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:

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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}

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}
Storing: Storage devices

B65G

1/07 . . . the upper article of a pile being always presented at the same predetermined level

1/08 . . . the articles being fed by gravity { (braking arrangements for roller-ways B65G 13/075; separating or stopping elements B65G 47/88) }

1/10 . . . with relatively movable racks to facilitate insertion or removal of articles { (cabinets with means for moving compartments up and down A47B 51/00; cabinet system, e.g. consisting of cabinets arranged in a row with means to open or close passages between adjacent cabinets A47B 53/02) }

1/12 . . . with { separate } article supports or holders movable in a closed circuit to facilitate insertion or removal of articles { the articles being books, documents, forms or the like }

1/127 . . . the circuit being confined in a vertical plane

1/133 . . . the circuit being confined in a horizontal plane

1/137 . . . with arrangements or automatic control means for selecting which articles are to be removed

1/1371 . . . { with data records }

1/1373 . . . { for fulfilling orders in warehouses }

1/1375 . . . { the orders being assembled on a commissioning stacker-crane or truck }

1/1376 . . . . . . { the orders being assembled on a commissioning conveyor }

1/1378 . . . . . . { the orders being assembled on fixed commissioning areas remote from the storage areas }

1/14 . . . Stack holders or separators

1/16 . . . Special arrangements of articles in storage spaces

1/18 . . . Articles inclined so as to be mutually self-supporting

1/20 . . . Articles arranged in layers with spaces between articles

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; luggage carriers A45C 13/18; 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 B60V; handcarts, sledges, features of hand-propelled wheeled devices or pedestrian-controlled, power-driven vehicles equally applicable to handcarts 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; elevators or moving walkways B66B 21/00; drag-line scraper conveyors E02F 3/46)

11/00 Chutes { (used as storage devices B65G 1/02) }

WARNING

Group B65G 11/00 is incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/081, B65G 2812/085, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/02 . . . of straight form

WARNING

Groups B65G 11/02, B65G 11/023 and B65G 11/026 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/023 . . . { for articles }

11/026 . . . { for bulk }

11/04 . . . for mail in buildings

WARNING

Group B65G 11/04 is incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.
Chutes: Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

11/06 . of helical or spiral form

**WARNING**

Groups B65G 11/06, B65G 11/063 and B65G 11/066 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/086, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/063 . . (for articles)
11/066 . . (for bulk)
11/08 . with discontinuous guiding surfaces, e.g. arranged in zigzag or cascade formation

**WARNING**

Groups B65G 11/08 – B65G 11/088 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/086, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

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

**WARNING**

Groups B65G 11/10, B65G 11/103 and B65G 11/106 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/103 . . (for articles)
11/106 . . (for bulk)
11/12 . pivotable

**WARNING**

Groups B65G 11/12, B65G 11/123 and B65G 11/126 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/083, B65G 2812/085, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/123 . . (for articles)
11/126 . . (for bulk)

11/14 . extensible, e.g. telescopic

**WARNING**

Groups B65G 11/14, B65G 11/143 and B65G 11/146 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/086, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/143 . . (for articles)
11/146 . . (for bulk)
11/16 . Interior surfaces; Linings

**WARNING**

Groups B65G 11/16, B65G 11/163 and B65G 11/166 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/086, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/163 . . (for articles)
11/166 . . (for bulk)
11/18 . Supports or mountings

**WARNING**

Groups B65G 11/18, B65G 11/183 and B65G 11/186 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/081, B65G 2812/085, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/183 . . (for articles)
11/186 . . (for bulk)
11/20 . Auxiliary devices, e.g. for deflecting, controlling speed of, or agitating articles or solids

**WARNING**

Groups B65G 11/20, B65G 11/203 and B65G 11/206 are incomplete pending reclassification of documents from groups B65G 2812/08, B65G 2812/085, B65G 2812/086, B65G 2812/087, and B65G 2812/088.

All groups listed in this Warning should be considered in order to perform a complete search.

11/203 . . (for articles)
11/206 . . (for bulk)
13/00 Roller-ways (storage devices comprising roller-ways B65G 11/02; 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
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)

- with the surface being formed by one rope
- for conveying in a circular arc
- the load being carried on the lower run of the endless surface
- with oppositely-moving parts of the endless surface located in the same plane and parallel to one another
- the load-carrying surface being formed by a concave or tubular belt, e.g. a belt forming a trough
- 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
- [the surface being formed by two or more ropes]
- with two or more endless belts
- the load being conveyed between the belts
- between an auxiliary belt and a main belt
- the belts being sealed at their edges
- arranged side by side, e.g. for conveyance of flat articles in vertical position
- comprising a series of co-operating units
- in tandem
- extensible, e.g. telescopic ((adjustment of length or configuration of load-carrier B65G 21/14))
- Conveyors with a load-conveying surface formed by a single flat belt, not otherwise provided for
- Belts or like endless load-carriers (co-operating with a single flat belt, not otherwise provided for)
- the surface being formed by profiles, rods, bars, rollers or the like
- the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure
- the load carrying surface being formed by plates, rods, bars, rollers or the like attached to more than one traction element (B65G 17/24 takes precedence)
- made of rubber or plastics
- with reinforcing layers, e.g. of fabric
- the layers incorporating ropes, chains, or rolled steel sections
- with flame-resistant layers, e.g. of asbestos, glass
- trenched or tubular; formed with joints facilitating troughing
- having ribs, ridges, or other surface projections
- for impelling the loads
- formed with guides
- metallic
- Endless load-carriers consisting of a series of parallel ropes or belt strips
- interconnected by transverse slats
- Endless load-carriers made of interwoven ropes or wires
- with edge-protecting or reinforcing means

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

- comprising load carriers resting on the traction element
- comprising individual load carriers which are movably mounted (B65G 17/16 takes precedence)
- for conveying the load on the lower run or on both upper and lower runs of the conveyor
- comprising a load-carrying belt attached to or resting on the traction element
- the belt having loops forming load-receiving pockets
- having a load-carrying surface formed by a series of interconnected, e.g. longitudinal, links, plates, or platforms
- [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)]
- [the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
- [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)]
- (B65G 15/18, B65G 15/20 take precedence)
- comprising a series of individual load-carriers fixed, or to a series of individual load-carriers; Endless-chain conveyors in which the chains form the load-carrying surface

- with means for holding or retaining the loads in fixed position, e.g. magnetic
- Arrangements for supporting or guiding belts, e.g. by fluid jets
- Guides for sliding belts
- for automatically maintaining the position of the belts

- the surface forming a longitudinal trough
- comprising a series of individual load-carriers fixed, or normally fixed, relative to traction element
- [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
19/16 . . . 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 take 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-carrying 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
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
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

25/10 . Applications of pawl and ratchet mechanisms or Geneva wheels
25/12 . . of shaking devices, i.e. devices for producing movements of low frequency and large amplitude
25/14 . . hydraulic
25/16 . . of vibrators, i.e. devices for producing movements of high frequency and small amplitude
25/18 . . Mechanical devices (B65G 27/26 takes precedence)
25/20 . . . rotating unbalanced masses
25/22 . . Hydraulic or pneumatic devices
25/24 . . Electromagnetic devices
25/26 . . with elastic coupling between vibrator and load carrier
25/28 . . with provision for dynamic balancing
25/30 . . by means of an oppositely-moving mass, e.g. a second conveyor
25/32 . . with means for controlling direction, frequency or amplitude of vibration or shaking movement
25/34 . . 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)
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

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 12/22; series of co-operating chain conveyor units B65G 17/22; 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 (Pivoted 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 41/021))

41/02 Frames mounted on wheels for movement on rail tracks

 Mechanical conveyors not otherwise provided for

35/00  [with peristaltic propulsion along a flexible tube]

35/005 comprising an endless traction element, e.g. a belt, arranged to roll cylindrical articles over a supporting surface

35/02 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)

35/04 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)

35/06 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
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

47/00

Feeding or...
Feeding or...
Conveying systems characterised by their application for specified purposes not otherwise provided for

49/00

49/02 . for conveying workpieces through baths of liquid
49/025 . convoyer 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]

49/00

Conveying systems characterised by their application for specified purposes not otherwise provided for

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

B65G

Feeding or...

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 of 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 conveying 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 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 conveying through pipes or tubes; Floating in troughs

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

- Floating material troughs
- Conveying materials in bulk pneumatically through pipes or tubes; Air slides
- Gas pressure systems operating without fluidisation of the materials
- with mechanical injection of the materials, e.g. by screw
- with pneumatic injection of the materials by the propelling gas
- the gas flow acting directly on the materials in a reservoir
- the gas flow inducing feed of the materials by suction effect
- Gas pressure systems operating with fluidisation of the materials
- through a porous wall
- of an air slide, e.g. a trough
- the systems comprising a reservoir, e.g. a bunker
- Gas suction systems
- operating with fluidisation of the materials
- Systems utilising a combination of gas pressure and suction (inducing feed of the materials by suction in gas pressure systems B65G 53/14)
- Conveying materials in bulk through pipes or tubes by liquid pressure
- Conveying concrete, e.g. for distributing same at building sites (mixing concrete on or by conveyors B28C 5/34)
- Details
- Arrangements of containers (hoppers B65D 3/06; containers in general B65D)
- Modification of material containing walls to facilitate fluidisation (hoppers with walls modified for fluidisation of contents B65D 88/72)
- Feeding or discharging devices
- Nozzles
- Endless conveyors
- Gates or sluices, e.g. rotary wheels
- [Turnable elements, e.g. rotary wheels with pockets or passages for material]
- [with axis of turning parallel to flow]
- [with axis of turning perpendicular to flow]
- [the element having pockets, rotated from charging position to discharging position, i.e. discrete flow]
- [with means for clearing out the pockets]
- [with a closable outlet]
- [the element having passages simultaneously connectable to both inlet and outlet ports]
- [with axis of turning neither parallel nor perpendicular to flow, i.e. mixed flow]
- [with flexible wall parts, e.g. peristaltic devices]
- [with a reciprocating mover acting directly on material]
- [of air-lock type, i.e. at least two valves opening asynchronously]
- Screws or like rotary conveyors
- Pneumatic devices (incorporated in nozzles B65G 53/42)
- Adaptations of pipes or tubes
- [means for preventing the accumulation or for removal of deposits (preventing accumulation in pipes in general F16L 55/24)]
- [War protection]
- [for conveyance in plug-form]
- [with means for special treatment to facilitate transport]
- [Flux combining or dividing arrangements (B65G 53/56 takes precedence)]
- Flexible pipes or tubes
- Switches
- Devices for accelerating or decelerating flow of the materials; Use of pressure generators (controlling pressure of propelling gas B65G 53/66)
- Devices for separating the materials from propellant gas
- using liquid
- in discrete amounts
- 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])

Non-mechanical conveyors not otherwise provided for
- electrostatic, electric, or magnetic
- [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 B65F1; 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 storing sheets B65H1)
- [by using insertions or spacers between the stacked layers]
- by adding to the top of the stack
- from above
- [with a stepwise downward movement of the stack]
- by suction or magnetic devices
- Gates for releasing articles
- articles being tilted or inverted prior to depositing
- alternate articles being inverted
Stacking or de-stacking; Loading or unloading

57/09 . . . from alongside
57/10 . . . by devices, e.g. reciprocating, acting directly
57/11 . . . the articles being stacked by direct action of the
57/12 . . . the conveyor being adjustable in height
57/14 . . . the articles being transferred from carriers
57/16 . . . Stacking of articles of particular shape
57/18 . . . elongated, e.g. sticks, rods, bars
57/19 . . . [Angle irons]
57/20 . . . [Cylindrical articles, e.g. tubes, rods, etc.]
57/21 . . . in layers each of predetermined arrangement
57/24 . . . , the layers being transferred as a whole,
57/25 . . . {with a stepwise downward movement
57/26 . . . the arrangement providing for spaces
57/28 . . . by assembling the articles and tilting the assembled
57/30 . . . by adding to the bottom of the stack
57/31 . . . [by means of reciprocatory or oscillatory lifting
57/32 . . . { added articles being lifted to substantially
57/33 . . . [the stack being lowered by mobile grippers or
57/34 . . . [by means of rotary devices or endless elements]
57/35 . . . [the rotary devices being wheels]
57/36 . . . [the rotary devices being screws]
57/37 . . . [by means of endless elements]
57/38 . . . characterised by stacking during transit
59/00 De-stacking of articles (B65G 60/00 takes
59/05 . . . [by using insertions or spacers between the stacked
59/06 . . . De-stacking from the bottom of the stack
59/07 . . . [articles being separated substantially along the
59/08 . . . De-stacking after preliminary tilting of the stack
59/10 . . . De-stacking nested articles
59/11 . . . [by means of oscillating escapement-like
59/12 . . . [the axis of oscillation being substantially
59/13 . . . [comprising lifting or gripping means]
59/14 . . . [by means of reciprocating escapement-like
59/15 . . . [comprising lifting or gripping means]
59/16 . . . [by means of rotary devices or endless elements]
59/17 . . . [the axis of rotation being substantially parallel
to the axis of the stack]
59/18 . . . characterised by de-stacking during transit
60/00 Simultaneously or alternatively stacking and de-
61/00 Use of pick-up or transfer devices or of
62/00 Transferring or trans-shipping at storage areas,
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
63/022 . . . [for articles]
63/025 . . . [for containers]
63/027 . . . [for bulk material]
63/04 . . . with essentially-horizontal transit by bridges
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
65/04 . . . with pick-up shovels (constructions of shovels
65/06 . . . with endless scraping or elevating pick-up
65/08 . . . with reciprocating pick-up conveyors
65/10 . . . Raking or scraping devices
65/12 . . . operations at positions off-set from the
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
Stacking or de-stacking; Loading or unloading

65/28 . . . Piling or unpinning 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 B65D 88/54)

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
65/365 . . . . . . (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
65/425 . . . . . . (arranged to be movable)
65/44 . . . . . using reciprocating conveyors, e.g. jiggling conveyors
65/46 . . . . . using screw conveyors
65/463 . . . . . . (arranged vertically or substantially vertically within the container (B65G 65/466 takes precedence))
65/466 . . . . . . (arranged to be movable)
65/48 . . . . . using other rotating means, e.g. rotating pressure sluices in pneumatic systems (B65G 53/46 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 slitt-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 tumtable
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 30/00; 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 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

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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  .  .  .  Bulks
2201/0302  .  .  .  Granular material
2201/0305  .  .  .  Sand, soil and mineral ore
2201/0307  .  .  .  Articles manipulated as bulk
2201/0308  .  .  .  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

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
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
2812/0209 . . . Common features for belt or chain conveyors
2812/02019 . . . Supporting or guiding frames
2812/02029 . . . Transportable conveyor frames
2812/02039 . . . Profiles or beams
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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
2812/02821 . . . . . . . with guiding means to remain in a load-carrying position
2812/02831 . . . . . . . the load-carriers resting on the traction means
2812/02841 . . . . . . . Reversing means
2812/02851 . . . . . . . load-carriers adapted to be displaced relative to the traction means
2812/02861 . . . . . . . moving the materials over supporting surfaces by impeller means, e.g. scrapers
2812/02871 . . . . . . . for bulk material
2812/02881 . . . . . . . Scraper conveyors
2812/02891 . . . . . . . Troughs, channels or conduits
2812/0291 . . . . . . . Guiding means for displaceable conveyor accessories
2812/0291 . . . . . . . Supporting arrangements for cables or ducts
2812/0292 . . . . . . . with oppositely-moving parts of the conveyor located in a common plane
2812/0293 . . . . . . . Guiding means for the scrapers
2812/0294 . . . . . . . Wear pieces
2812/0295 . . . . . . . Scraper chains
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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 conveyor 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 . . . . . . movable
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
2812/05 . . . . . . 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

WARNING

Group B65G 2812/08 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into B65G 11/00 - B65G 11/206.
All groups listed in this Warning should be considered in order to perform a complete search.

2812/081 . . . . . . Connecting means

WARNING

Group B65G 2812/081 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/00, B65G 11/18, B65G 11/183, and B65G 11/186.
All groups listed in this Warning should be considered in order to perform a complete search.

2812/082 . . . . . . telescopic

WARNING

Group B65G 2812/082 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/14, B65G 11/143, and B65G 11/146.
All groups listed in this Warning should be considered in order to perform a complete search.

2812/083 . . . . . . pivoting

WARNING

Group B65G 2812/083 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/12, B65G 11/123, and B65G 11/126.
All groups listed in this Warning should be considered in order to perform a complete search.
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2812/085 . . . characterised by the configuration
(Frozen) WARNING
Group B65G 2812/085 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/00 - B65G 11/206.
All groups listed in this Warning should be considered in order to perform a complete search.

2812/086 . . . Screw-like chutes
(Frozen) WARNING
Group B65G 2812/086 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/06 - B65G 11/088.
All groups listed in this Warning should be considered in order to perform a complete search.

2812/087 . . . provided with material moving or braking means
(Frozen) WARNING
Group B65G 2812/087 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/00 - B65G 11/206.
All groups listed in this Warning should be considered in order to perform a complete search.

2812/088 . . . characterised by the material
(Frozen) WARNING
Group B65G 2812/088 is no longer used for the classification of documents as of May 1, 2020.
The content of this group is being reclassified into groups B65G 11/00 - B65G 11/206.
All groups listed in this Warning should be considered in order to perform a complete search.

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
2812/199 . . . . 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
2814/0252 . . . . using scraping belts or chains
2814/0258 . . . . using shaking or vibrating means
2814/0264 . . . . using screw conveyors
2814/0267 . . . . 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
Common features for picking-up means

- Belt or chain conveyors
- Bucket conveyors
- Scraper conveyors
- Shaking or vibrating conveyors
- Paddle wheels
- Inclined plates or chutes
- Raking devices
- Scraping devices
- Rotating discs, drums or gathering arms

Control or feeding or discharging using level or weight measuring means

- for guided skips
- for cars or linked car-trains with individual load-carriers
- loading continuously successive cars without material spillage
- Feeding or discharging devices adapted to car shapes
- Feeding or discharging devices operated by cars
- the load being lifted and the cars being moved beneath the load
- the car floor and subframe being tilted or removed
- the whole car being tilted
- by means of tilting rails
- by means of car tipplers
- Accessories
- locking or unlocking cars in the tipplers
- Means for loading or unloading cars in the tipplers
- Moving devices for tipplers
- Lifting means
- Means enhancing unloading
- using a tipping platform incorporated in a ring-like rotating structure
- Driving means therefore
- the rotation resulting from power driven displacement of the structure
- the rotation resulting from the car weight only
- with relative movement between platform and structure
- with simultaneous tipping of several cars above or beside each other
- using a tipping platform without ring-like structure
- Driving means therefore
- Fluid-operated lifting means
- Lifting means with suspended platforms
- the platform tipping around a single axis
- the axis remaining in a fixed position
- the axis being parallel with the car longitudinal axis
- the axis being parallel with the car transverse axis
- the axis being moved parallel with itself
- the platform tipping around several axes
- around parallel axes
- around crossing axes