection

2207/24  Helical or spiral conveying path

2207/26  Hygienic features, e.g. easy to sanitize

2207/28  Impact protection

2207/30  Modular constructions

2207/32  Noise prevention features

2207/34  Omni-directional rolls

2207/36  Pushing shoes on conveyors

2207/38  Pin used as carrier of one article

2207/40  Safety features of loads, equipment or persons

2207/42  Soft elements to prevent damage to articles, e.g. bristles, foam

2207/44  Spiral conveyor tracks

2207/46  Tray unloading features

2207/48  Wear protection or indication features

2811/00  Indexing codes relating to common features for more than one conveyor kind or type

2811/06  Devices controlling the relative position of articles

2811/0605  by arranging articles in groups or arranging grouped articles

2811/061  Grouping articles in layers

2811/0615  Devices for arranging grouped articles in a single lane

2811/0621  by modifying the orientation or position of articles

2811/0626  Orientation of articles

2811/0631  by varying the spacing between individual articles

2811/0636  by means of one or several star-shaped wheels

2811/0642  using a fixed stopping element and means to pass the element

2811/0647  Changing the direction of movement of articles or bulk material

2811/0652  Accessories

2811/0657  Deflectors

2811/0663  Pick-up means

2811/0668  Magnetic or electrostatic devices

2811/0673  Control of conveying operations

2811/0678  Determining the path to be followed

2811/0684  by stopping or tilting load-carriers not leaving the conveyor path

2811/0689  Releasing constant material flow

2811/0694  for permanently occupying the conveyor path

2811/09  Driving means for the conveyors

2811/091  the conveyor type being irrelevant

2811/092  a single conveyor having more than one driving means

2811/093  Control means for automatic stop, start or warning variation during conveying operations

2811/095  Speed variation control means

2811/096  without reversal of the conveying direction

2811/097  with reversal of the conveying direction

2811/098  for combined motions

2812/00  Indexing codes relating to the kind or type of conveyors

2812/01  Conveyors composed of several types of conveyors

2812/011  one conveyor being driven by another one

2812/012  for conveying material successively by a series of conveyors

2812/013  without relative movement between conveyors

2812/014  with relative movement between conveyors

2812/015  the conveyors being movably linked

2812/016  for conveying material by co-operating units in tandem

2812/017  using tilted or side by side conveyor sections

2812/018  between conveyor sections

2812/019  using two or more elevators

2812/02  Belt or chain conveyors

2812/02009  Common features for belt or chain conveyors

2812/0219  Supporting or guiding frames

2812/0229  Transportable conveyor frames

2812/0239  Profiles or beams
2812/02049 . . . . . . . with guiding means for displaceable conveyor accessories
2812/02059 . . . . . . . with supporting arrangements for ducts or cables or shaped as fluid ducts
2812/02069 . . . . . . . Rails
2812/02079 . . . . . . . Switches
2812/02089 . . . . . . . Driving means
2812/02099 . . . . . . . Safety measures in case of driving element breakage
2812/02108 . . . . . . . Protection means
2812/02118 . . . . . . . Gathering means for material falling from the conveyor
2812/02128 . . . . . . . Belt conveyors
2812/02138 . . . . . . . Common features for belt conveyors
2812/02148 . . . . . . . Driving means for the belts
2812/02158 . . . . . . . Means preventing dust penetration
2812/02168 . . . . . . . Belts provided with guiding means, e.g. rollers
2812/02178 . . . . . . . characterised by the material
2812/02188 . . . . . . . Metallic belts
2812/02198 . . . . . . . Non-metallic belts
2812/02207 . . . . . . . Partially metallic belts
2812/02217 . . . . . . . characterised by the configuration
2812/02227 . . . . . . . for vertical conveyance
2812/02237 . . . . . . . provided with buckets
2812/02247 . . . . . . . using belts with bucket profiles
2812/02257 . . . . . . . the load remaining on the belt due to centrifugal forces
2812/02267 . . . . . . . Conveyors having endless traction elements
2812/02277 . . . . . . . Common features for chain conveyors
2812/02287 . . . . . . . Driving means
2812/02297 . . . . . . . Arrangements for downward conveyance
2812/02306 . . . . . . . Driving drums
2812/02316 . . . . . . . with means for assuring constant linear speed of chains
2812/02326 . . . . . . . Chains, cables or the like
2812/02336 . . . . . . . Accessories
2812/02346 . . . . . . . Grippers associated with chain parts
2812/02356 . . . . . . . characterised by the material
2812/02366 . . . . . . . Flexible links
2812/02376 . . . . . . . characterised by the configuration
2812/02386 . . . . . . . Woven chains
2812/02396 . . . . . . . Links and their attaching means
2812/02405 . . . . . . . Means preventing dust penetration
2812/02415 . . . . . . . with load-carrying surfaces supported by traction means
2812/02425 . . . . . . . Continuous or uninterrupted load-carrying surfaces
2812/02435 . . . . . . . the surfaces being below the traction means
2812/02445 . . . . . . . the surfaces being an endless belt
2812/02455 . . . . . . . the surfaces being above, between or beside the traction means
2812/02465 . . . . . . . for conveyance along curves
2812/02475 . . . . . . . along vertical curves
2812/02485 . . . . . . . the load-carrying surfaces being fixed or non-movably linked to the traction means
2812/02495 . . . . . . . load-carrying surfaces using platforms or grids
2812/02504 . . . . . . . load-carrying surfaces with up-standing walls, e.g. with bucket profile
2812/02514 . . . . . . . in longitudinal direction only
2812/02524 . . . . . . . in transverse direction only
2812/02534 . . . . . . . the surfaces being an endless belt
2812/02544 . . . . . . . with bucket profile
2812/02554 . . . . . . . the load-carrying surfaces being pivotally attached to the traction means
2812/02564 . . . . . . . Tipping means
2812/02574 . . . . . . . Guiding means to maintain load-carrying surfaces horizontal
2812/02584 . . . . . . . the load-carrying surfaces resting on the traction means
2812/02594 . . . . . . . Reversing means
2812/02604 . . . . . . . Load-carrying surfaces adapted to be displaced relative to the traction means
2812/02614 . . . . . . . the load-carrying surfaces being separated from each other, e.g. individual load carriers
2812/02624 . . . . . . . and pivotally mounted
2812/02634 . . . . . . . for bulk material
2812/02644 . . . . . . . Loading or unloading means
2812/02654 . . . . . . . for articles
2812/02664 . . . . . . . Loading or unloading means
2812/02674 . . . . . . . the load-carriers being arranged above, between or beside the traction means
2812/02684 . . . . . . . and fixed or non-movably linked to the traction means
2812/02694 . . . . . . . for vertical or inclined conveyance
2812/02704 . . . . . . . Details
2812/02714 . . . . . . . Loading or unloading means
2812/02724 . . . . . . . Frames
2812/02734 . . . . . . . with guiding means for the traction means
2812/02744 . . . . . . . Bucket elevators for bulk material
2812/02754 . . . . . . . Elevators for articles
2812/02764 . . . . . . . Load-carriers
2812/02774 . . . . . . . Plates or buckets
2812/02784 . . . . . . . with upstanding walls
2812/02794 . . . . . . . the load-carriers being connected pivotally to the traction means
2812/02804 . . . . . . . Loading or unloading means
2812/02814 . . . . . . . guided at least partially along a vertical or inclined direction
2812/02824 . . . . . . . with guiding means to remain in a load-carrying position
2812/02834 . . . . . . . the load-carriers resting on the traction means
2812/02844 . . . . . . . Reversing means
2812/02854 . . . . . . . load-carriers adapted to be displaced relative to the traction means
2812/02864 . . . . . . . moving the materials over supporting surfaces by impeller means, e.g. scrapers
2812/02874 . . . . . . . for bulk material
2812/02884 . . . . . . . Scraper conveyors
2812/02894 . . . . . . . Troughs, channels or conduits
2812/02904 . . . . . . . Guiding means for displaceable conveyor accessories
2812/02914 . . . . . . . Supporting arrangements for cables or ducts
2812/02924 . . . . . . . with oppositely-moving parts of the conveyor located in a common plane
2812/02934 . . . . . . . Guiding means for the scrapers
2812/02944 . . . . . . . Wear pieces
2812/02954 . . . . . . . Scraper chains
Storing; Storage devices

2812/0296 . . . . . . . . . . . . Attachments of scrapers to traction elements
2812/0297 . . . . . . . . . . . . to one chain
2812/0298 . . . . . . . . . . . . to more than one chain
2812/0299 . . Conveyors having independant belt or chain conveying sections
2812/03 . . Vibrating conveyors
2812/0304 . . Driving means or auxiliary devices
2812/0308 . . . . Driving means
2812/0312 . . . . for shaking
2812/0316 . . . . using oppositely moving cylinders
2812/032 . . . . Help-conveyors
2812/0324 . . Frames
2812/0328 . . . . dismountable
2812/0332 . . . . deformable
2812/0336 . . . . moveable
2812/034 . . . . Frame parts
2812/0344 . . . . Guiding means for conveyed materials
2812/0348 . . . . Supporting or guiding means for troughs
2812/0352 . . . . Rollers or balls
2812/0356 . . . . the roller or ball holders joining trough parts
2812/036 . . . . Pivoting arms
2812/0364 . . . . Springs
2812/0368 . . . . Flexible non-elastic suspension means, e.g. chains, cables
2812/0372 . . . . Connections between trough parts
2812/0376 . . . . using a traction or stiffening means connecting all trough parts
2812/038 . . . . adjustable
2812/0384 . . . . Troughs, tubes or the like
2812/0388 . . . . characterised by the configuration
2812/0392 . . . . Screw-, spiral- or ring-shaped
2812/0396 . . . . characterised by the material
2812/039 . . . . Screw-conveyors
2812/0505 . . . . Driving means, constitutive elements or auxiliary devices
2812/0511 . . . . Conveyor screws
2812/0516 . . . . characterised by the material
2812/0522 . . . . Flexible screws
2812/0527 . . . . characterised by the configuration, e.g. hollow, toothed
2812/0533 . . . . with opposite threads
2812/0538 . . . . with changing diameter
2812/0544 . . . . Houses or frames
2812/055 . . . . Connecting means
2812/0555 . . . . characterised by the materials, e.g. flexible houses
2812/0561 . . . . characterised by the shape
2812/0566 . . . . for preventing blockage of materials
2812/0572 . . . . Discharging valves
2812/0577 . . . . for bulk material
2812/0583 . . . . Drum arrangements
2812/0588 . . . . without houses
2812/0594 . . . . with parallel screws
2812/06 . . . . Skip or hopper conveyors
2812/0609 . . . . Constitutive elements or auxiliary devices
2812/0618 . . . . Skips, hoppers or similar containers
2812/0627 . . . . characterised by the configuration
2812/0636 . . . . provided with guiding means
2812/0645 . . . . for vertical transport
2812/0654 . . . . Tipping means
2812/0663 . . . . arranged on tracks along which the skips are guided
2812/0672 . . . . Loading or unloading skips
2812/0681 . . . . by reciprocating skips along guiding means
2812/069 . . . . for vertical shaft transport
2812/08 . . . . Chutes
2812/081 . . . . Connecting means
2812/082 . . . . telescopic
2812/083 . . . . pivoting
2812/084 . . . . Cleaning means
2812/085 . . . . characterised by the configuration
2812/086 . . . . Screw-like chutes
2812/087 . . . . provided with material moving or braking means
2812/088 . . . . characterised by the material
2812/09 . . . . Walking beam conveyors
2812/12 . . . . Conveyors with reciprocating means
2812/14 . . . . Turntables
2812/15 . . . . Throwing-conveyors
2812/16 . . . . Pneumatic conveyors
2812/1608 . . . . for bulk material
2812/1616 . . . . Common means for pneumatic conveyors
2812/1625 . . . . Feeding or discharging means
2812/1633 . . . . using Venturi effect
2812/1641 . . . . Air pressure systems
2812/165 . . . . Details
2812/1658 . . . . with fluidisation of materials
2812/1666 . . . . without porous wall
2812/1675 . . . . in which materials continuously flow from suction to pressure pipes
2812/1683 . . . . without passing through the air-pressure generator
2812/1691 . . . . Pumping systems
2812/18 . . . . Conveyors with suspended load-carriers operated by hand or gravity
2812/182 . . . . load-carriers, rollers therefor
2812/184 . . . . loading or unloading arrangements
2812/186 . . . . Arresting, braking or escapement means
2812/188 . . . . Rails or switches
2812/199 . . . . Conveyor systems not otherwise provided for

2813/00 Indexing codes relating to transport for special purposes
2813/02 . . . . Devices without motors and bearing wheels for moving or tilting heavy loads
2813/023 . . . . Load-carriers
2813/026 . . . . for bales, boxes or the like, by using pointed means

2814/00 Indexing codes relating to loading or unloading articles or bulk materials
2814/02 . . . . Auxiliary devices or arrangements
2814/0205 . . . . for preventing breakage, pulverisation or damage to materials
2814/0211 . . . . using moving braking means to slow down the speed during free fall
2814/0217 . . . . for emptying as completely as possible
2814/0223 . . . . General arrangements
2814/0229 . . . . Air jet devices
2814/0235 . . . . using liquid means
2814/0241 . . . . for spreading out the material over the whole surface to be loaded
2814/0247 . . . . by displacement of the feeding means
Storing; Storage devices

2814/0252 . . . . using scraping belts or chains
2814/0258 . . . . using shaking or vibrating means
2814/0264 . . . . using screw conveyors
2814/027 . . . . using chutes
2814/0276 . . . . using scraping means other than belts or chains
2814/0282 . . . . using turntables
2814/0288 . . . . using throwing means
2814/0294 . . . . using air jets
2814/03 . . . . Loading or unloading means
2814/0301 . . . . General arrangements
2814/0302 . . . . Central control devices
2814/0304 . . . . Stacking devices
2814/0305 . . . . Adding to the top
2814/0307 . . . . the loading platform being lowered during stacking
2814/0308 . . . . Destacking devices
2814/031 . . . . Removing from the top
2814/0311 . . . . Other article loading or unloading devices
2814/0313 . . . . with vertically reciprocating platforms
2814/0314 . . . . for moving bulk material downwards
2814/0316 . . . . to a storage room
2814/0317 . . . . by tipping a container
2814/0319 . . . . through a closable or non-closable outlet opening
2814/032 . . . . using a belt or chain conveyor in or beneath the opening
2814/0322 . . . . as measuring instrument
2814/0323 . . . . with chutes or plates in or beneath the opening
2814/0325 . . . . with rotating drums, cylinders or cones in or beneath the opening
2814/0326 . . . . for moving bulk material upwards or horizontally
2814/0328 . . . . Picking-up means
2814/0329 . . . . Common features for picking-up means
2814/0331 . . . . Belt or chain conveyors
2814/0332 . . . . Bucket conveyors
2814/0334 . . . . Scraper conveyors
2814/0335 . . . . Shaking or vibrating conveyors
2814/0337 . . . . Paddle wheels
2814/0338 . . . . Inclined plates or chutes
2814/034 . . . . Raking devices
2814/0341 . . . . Scraping devices
2814/0343 . . . . Rotating discs, drums or gathering arms
2814/0344 . . . . Control or feeding or discharging using level or weight measuring means
2814/0346 . . . . for guided skips
2814/0347 . . . . for cars or linked car-trains with individual load-carriers
2814/0349 . . . . loading continuously successive cars without material spillage
2814/035 . . . . Feeding or discharging devices adapted to car shapes
2814/0352 . . . . Feeding or discharging devices operated by cars
2814/0353 . . . . the load being lifted and the cars being moved beneath the load
2814/0355 . . . . the car floor and subframe being tilted or removed
2814/0356 . . . . the whole car being tilted
2814/0358 . . . . by means of tilting rails
2814/0359 . . . . by means of car tipplers
2814/0361 . . . . Accessories
2814/0362 . . . . locking or unlocking cars in the tipplers
2814/0364 . . . . Means for loading or unloading cars in the tipplers
2814/0365 . . . . Moving devices for tipplers
2814/0367 . . . . Lifting means
2814/0368 . . . . Means enhancing unloading
2814/037 . . . . using a tipping platform incorporated in a ring-like rotating structure
2814/0371 . . . . Driving means therefor
2814/0373 . . . . the rotation resulting from power driven displacement of the structure
2814/0374 . . . . the rotation resulting from the car weight only
2814/0376 . . . . with relative movement between platform and structure
2814/0377 . . . . with simultaneous tipping of several cars above or beside each other
2814/0379 . . . . using a tipping platform without ring-like structure
2814/038 . . . . Driving means therefor
2814/0382 . . . . Fluid-operated lifting means
2814/0383 . . . . Lifting means with suspended platforms
2814/0385 . . . . the platform tipping around a single axis
2814/0386 . . . . . the axis remaining in a fixed position
2814/0388 . . . . . the axis being parallel with the car longitudinal axis
2814/0389 . . . . . the axis being parallel with the car transverse axis
2814/0391 . . . . . the axis being moved parallel with itself
2814/0392 . . . . . the platform tipping around several axes
2814/0394 . . . . . around parallel axes
2814/0395 . . . . . around crossing axes
2814/0397 . . . . . for ships
2814/0398 . . . . . for aircraft