Cooperative Patent Classification

B PERFORMING OPERATIONS; TRANSPORTING

(Notes omitted)

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 classified in the following places:

- vehicles adapted for load transportation B60;
- 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:

   - B65G33/28 covered by B65G 33/265
   - B65G 47/10 covered by B65G 1/1373
   - B65G 47/86 covered by B65G 47/842, B65G 47/847
   - B65G 47/86 covered by B65G 69/28
   - 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 displaceable load carrying surface to facilitate loading or unloading) |
| 1/04 | · · · · · · · · (mechanical) |
| 1/0407 | · · · · · · · · (using stacker cranes (constructional features of stacker cranes B66F 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] |
Storing; Storage devices

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)
3/04 . in bunkers, hoppers, or like containers

5/00 Storing fluids in natural or artificial cavities or chambers in the earth

5/005 . [in porous layers]

Devices assisting manual conveyance of articles over short distances, e.g., in storage depots, warehouses or factories (chutes B65G 11/00; roller-ways B65G 13/00; holders or carriers for hand articles or for use while travelling or camping A45C 13/38; holders or carriers for hand articles or for use while travelling or camping A45F 5/00; vehicles in general, axles, wheels B60; air-cushion vehicles B66V; hand carts, sledges, features of hand-propelled wheeled devices or pedestrian-controlled, power-driven vehicles equally applicable to hand carts B62B; ship-moving devices B63C, E02C; containers, pallets B65D; air-cushions as bearing elements F16C 29/00)

7/00 Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/24)

7/02 . Devices adapted to be interposed between loads and the ground or floor, e.g. crowbars with means for assisting conveyance of loads
7/04 . Rollers
7/06 . using fluid at high pressure supplied from an independent source to provide a cushion between load and ground (conveying articles over a flat surface by jets located in the surface B65G 51/00)

7/08 . for tilting the loads
7/10 . for rolling cylindrical loads
7/12 . Load carriers, e.g. hooks, slings, harness, gloves, modified for load carrying

9/00 Apparatus for assisting manual handling having suspended load-carriers movable by hand or gravity

9/002 . [Load-carriers, rollers therefor]
9/004 . [Loading or unloading arrangements]
9/006 . [Arresting, braking or escapement means]
9/008 . [Rails or switches]

Chutes: Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of particular types (feeding or discharging conveyors by devices incorporated in or operatively associated with conveyors B65G 47/00; loading or unloading B65G 65/00; escalators or moving walkways B66B 21/00; drag-line scraper conveyors E02F 3/46)

11/00 Chutes (used as storage devices B65G 1/02)
11/02 . of straight form
11/023 . [for articles]
11/026 . [for bulk]
11/04 . for mail in buildings
11/06 . of helical or spiral form
11/063 . [for articles]
11/066 . [for bulk]
11/068 . [for articles]
11/08 . with discontinuous guiding surfaces, e.g. arranged in zigzag or cascade formation
11/081 . [for articles (B65G 11/085 takes precedence)]
11/083 . [for bulk (B65G 11/085 takes precedence)]
11/085 . [with zig-zag formations]
11/086 . [for articles]
11/088 . [for bulk]
11/10 . flexible
11/103 . [for articles]
11/106 . [for bulk]
11/12 . pivotable
11/123 . [for articles]
11/126 . [for bulk]
11/14 . extensible, e.g. telescopic
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

15/00 Conveyors having endless load-conveying 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-conveying surfaces formed by interconnected longitudinal links B65G 17/06)

15/005 . . . [the surface being formed by one rope]
15/006 . . . for conveying in a circular arc
15/007 . . . the load being carried on the lower run of the endless surface
15/008 . . . with oppositely-moving parts of the endless surface located in the same plane and parallel to one another
15/010 . . . 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
15/015 . . . [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-conveying surface formed by a single flat belt, not otherwise provided for

15/30 . . . Belts or like endless load-carriers (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 . . . troughed or tubular; formed with joints facilitating troughing
15/42 . . . having ribs, ridges, 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-carriers; 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]
17/012 . . . comprising a load-carrying belt attached to or resting on the traction element
17/014 . . . the belt having loops forming load-receiving pockets
17/016 . . . 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]
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

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
17/123 . . . [arranged to keep the load-carriers horizontally at least a part of the conveyor run]
17/126 . . . [Bucket elevators]
17/14 . . . with two spaced connections to traction element
17/16 . . . 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)]
17/18 . . . and move in contact with a guiding surface
17/20 . . . comprising load-carriers suspended from overhead traction chains
17/22 . . . with oppositely-moving parts of the conveyor located in a common plane {and being formed by individual load carriers only}
17/24 . . . 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}
17/26 . . . comprising a series of co-operating units, e.g. interconnected by pivots
17/28 . . . extensible, e.g. telescopic (adjustment of length or configuration of traction element B65G 21/14)]
17/30 . . . Details; Auxiliary devices (belts B65G 15/30; framework B65G 21/00)
17/32 . . . Individual load-carriers
17/323 . . . [Grippers, e.g. suction or magnetic]
17/326 . . . [Clamps, constituted by articulated chain links]
17/34 . . . having flat surfaces, e.g. platforms, grids, forks
17/345 . . . [the surfaces being equipped with a conveyor]
17/36 . . . having concave surfaces, e.g. buckets
17/365 . . . [having open bottom buckets]
17/38 . . . Chains or like traction elements (drive chains F16G 13/00); Connections between traction elements and load-carriers
17/385 . . . [adapted to follow three-dimensionally curved paths]
17/40 . . . Chains acting as load-carriers
17/42 . . . Attaching load carriers to traction elements
17/44 . . . by means excluding relative movements
17/46 . . . Means for holding or retaining the loads in fixed position on the load-carriers, e.g. magnetic
17/48 . . . 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)
17/485 . . . [the load carriers being suspended]
19/00 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
19/02 . . . for articles, e.g. for containers
19/025 . . . [for suspended articles]
19/04 . . . for moving bulk material in open troughs or channels
19/06 . . . the impellers being scrapers similar in size and shape to the cross-section of the trough or channel
19/08 . . . and attached to a single belt, rope or chain
19/10 . . . and attached to a pair of belts, ropes or chains
19/12 . . . the impellers being plates having an area substantially smaller than that of the trough of channel cross-section
19/14 . . . for moving bulk material in closed conduits, e.g. tubes
19/16 . . . the impellers being elements having an area substantially smaller than that of the conduit cross-section
19/165 . . . [the impellers being endless helical springs]
19/18 . . . Details
19/185 . . . [for article conveyors, e.g. for container conveyors B65G 19/20, B65G 19/22, B65G 19/28 take precedence]
19/20 . . . Traction chains, ropes, or cables
19/205 . . . [for article conveyors, e.g. for container conveyors]
19/22 . . . Impellers, e.g. push-plates, scrapers; Guiding means therefor
19/225 . . . [for article conveyors, e.g. for container conveyors (B65G 19/24 takes precedence)]
19/24 . . . Attachment of impellers to traction element
19/245 . . . [for article conveyors, e.g. for container conveyors (B65G 19/26 takes precedence)]
19/26 . . . pivotal
19/265 . . . [for article conveyors, e.g. for container conveyors]
19/28 . . . Troughs, channels, or conduits
19/282 . . . [for article conveyors, e.g. for container conveyors (B65G 19/30 takes precedence)]
19/285 . . . [with detachable or replaceable parts, e.g replaceable wear channels (B65G 19/282 takes precedence)]
19/287 . . . [Coupling means for trough sections (B65G 19/282 takes precedence)]
19/30 . . . with supporting surface modified to facilitate movement of loads, e.g. friction reducing devices
19/303 . . . [for article conveyors, e.g. for container conveyors]
19/306 . . . [the supporting surface being provided with rollers]
21/00 Supporting or protective framework or housings for endless load-carriers or traction elements of belt or chain conveyors
21/005 . . . [for conveyors floating on liquids]
21/02 . . . consisting essentially of struts, ties, or like structural elements
21/04 . . . the ties being formed by longitudinal cables or ropes
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

21/06 . . . constructed to facilitate rapid assembly or dismantling
21/08 . . . Protective roofs or arch supports therefor
21/10 . . . movable, or having interchangeable or relatively movable parts; Devices for moving framework or parts thereof
21/105 . . . [having demountable driving or return heads]
21/12 . . . to allow adjustment of position of load-carrier or traction element as a whole
21/14 . . . 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 23/44))
21/16 . . . for conveyors having endless load-carriers movable in curved paths
21/18 . . . in three-dimensionally curved paths
21/20 . . . Means incorporated in, or attached to, framework or housings for guiding load-carriers, traction elements or loads supported on moving surfaces (arrangements for supporting belts B65G 15/60; rollers or roller arrangements B65G 39/00)

21/209 . . . [Magnetic retaining means]
21/2018 . . . [for retaining the load on the load-carrying surface, (retaining loads by magnetic load-carriers, e.g. belts B65G 15/58; chains B65G 17/46; individual magnetic grippers B65G 17/323)]

21/2027 . . . [Suction retaining means]
21/2036 . . . [for retaining the load on the load-carrying surface (individual suction grippers B65G 17/323)]
21/2045 . . . [Mechanical means for guiding or retaining the load on the load-carrying surface]
21/2054 . . . [comprising elements movable in the direction of load-transport]
21/2063 . . . [comprising elements not movable in the direction of load-transport]
21/2072 . . . [Lateral guidance means]
21/2081 . . . . . . . . . [for bulk material, e.g. skirts]
21/209 . . . . . . . . . [for augmenting or creating a pression force between the load and the load-carrying surface]
21/22 . . . Rails or the like engaging sliding elements or rollers attached to load-carriers or traction elements

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
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

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
27/34 . . . 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 . . . Adaptations 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 adjustable mounted on the supporting frame or base]
47/02 . . . . . . . . {grouping articles in rows}
47/04 . . . . . . {grouping in a predetermined 2-dimensional pattern}
47/06 . . . . . . {cubiform articles}
47/08 . . . . . . {cilindrical 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}
47/1478 . . . . {by means of pick-up devices, the container remaining immobile}
47/1485 . . . . {using 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 . . . . orientating 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 pivotal 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  
47/295 . . . . . . {stopping elements B65G 47/88}  
47/29 . . . . . . 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}  
47/36 . . . . . . by detaching suspended articles  
47/38 . . . . . . by dumping, tripping, or releasing load carriers  
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 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 conveyor-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 . . . . . . {using stacking and/or destacking arrangements or stacks of articles or article carriers]  
47/5145 . . . . . . [with recirculation means]  
47/515 . . . . . . {First In-Last Out systems [FILO]; Last In-First Out systems [LIFO]}  
47/5154 . . . . . . [using endless conveyors (B65G 47/5186 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 . . . . . . {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 . . . . . . to or from conveyors of the suspended, e.g. trolley, type  
47/61 . . . . . . for articles  
47/62 . . . . . . for materials in bulk  
47/64 . . . . . . Switching conveyors  
47/641 . . . . . . {by a linear displacement of the switching conveyor]  
47/642 . . . . . . {in a horizontal plane]  
47/643 . . . . . . {in a vertical plane]  
47/644 . . . . . . {by a pivoting displacement of the switching conveyor]  
47/645 . . . . . . {about a horizontal axis]  
47/646 . . . . . . {the axis being parallel to the conveying direction]  
47/647 . . . . . . {the axis being perpendicular to the conveying direction]  
47/648 . . . . . . {about a vertical axis]  
47/66 . . . . . . . Fixed platforms or combs, e.g. bridges between conveyors  
47/68 . . . . . . adapted to receive articles arriving in one layer from one conveyor {lane] and to transfer them in individual layers to more than one conveyor {lane or to one broader conveyor lane], or vice versa, e.g. combining the flows of articles conveyed by more than one conveyor  
47/681 . . . . . . {from distinct, separate conveyor lanes]
Common features or details of, or auxiliary devices applicable to, conveyors of different kinds or types:

Feeding or...

47/682 . . . [from a single conveyor lane consisting of one conveyor or several adjacent conveyors]
47/683 . . . [with tilting of at least part of the conveyor to make use of gravity]
47/684 . . . [with recirculation of articles forming a buffer]

2047/685 . . . [Devices for preventing jamming in converging flows]
2047/686 . . . [Lane boundaries which reciprocate or oscillate, e.g. vibrating boundaries]
2047/687 . . . [Lane boundaries which comprise rotatable elements, e.g. discs, cylinders, endless belts]
2047/688 . . . [Lane boundaries which are compliant]
2047/689 . . . [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)

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 . . . [to 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 transverse scrapers
47/763 . . . [Fixed ploughs or transverse scrapers]
47/766 . . . [Adjustable ploughs or transverse scrapers]

47/78 . . . Troughs having discharge openings and closures (in air-slides)

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)
47/84 . . . Star-shaped wheels or devices having endless travelling belts or chains, the wheels or devices being equipped with article-engaging elements (not used, see B65G 47/841, B65G 47/840)
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)

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)]

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)]

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

49/02 . . . [for conveying workpieces through baths of liquid]

49/025 . . . [conveyor feeding and discharging means]
Feeding or...

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]
49/044 [along a continuous circuit]
49/0445 [the circuit being movable vertically as a whole]
49/045 [the circuit being fixed]
49/0454 [by means of containers - or workpieces- carriers (containers or carriers as such see C25D 17/00)]
49/0459 [movement in a vertical direction is caused by self-contained means]
49/0463 [movement in a vertical direction is caused by lifting means or fixed or adjustable guiding means located at the bath area]
49/0468 [without container or workpieces carriers]
49/0472 [along a non continuous circuit]
49/0477 [with lifting means for circuit parts]
49/0481 [with lifting means locating at the bath area]
49/0486 [provided with rotating or pivoting arms]
49/049 [provided with vertical guiding means]
49/0495 [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 59/00; spacer sheets in general B65H1)]
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
Non-mechanical conveying through pipes or tubes; Floating in troughs

B65G

53/00 Conveying materials in bulk through troughs, pipes or tubes by floating the materials or by flow of gas, liquid or foam

53/02 . . . Floating material troughs
53/04 . . . Conveying materials in bulk pneumatically through pipes or tubes; Air slides
53/06 . . . Gas pressure systems operating without fluidisation of the materials
53/08 . . . with mechanical injection of the materials, e.g. by screw
53/10 . . . with pneumatic injection of the materials by the propelling gas
53/12 . . . the gas flow acting directly on the materials in a reservoir
53/14 . . . the gas flow inducing feed of the materials by suction effect
53/16 . . . Gas pressure systems operating with fluidisation of the materials
53/18 . . . through a porous wall
53/20 . . . of an air slide, e.g. a trough
53/22 . . . the systems comprising a reservoir, e.g. a bunker
53/24 . . . Gas suction systems
53/26 . . . operating with fluidisation of the materials
53/28 . . . Systems utilising a combination of gas pressure and suction (inducing feed of the materials by suction in gas pressure systems B65G 53/14)
53/30 . . . Conveying materials in bulk through pipes or tubes by liquid pressure
53/32 . . . Conveying concrete, e.g. for distributing same at building sites (mixing concrete on or by conveyors B28C 5/34)
53/34 . . . Details
53/36 . . . Arrangements of containers (hoppers B65D 3/06; containers in general B65D)
53/38 . . . Modification of material containing walls to facilitate fluidisation (hoppers with walls modified for fluidisation of contents B65D 88/72)
53/40 . . . Feeding or discharging devices
53/42 . . . Nozzles
53/44 . . . Endless conveyors
53/46 . . . Gates or sluices, e.g. rotary wheels
53/4608 . . . . . . [Turnable elements, e.g. rotary wheels with pockets or passages for material]
53/4616 . . . . . . [with axis of turning parallel to flow]
53/4625 . . . . . . [with axis of turning perpendicular to flow]
53/4633 . . . . . . [. the element having pockets, rotated from charging position to discharging position, i.e. discrete flow]
53/4641 . . . . . . [. with means for clearing out the pockets]
53/465 . . . . . . [. with a closable outlet]
53/4658 . . . . . . [. the element having passages simultaneously connectable to both inlet and outlet ports]
53/4666 . . . . . . [. with axis of turning neither parallel nor perpendicular to flow, i.e. mixed flow]
53/4675 . . . . . . [. with flexible wall parts, e.g. peristaltic devices]
53/4683 . . . . . . [. with a reciprocating mover for preventing the accumulation or for removal of deposits (preventing accumulation in pipes in general FI6L 55/24)]
53/4691 . . . . . . [. of air-lock type, i.e. at least two valves opening asynchronously]
53/48 . . . Screws or like rotary conveyors
53/50 . . . Pneumatic devices (incorporated in nozzles B65G 53/42)
53/52 . . . Adaptations of pipes or tubes
53/521 . . . [. means for preventing the accumulation or for removal of deposits (preventing accumulation in pipes in general FI6L 55/24)]
53/523 . . . [. Wear protection]
53/525 . . . [. for conveyance in plug-form]
53/526 . . . [. with means for special treatment to facilitate transport]
53/528 . . . [. Flux combining or dividing arrangements (B65G 53/56 takes precedence)]
53/54 . . . Flexible pipes or tubes
53/56 . . . Switches
53/58 . . . Devices for accelerating or decelerating flow of the materials; Use of pressure generators (controlling pressure of propelling gas B65G 53/66)
53/60 . . . Devices for separating the materials from propellant gas
53/62 . . . [. using liquid]
53/64 . . . [. in discrete amounts]
53/66 . . . [. Use of indicator or control devices, e.g. for controlling gas pressure, for controlling proportions of material and gas, for indicating or preventing jamming of material ([controlling the flow of coal firing systems C21B 5/003])

54/00 Non-mechanical conveyors not otherwise provided for

54/02 . . . electrostatic, electric, or magnetic
54/025 . . . [. the load being magnetically coupled with a piston-like driver moved within a tube]
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 B02F; 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 60/00 takes precedence; feeding, piling or stacking sheets B65H)

57/005 by using insertions or spacers between the stacked layers

57/02 by adding to the top of the stack

57/03 from above

57/035 with a stepwise downward movement of the stack

57/04 by suction or magnetic devices

57/06 Gates for releasing articles

57/08 articles being tilted or inverted prior to depositing

57/081 alternate articles being inverted

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. cubiciform, 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 by 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
Stacking or de-stacking; Loading or unloading

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.

65/00 Loading or unloading (of vehicles B65G 67/00)

65/00/05 (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 jiggling 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

65/28 . . . Piling or unplugging loose materials in bulk, e.g. coal, manure, timber, not otherwise provided for (by soil-shifting or like equipment E02F)

65/30 Methods or devices for filling or emptying bunkers, hoppers, tanks, or like containers, of interest apart from their use in particular chemical or physical processes or their application in particular machines, e.g. not covered by a single other subclass (devices for tilting and emptying containers B65G 65/23; such containers having means facilitating filling or emptying B65G 65/34)

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.

65/32 . . . Filling devices

65/34 . . . Emptying devices (conveyor construction B65G 15/00 - B65G 35/00; devices similar to vehicle tipplers B65G 67/48)

65/36 . . . Devices for emptying from the top

65/36/5 . . . (comprising a vertical passage located inside the container)

65/38 . . . Mechanical devices

65/40 . . . Devices for emptying otherwise than from the top

65/42 . . . using belt or chain conveyors

65/42/5 . . . (arranged to be movable)

65/44 . . . using reciprocating conveyors, e.g. jiggling conveyors

65/46 . . . using screw conveyors

65/46/3 . . . (arranged vertically or substantially vertically within the container (B65G 65/46 takes precedence))

65/46/6 . . . (arranged to be movable)

65/48 . . . using other rotating means, e.g. rotating pressure sluices in pneumatic systems ([B65G 53/46 takes precedence])

65/48/09 . . . (rotating about a substantially vertical axis)

65/48/18 . . . (and having the form of rotating tables or pans)

65/48/27 . . . (with particular surface features, e.g. ribs, roughening)

65/48/36 . . . (and moving material over a stationary surface, e.g. sweep arms or wheels)

65/48/45 . . . (flexible, e.g. chains, cables, spring arms)

65/48/54 . . . (mounted on a carriage, e.g. for movement along slit-like outlets)

65/48/63 . . . (by means of eccentric motion)

65/48/72 . . . (through which material passes, e.g. fan-like wheels)

65/48/81 . . . (rotating about a substantially horizontal axis)

65/48/9 . . . (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
Stacking or de-stacking; Loading or unloading

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 3/00; 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)]
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 non-sealed 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 means)]
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]
Storing: Storage devices

2203/00 Indexing codes 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
2203/025 . Speed of the article
2203/0258 . Weight of the article
2203/0266 . relating to the load carrier(s)
2203/0275 . Damage on the load carrier
2203/0283 . Position of the load carrier
2203/0291 . Speed of the load carrier
2203/04 . Detection means
2203/041 . Camera
2203/042 . Sensors
2203/043 . Magnetic
2203/044 . Optical
2203/045 . Thermic
2203/046 . RFID
2203/047 . Switches
2203/048 . Satellite

2205/00 Stopping elements used in conveyors to stop articles or arrays of articles

2205/02 . where the stop device is adaptable to the size of the article or array
2205/04 . where the stop device is not adaptable
2205/06 . Cushioned or damping stop devices, e.g. using springs or other mechanical actions

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

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

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

2249/02 . Controlled or contamination-free environments or clean space conditions
2249/04 . Arrangements of vacuum systems or suction cups
2249/045 . Details of suction cups suction cups

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
Storing; Storage devices

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
2812/0209 Common features for belt or chain conveyors
2812/02019 Supporting or guiding frames
2812/02029 Transportable conveyor frames
2812/02039 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 upstanding 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
2812/02603 Load-carrying surfaces adapted to be displaced relative to the traction means
2812/02613 the load-carrying surfaces being separated from each other, e.g. individual load carriers
2812/02623 and pivotally mounted
2812/02633 for bulk material
2812/02643 Loading or unloading means
2812/02653 for articles
2812/02663 Loading or unloading means
2812/02673 the load-carriers being arranged above, between or beside the traction means
2812/02683 and fixed or non-movably linked to the traction means
2812/02693 for vertical or inclined conveyance
2812/02702 Details
2812/02712 Loading or unloading means
2812/02722 Frames
2812/02732 with guiding means for the traction means
2812/02742 Bucket elevators for bulk material
2812/02752 Elevators for articles
2812/02762 Load-carriers
2812/02772 Plates or buckets
2812/02782 with upstanding walls
2812/02792 the load-carriers being connected pivotally to the traction means
2812/02801 Loading or unloading means
2812/02811 guided at least partially along a vertical or inclined direction
Storing; Storage devices

- with guiding means to remain in a load-carrying position
- the load-carriers resting on the traction means
- Reversing means
- load-carriers adapted to be displaced relative to the traction means
- moving the materials over supporting surfaces by impeller means, e.g. scrapers
- for bulk material
- Scraper conveyors
- Troughs, channels or conduits
- Guiding means for displaceable conveyor accessories
- Supporting arrangements for cables or ducts
- with oppositely-moving parts of the conveyor located in a common plane
- Guiding means for the scrapers
- Wear pieces
- Scrapper chains
- Attachments of scrapers to traction elements
- to one chain
- to more than one chain
- Conveyors having independant belt or chain conveyor sections
- Vibrating conveyors
- Driving means or auxiliary devices
- Driving means
- for shaking
- using oppositely moving cylinders
- Help-conveyors
- Frames
- dismountable
- deformable
- movable
- Frame parts
- Guiding means for conveyed materials
- Supporting or guiding means for troughs
- Rollers or balls
- the roller or ball holders joining trough parts
- Pivoting arms
- Springs
- Flexible non-elastic suspension means, e.g. chains, cables
- Connections between trough parts
- using a traction or stiffening means connecting all trough parts
- adjustable
- Troughs, tubes or the like
- characterised by the configuration
- Screw-, spiral- or ring-shaped
- characterised by the material
- Screw-conveyors
- Driving means, constitutive elements or auxiliary devices
- Conveyor screws
- characterised by the material
- Flexible screws
- characterised by the configuration, e.g. hollow, toothed
- with opposite threads
- with changing diameter
- Houses or frames
- Connecting means
- characterised by the materials, e.g. flexible houses
- characterised by the shape
- for preventing blockage of materials
- Discharging valves
- for bulk material
- Drum arrangements
- without houses
- with parallel screws
- Skip or hopper conveyors
- Constitutive elements or auxiliary devices
- Skips, hoppers or similar containers
- characterised by the configuration
- provided with guiding means
- for vertical transport
- Tipping means
- arranged on tracks along which the skips are guided
- Loading or unloading skips
- by reciprocating skips along guiding means
- for vertical shaft transport
- Chutes
- Connecting means
- telescopic
- pivoting
- Cleaning means
- characterised by the configuration
- Screw-like chutes
- provided with material moving or braking means
- characterised by the material
- Walking beam conveyors
- Conveyors with reciprocating means
- Turntables
- Throwing-conveyors
- Pneumatic conveyors
- for bulk material
- Common means for pneumatic conveyors
- Feeding or discharging means
- using Venturi effect
- Air pressure systems
- Details
- with fluidisation of materials
- without porous wall
- in which materials continuously flow from suction to pressure pipes
- without passing through the air-pressure generator
- Pumping systems
- Conveyors with suspended load-carriers operated by hand or gravity
- load-carriers, rollers therefor
- loading or unloading arrangements
- Arresting, braking or escapement means
- Rails or switches
- Conveyor systems not otherwise provided for
Storing; Storage devices

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

2814/0252 using scraping belts or chains

2814/0258 using shaking or vibrating means

2814/0264 using screw conveyors

2814/0277 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

2814/0360 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