B65G
TRANSPORT OR STORAGE DEVICES, e.g. CONVEYORS FOR LOADING OR TIPPING, SHOP CONVEYOR SYSTEMS OR PNEUMATIC TUBE CONVEYORS

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)

1/04 . . . . 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}
the upper article of a pile being always presented at the same predetermined level
the articles being fed by gravity ([braking arrangements for roller-ways B65G 13/075; separating or stopping elements B65G 47/88])
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])
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])
the circuit being confined in a vertical plane
the circuit being confined in a horizontal plane
with arrangements or automatic control means for selecting which articles are to be removed
[with data records]
[for fulfilling orders in warehouses]
[the orders being assembled on a commissioning stacker-crane or truck]
[the orders being assembled on a commissioning conveyor]
[the orders being assembled on fixed commissioning areas remote from the storage areas]
Stack holders or separators
Special arrangements of articles in storage spaces
Articles inclined so as to be mutually self-supporting
Articles arranged in layers with spaces between articles
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])
in the open air (B65G 3/04 takes precedence)
in bunkers, hoppers, or like containers
Storing fluids in natural or artificial cavities or chambers in the earth
[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 50/00; 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)
Devices for assisting manual moving or tilting heavy loads (roller-ways B65G 13/00; for tilting and emptying barrels or casks B65G 65/24)
Devices adapted to be interposed between loads and the ground or floor, e.g. crowbars with means for assisting conveyance of loads
Rollers
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])
for tilting the loads
for rolling cylindrical loads
Load carriers, e.g. hooks, slings, harness, gloves, modified for load carrying
Apparatus for assisting manual handling having suspended load-carriers movable by hand or gravity
( Load-carriers, rollers therefor )
( Loading or unloading arrangements )
( Arrester, braking or escapement means )
( 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)
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.
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.
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...

**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.

**11/06** . . . of helical or spiral form

**11/11** . . . extensible, e.g. telescopic

**WARNING**

Groups B65G 11/11, B65G 11/113 and B65G 11/116 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.

**11/113** . . . (for articles)

**11/116** . . . (for bulk)

**11/118** . . . Interior surfaces; Linings

**WARNING**


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

**11/120** . . . 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 1700; rollers or arrangements thereof B65G 39/00)

**13/02** . . . having driven rollers

**13/04** . . . all rollers driven

**13/06** . . . Roller driving means

CPC - 2020.08
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]
15/02 . . . for conveying in a circular arc
15/04 . . . the load being carried on the lower run of the endless surface
15/06 . . . with oppositely-moving parts of the endless surface located in the same plane and parallel to one another
15/08 . . . the load-carrying surface being formed by a concave or tubular belt, e.g. a belt forming a trough
15/10 . . . comprising two or more co-operating endless surfaces with parallel longitudinal axes, or a multiplicity of parallel elements, e.g. ropes defining an endless surface
15/105 . . . [the surface being formed by two or more ropes]
15/12 . . . with two or more endless belts
15/14 . . . the load being conveyed between the belts (B65G 15/18, B65G 15/20 take precedence)
15/16 . . . between an auxiliary belt and a main belt
15/18 . . . the belts being sealed at their edges
15/20 . . . arranged side by side, e.g. for conveyance of flat articles in vertical position
15/22 . . . comprising a series of co-operating units
15/24 . . . in tandem
15/26 . . . extensible, e.g. telescopic (adjustment of length or configuration of load-carrier B65G 21/14)
15/28 . . . Conveyors with a load-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 . . . trenched or tubular; formed with joints facilitating trenching
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-carryers; Endless-chain conveyors in which the chains form the load-carrying surface

17/002 . . . [comprising load carriers resting on the traction element]
17/005 . . . [comprising individual load carriers which are movably mounted (B65G 17/16 takes precedence)]
17/007 . . . [for conveying the load on the lower run or on both upper and lower runs of the conveyor]
17/02 . . . comprising a load-carrying belt attached to or resting on the traction element
17/04 . . . the belt having loops forming load-receiving pockets
17/06 . . . having a load-carrying surface formed by a series of interconnected, e.g. longitudinal, links, plates, or platforms
17/061 . . . [the load carrying surface being formed by profiles, rods, bars, rollers or the like attached to a single traction element (B65G 17/24 takes precedence)]
17/062 . . . [the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
17/063 . . . [the load carrying surface being formed by profiles, rods, bars, rollers or the like attached to more than one traction element (B65G 17/24 takes precedence)]
17/064 . . . [the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure]
17/065 . . . [the load carrying surface being formed by plates or platforms attached to a single traction element]
17/066 . . . [specially adapted to follow a curved path (for individual load carriers B65G 17/22)]
17/067 . . . [the load carrying surface being formed by plates or platforms attached to more than one traction element]
17/068 . . . [specially adapted to follow a curved path (for individual load carriers B65G 17/22)]
17/08 . . . the surface being formed by the traction element
17/083 . . . [the surface being formed by profiles, rods, bars, rollers or the like]
17/086 . . . [specially adapted to follow a curved path (for individual load carriers B65G 17/22)]
17/10 . . . the surface forming a longitudinal trough
17/12 . . . comprising a series of individual load-carriers fixed, or normally fixed, relative to traction element
17/123 . . . [arranged to keep the load-carriers horizontally during at least a part of the conveyor run]
17/126 . . . (Bucket elevators)
17/14 . . . with two spaced connections to traction element
Chutes; Kinds or types of conveyors; Constructional features, details, or auxiliary devices peculiar to conveyors of...

17/16 . . comprising individual load-carrying units which are pivotally mounted, e.g. for free-swinging movement (guides inverting or tilting load-carrying elements for emptying (B65G 47/38; B65G 17/20 takes precedence))

17/18 . . and move in contact with a guiding surface

17/20 . . comprising load-carrying elements 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-carryers)

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 17/14)

17/30 . . Details; Auxiliary devices (belts B65G 15/30; framework B65G 21/00)

17/32 . . Individual load-carrying elements

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 13/60); Connections between traction elements and load-carrying elements

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

19/04 . . 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 19/28 takes precedence)]

19/287 . . . . . . [Coupling means for trough sections (B65G 19/28 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

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

25/02 the carrier or impeller having different forward and return paths of movement, e.g. walking beam conveyors

25/04 the carrier or impeller having identical forward and return paths of movement, e.g. reciprocating conveyors

25/06 having carriers, e.g. belts

25/065 [Reciprocating floor conveyors]

25/08 having impellers, e.g. pushers

25/10 with impeller pivotally mounted on a reciprocating bar

25/12 with impeller fixed to a reciprocating bar and the bar being rotated about its longitudinal axis on its return stroke

27/00 Jigging conveyors

27/02 comprising helical or spiral channels or conduits for elevation of materials

27/04 Load carriers other than helical or spiral channels or conduits

27/06 Joints connecting load-carrier sections

27/08 Supports or mountings for load-carriers, e.g. framework, bases, spring arrangements (spring arrangements as jigging movement transmitting units B65G 27/10)

27/10 Applications of devices for generating or transmitting jigging movements

27/12 of shaking devices, i.e. devices for producing movements of low frequency and large amplitude

27/14 hydraulic

27/16 of vibrators, i.e. devices for producing movements of high frequency and small amplitude

27/18 Mechanical devices (B65G 27/26 takes precedence)

27/20 . . . rotating unbalanced masses

27/22 . . . Hydraulic or pneumatic devices

27/24 . . . Electromagnetic devices

27/26 . . . with elastic coupling between vibrator and load carrier

27/28 . . . with provision for dynamic balancing

27/30 . . . by means of an oppositely-moving mass, e.g. a second conveyor

27/32 . . . with means for controlling direction, frequency or amplitude of vibration or shaking movement

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

31/00  Mechanical throwing machines for articles or solid materials
  31/02  . for 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
  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
  33/21  . with means for retarding material flow at the delivery end of the housing
  33/22  .

37/00  Combinations of mechanical conveyors of the same kind, or of different kinds, of interest
  37/01  . apart from their application in particular machines or use in particular manufacturing processes (series of co-operating belt conveyor units B65G 13/22; series of co-operating chain conveyor units B65G 17/22; sequence control of combined conveyors B65G 43/10)

37/05  . (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 roughing 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 41/02)]
  41/02  . Frames mounted on wheels for movement on rail tracks
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

Devices for discharging articles or materials from conveyors (during feeding B65G 47/14)

Lubricating, cleaning, or clearing devices

for feeding articles or materials to conveyors

Devices influencing the relative position or the attitude of articles during transit by conveyors

Applications of transfer devices (such devices per se B65G 47/74)
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<tr>
<td>47/52</td>
<td>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])</td>
</tr>
<tr>
<td>47/525</td>
<td>by fluid jets</td>
</tr>
<tr>
<td>47/53</td>
<td>between conveyors which cross one another</td>
</tr>
<tr>
<td>47/54</td>
<td>at least one of which is a roller-way</td>
</tr>
<tr>
<td>47/56</td>
<td>to or from inclined or vertical conveyor sections</td>
</tr>
<tr>
<td>47/57</td>
<td>for articles</td>
</tr>
<tr>
<td>47/58</td>
<td>for materials in bulk</td>
</tr>
<tr>
<td>47/60</td>
<td>to or from conveyors of the suspended, e.g. trolley, type</td>
</tr>
<tr>
<td>47/61</td>
<td>for articles</td>
</tr>
<tr>
<td>47/62</td>
<td>for materials in bulk</td>
</tr>
<tr>
<td>47/64</td>
<td>Switching conveyors</td>
</tr>
<tr>
<td>47/641</td>
<td>by a linear displacement of the switching conveyor</td>
</tr>
<tr>
<td>47/642</td>
<td>in a horizontal plane</td>
</tr>
<tr>
<td>47/643</td>
<td>in a vertical plane</td>
</tr>
<tr>
<td>47/644</td>
<td>by a pivoting displacement of the switching conveyor</td>
</tr>
<tr>
<td>47/645</td>
<td>about a horizontal axis</td>
</tr>
<tr>
<td>47/646</td>
<td>the axis being parallel to the conveying direction</td>
</tr>
<tr>
<td>47/647</td>
<td>the axis being perpendicular to the conveying direction</td>
</tr>
<tr>
<td>47/648</td>
<td>about a vertical axis</td>
</tr>
<tr>
<td>47/66</td>
<td>Fixed platforms or combs, e.g. bridges between conveyors</td>
</tr>
<tr>
<td>47/68</td>
<td>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</td>
</tr>
<tr>
<td>47/681</td>
<td>from distinct, separate conveyor lanes</td>
</tr>
<tr>
<td>47/682</td>
<td>from a single conveyor lane consisting of one conveyor or several adjacent conveyors</td>
</tr>
<tr>
<td>47/683</td>
<td>with tilting of at least part of the conveyor to make use of gravity</td>
</tr>
<tr>
<td>47/684</td>
<td>with recirculation of articles forming a buffer</td>
</tr>
<tr>
<td>2047/685</td>
<td>Devices for preventing jamming in converging flows</td>
</tr>
<tr>
<td>2047/686</td>
<td>Lane boundaries which reciprocate or oscillate, e.g. vibrating boundaries</td>
</tr>
<tr>
<td>2047/687</td>
<td>Lane boundaries which comprise rotatable elements, e.g. discs, cylinders, endless belts</td>
</tr>
<tr>
<td>2047/688</td>
<td>Lane boundaries which are compliant</td>
</tr>
</tbody>
</table>
Common features or details of, or auxiliary devices applicable to, conveyors of different kinds or types:

Feeding or...

47/69 . . . the articles being accumulated temporarily
   {{accumulating articles during transit B65G 47/261}}

47/70 . . . with precedence controls among incoming
   article flows

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

47/715 . . . {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 B65G 53/20}}

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

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

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

47/841 . . . {Devices having endless travelling belts
   or chains equipped with article-engaging
   elements}

47/842 . . . {the article-engaging elements being
   grippers}

47/843 . . . {the article-engaging elements being suction
   or magnetic means}

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

47/845 . . . {the article engaging elements being pushers
   moving in parallel and independently from
   the supporting conveyor}

47/846 . . . {Star-shaped wheels or wheels equipped with
   article-engaging elements}

47/847 . . . {the article-engaging elements being
   grippers}

47/848 . . . {the article-engaging elements being suction
   or magnetic means}

47/88 . . . Separating or stopping elements, e.g. fingers
   {{attached to star-shaped wheels B65G 47/84}}

47/8807 . . . {with one stop}

47/8815 . . . {Reciprocating stop, moving up or down in
   the path of the article}

47/8823 . . . {Pivoting stop, swinging in or out of the path
   of the article}

47/883 . . . {Fixed stop}

47/8838 . . . {with a linearly movable pusher element
   which lifts or releases the article}

47/8846 . . . {with a pivoting pusher element which
   lifts or releases the article}

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

47/8861 . . . {Stop in the form of a clamp on one or both
   sides of the article}

47/8869 . . . {stopping or lifting all articles from a
   conveyor}

47/8876 . . . {with at least two stops acting as gates}

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

47/8892 . . . {Stops acting independently of each other}

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

47/901 . . . {provided with drive systems with rectilinear
   movements only}

47/902 . . . {provided with drive systems incorporating
   rotary and rectilinear movements}

47/904 . . . {provided with rotary movements only}

47/905 . . . {Control arrangements}

47/907 . . . {with at least two picking-up heads}

47/908 . . . {with inflatable picking-up means {inflatable
   gripping members on load engaging elements
   for cranes B66C 1/46}}

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

47/911 . . . {with air blasts producing partial vacuum}

47/912 . . . {provided with drive systems with rectilinear
   movements only}

47/914 . . . {provided with drive systems incorporating
   rotary and rectilinear movements}

47/915 . . . {provided with drive systems with rotary
   movements only}

47/917 . . . {control arrangements}

47/918 . . . {with at least two picking-up heads}

47/92 . . . incorporating electrostatic or magnetic grippers

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

47/945 . . . {tilting endless surfaces, e.g. belts}

47/95 . . . adapted for longitudinal delivery

47/96 . . . Devices for tilting links or platform {{releasing
   load-carriers B65G 47/38}}

47/962 . . . {tilting about an axis substantially parallel to
   the conveying direction}

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

47/967 . . . {tilting about an axis perpendicular to the
   conveying direction}

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

49/002 . . . for conveying workpieces through baths of liquid

49/025 . . . {conveyor feeding and discharging means}

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

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

49/0409 . . . {specially adapted for workpieces of definite
   length}

49/0413 . . . {arrangements for conveyance through the
   bath}

49/0418 . . . {chain or belt conveyors}

49/0422 . . . {screws}

49/0427 . . . {jigging conveyors}

49/0431 . . . {reciprocating conveying means}

49/0436 . . . {arrangements for conveyance from bath to
   bath}
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 (containing 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;
storage 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
see 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 F11D): 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
53/4683 . . . . [with a reciprocating mover acting directly on material]
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)
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 F16L 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 5/005)]

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; B60F; handling sheet material or flat articles made therefrom B65H; cranes B66C; loading or unloading by soil-shifting or like equipment E02F; stacking or de-stacking data record cards in association with machines for marking or sensing data G06K)

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

57/00 Stacking of articles (B65G 60/000 takes precedence; feeding, piling or stacking sheets B65H)
57/005 . . . . [by using insertions or spacers between the stacked layers]
57/02 . . . . 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
57/112 . . . the conveyor being adjustable in height
57/14 . . . the articles being transferred from carriers moving in an endless path adjacent to the stacks
57/16 . . . Stacking of articles of particular shape
57/165 . . . [nested]
57/18 . . . elongated, e.g. sticks, rods, bars
57/183 . . . [Angle irons]
57/186 . . . [Cylindrical articles, e.g. tubes, rods, etc.]
57/20 . . . three-dimensional, e.g. cubiform, cylindrical
57/22 . . . in layers each of predetermined arrangement
57/24 . . . , the layers being transferred as a whole, e.g. on pallets
57/245 . . . . . . . . . [with a stepwise downward movement of the stack]
57/26 . . . . . . . . . the arrangement providing for spaces between the articles
57/28 . . . by assembling the articles and tilting the assembled articles to a stacked position
57/30 . . . by adding to the bottom of the stack
57/301 . . . [by means of reciprocatory or oscillatory lifting and holding or gripping devices]
57/302 . . . [added articles being lifted to substantially stationary grippers or holders]
57/303 . . . [the stack being lowered by mobile grippers or holders onto added articles]
57/305 . . . [by means of rotary devices or endless elements]
57/306 . . . [the rotary devices being wheels]
57/307 . . . [the rotary devices being screws]
57/308 . . . [by means of endless elements]
57/32 . . . characterised by stacking during transit

59/00 De-stacking of articles (B65G 60/00 takes precedence)

59/005 . . . [by using insertions or spacers between the stacked layers]
59/02 . . . De-stacking from the top of the stack
59/023 . . . [by means insertable between the stacked articles or layers]
59/026 . . . [with a stepwise upward movement of the stack]
59/04 . . . by suction or magnetic devices
59/045 . . . [with a stepwise upward movement of the stack]
59/06 . . . De-stacking from the bottom of the stack
59/061 . . . [articles being separated substantially along the axis of the stack]
59/062 . . . [by means of reciprocating or oscillating escapement-like mechanisms]
59/063 . . . [comprising lifting means]
59/065 . . . [by angularly displacing the stack relatively to the lower most article or vice versa]
59/066 . . . [by means of rotary devices or endless elements]
59/067 . . . [articles being separated substantially perpendicularly to the axis of the stack]
59/068 . . . [by means of endless elements]
59/08 . . . De-stacking after preliminary tilting of the stack

59/10 . . . De-stacking nested articles
59/101 . . . [by means of oscillating escapement-like mechanisms]
59/102 . . . [the axis of oscillation being substantially parallel to the axis of the stack]
59/103 . . . [comprising lifting or gripping means]
59/105 . . . [by means of reciprocating escapement-like mechanisms]
59/106 . . . [comprising lifting or gripping means]
59/107 . . . [by means of rotary devices or endless elements]
59/108 . . . [the axis of rotation being substantially parallel to the axis of the stack]
59/12 . . . characterised by de-stacking during transit

60/00 Simultaneously or alternatively stacking and de-stacking of articles

61/00 Use of pick-up or transfer devices or of manipulators for stacking or de-stacking articles not otherwise provided for

63/00 Transferring or trans-shipping at storage areas, railway yards or harbours [or in opening mining cuts]; Marshalling yard installations

63/002 . . . [for articles]
63/004 . . . [for containers]
63/006 . . . [using slanted guides]
63/008 . . . [for bulk material]
63/02 . . . with essentially horizontal transit otherwise than by bridge
63/022 . . . [for articles]
63/025 . . . [for containers]
63/027 . . . [for bulk material]
63/04 . . . with essentially-horizontal transit by bridges equipped with conveyors
63/042 . . . [for articles]
63/045 . . . [for containers]
63/047 . . . [for bulk material]
63/06 . . . with essentially-vertical transit
63/062 . . . [for articles]
63/065 . . . [for containers]
63/067 . . . [for bulk material]

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

65/005 . . . [Control arrangements]
65/005 . . . Loading or unloading machines comprising essentially a conveyor for moving the loads associated with a device for picking-up the loads
65/004 . . . with pick-up shovels (constructions of shovels 60/2)
65/006 . . . with endless scraping or elevating pick-up conveyors
65/008 . . . 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 unpiling loose materials in bulk, e.g., coal, manure, timber, not otherwise provided for (by soil-shifting or like equipment B02E)

65/30. Methods or devices for filling or emptying bunkers, hoppers, tanks, or like containers, of interest apart from their use in particular mechanical 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 65/33, 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 slit-like outlets)
65/4863 . . . . . . . . . . . . . (by means of eccentric motion)
65/4872 . . . . . . . . . . . . . (through which material passes, e.g. fan-like wheels)
65/4881 . . . . . . . . . . . . . (rotating about a substantially horizontal axis)
65/489 . . . . . . . . . . . . . (in the form of rotating tubular chutes)

**67/00 Loading or unloading vehicles** (by means incorporated in the vehicles B60-B64, e.g., B60P 1/00, B61D 9/00, B63B 27/00, B64D 9/00; ground or aircraft-carrier-deck installations for aircraft B64F 1/32)

67/02. Loading or unloading land vehicles
67/04 . . . Loading land vehicles (loading or unloading boats to or from land vehicles B60P 3/10)
67/06 . . . Feeding articles or materials from bunkers or tunnels
67/08 . . . using endless conveyors
67/10 . . . using conveyors covering the whole length of vehicle trains
67/12 . . . Loading elongated articles, e.g. rails, logs
67/14 . . . Loading hardened bricks, briquettes, or the like
67/16 . . . Loading coke-oven products (discharging coke-ovens C10B 33/00)
67/18 . . . Refuelling locomotives with solid fuels
67/20 . . . Loading covered vehicles
67/22 . . . Loading moving vehicles
67/24 . . . Unloading land vehicles
67/26 . . . using rakes or scrapers
67/28 . . . External transverse blades attached to endless conveyors
67/30 . . . using transportable tipping apparatus
67/32 . . . using fixed tipping installations
67/34 . . . . . . Apparatus for tipping wagons or mine cars (inverting wagons B65G 67/48)
67/36 . . . . . . endwise
67/38 . . . . . . comprising a turntable
67/40 . . . . . . toward one end only
67/42 . . . . . . sideways
67/44 . . . . . . by passing the vehicles over a stretch of transversely-inclined rails
67/46 . . . . . . Apparatus for lifting and tilting
67/48 . . . . . . Vehicle tipplers
67/50 . . . . . . Rotary vehicle tipplers, i.e. rotating through 360 degrees
67/52 . . . . . . having several decks
67/54 . . . . . . Vehicle-locking means
67/56 . . . . . . Vehicle and tippler interlocking controls
67/60 . . . Loading or unloading ships (arrangement of ship-based loading or unloading equipment for cargo or passengers B63B 27/00)
67/603 . . . (using devices specially adapted for articles)
67/606 . . . (using devices specially adapted for bulk material)
67/62 . . . using devices influenced by the tide or by the movements of the ship, e.g. devices on pontoons

**69/00 Auxiliary measures taken, or devices used, in connection with loading or unloading**

(by means incorporated in, or operatively associated with, conveyors B65G 47/00; preventing fire A62C 300; in vehicles, see the relevant subclasses, e.g., B60P 1/58, B61D 7/32, B62D 33/00, B63B 25/00, B64D 9/00)

69/001 . . . [Buffers for vehicles at loading stations]
69/003 . . . [Restraining movement of a vehicle at a loading station using means not being part of the vehicle]
69/005 . . . (the means engaging at least one wheel of the vehicle)
69/006 . . . [Centring or aligning a vehicle at a loading station using means not being part of the vehicle]
Stacking or de-stacking; Loading or unloading

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]

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
2812/02009 . . . Common features for belt or chain conveyors
2812/02019 . . . Supporting or guiding frames
2812/02029 . . . Transportable conveyor frames
2812/02039 . . . Profiles or beams
Storing; Storage devices

Conveyors having endless traction elements

Belt conveyors

Common features for belt conveyors

Driving means for the belts

Means preventing dust penetration

Belts provided with guiding means, e.g. rollers

characterised by the material

Metallic belts

Non-metallic belts

Partially metallic belts

characterised by the configuration

for vertical conveyance

provided with buckets

using belts with bucket profiles

the load remaining on the belt due to centrifugal forces

Conveyors having endless traction elements

Common features for chain conveyors

Driving means

Arrangements for downward conveyance

Driving drums

with means for assuring constant linear speed of chains

Chains, cables or the like

Accessories

Grippers associated with chain parts

characterised by the material

Flexible links

characterised by the configuration

Woven chains

Links and their attaching means

Means preventing dust penetration

with load-carrying surfaces supported by traction means

Continuous or uninterrupted load-carrying surfaces

the surfaces being below the traction means

the surfaces being an endless belt

the surfaces being above, between or beside the traction means

for conveyance along curves

along vertical curves

the load-carrying surfaces being fixed or non-movably linked to the traction means

load-carrying surfaces using platforms or grids

load-carrying surfaces with upstanding walls, e.g. with bucket profile

in longitudinal direction only

in transverse direction only

the surfaces being an endless belt

with bucket profile

the load-carrying surfaces being pivotally attached to the traction means

Tipping means

Guiding means to maintain load-carrying surfaces horizontal

the load-carrying surfaces resting on the traction means

Reversing means

Load-carrying surfaces adapted to be displaced relative to the traction means

the load-carrying surfaces being separated from each other, e.g. individual load carriers

and pivotally mounted

for bulk material

Loading or unloading means

for articles

Loading or unloading means

the load-carriers being arranged above, between or beside the traction means

and fixed or non-movably linked to the traction means

for vertical or inclined conveyance

Details

Loading or unloading means

Frames

with guiding means for the traction means

Bucket elevators for bulk material

Elevators for articles

Load-carriers

Plates or buckets

with upstanding walls

the load-carriers being connected pivotally to the traction means

Loading or unloading means

guided at least partially along a vertical or inclined direction

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

Scaper 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

Scaper chains
Storing; Storage devices

2812/0296 . . . . . . . . . . Attachments of scrapers to traction elements
2812/0297 . . . . . . . . . . to one chain
2812/0298 . . . . . . . . . . to more than one chain
2812/0299 . . Conveyors having independant belt or chain 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.
Storing; Storage devices

2812/085  characterised by the configuration

**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.

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2812/086  Screw-like chutes

**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 11/00 - B65G 11/206**. All groups listed in this Warning should be considered in order to perform a complete search.

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2812/087  provided with material moving or braking means

**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.

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2812/088  characterised by the material

**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.

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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

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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
2812/1699  Conveyors systems not otherwise provided for

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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-carryers
2813/026  for bales, boxes or the like, by using pointed means

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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
2814/027  using chutes
2814/0276  using scraping means other than belts or chains
2814/0282  using turntables
2814/0288  using throwing means
2814/0294  using air jets
2814/03  Loading or unloading means
2814/0301  General arrangements
2814/0302  Central control devices
2814/0304  Stacking devices
2814/0305  Adding to the top
2814/0307  the loading platform being lowered during stacking
2814/0308  Destacking devices
2814/031  Removing from the top
2814/0311  Other article loading or unloading devices
2814/0313  with vertically reciprocating platforms
2814/0314  for moving bulk material downwards
2814/0316  to a storage room
2814/0317  by tipping a container
2814/0319  through a closable or non-closable outlet opening
2814/032  using a belt or chain conveyor in or beneath the opening
2814/0322  as measuring instrument
2814/0323  with chutes or plates in or beneath the opening
2814/0325  with rotating drums, cylinders or cones in or beneath the opening
2814/0326  for moving bulk material upwards or horizontally
2814/0328  Picking-up means
Common features for picking-up means

- Belt or chain conveyors
- Bucket conveyors
- Scraper conveyors
- 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 therefor
- 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 therefor
- 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