

CPC**COOPERATIVE PATENT CLASSIFICATION****B65G**

TRANSPORT OR STORAGE DEVICES, e.g. CONVEYERS FOR LOADING OR TIPPING ; SHOP CONVEYER SYSTEMS ; PNEUMATIC TUBE CONVEYERS ({ preventing fire in special objects or places [A62C 3/00](#) } ; transport or storage devices used in a particular handling or treatment of articles or materials, see the relevant subclass, e.g. in metal-working [B21D 43/00](#) , [B23Q 7/00](#) , [B23Q 41/02](#) ; vehicle, railway, sea or aircraft aspects [B60](#) to [B64](#) ; in packaging [B65B](#) ; handling thin or filamentary materials [B65H](#) ; hoisting, lifting, hauling, e.g. truck loaders [B66](#) ; handling liquids [B67](#) ; { transport or storage containers for preparing or distributing road building materials [E01C](#) ; construction or assembling of bulk storage containers employing civil engineering techniques in site or off the site [E04H 7/00](#) } ; specially adapted to underground conditions in mines [E21F 13/00](#) ; storing or distributing gases or liquids [F17](#) ; in handling radioactive materials [G21C 19/00](#))

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following groups:

[B65G 33/28](#) covered by [B65G 33/26](#) B
[B65G 47/10](#) covered by [B65G 1/137](#) D
[B65G 47/86](#) covered by [B65G 47/842](#) , [B65G 47/847](#)
[B65G 49/07](#) covered by [H01L 21/677](#)
[B65G 69/32](#) covered by [B65G 69/28](#)
[B65G 69/34](#) covered by [B65G 69/28](#)

Guidance heading: Storing ; Storage devices

B65G 1/00

Storing articles, individually or in orderly arrangement, in warehouses or magazines (conveyer 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](#) ; arrangements of articles for drying or baking in kilns or ovens [F26](#) ; [F27](#))

NOTE

group [B65G 1/0442](#) takes precedence over the other groups, except over [B65G 1/08](#)

B65G 1/02

- . Storage devices (furniture, shop fittings, table equipment [A47B](#) , [A47F](#) , [A47G](#) ; mechanical garages [E04H](#) ; for data record cards in association with machines for making or sensing data [G06K](#) ; coin changers or sorters [G07D](#) ; coin-freed apparatus [G07F](#)) { pallets [B65D 19/00](#) }

B65G 1/023

- .. { Arrangements of article supporting rollers on racks }

B65G 1/026

- .. { Racks equipped with a displaceable load carrying surface to facilitate loading or unloading }

B65G 1/04

- .. mechanical

B65G 1/0407	...	{ using stacker cranes (constructional features of stacker cranes B66F 9/06) }
B65G 1/0414	....	{ provided with satellite cars adapted to travel in storage racks }
B65G 1/0421	....	{ with control for stacker crane operations }
B65G 1/0428	....	{ Transfer means for the stacker crane between the alleys }
B65G 1/0435	....	{ with pulling or pushing means on either stacking crane or stacking area }
B65G 1/0442	...	{ for elongated articles (drill pipe racking E21B 19/14) }
B65G 1/045	...	{ in a circular arrangement, e.g. towers }
B65G 1/0457	...	{ with suspended load carriers }
B65G 1/0464	...	{ with access from above }
B65G 1/0471	...	{ with access from beneath }
B65G 1/0478	...	{ for matrix-arrangements }
B65G 1/0485	...	{ Check-in, check-out devices }
B65G 1/0492	...	{ with cars adapted to travel in storage aisles }
B65G 1/06	...	with means for presenting articles for removal at predetermined position or level (B65G 1/12 takes precedence)
B65G 1/065	....	{ with self propelled cars }
B65G 1/07	....	the upper article of a pile being always presented at the same predetermined level
B65G 1/08	....	the articles being fed by gravity { braking arrangements for roller-ways B65G 13/00B ; separating or stopping elements B65G 47/88 }
B65G 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 }
B65G 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 }
B65G 1/127	....	the circuit being confined in a vertical plane
B65G 1/133	....	the circuit being confined in a horizontal plane
B65G 1/137	...	with arrangements or automatic control means for selecting which articles are to be removed (devices for feeding articles to conveyers from several groups of articles B65G 47/10)
B65G 1/1371	....	{ with data records }
B65G 1/1373	....	{ for fulfilling orders in warehouses }
B65G 1/1375	.....	{ the orders being assembled on a commissioning stacker-crane or truck }
B65G 1/1376	.....	{ the orders being assembled on a commissioning conveyor }
B65G 1/1378	.....	{ the orders being assembled on fixed commissioning areas remote from the storage areas }
B65G 1/14	..	Stack holders or separators
B65G 1/16	.	Special arrangements of articles in storage spaces
B65G 1/18	..	Articles inclined so as to be mutually self-supporting
B65G 1/20	..	Articles arranged in layers with spaces between articles

B65G 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](#) { [B65G 63/00](#) ; [storing agricultural or horticultural](#)

produce [A01F 25/00](#) })

[B65G 3/02](#) . in the open air ([B65G 3/04](#) takes precedence)

[B65G 3/04](#) . in bunkers, hoppers, or like containers

[B65G 5/00](#) **Storing fluids in natural or artificial cavities or chambers in the earth** (modification of mine passages or chambers for storage purposes, especially for fluids [E21F 17/16](#))

NOTE

When the cavity or chamber is lined documents are classified in [F17C 3/005](#)

[B65G 5/005](#) . { in porous layers }

Guidance heading: **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 13/38](#) ; holders or carriers for hand articles or for use while travelling or camping [A45F 5/00](#) ; vehicles in general, axles, wheels [B60](#) ; air-cushion vehicles [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](#))

[B65G 7/00](#) **Devices for moving or tilting heavy loads** (for tilting and emptying barrels or casks [B65G 65/24](#))

[B65G 7/02](#) . Devices adapted to be interposed between loads and the ground or floor, e.g. crowbars with means for assisting conveyance of loads (crowbars per se [B66F 15/00](#))

[B65G 7/04](#) . . Rollers

[B65G 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](#) }

[B65G 7/08](#) . . for tilting the loads

[B65G 7/10](#) . . for rolling cylindrical loads

[B65G 7/12](#) . Load carriers, e.g. hooks, slings, harness, gloves, modified for load carrying

[B65G 9/00](#) **Apparatus having suspended load carriers movable by hand or gravity** (manually-operated endless-rope or chain conveyers [B65G 17/00](#) ; railway systems [B61B](#))

[B65G 9/002](#) . { Load-carriers, rollers therefor }

[B65G 9/004](#) . { Loading or unloading arrangements }

[B65G 9/006](#) . { Arresting, braking or escapement means }

B65G 9/008 . { Rails or switches }

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

B65G 11/00 Chutes (used as storage devices [B65G 1/02](#) , [B65D 88/26](#) ; for sports, games, or amusements [A63G 21/00](#) ; for refuse disposal in buildings [E04F 17/12](#))

B65G 11/02 . of straight form

B65G 11/023 .. { for articles }

B65G 11/026 .. { for bulk }

B65G 11/04 . for mail in buildings

B65G 11/06 . of helical or spiral form

B65G 11/063 .. { for articles }

B65G 11/066 .. { for bulk }

B65G 11/08 . with discontinuous guiding surfaces, e.g. arranged in zigzag or cascade formation

B65G 11/081 .. { for articles ([B65G 11/085](#) takes precedence) }

B65G 11/083 .. { for bulk ([B65G 11/085](#) takes precedence) }

B65G 11/085 .. { with zig-zag formations }

B65G 11/086 ... { for articles }

B65G 11/088 ... { for bulk }

B65G 11/10 . flexible

B65G 11/103 .. { for articles }

B65G 11/106 .. { for bulk }

B65G 11/12 . pivotable

B65G 11/123 .. { for articles }

B65G 11/126 .. { for bulk }

B65G 11/14 . extensible, e.g. telescopic

B65G 11/143 .. { for articles }

B65G 11/146 .. { for bulk }

B65G 11/16 . Interior surfaces ; Linings

B65G 11/163 .. { for articles }

B65G 11/166 .. { for bulk }

B65G 11/18 . Supports or mountings

B65G 11/183 .. { for articles }

- B65G 11/186 . . { for bulk }
- B65G 11/20 . Auxiliary devices, e.g. for deflecting, controlling speed of, or agitating articles or solids
- B65G 11/203 . . { for articles }
- B65G 11/206 . . { for bulk }

- B65G 13/00** **Roller-ways** (storage devices comprising roller-ways [B65G 1/02](#) ; endless-chain conveyers comprising load-supporting rollers [B65G 17/00](#) ; rollers, or arrangements thereof [B65G 39/00](#) ; feeding or discharging conveyers by devices incorporated in, or operatively associated with, conveyers [B65G 47/00](#) , { e.g. by roller-ways as accumulating devices [B65G 47/261](#) ; } in metal-rolling equipment [B21B 39/00](#) , [B21B 41/00](#))
 - B65G 13/02 . having driven rollers
 - B65G 13/04 . . all rollers driven
 - B65G 13/06 . . Roller driving means
 - B65G 13/065 . . . { with displacement of the roller }
 - B65G 13/07 . . . having endless driving elements
 - B65G 13/071 . . . with frictional engagement
 - B65G 13/073 . . . comprising free-wheel gearing
 - B65G 13/075 . Braking means
 - B65G 13/08 . of curved form ; with branch-offs
 - B65G 13/10 . . Switching arrangements
 - B65G 13/11 . Roller frames
 - B65G 13/12 . . adjustable

- B65G 15/00** **Conveyers 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](#))
 - B65G 15/005 . { the surface being formed by one rope }
 - B65G 15/02 . for conveying in a circular arc
 - B65G 15/04 . the load being carried on the lower run of the endless surface
 - B65G 15/06 . with oppositely-moving parts of the endless surface located in the same plane and parallel to one another
 - B65G 15/08 . the load-carrying surface being formed by a concave or tubular belt, e.g. a belt forming a trough
 - B65G 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
 - B65G 15/105 . . { the surface being formed by two or more ropes }

- B65G 15/12 . . with two or more endless belts
- B65G 15/14 . . . the load being conveyed between the belts { [B65G 15/18](#) , [B65G 15/20](#) take precedence }
- B65G 15/16 between an auxiliary belt and a main belt
- B65G 15/18 . . . the belts being sealed at their edges ([endless-surface conveyers having a single belt with sealed edges B65G 15/08](#))
- B65G 15/20 . . . arranged side-by-side, e.g. for conveyance of flat articles in vertical position ([for conveying sheets or like thin flat articles B65H](#))

- B65G 15/22 . comprising a series of co-operating units
- B65G 15/24 . . in tandem
- B65G 15/26 . . extensible, e.g. telescopic { [adjustment of length or configuration of load-carrier B65G 21/14](#) }

- B65G 15/28 . Conveyers with a load-conveying surface formed by a single flat belt, not otherwise provided for

- B65G 15/30 . Belts or like endless load-carriers ([co-operating with rails or the like B65G 21/22](#) ; with rollers [B65G 39/20](#) ; belts in general [F16G](#)) { [belt fastenings F16G 3/00](#) }
- B65G 15/32 . . made of rubber or plastics
- B65G 15/34 . . . with reinforcing layers, e.g. of fabric
- B65G 15/36 the layers incorporating ropes, chains, or rolled steel sections
- B65G 15/38 . . . with flame-resistant layers, e.g. of asbestos, glass
- B65G 15/40 . . . troughed or tubular ; formed with joints facilitating troughing
- B65G 15/42 . . . having ribs, ridges, or other surface projections
- B65G 15/44 for impelling the loads
- B65G 15/46 . . . formed with guides
- B65G 15/48 . . metallic
- B65G 15/50 . . Endless load-carriers consisting of a series of parallel ropes or belt strips
- B65G 15/52 . . . interconnected by transverse slats
- B65G 15/54 . . Endless load-carriers made of interwoven ropes or wires
- B65G 15/56 . . with edge-protecting or reinforcing means
- B65G 15/58 . . with means for holding or retaining the loads in fixed position, e.g. magnetic

- B65G 15/60 . Arrangements for supporting or guiding belts, e.g. by fluid jets ([constructions of rollers or supports therefor B65G 39/00](#) { [F16C 13/00](#) })
- B65G 15/62 . . Guides for sliding belts
- B65G 15/64 . . for automatically maintaining the position of the belts

- B65G 17/00** **Conveyers 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 conveyers in which the chains form the load-carrying surface ([railway systems, detachable load-carriers on rails B61B](#) ; [escalators or paternosters neither combined nor associated with loading or unloading apparatus B66B 9/00](#))**

- B65G 17/002 . { [comprising load carriers resting on the traction element](#) }

- B65G 17/005 . { comprising individual load carriers which are movably mounted ([B65G 17/16](#) takes precedence) }
- B65G 17/007 . { for conveying the load on the lower run or on both upper and lower runs of the conveyer }
- B65G 17/02 . comprising a load-carrying belt attached to or resting on the traction element
- B65G 17/04 . . the belt having loops forming load-receiving pockets
- B65G 17/06 . having a load-carrying surface formed by a series of interconnected e.g. longitudinal, links, plates, or platforms
- B65G 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) }
- B65G 17/062 . . . { the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure }
- B65G 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) }
- B65G 17/064 . . . { the profiles, rods, bars, rollers or the like being interconnected by a mesh or grid-like structure }
- B65G 17/065 . . { the load carrying surface being formed by plates or platforms attached to a single traction element }
- B65G 17/066 . . . { specially adapted to follow a curved path (for individual load carriers [B65G 17/22](#)) }
- B65G 17/067 . . { the load carrying surface being formed by plates or platforms attached to more than one traction element }
- B65G 17/068 . . . { specially adapted to follow a curved path (for individual load carriers [B65G 17/22](#)) }
- B65G 17/08 . . the surface being formed by the traction element
- B65G 17/083 . . . { the surface being formed by profiles, rods, bars, rollers or the like }
- B65G 17/086 . . . { specially adapted to follow a curved path (for individual load carriers [B65G 17/22](#)) }
- B65G 17/10 . . the surface forming a longitudinal trough
- B65G 17/12 . comprising a series of individual load-carriers fixed, or normally fixed, relative to traction element
- B65G 17/123 . . { arranged to keep the load-carriers horizontally during at least a part of the conveyer run }
- B65G 17/126 . . { Bucket elevators }
- B65G 17/14 . . with two spaced connections to traction element
- B65G 17/16 . comprising individual load-carriers which are pivotally mounted, e.g. for free-swinging movement (guides inverting or tilting load-carriers for emptying { [B65G 47/38](#) ; [B65G 17/20](#) takes precedence })
- B65G 17/18 . . and move in contact with a guiding surface
- B65G 17/20 . comprising load-carriers suspended from overhead traction chains
- B65G 17/22 . with oppositely-moving parts of the conveyer located in a common plane { and being formed by individual load carriers only }

- B65G 17/24 . comprising a series of rollers which are moved { e.g. over a supporting surface, by the traction element to effect conveyance of loads or load-carriers }
- B65G 17/26 . comprising a series of co-operating units, e.g. inter-connected by pivots
- B65G 17/28 .. extensible, e.g. telescopic { adjustment of length or configuration of traction element [B65G 21/14](#) }
- B65G 17/30 . Details ; Auxiliary devices (belts [B65G 15/30](#) ; framework [B65G 21/00](#))
- B65G 17/32 .. Individual load-carriers (control [B65G 17/48](#))
- B65G 17/323 ... { Grippers, e.g. suction or magnetic }
- B65G 17/326 ... { Clamps, constituted by articulated chain links }
- B65G 17/34 ... having flat surfaces, e.g. platforms, grids, forks
- B65G 17/345 { the surfaces being equipped with a conveyer }
- B65G 17/36 ... having concave surfaces, e.g. buckets
- B65G 17/365 { having open bottom buckets }
- B65G 17/38 .. Chains or like traction elements (chains in general [F16G](#)) ; Connections between traction elements and load carriers
- B65G 17/385 ... { adapted to follow three-dimensionally curved paths }
- B65G 17/40 ... Chains acting as load-carriers
- B65G 17/42 ... Attaching load carriers to traction elements
- B65G 17/44 by means excluding relative movements
- B65G 17/46 .. Means for holding or retaining the loads in fixed position on the load-carriers, e.g. magnetic
- B65G 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](#))
- B65G 17/485 ... { the load carriers being suspended }
- B65G 19/00** **Conveyers 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 conveyers**
- B65G 19/02 . for articles, e.g. for containers
- B65G 19/025 .. { for suspended articles }
- B65G 19/04 . for moving bulk material in open troughs or channels
- B65G 19/06 .. the impellers being scrapers similar in size and shape to the cross-section of the trough or channel
- B65G 19/08 ... and attached to a single belt, rope or chain
- B65G 19/10 ... and attached to a pair of belts, ropes or chains
- B65G 19/12 .. the impellers being plates having an area substantially smaller than that of the trough of channel cross-section
- B65G 19/14 . for moving bulk material in closed conduits, e.g. tubes
- B65G 19/16 .. the impellers being elements having an area substantially smaller than that of the conduit cross-section

- B65G 19/165 . . . { the impellers being endless helical springs }
- B65G 19/18 . Details
- B65G 19/185 . . { for article conveyers, e.g. for container conveyers ([B65G 19/20](#) , [B65G 19/22](#) ; [B65G 29/28](#) take precedence) }
- B65G 19/20 . . Traction chains, ropes, or cables
- B65G 19/205 . . . { for article conveyers, e.g. for container conveyers }
- B65G 19/22 . . Impellers, e.g. push-plates, scrapers ; Guiding means therefor
- B65G 19/225 . . . { for article conveyers, e.g. for container conveyers ([B65G 19/24](#) takes precedence) }
- B65G 19/24 . . . Attachment of impellers to traction element
- B65G 19/245 { for article conveyers, e.g. for container conveyers ([B65G 19/26](#) takes precedence) }
- B65G 19/26 pivotal
- B65G 19/265 { for article conveyers, e.g. for container conveyers }
- B65G 19/28 . . Troughs, channels, or conduits
- B65G 19/282 . . . { for article conveyers, e.g. for container conveyers ([B65G 19/30](#) takes precedence) }
- B65G 19/285 . . . { with detachable or replaceable parts, e.g. replaceable wear channels ([B65G 19/282](#) takes precedence) }
- B65G 19/287 . . . { Coupling means for trough sections ([B65G 19/282](#) takes precedence) }
- B65G 19/30 . . . with supporting surface modified to facilitate movement of loads, e.g. friction reducing devices
- B65G 19/303 { for article conveyers, e.g. for container conveyers }
- B65G 19/306 { the supporting surface being provided with rollers }
- B65G 21/00** **Supporting or protective framework or housings for endless load-carriers or traction elements of belt or chain conveyers** ({ for load-carriers in jiggling conveyers [B65G 27/08](#) } ; supporting framework or bases for conveyers as a whole [B65G 41/00](#))
- B65G 21/005 . { for conveyors floating on liquids }
- B65G 21/02 . consisting essentially of struts, ties, or like structural elements
- B65G 21/04 . . the ties being formed by longitudinal cables or ropes
- B65G 21/06 . . constructed to facilitate rapid assembly or dismantling
- B65G 21/08 . Protective roofs or arch supports therefor
- B65G 21/10 . movable, or having interchangeable or relatively movable parts ; Devices for moving framework or parts thereof
- B65G 21/105 . . { having demountable driving or return heads }
- B65G 21/12 . . to allow adjustment of position of load-carrier or traction element as a whole
- B65G 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 arrangement for belt or chain \[B65G 23/44\]\(#\) }](#))
- B65G 21/16 . for conveyers having endless load-carriers movable in curved paths

- B65G 21/18 .. in three-dimensionally curved paths
- B65G 21/20 . Means incorporated in, or attached to, framework or housings for guiding { or retaining } load-carriers, traction elements or loads supported on moving surfaces (arrangements for supporting belts [B65G 15/60](#) ; { details of chain conveyers [B65G 17/30](#) ; } rollers or roller arrangements [B65G 39/00](#) ; [F16G](#))
- B65G 21/2009 .. { Magnetic retaining means }
- B65G 21/2018 ... { for retaining the load on the load-carrying surface, (retaining loads by magnetic load-carriers, e.g. belts [B65G 15/58](#) , chains [B65G 17/46](#) ; individual magnetic grippers [B65G 17/323](#)) }
- B65G 21/2027 .. { Suction retaining means }
- B65G 21/2036 ... { for retaining the load on the load-carrying surface (individual suction grippers [B65G 17/323](#)) }
- B65G 21/2045 .. { Mechanical means for guiding or retaining the load on the load-carrying surface }
- B65G 21/2054 ... { comprising elements movable in the direction of load-transport }
- B65G 21/2063 ... { comprising elements not movable in the direction of load-transport }
- B65G 21/2072 { Lateral guidance means }
- B65G 21/2081 { for bulk material, e.g. skirts }
- B65G 21/209 { for augmenting or creating a pression force between the load and the load-carrying surface }
- B65G 21/22 .. Rails or the like engaging sliding elements or rollers attached to load-carriers or traction elements
- B65G 23/00** **Driving gear for endless conveyers { control devices (for conveyers in general [B65G 43/00](#)) } ; Belt or chain tensioning arrangements**
- B65G 23/02 . Belt- or chain-engaging elements
- B65G 23/04 .. Drums, rollers, or wheels { [23/18 takes precedence](#) }
- B65G 23/06 ... with projections engaging abutments on belts or chains, e.g. sprocket wheels
- B65G 23/08 ... with self-contained driving mechanisms, e.g. motors and associated gearing
- B65G 23/10 ... arranged intermediate the ends of the conveyers
- B65G 23/12 ... Arrangements of co-operating drums or rollers to augment tractive effort applied to the belts
- B65G 23/14 .. Endless driving elements extending parallel to belt or chain { [B65G 23/18 takes precedence](#) }
- B65G 23/16 ... with dogs engaging abutments on belts or chains
- B65G 23/18 .. Suction or magnetic elements
- B65G 23/19 ... Suction elements
- B65G 23/20 .. Screws
- B65G 23/22 . Arrangements or mountings of driving motors { ([B65G 23/08 takes precedence](#)) }
- B65G 23/23 .. of electric linear motors
- B65G 23/24 . Gearing between driving motor and belt- or chain-engaging elements (contained in drums, rollers or wheels [B65G 23/08](#))
- B65G 23/26 .. Applications of clutches or brakes
- B65G 23/28 .. Arrangements for equalising the drive to several elements

- B65G 23/30 . . Variable-speed gearing
- B65G 23/32 . for effecting drive at two or more points spaced along the length of the conveyers
- B65G 23/34 . . comprising a single motor coupled to spaced driving elements
- B65G 23/36 . . comprising two or more driving motors each coupled to a separate driving element, e.g. at either end of the conveyers
- B65G 23/38 . for effecting intermittent movement of belts or chains
- B65G 23/40 . . Applications of pawl and ratchet mechanisms or Geneva wheels
- B65G 23/42 . . Reciprocating members engaging successive abutments on belts or chains
- B65G 23/44 . Belt or chain tensioning arrangements
- B65G 25/00** **Conveyers 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](#))**
- B65G 25/02 . the carrier or impeller having different forward and return paths of movement, e.g. walking beam conveyers
- B65G 25/04 . the carrier or impeller having identical forward and return paths of movement, e.g. reciprocating conveyers
- B65G 25/06 . . having carriers, e.g. belts
- B65G 25/065 . . . { [Reciprocating floor conveyers](#) }
- B65G 25/08 . . having impellers, e.g. pushers
- B65G 25/10 . . . with impeller pivotally mounted on a reciprocating bar
- B65G 25/12 . . . with impeller fixed to a reciprocating bar and the bar being rotated about its longitudinal axis on its return stroke
- B65G 27/00** **Jigging conveyers (jigs for wet separation [B03B](#) ; generating or transmitting mechanical vibrations [B06](#) ; jiggers for screening, sifting or sorting [B07B 1/28](#))**
- B65G 27/02 . comprising helical or spiral channels or conduits for elevation of materials ([helical or spiral chutes in general B65G 11/06](#) ; { [use of such conveyers for arranging or orientating articles during feeding B65G 47/1421](#) })
- B65G 27/04 . Load carriers other than helical or spiral channels or conduits
- B65G 27/06 . . Joints connecting load-carrier sections
- B65G 27/08 . Supports or mountings for load-carriers, e.g. framework, bases, spring arrangements { [spring arrangements as jigging movement transmitting units B65G 27/10](#) } }
- B65G 27/10 . Applications of devices for generating or transmitting jigging movements
- B65G 27/12 . . of shaking devices, i.e. devices for producing movements of low frequency and large amplitude
- B65G 27/14 . . . hydraulic
- B65G 27/16 . . of vibrators, i.e. devices for producing movements of high frequency and small amplitude
- B65G 27/18 . . . Mechanical devices { ([B65G 27/26](#) takes precedence) }

- B65G 27/20 rotating unbalanced masses
- B65G 27/22 . . . Hydraulic or pneumatic devices
- B65G 27/24 . . . Electromagnetic devices
- B65G 27/26 . . . with elastic coupling between vibrator and load carrier
- B65G 27/28 . . with provision for dynamic balancing
- B65G 27/30 . . . by means of an oppositely-moving mass, e.g. a second conveyer
- B65G 27/32 . . with means for controlling direction, frequency or amplitude of vibration or shaking movement

- B65G 27/34 . comprising a series of co-operating units

- B65G 29/00** **Rotary conveyers, e.g. rotating discs, arms, starwheels, cones** ([mechanical projectors B65G 31/00](#) ; [screw or rotary spiral conveyers B65G 33/00](#) ; { [turntables as feeding, transfer or discharging devices B65G 47/80](#) ; [starwheels as feeding, transfer or discharging devices B65G 47/84](#) })

- B65G 29/02 . for inclined or vertical transit ([B65G 15/00](#) , [B65G 17/00](#) take precedence)

- B65G 31/00** **Mechanical projectors for articles or solid materials** ([distributors for fertilisers A01C](#) ; [moulding machines B22C](#) ; [sandblasting devices B24C](#) ; [projectors for applying plaster to buildings E04F 21/00](#))

- B65G 31/02 . comprising belts
- B65G 31/04 . comprising discs, drums, or like rotary impellers

- B65G 33/00** **Screw or rotary spiral conveyers** ([screws for extruding, compressing, kneading, mixing, pumping or other special operations, see the relevant classes](#))

- B65G 33/02 . for articles
- B65G 33/04 . . conveyed between a single screw and guiding means
- B65G 33/06 . . conveyed and guided by parallel screws

- B65G 33/08 . for fluent solid materials
- B65G 33/10 . . with non-enclosed screws
- B65G 33/12 . . with screws formed by straight tubes or drums having internal threads, or by spiral or helical tubes
- B65G 33/14 . . comprising a screw or screws enclosed in a tubular housing
- B65G 33/16 . . . with flexible screws operating in flexible tubes
- B65G 33/18 . . . with multiple screws in parallel arrangements { [e.g. concentric](#) }
- B65G 33/20 . . . the housing being rotatable relative to the screw
- B65G 33/22 . . . with means for retarding material flow at the delivery end of the housing

- B65G 33/24 . Details
- B65G 33/26 . . Screws ([as gearing elements F16H 25/20](#))
- B65G 33/265 . . . { [with a continuous helical surface](#) ([flexible screws B65G 33/16](#)) }

- B65G 33/30 . . . with a discontinuous helical surface
- B65G 33/32 . . Adaptations of bearings or couplings for supporting and connecting screws ([B65G 33/16](#) takes precedence)
- B65G 33/34 . . Applications of driving gear
- B65G 33/36 . . . for rotating housing and screw at different speeds
- B65G 33/38 . . . for effecting simultaneous rotation and reciprocation of screw

- B65G 35/00** **Kinds of mechanical conveyers not otherwise provided for (railway systems [B61B](#))**

- B65G 35/005 . { with peristaltic propulsion along a flexible tube }
- B65G 35/02 . comprising an endless traction element, e.g. a belt, arranged to roll cylindrical articles over a supporting surface
- B65G 35/04 . comprising a flexible load carrier, e.g. a belt, which is wound up at one end and paid out at the other ([reciprocating belt conveyers \[B65G 25/06\]\(#\)](#))
- B65G 35/06 . comprising a load-carrier moving along a path, e.g. a closed path, and adapted to be engaged by any one of a series of traction elements spaced along the path
- B65G 35/063 . . { the traction element being a rotating bar or tube }
- B65G 35/066 . . . { the bar or the tube being provided with a helical or annular channel }
- B65G 35/08 . comprising trains of unconnected load-carriers, e.g. belt sections, movable in a path, e.g. a closed path, adapted to contact each other and to be propelled by means arranged to engage each load-carrier in turn

- B65G 37/00** **Combinations of mechanical conveyers of the same kind, or of different kinds, of interest apart from their application in particular machines or use in particular manufacturing processes (in "live" storage devices [B65G 1/04](#) ; { series of co-operating belt conveyer units [B65G 15/22](#) ; series of co-operating chain conveyer units [B65G 17/26](#) ; sequence control of combined conveyers [B65G 43/10](#) } ; specially adapted for handling radioactive materials [G21](#))**

- B65G 37/005 . { comprising two or more co-operating conveying elements with parallel longitudinal axes (the conveying elements being endless surfaces [B65G 15/10](#)) }
- B65G 37/02 . Flow-sheets for conveyer combinations in warehouses, magazines or workshops

- Guidance heading:** **Common features or details of, or auxiliary devices applicable to, conveyers of different kinds or types ; Feeding or discharging devices incorporated in, or operatively associated with, conveyers**

- B65G 39/00** **Rollers, e.g. drive rollers, or arrangements thereof incorporated in roller-ways or other types of mechanical conveyers (driving gear for rollers of roller-ways [B65G 13/06](#) ; drive rollers of endless conveyers [B65G 23/04](#) ; arrangement of rollers in metal-rolling equipment [B21B 39/10](#) ; friction members [F16H 55/32](#))**

- B65G 39/02 . Adaptations of individual rollers and supports therefor
- B65G 39/025 . . { having spherical roller elements }

- B65G 39/04 . . the rollers comprising a number of roller forming elements mounted on a single axle
- B65G 39/06 . . the roller sleeves being shock-absorbing, e.g. formed by helically-wound wires
- B65G 39/07 . . Other adaptations of sleeves
- B65G 39/071 . . . for aligning belts or sheets
- B65G 39/073 . . . for cleaning belts
- B65G 39/08 . . the rollers being magnetic (in magnetic belt separators [B03C 1/00](#))
- B65G 39/09 . . Arrangements of bearing or sealing means

- B65G 39/10 . Arrangements of rollers (on a single axle [B65G 39/04](#))
- B65G 39/12 . . mounted on framework
- B65G 39/125 . . . { for selectively adjusting troughing of the conveying belt }
- B65G 39/14 . . . Spring-supported sets, e.g. permitting troughing of a load-carrying belt
- B65G 39/145 . . . { attached to ties formed by longitudinal cables or ropes }
- B65G 39/16 . . . for aligning belts or chains (for aligning tapes or webs [B65H](#))
- B65G 39/18 . . . for guiding loads
- B65G 39/20 . . attached to moving belts or chains (belts [B65G 15/30](#) ; chains [B65G 17/38](#))

- B65G 41/00** **Supporting frames or bases for conveyers as a whole, e.g. transportable conveyer frames**

- B65G 41/001 . { with the conveyer adjustably mounted on the supporting frame or base }
- B65G 41/002 . . { Pivotably mounted }
- B65G 41/003 . . { mounted for linear movement only }
- B65G 41/005 . . { mounted for both pivotal and linear movement }

- B65G 41/006 . { with the conveyer not adjustably mounted on the supporting frame or base }

- B65G 41/007 . { Means for moving conveyer frames and control arrangements therefor ([B65G 41/02](#) takes precedence) }
- B65G 41/008 . . { frames mounted on wheels or caterpillar (for movement on rail tracks [B65G 41/02](#)) }

- B65G 41/02 . Frames mounted on wheels for movement on rail tracks

- B65G 43/00** **Control, e.g. safety, warning, fault-correcting, devices (for elevators, escalators or moving walkways [B66B](#) ; in general [F16P](#) , [G08B](#))**

- NOTE**
- in this group the following indexing codes are used:
[B65G 2811/0673](#)
[B65G 2812/02099](#) to [B65G 2812/02108](#)

- B65G 43/02 . detecting dangerous physical condition of load carriers, e.g. for interrupting the drive in the event of overheating

- B65G 43/04 . detecting slip between driving element and load-carrier, e.g. for interrupting the drive {

([B65G 43/02](#) takes precedence) }

- B65G 43/06 . interrupting the drive in case of driving element breakage ; Braking or stopping loose load-carriers
- B65G 43/08 . Control devices operated by article or material being fed, conveyed or discharged { ([and controlling the discharging devices B65G 47/42](#)) }
- B65G 43/10 . Sequence control of conveyers operating in combination

B65G 45/00 Lubricating, cleaning, or clearing devices

- B65G 45/005 . { [Cleaning conveyer screws](#) }
- B65G 45/02 . Lubricating devices
 - B65G 45/04 . . . for rollers
 - B65G 45/06 . . . forming belt troughing structure
 - B65G 45/08 . . . for chains
- B65G 45/10 . Cleaning devices ([adaptations of roller sleeves for cleaning belts B65G 39/073](#))
 - B65G 45/105 . . { [comprising vibrating means](#) }
 - B65G 45/12 . . comprising scrapers
 - B65G 45/14 . . . Moving scrapers
 - B65G 45/16 . . . with scraper biasing means
 - B65G 45/18 . . comprising brushes
 - B65G 45/20 . . comprising screws
 - B65G 45/22 . . comprising fluid applying means
 - B65G 45/24 . . comprising plural diverse cleaning devices
 - B65G 45/26 . . for gathering residue after cleaning

B65G 47/00 Article or material handling devices associated with conveyers ; Methods employing such devices ([for sorting, e.g. postal B07C](#))

- B65G 47/02 . Devices for feeding articles or materials to conveyers
 - B65G 47/04 . . for feeding articles
 - B65G 47/06 . . . from a single group of articles arranged in orderly pattern, e.g. workpieces in magazines ([de-stacking devices B65G 59/00](#) ; [picking-up flat workpieces B65H](#))
 - B65G 47/08 spacing or grouping the articles during feeding ([during transit by conveyers B65G 47/26](#))
 - B65G 47/082 { [grouping articles in rows](#) }
 - B65G 47/084 { [grouping articles in a predetermined 2-dimensional pattern](#) }
 - B65G 47/086 { [cubiform articles](#) }
 - B65G 47/088 { [cylindrical articles](#) }
 - B65G 47/12 . . . from disorderly-arranged article piles or from loose assemblages of articles

B65G 47/14	....	arranging or orientating the articles by mechanical or pneumatic means during feeding (during transit by conveyer B65G 47/24 , B65G 47/26)
B65G 47/1407	.....	{ the articles being fed from a container, e.g. a bowl }
B65G 47/1414	.....	{ by means of movement of at least the whole wall of the container }
B65G 47/1421	.....	{ Vibratory movement }
B65G 47/1428	.....	{ rotating movement }
B65G 47/1435	.....	{ using the centrifugal effect to arrange or orientate the articles }
B65G 47/1442	.....	{ by means of movement of the bottom or a part of the wall of the container (devices using suction or magnetic forces B65G 47/1485) }
B65G 47/145	.....	{ Jigging or reciprocating movement }
B65G 47/1457	.....	{ Rotating movement in the plane of the rotating part }
B65G 47/1464	.....	{ using the centrifugal effect to arrange or orientate the articles }
B65G 47/1471	.....	{ Movement in one direction, substantially outwards }
B65G 47/1478	.....	{ by means of pick-up devices, the container remaining immobile }
B65G 47/1485	.....	{ using suction or magnetic forces }
B65G 47/1492	.....	{ the articles being fed from a feeding conveyer }
B65G 47/16	..	for feeding materials in bulk
B65G 47/18	...	Arrangements or applications of hoppers or chutes
B65G 47/19	....	having means for controlling material flow, e.g. to prevent overloading (controlling feed or discharge by weighing a continuous stream of material G01G 11/08)
B65G 47/20	....	the hoppers or chutes being movable
B65G 47/22	.	Devices influencing the relative position or the attitude of articles during transit by conveyers (during feeding B65G 47/14)
B65G 47/24	..	Orientating the articles
B65G 47/244	...	by turning them about an axis substantially perpendicular to the conveying plane
B65G 47/2445	....	{ by means of at least two co-operating endless conveying elements }
B65G 47/248	...	by turning over or inverting them (B65G 47/244 takes precedence)
B65G 47/252	....	about an axis substantially perpendicular to the conveying direction
B65G 47/256	...	removing incorrectly orientated articles
B65G 47/26	..	Arranging the articles, e.g. varying spacing between individual articles (stacking or destacking { during transit B65G 57/32 , B65G 59/12 })
B65G 47/261	...	{ Accumulating articles }
B65G 47/263	....	{ the conveyer drive is taken from a longitudinally extending shaft }
B65G 47/265	....	{ with one or more load advancing units travelling along the entire length of the accumulation line }
B65G 47/266	....	{ by means of a series of pivotable stop elements }
B65G 47/268	....	{ by means of belt or chain conveyor }
B65G 47/28	...	during transit by a single conveyer { (B65G 47/261 takes precedence) }
B65G 47/29	....	by temporarily stopping movement { (stopping elements B65G 47/88) }
B65G 47/295	.....	{ by means of at least two stopping elements }
B65G 47/30	...	during transit by a series of conveyers { (B65G 47/261 takes precedence) }
B65G 47/31	....	by varying the relative speeds of the conveyers forming the series

- B65G 47/32 Applications of transfer devices { ([such devices per se B65G 47/74](#)) }
- B65G 47/34 . Devices for discharging articles or materials from conveyers ([B65G 47/256 takes precedence; sorting in general B07](#))
- B65G 47/36 . . by detaching suspended articles
- B65G 47/38 . . by dumping, tripping, or releasing load carriers ([by flexing or tilting travelling structures B65G 47/94](#))
- B65G 47/40 . . . by tilting conveyer buckets
- B65G 47/42 . . operated by article or material being conveyed and discharged { ([B65G 47/46 takes precedence](#)) }
- B65G 47/44 . . Arrangements or applications of hoppers or chutes
- B65G 47/46 . . and distributing, e.g. automatically, to desired points ({ [pivotable chutes B65G 11/12](#) } ; in tube mail systems [B65G 51/36](#) ; postal or like sorting [B07C](#) ; in railway operations [B61L 11/10](#) ; handling sheets or thin flat articles [B65H](#))
- B65G 47/48 . . . according to bodily destination marks on either articles or load carrier ([marking data records G06K](#))
- B65G 47/482 { [using exclusively mechanical transmitting means between destination marks and switching means](#) }
- B65G 47/485 { [using electric or electronic transmitting means between destination marks and switching means](#) }
- B65G 47/487 { [the destination marks being mechanically detected](#) }
- B65G 47/49 without bodily contact between article or load carrier and automatic control device { [e.g. the destination marks being electrically or electronically detected](#) }
- B65G 47/493 { [by use of light responsive means](#) }
- B65G 47/496 { [by use of magnetic responsive means](#) }
- B65G 47/50 . . . according to destination signals stored in separate systems
- B65G 47/503 { [the system comprising endless moving means](#) }
- B65G 47/506 { [the system comprising a shift-register](#) }
- B65G 47/51 . . . according to unprogrammed signals, e.g. influenced by supply situation at destination ([volume, flow or liquid level meters G01F](#) ; [scales or weighing machines G01G](#) ; [remote controls G05G](#))
- B65G 47/5104 { [for articles](#) }
- B65G 47/5109 { [first In - First Out systems: FIFO](#) }
- B65G 47/5113 { [using endless conveyors \(B65G 47/5145 takes precedence \)](#) }
- B65G 47/5118 { [with variable accumulation capacity](#) }
- B65G 47/5122 { [by displacement of the conveyor-guiding means, e.g. of the loose pulley-type \(B65G 47/5127 takes precedence \)](#) }
- B65G 47/5127 { [by relative displacement between conveyor and input or output](#) }
- B65G 47/5131 { [by relative displacement between conveyors or conveyor parts and bridging means therebetween](#) }
- B65G 47/5136 { [using rotary conveyors](#) }
- B65G 47/514 { [using stacking and/or destacking arrangements or stacks of articles or article carriers](#) }
- B65G 47/5145 { [with recirculation means](#) }
- B65G 47/515 { [First In-Last Out systems \(FILO\); Last In-First Out systems \(LIFO\)](#) }

B65G 47/5154	.....	{ using endless conveyors (B65G 47/5186 takes precedence) }
B65G 47/5159	.....	{ with variable accumulation capacity }
B65G 47/5163	.....	{ by displacement of conveyor-guiding means, e.g. of the loose pulley type (B65G 47/5168 takes precedence) }
B65G 47/5168	.....	{ by relative displacement between conveyor and conveyor in- or output means }
B65G 47/5172	.....	{ by relative displacement between conveyors or conveyor parts and bridging means therebetween }
B65G 47/5177	.....	{ using rotary conveyor(s) }
B65G 47/5181	.....	{ using stacking or destacking arrangements or stacks of articles or article-carriers }
B65G 47/5186	.....	{ with recirculation means }
B65G 47/519	.....	{ collecting tables or bins as end-station }
B65G 47/5195	....	{ for materials in bulk }
B65G 47/52	.	Devices for transferring articles or materials between conveyers { or sections of one conveyor }, i.e. discharging and feeding devices (loading or unloading by means not incorporated in, or not operatively associated with, conveyers B65G 65/00 ; transfer of workpieces during metal rolling B21B 41/00)
B65G 47/525	..	{ using fluid jets }
B65G 47/53	..	between conveyers which cross one another
B65G 47/54	...	at least one of which is a roller-way
B65G 47/56	..	to or from inclined or vertical conveyor sections
B65G 47/57	...	for articles
B65G 47/58	...	for materials in bulk
B65G 47/60	..	to or from conveyers of the suspended, e.g. trolley, type
B65G 47/61	...	for articles
B65G 47/62	...	for materials in bulk
B65G 47/64	..	Switching conveyers
B65G 47/641	...	{ by a linear displacement of the switching conveyor }
B65G 47/642	....	{ in a horizontal plane }
B65G 47/643	....	{ in a vertical plane }
B65G 47/644	...	{ by a pivoting displacement of the switching conveyor }
B65G 47/645	....	{ about a horizontal axis }
B65G 47/646	.....	{ the axis being parallel to the conveying direction }
B65G 47/647	.....	{ the axis being perpendicular to the conveying direction }
B65G 47/648	....	{ about a vertical axis }
B65G 47/66	..	Fixed platforms or combs, e.g. bridges between conveyers
B65G 47/68	..	adapted to receive articles arriving in one layer from one conveyor { lane } and to transfer them in individual layers to more than one conveyor { lane or to one broader conveyor lane }, or vice-versa, e.g. combining the flows of articles conveyed by more than one conveyor
B65G 47/681	...	{ from distinct, separate conveyor lanes }
B65G 47/682	...	{ from a single conveyor lane consisting of one conveyor or several adjacent conveyers }
B65G 47/683	....	{ with tilting of at least part of the conveyor to make use of gravity }

- B65G 47/684 { with recirculation of articles forming a buffer }
- B65G 47/69 . . . the articles being accumulated temporarily { (accumulating articles during transit [B65G 47/261](#)) }
- B65G 47/70 . . . with precedence controls among incoming article flows
- B65G 47/71 . . . the articles being discharged { or distributed } to several { distinct separate } conveyers { or to a broader conveyer lane }
- B65G 47/715 { to a broader conveyer lane }
- B65G 47/72 . . transferring materials in bulk from one conveyer to several conveyers, or vice versa

- B65G 47/74 . Feeding, transfer, or discharging devices of particular kinds or types
- B65G 47/76 . . Fixed or adjustable ploughs or transverse scrapers
- B65G 47/763 . . . { Fixed ploughs or transverse scrapers }
- B65G 47/766 . . . { Adjustable ploughs or transverse scrapers }
- B65G 47/78 . . Troughs having discharge openings and closures { (in air-slides [B65G 53/20](#)) }
- B65G 47/80 . . Turntables carrying articles or materials to be transferred, e.g. combined with ploughs or scrapers
- B65G 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](#)) }
- B65G 47/84 . . Star-shaped wheels or devices having endless travelling belts or chains, the wheels or devices being equipped with article-engaging elements { not used, see [B65G 47/841](#) , [B65G 47/846](#) }
- B65G 47/841 . . . { Devices having endless travelling belts or chains equipped with article-engaging elements }
- B65G 47/842 { the article-engaging elements being grippers }
- B65G 47/843 { the article-engaging elements being suction or magnetic means }
- B65G 47/844 { the article-engaging elements being pushers transversally movable on the supporting surface, e.g. pusher-shoes }
- B65G 47/845 { the article engaging elements being pushers moving in parallel and independently from the supporting conveyor }
- B65G 47/846 . . . { Star-shaped wheels or wheels equipped with article-engaging elements }
- B65G 47/847 { the article-engaging elements being grippers }
- B65G 47/848 { the article-engaging elements being suction or magnetic means }
- B65G 47/88 . . Separating or stopping elements, e.g. fingers (attached to star-shaped wheels [B65G 47/84](#))
- B65G 47/8807 . . . { with one stop }
- B65G 47/8815 { Reciprocating stop, moving up or down in the path of the article }
- B65G 47/8823 { Pivoting stop, swinging in or out of the path of the article }
- B65G 47/883 { Fixed stop }
- B65G 47/8838 { with a linearly movable pusher element which lifts or releases the article }
- B65G 47/8846 { with a pivoting pusher element which lifts or releases the article }
- B65G 47/8853 { with conveyors, e.g. pivoting or rotating, to transfer the article }
- B65G 47/8861 { Stop in the form of a clamp on one or both sides of the article }
- B65G 47/8869 { stopping or lifting all articles from a conveyor }
- B65G 47/8876 . . . { with at least two stops acting as gates }

B65G 47/8884	....	{ Stops acting asynchronously, e.g. one stop open, next one closed or the opposite }
B65G 47/8892	....	{ Stops acting independently of each other }
B65G 47/90	..	Devices for picking-up and depositing articles or materials
B65G 47/901	...	{ provided with drive systems with rectilinear movements only }
B65G 47/902	...	{ provided with drive systems incorporating rotary and rectilinear movements }
B65G 47/904	...	{ provided with rotary movements only }
B65G 47/905	...	{ Control arrangements }
B65G 47/907	...	{ with at least two picking-up heads }
B65G 47/908	...	{ with inflatable picking-up means (inflatable gripping members on load engaging elements for cranes B66C 1/46) }
B65G 47/91	...	incorporating pneumatic, e.g. suction, grippers
B65G 47/911	....	{ with air blasts producing partial vacuum }
B65G 47/912	....	{ provided with drive systems with rectilinear movements only }
B65G 47/914	....	{ provided with drive systems incorporating rotary and rectilinear movements }
B65G 47/915	....	{ provided with drive systems with rotary movements only }
B65G 47/917	....	{ control arrangements }
B65G 47/918	....	{ with at least two picking-up heads }
B65G 47/92	...	incorporating electrostatic or magnetic grippers
B65G 47/94	..	Devices for flexing or tilting travelling structures ; Throw-off carriages
B65G 47/945	...	{ tilting endless surfaces, e.g. belts }
B65G 47/95	...	adapted for longitudinal delivery
B65G 47/96	...	Devices for tilting links or platform { (releasing load-carriers B65G 47/38) }
B65G 47/962	....	{ tilting about an axis substantially parallel to the conveying direction }
B65G 47/965	.....	{ tilting about a sided-axis, i.e. the axis is not located near the center-line of the load-carrier }
B65G 47/967	....	{ tilting about an axis perpendicular to the conveying direction }
B65G 49/00		Conveying systems characterised by their application for specified purposes not otherwise provided for (for conveying sheet material B65H)
B65G 49/02	.	for conveying workpieces through baths of liquid
B65G 49/025	..	{ conveyer feeding and discharging means }
B65G 49/04	..	the workpieces being immersed and withdrawn by movement in a vertical direction
B65G 49/0404	...	{ specially adapted for very long workpieces, e.g. chains, cables or belts }
B65G 49/0409	...	{ specially adapted for workpieces of definite length }
B65G 49/0413	....	{ arrangements for conveyance through the bath }
B65G 49/0418	.....	{ chain or belt conveyers }
B65G 49/0422	.....	{ screws }
B65G 49/0427	.....	{ jiggling conveyers }
B65G 49/0431	.....	{ reciprocating conveying means }
B65G 49/0436	....	{ arrangements for conveyance from bath to bath }
B65G 49/044	.....	{ along a continuous circuit }

B65G 49/0445	.....	{ the circuit being movable vertically as a whole }
B65G 49/045	.....	{ the circuit being fixed }
B65G 49/0454	.....	{ by means of containers -or workpieces- carriers (containers or carriers as such see C25D 17/00) }
B65G 49/0459	.....	{ movement in a vertical direction is caused by self-contained means }
B65G 49/0463	.....	{ movement in a vertical direction is caused by lifting means or fixed or adjustable guiding means located at the bath area }
B65G 49/0468	.....	{ without container or workpieces carriers }
B65G 49/0472	.....	{ along a non continuous circuit }
B65G 49/0477	.....	{ with lifting means for circuit parts }
B65G 49/0481	.....	{ with lifting means locating at the bath area }
B65G 49/0486	.....	{ provided with rotating or pivoting arms }
B65G 49/049	.....	{ provided with vertical guiding means }
B65G 49/0495	.....	{ conveying by flows of fluids }
B65G 49/05	.	for fragile or damageable materials or articles
B65G 49/06	..	for fragile sheets, e.g. glass (transporting of glass products during their manufacture C03B 35/00)

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](#) to [B65G 2249/045](#)

B65G 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 conveyers C03B 33/00 - C03B 33/10 ; devices for turning sheets B65G 49/067 ; suspending devices B65G 49/066) }
B65G 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) }
B65G 49/063	...	{ Transporting devices for sheet glass }
B65G 49/064	....	{ in a horizontal position (B65G 49/066 takes precedence) }
B65G 49/065	.....	{ supported partially or completely on fluid cushions e.g. a gas cushion (in general B65G 51/00) }
B65G 49/066	....	{ being suspended; Suspending devices, e.g. clamps, supporting tongs }
B65G 49/067	...	{ Sheet handling, means, e.g. manipulators, devices for turning or tilting sheet glass (suction cups 49/06B ; combined with vertical conveyers C03B 33/00 - C03B 33/10 ; stacking and destacking B65G 49/068) }
B65G 49/068	...	{ Stacking or destacking devices; Means for preventing damage to stacked sheets; e.g. spaces (stacking in general B65G 57/00 ; destacking in general B65G 59/00 ; spacer sheets in general B65H) }
B65G 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) }

- B65G 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](#))
- B65G 49/08 . . for ceramic mouldings (charging, discharging, manipulation with charge in kilns [F27D 3/00](#))
- B65G 49/085 . . . { for loading or unloading racks or similar frames; loading racks therefor }

Guidance heading: **Non-mechanical conveying through pipes or tubes** (pipe-line systems [F17D](#)) ;
Floating in troughs

B65G 51/00 **Conveying articles through pipes or tubes by fluid flow or pressure** ([pneumatic railways B61B](#)) ; **Conveying articles over a flat surface, e.g. the base of a trough, by jets located in the surface** ([pumps F04](#) ; [fluid dynamics F15D](#) ; [valves, taps, cocks F16K](#) ; [pipes, pipe joints, or associated devices F16L](#))

- B65G 51/01 . Hydraulic transport of articles ([B65G 51/04](#) takes precedence; [water roundabouts A63G 3/00](#))
- B65G 51/02 . Directly conveying the articles, e.g. slips, sheets, stockings, containers or workpieces, by flowing gases
- B65G 51/025 . . { [Conveying ammunition through pipes](#) }
- B65G 51/03 . . over a flat surface or in troughs
- B65G 51/035 . . . { for [suspended articles, e.g. bottles](#) }
- B65G 51/04 . Conveying the articles in carriers having a cross-section approximating that of the pipe or tube ; Tube mail systems
- B65G 51/06 . . Despatch carriers for tube mail
- B65G 51/08 . . Controlling or conditioning the operating medium ([in compressors 59](#); [air-conditioning, e.g. de-watering, in pneumatic systems F16L 55/10](#))
- B65G 51/10 . . . at section junctions of pneumatic systems
- B65G 51/12 Pneumatic gates
- B65G 51/14 Pneumatic sluices
- B65G 51/16 . . . varying, e.g. starting or stopping, gas pressure or flow
- B65G 51/18 . . Adaptations of pipes or tubes ; Pipe or tube joints
- B65G 51/20 . . Braking arrangements
- B65G 51/22 . . Arrangements for stopping the carriers en route in order to control carrier sequence ; Blocking or separating devices
- B65G 51/24 . . Switches
- B65G 51/26 . . Stations
- B65G 51/28 . . . for despatch
- B65G 51/30 . . . for delivery
- B65G 51/32 . . . for despatch, delivery, and transit
- B65G 51/34 . . Two-way operation
- B65G 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
- B65G 51/38 . . . Contact devices on interior of tubes for detecting passage of carriers

- B65G 51/40 . . . Automatically distributing the carriers to desired stations
 - B65G 51/42 according to indications on carriers
 - B65G 51/44 without mechanical contact between carriers and controllers
 - B65G 51/46 according to separate signal systems
- B65G 53/00** **Conveying materials in bulk through troughs, pipes, or tubes by floating the materials, or by flows of gas, liquid, or foam (fluidising in connection with loading or unloading [B65G 69/06](#) ; loaders for hay or cereals [A01D 87/00](#) ; { discharging means for mixtures containing clay or cementitious material [B28C 7/16](#) ; } fluidising devices facilitating filling or emptying of large containers [B65D 88/72](#) ; { combined washing or cutting and conveyance of materials in sugar manufacture [A23N](#) ; [C13C](#) ; } dredging [E02F](#) ; winning materials out of alluvial deposits [E21C 45/00](#) ; hydraulic or pneumatic mine-filling-up machines [E21F 15/00](#) ; fluid dynamics [F15D](#)) { pumping fluid by direct action of another fluid [F04F](#) }**
- B65G 53/02 . Floating material troughs (air slides [B65G 53/04](#))
 - B65G 53/04 . Conveying materials in bulk pneumatically through pipes or tubes ; Air slides
 - B65G 53/06 . . Gas pressure systems operating without fluidisation of the materials
 - B65G 53/08 . . . with mechanical injection of the materials, e.g. by screw
 - B65G 53/10 . . . with pneumatic injection of the materials by the propelling gas
 - B65G 53/12 the gas flow acting directly on the materials in a reservoir
 - B65G 53/14 the gas flow inducing feed of the materials by suction effect
 - B65G 53/16 . . Gas pressure systems operating with fluidisation of the materials
 - B65G 53/18 . . . through a porous wall
 - B65G 53/20 of an air slide, e.g. a trough
 - B65G 53/22 the systems comprising a reservoir, e.g. a bunker
 - B65G 53/24 . . Gas suction systems
 - B65G 53/26 . . . operating with fluidisation of the materials
 - B65G 53/28 . . Systems utilising a combination of gas pressure and suction (inducing feed of the materials by suction in gas pressure systems [B65G 53/14](#))
 - B65G 53/30 . Conveying materials in bulk through pipes or tubes by liquid pressure
 - B65G 53/32 . Conveying concrete, e.g. for distributing same at building sites (mixing concrete on or by conveyers [B28C 5/34](#))
 - B65G 53/34 . Details
 - B65G 53/36 . . Arrangements of containers (hoppers [B65G 3/06](#) ; containers in general [B65D](#))
 - B65G 53/38 . . Modification of material containing walls to facilitate fluidisation (hoppers with walls modified for fluidisation of contents [B65G 3/14](#))
 - B65G 53/40 . . Feeding or discharging devices
 - B65G 53/42 . . . Nozzles (in general [B05B](#))
 - B65G 53/44 . . . Endless conveyers
 - B65G 53/46 . . . Gates or sluices, e.g. rotary wheels
 - B65G 53/4608 { Turnable elements, e.g. rotary wheels with pockets or passages for material }

B65G 53/4616	.....	{ with axis of turning parallel to flow }
B65G 53/4625	.....	{ with axis of turning perpendicular to flow }
B65G 53/4633	.....	{ the element having pockets, rotated from charging position to discharging position, i.e. discrete flow }
B65G 53/4641	.....	{ with means for clearing out the pockets }
B65G 53/465	.....	{ with a closable outlet }
B65G 53/4658	.....	{ the element having passages simultaneously connectable to both inlet and outlet ports }
B65G 53/4666	.....	{ with axis of turning neither parallel nor perpendicular to flow, i.e. mixed flow }
B65G 53/4675	....	{ with flexible wall parts, e.g. peristaltic devices }
B65G 53/4683	....	{ with a reciprocating mover acting directly on material }
B65G 53/4691	....	{ of air-lock type, i.e. at least two valves opening asynchronously }
B65G 53/48	...	Screws or like rotary conveyers
B65G 53/50	...	Pneumatic devices (incorporated in nozzles B65G 53/42)
B65G 53/52	..	Adaptations of pipes or tubes
B65G 53/521	...	{ means for preventing the accumulation or for removal of deposits (preventing accumulation in pipes in general F16L 55/24 ; preventing fouling in general B08B 17/00) }
B65G 53/523	...	{ Wear protection }
B65G 53/525	...	{ for conveyance in plug-form }
B65G 53/526	...	{ with means for special treatment to facilitate transport }
B65G 53/528	...	{ Flux combining or dividing arrangements (B65G 53/56 takes precedence) }
B65G 53/54	...	Flexible pipes or tubes
B65G 53/56	...	Switches
B65G 53/58	..	Devices for accelerating or decelerating flow of the materials ; Use of pressure generators (controlling pressure of propelling gas B65G 53/66)
B65G 53/60	..	Devices for separating the materials from propellant gas
B65G 53/62	...	Using liquid
B65G 53/64	...	in discrete amounts
B65G 53/66	..	use of indicator or control devices, e.g. for controlling gas pressure, for controlling proportions of material and gas, for indicating or preventing jamming of material { (controlling the flow of coal firing systems C21B 5/003) }

B65G 54/00 Non-mechanical conveyers not otherwise provided for

B65G 54/02	.	electrostatic, electric, or magnetic
B65G 54/025	..	{ the load being magnetically coupled with a piston-like driver moved within a tube }

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

NOTE

In groups [B65G 57/00](#) to [B65G 61/00](#) , the following term is used with the meaning indicated:- "stacking" means disposing articles individually or in layers one above each other

B65G 57/00

Stacking of articles ([B65G 60/00](#) takes precedence; stacking of jumbo rolls [B41F](#) ; stackable containers [B65D](#) ; feeding, piling, or stacking sheets [B65H](#) ; stacked delivery of machined products, see the relevant classes for the machines)

- [B65G 57/005](#) . { by using insertions or spacers between the stacked layers }
- [B65G 57/02](#) . by adding to the top of the stack
- [B65G 57/03](#) . . from above
- [B65G 57/035](#) . . . { with a stepwise downward movement of the stack }
- [B65G 57/04](#) . . . by suction or magnetic devices
- [B65G 57/06](#) . . . Gates for releasing articles
- [B65G 57/08](#) . . articles being tilted or inverted prior to depositing
- [B65G 57/081](#) . . . alternate articles being inverted
- [B65G 57/09](#) . . from alongside
- [B65G 57/10](#) . . . by devices, e.g. reciprocating, acting directly on articles for horizontal transport to the top of stack
- [B65G 57/11](#) . . the articles being stacked by direct action of the feeding conveyer
- [B65G 57/112](#) . . . the conveyer being adjustable in height
- [B65G 57/14](#) . . . the articles being transferred from carriers moving in an endless path adjacent to the stacks ([conveyer constructions B65G 15/00](#) to [B65G 35/00](#) ; [combinations of conveyers B65G 37/00](#))
- [B65G 57/16](#) . . Stacking of articles of particular shape
- [B65G 57/165](#) . . . { nested }
- [B65G 57/18](#) . . . elongated, e.g. sticks, rods, bars
- [B65G 57/183](#) { Angle irons }
- [B65G 57/186](#) { Cylindrical articles, e.g. tubes, rods, etc. }
- [B65G 57/20](#) . . . three-dimensional, e.g. cubiform, cylindrical
- [B65G 57/22](#) in layers each of predetermined arrangement
- [B65G 57/24](#) the layers being transferred as a whole, e.g. on pallets
- [B65G 57/245](#) { with a stepwise downward movement of the stack }
- [B65G 57/26](#) the arrangement providing for spaces between the articles
- [B65G 57/28](#) . by assembling the articles and tilting the assembled articles to a stacked position
- [B65G 57/30](#) . by adding to the bottom of the stack
- [B65G 57/301](#) . . { by means of reciprocatory or oscillatory lifting and holding or gripping devices }
- [B65G 57/302](#) . . . { added articles being lifted to substantially stationary grippers or holders }
- [B65G 57/303](#) . . . { the stack being lowered by mobile grippers or holders onto added articles }

- B65G 57/305 . . { by means of rotary devices or endless elements }
- B65G 57/306 . . . { the rotary devices being wheels }
- B65G 57/307 . . . { the rotary devices being screws }
- B65G 57/308 . . . { by means of endless elements }

- B65G 57/32 . characterised by stacking during transit

- B65G 59/00 De-stacking of articles ([B65G 60/00](#) takes precedence)**

- B65G 59/005 . { by using insertions or spacers between the stacked layers }

- B65G 59/02 . De-stacking from the top of the stack
- B65G 59/023 . . { by means insertable between the stacked articles or layers }
- B65G 59/026 . . { with a stepwise upward movement of the stack }
- B65G 59/04 . . by suction or magnetic devices
- B65G 59/045 . . . { with a stepwise upward movement of the stack }

- B65G 59/06 . De-stacking from the bottom of the stack
- B65G 59/061 . . { articles being separated substantially along the axis of the stack }
- B65G 59/062 . . . { by means of reciprocating or oscillating escapement-like mechanisms }
- B65G 59/063 { comprising lifting means }
- B65G 59/065 { by angularly displacing the stack relatively to the lower most article or vice-versa }
- B65G 59/066 . . . { by means of rotary devices or endless elements }
- B65G 59/067 . . { articles being separated substantially perpendicularly to the axis of the stack }
- B65G 59/068 . . . { by means of endless elements }

- B65G 59/08 . De-stacking after preliminary tilting of the stack

- B65G 59/10 . De-stacking nested articles
- B65G 59/101 . . { by means of oscillating escapement-like mechanisms }
- B65G 59/102 . . . { the axis of oscillation being substantially parallel to the axis of the stack }
- B65G 59/103 . . . { comprising lifting or gripping means }
- B65G 59/105 . . { by means of reciprocating escapement-like mechanisms }
- B65G 59/106 . . . { comprising lifting or gripping means }
- B65G 59/107 . . { by means of rotary devices or endless elements }
- B65G 59/108 . . . { the axis of rotation being substantially parallel to the axis of the stack }

- B65G 59/12 . characterised by de-stacking during transit

- B65G 60/00 Simultaneously or alternatively stacking and de-stacking of articles**

- B65G 61/00 Use of pick-up or transfer devices or of manipulators for stacking or de-stacking articles not otherwise provided for ([manipulators B25J](#))**

- B65G 63/00 Transferring or trans-shipping at storage areas, railway yards, harbours, { or in**

opening mining cuts } ; **Marshalling yard installations** (transferring refuse between vehicles or containers [B65F 9/00](#) ; dredging, soil shifting [E02F](#) ; conveyers used in co-operation with coal or like winning apparatus [E21C 47/00](#))

- B65G 63/002 . { for articles }
- B65G 63/004 . . { for containers }
- B65G 63/006 . . . { using slanted guides }

- B65G 63/008 . { for bulk material }

- B65G 63/02 . with essentially horizontal transit otherwise than by bridge
- B65G 63/022 . . { for articles }
- B65G 63/025 . . . { for containers }
- B65G 63/027 . . { for bulk material }

- B65G 63/04 . with essentially horizontal transit by bridges equipped with conveyers { (cranes [B66C](#)) }
- B65G 63/042 . . { for articles }
- B65G 63/045 . . . { for containers }
- B65G 63/047 . . { for bulk material }

- B65G 63/06 . with essentially vertical transit (hoppers [B65D 88/26](#))
- B65G 63/062 . . { for articles }
- B65G 63/065 . . . { for containers }
- B65G 63/067 . . { for bulk material }

- B65G 65/00** **Loading or unloading** (of vehicles [B65G 67/00](#))

- B65G 65/005 . { Control arrangements }

- B65G 65/02 . Loading or unloading machines comprising essentially a conveyer for moving the loads associated with a device for picking-up the loads
- B65G 65/04 . . with pick-up shovels (constructions of shovels [E02F](#))
- B65G 65/06 . . with endless scraping or elevating pick-up conveyers
- B65G 65/08 . . with reciprocating pick-up conveyers
- B65G 65/10 . . . Raking or scraping devices
- B65G 65/12 operations at positions off-set from the conveyer centreline
- B65G 65/14 . . with jiggling pick-up conveyers, e.g. duck-bills
- B65G 65/16 . . with rotary pick-up conveyers
- B65G 65/18 . . . Discs
- B65G 65/20 . . . Paddle wheels
- B65G 65/22 . . . Screws

- B65G 65/23 . Devices for tilting and emptying of containers
- B65G 65/24 . . for manual tilting of barrels or casks

- B65G 65/28** . Piling or unpling loose materials in bulk, e.g. coal, manure, timber, not otherwise provided for ([by soil-shifting or like equipment E02F](#))
- B65G 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
- B65G 65/32** . . Filling devices ([pneumatic conveyers B65G 51/00](#) , [B65G 53/00](#))
- B65G 65/34** . . Emptying devices ([conveyer constructions B65G 15/00 to B65G 35/00](#) ; [devices similar to vehicle tipplers B65G 67/48](#))
- B65G 65/36** . . . Devices for emptying from the top
- B65G 65/365** { [comprising a vertical passage located inside the container](#) }
- B65G 65/38** Mechanical devices
- B65G 65/40** . . . Devices for emptying otherwise than from the top
- B65G 65/42** using belt or chain conveyers
- B65G 65/425** { [arranged to be movable](#) }
- B65G 65/44** using reciprocating conveyers, e.g. jiggling conveyers
- B65G 65/46** using screw conveyers
- B65G 65/463** { [arranged vertically or substantially vertically within the container \(\[B65G 65/466\]\(#\) takes precedence \)](#) }
- B65G 65/466** { [arranged to be movable](#) }
- B65G 65/48** using other rotating means, e.g. rotating pressure sluices in pneumatic systems { ([B65G 53/46](#) takes precedence) }
- B65G 65/4809** { [rotating about a substantially vertical axis](#) }
- B65G 65/4818** { [and having the form of rotating tables or pans](#) }
- B65G 65/4827** { [with particular surface features, e.g. ribs, roughening](#) }
- B65G 65/4836** { [and moving material over a stationary surface, e.g. sweep arms or wheels](#) }
- B65G 65/4845** { [flexible, e.g. chains, cables, spring arms](#) }
- B65G 65/4854** { [mounted on a carriage, e.g. for movement along slit-like outlets](#) }
- B65G 65/4863** { [by means of eccentric motion](#) }
- B65G 65/4872** { [through which material passes, e.g. fan-like wheels](#) }
- B65G 65/4881** { [rotating about a substantially horizontal axis](#) }
- B65G 65/489** { [in the form of rotating tubular chutes](#) }
- B65G 67/00** **Loading or unloading vehicles** ([by means incorporated in the vehicles B60 to B64](#) ; [ground or aircraft-carrier-deck installations B64F](#) ; [transferring refuse between vehicles or containers B65F 9/00](#))

- B65G 67/02 . Loading or unloading land vehicles
- B65G 67/04 .. Loading land vehicles { (loading or unloading boats to or from land vehicles [B60P 3/10](#)) }
- B65G 67/06 ... Feeding articles or materials from bunkers or tunnels
- B65G 67/08 ... using endless conveyers
- B65G 67/10 ... using conveyers covering the whole length of vehicle trains
- B65G 67/12 ... Loading elongated articles, e.g. rails, logs
- B65G 67/14 ... Loading hardened bricks, briquettes, or the like
- B65G 67/16 ... Loading coke-oven products (discharging coke-ovens [C10B 33/00](#))
- B65G 67/18 ... Refuelling locomotives with solid fuels (servicing locomotives [B61K 11/02](#))
- B65G 67/20 ... Loading covered vehicles
- B65G 67/22 ... Loading moving vehicles
- B65G 67/24 .. Unloading land vehicles
- B65G 67/26 ... using rakes or scrapers
- B65G 67/28 External transverse blades attached to endless conveyers
- B65G 67/30 ... using transportable tipping apparatus
- B65G 67/32 ... using fixed tipping installations
- B65G 67/34 Apparatus for tipping wagons or mine cars (inverting wagons [B65G 67/48](#) ; platform-lifts with tiltable platforms [B66F 7/22](#))
- B65G 67/36 endwise
- B65G 67/38 comprising a turntable
- B65G 67/40 toward one end only
- B65G 67/42 sideways
- B65G 67/44 by passing the vehicles over a stretch of transversely-inclined rails
- B65G 67/46 Apparatus for lifting and tilting
- B65G 67/48 Vehicle tipplers (devices for washing or cleaning railroad vehicles [B60S](#))
- B65G 67/50 Rotary vehicle tipplers, i.e. rotating through 360 degrees
- B65G 67/52 having several decks
- B65G 67/54 Vehicle-locking means
- B65G 67/56 Vehicle and tippler interlocking controls
- B65G 67/60 . Loading or unloading ships ([B65G 67/02](#) takes precedence; arrangement of ship-based loading or unloading equipment for cargo or passengers [B63B 27/00](#))
- B65G 67/603 .. { using devices specially adapted for articles }
- B65G 67/606 .. { using devices specially adapted for bulk material }
- B65G 67/62 .. using devices influenced by the tide or by the movement of the ship, e.g. devices on pontoons (horizontal loading or unloading platforms [B65G 69/22](#) ; loading ramps [B65G 69/28](#))
- B65G 69/00** **Auxiliary measures taken, or devices used, in connection with loading or unloading**
(in vehicles, see the relevant subclasses; preventing, minimising, or fighting fire [A62C](#))
- B65G 69/001 . { Buffers for vehicles at loading stations }
- B65G 69/003 . { Restraining movement of a vehicle at a loading station using means not being part of

- the vehicle }
- B65G 69/005 . . { the means engaging at least one wheel of the vehicle }
- B65G 69/006 . { Centring or aligning a vehicle at a loading station using means not being part of the vehicle }
- B65G 69/008 . { Dock- or bumper-seals }
- B65G 69/02 . Filling storage spaces as completely as possible, e.g. application of vibrators
- B65G 69/04 . Spreading out the materials conveyed over the whole surface to be loaded ; Trimming heaps of loose materials
- B65G 69/0408 . . { by relatively moving an endless feeding means ([B65G 69/0458](#) takes precedence) }
- B65G 69/0416 . . { with scraping belts or chains }
- B65G 69/0425 . . { with vibrating or shaking means }
- B65G 69/0433 . . { with screw conveyors }
- B65G 69/0441 . . { with chutes, deflector means or channels ([B65G 69/0458](#) takes precedence) }
- B65G 69/045 . . { with scraping devices ([B65G 69/0416](#) takes precedence) }
- B65G 69/0458 . . { with rotating means, e.g. tables, arms }
- B65G 69/0466 . . { with throwing devices }
- B65G 69/0475 . . { with air jets }
- B65G 69/0483 . . { with electric or magnetic means }
- B65G 69/0491 . . { with a pneumatic feeding conveyor }
- B65G 69/06 . Fluidising
- B65G 69/08 . Devices for emptying storage spaces as completely as possible ([devices preventing the formation of bridges B65D 88/64](#))
- B65G 69/10 . Obtaining an average product from stored bulk material ([for measuring or testing G01](#))
- B65G 69/12 . Sieving bulk materials during loading or unloading
- B65G 69/14 . Pulverising loaded or unloaded materials
- B65G 69/16 . Preventing pulverisation, deformation, breakage, or other mechanical damage to the goods or materials
- B65G 69/165 . . { using descending or lowering endless conveyors }
- B65G 69/18 . Preventing escape of dust
- B65G 69/181 . . { by means of sealed systems }
- B65G 69/182 . . . { with aspiration means }
- B65G 69/183 . . . { with co-operating closure members on each of the parts of a separable transfer channel }
- B65G 69/185 . . { by means of non-sealed systems }
- B65G 69/186 . . . { with aspiration means }

- B65G 69/187 . . . { with non-return closures }
- B65G 69/188 . . . { with spraying means }

- B65G 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

- B65G 69/22 . Horizontal loading or unloading platforms (pile tables [B65H](#) ; as road or railway equipment [E01F 1/00](#))
- B65G 69/24 . . having platform level adjusting means
- B65G 69/26 . . Rotatable platforms

- B65G 69/28 . Loading ramps (as road or railway equipment [E01F 1/00](#))
- B65G 69/2805 . . { permanently installed on the dock }
- B65G 69/2811 . . . { pivoting ramps }
- B65G 69/2817 { with fluid-operated means }
- B65G 69/2823 { extensible by pivoting parts }
- B65G 69/2829 { extensible by sliding parts }
- B65G 69/2835 { with spring-operated means }
- B65G 69/2841 { extensible by pivoting parts }
- B65G 69/2847 { extensible by sliding parts }
- B65G 69/2852 { with electric motor-operated means }
- B65G 69/2858 { with weight counterbalancing means }
- B65G 69/2864 . . . { adjustable with respect to the dock }
- B65G 69/287 . . { Constructional features of deck or surround }
- B65G 69/2876 . . . { Safety or protection means, e.g. skirts }
- B65G 69/2882 { operated by detectors or sensors }
- B65G 69/2888 { Vehicle barriers mounted on deck }
- B65G 69/2894 { Safety legs }
- B65G 69/30 . . Non-permanently installed loading ramps, e.g. transportable

- B65G 2047/00 Article or material handling devices associated with conveyers ; Methods employing such devices (for sorting, e.g. postal [B07C](#))**

- B65G 2047/52 . Devices for transferring articles or materials between conveyers { or sections of one conveyer } , i.e. discharging and feeding devices (loading or unloading by means not incorporated in, or not operatively associated with, conveyers [B65G 65/00](#) ; transfer of workpieces during metal rolling [B21B 41/00](#))
- B65G 2047/68 . . adapted to receive articles arriving in one layer from one conveyer { lane } and to transfer them in individual layers to more than one conveyer { lane or to one broader conveyer lane } , or vice-versa, e.g. combining the flows of articles conveyed by more than one conveyer
- B65G 2047/685 . . . Devices for preventing jamming in converging flows
- B65G 2047/686 Lane boundaries which reciprocate or oscillate, e.g. vibrating boundaries
- B65G 2047/687 Lane boundaries which comprise rotatable elements, e.g. discs, cylinders, endless belts
- B65G 2047/688 Lane boundaries which are compliant

B65G 2047/689 Lane boundaries which are of such shape that tight arrays of articles are broken up or prevented from forming

B65G 2201/00 Indexing codes relating to handling devices, e.g. conveyors, characterised by the type of product or load being conveyed or handled

B65G 2201/02 . Articles

B65G 2201/0202 .. Agricultural and processed food products

B65G 2201/0205 ... Biscuits

B65G 2201/0208 ... Eggs

B65G 2201/0211 ... Fruits and vegetables

B65G 2201/0214 .. Articles of special size, shape or weigh

B65G 2201/0217 ... Elongated

B65G 2201/022 ... Flat

B65G 2201/0223 ... Heavy

B65G 2201/0226 .. Cigarettes

B65G 2201/0229 .. Clothes, clothes hangers

B65G 2201/0232 .. Coils, bobbins, rolls

B65G 2201/0235 .. Containers

B65G 2201/0238 ... Bags

B65G 2201/0241 ... Barrels, drums

B65G 2201/0244 ... Bottles

B65G 2201/0247 Suspended bottles

B65G 2201/025 ... Boxes

B65G 2201/0252 ... Cans

B65G 2201/0255 Milkcans

B65G 2201/0258 ... Trays, totes or bins

B65G 2201/0261 ... Puck as article support

B65G 2201/0264 .. Luggage

B65G 2201/0267 .. Pallets

B65G 2201/027 .. Tablets, capsules, pills or the like

B65G 2201/0273 .. Tires

B65G 2201/0276 .. Tubes and pipes

B65G 2201/0279 .. Wheelbarrows

B65G 2201/0282 .. Wooden articles, e.g. logs, trunks or planks

B65G 2201/0285 .. Postal items, e.g. letters, parcels

B65G 2201/0288 .. Signatures, i.e. sections of printed magazines, papers or books

B65G 2201/0291 .. Pig used in pipe conveyors, e.g. a Molch

B65G 2201/0294 .. Vehicle bodies

B65G 2201/0297 .. Wafer cassette

B65G 2201/04 . Bulk

B65G 2201/042 .. Granular material

- B65G 2201/045 . . Sand, soil and mineral ore
- B65G 2201/047 . . Articles manipulated as bulk
- B65G 2201/06 . Articles and bulk

Guidance heading: Storing ; Storage devices

B65G 2203/00 Indexing code relating to control or detection of the articles or the load carriers during conveying

- B65G 2203/02 . Control or detection
- B65G 2203/0208 . . relating to the transported articles
- B65G 2203/0216 . . . Codes or marks on the article
- B65G 2203/0225 . . . Orientation of the article
- B65G 2203/0233 . . . Position of the article
- B65G 2203/0241 . . . Quantity of articles
- B65G 2203/025 . . . Speed of the article
- B65G 2203/0258 . . . Weight of the article
- B65G 2203/0266 . . relating to the load carrier(s)
- B65G 2203/0275 . . . Damage on the load carrier
- B65G 2203/0283 . . . Position of the load carrier
- B65G 2203/0291 . . . Speed of the load carrier
- B65G 2203/04 . Detection means
- B65G 2203/041 . . Camera
- B65G 2203/042 . . Sensors
- B65G 2203/043 . . . Magnetic
- B65G 2203/044 . . . Optical
- B65G 2203/045 . . . Thermic
- B65G 2203/046 . . . RFID
- B65G 2203/047 . . Switches
- B65G 2203/048 . . Satellite

B65G 2205/00 Stopping elements used in conveyors to stop articles or arrays of articles

- B65G 2205/02 . where the stop device is adaptable to the size of the article or array
- B65G 2205/04 . where the stop device is not adaptable
- B65G 2205/06 . Cushioned or damping stop devices, e.g. using springs or other mechanical actions

B65G 2207/00 Indexing codes relating to constructional details, configuration and additional features of a handling device, e.g. Conveyors

- B65G 2207/02 . Use of adhesive

B65G 2207/04	. Advertising elements
B65G 2207/06	. Air cushion support of articles
B65G 2207/08	. Adjustable and/or adaptable to the article size
B65G 2207/10	. Antistatic features
B65G 2207/12	. Chain pin retainers
B65G 2207/14	. Combination of conveyors
B65G 2207/16	. Convertible to another type of conveyor
B65G 2207/18	. Crossing conveyors
B65G 2207/20	. Earthquake protection
B65G 2207/22	. Heat or fire protection
B65G 2207/24	. Helical or spiral conveying path
B65G 2207/26	. Hygienic features, e.g. easy to sanitize
B65G 2207/28	. Impact protection
B65G 2207/30	. Modular constructions
B65G 2207/32	. Noise prevention features
B65G 2207/34	. Omni-directional rolls
B65G 2207/36	. Pushing shoes on conveyors
B65G 2207/38	. Pin used as carrier of one article
B65G 2207/40	. Safety features of loads, equipment or persons
B65G 2207/42	. Soft elements to prevent damage to articles, e.g. bristles, foam
B65G 2207/44	. Spiral conveyor tracks
B65G 2207/46	. Tray unloading features
B65G 2207/48	. Wear protection or indication features
B65G 2209/00	Indexing codes relating to order picking devices in General
B65G 2209/02	. Batch order forming, e.g. several batches simultaneously
B65G 2209/04	. Indication location means

- B65G 2209/06 . Use of order trucks
- B65G 2209/08 . Orders with a high and a low volume
- B65G 2209/10 . Partial order forming
- B65G 2249/00 Aspects relating to conveying systems for the manufacture of fragile sheets**
- B65G 2249/02 . Controlled or contamination-free environments or clean space conditions
- B65G 2249/04 . Arrangements of vacuum systems or suction cups
- B65G 2249/045 . . Details of suction cups suction cups
- B65G 2811/00 Indexing codes relating to common features for more than one conveyer kind or type**
- B65G 2811/06 . Devices controlling the relative position of articles
- B65G 2811/0605 . . by arranging articles in groups or arranging grouped articles
- B65G 2811/061 . . . Grouping articles in layers
- B65G 2811/0615 . . . Devices for arranging grouped articles in a single lane
- B65G 2811/0621 . . by modifying the orientation or position of articles
- B65G 2811/0626 . . . Orientation of articles
- B65G 2811/0631 . . by varying the spacing between individual articles
- B65G 2811/0636 . . . by means of one or several star-shaped wheels
- B65G 2811/0642 . . . using a fixed stopping element and means to pass the element
- B65G 2811/0647 . . Changing the direction of movement of articles or bulk material
- B65G 2811/0652 . . . Accessories
- B65G 2811/0657 . . . Deflectors
- B65G 2811/0663 . . . Pick-up means
- B65G 2811/0668 . . . Magnetic or electrostatic devices
- B65G 2811/0673 . . Control of conveying operations
- B65G 2811/0678 . . . Determining the path to be followed
- B65G 2811/0684 by stopping or tilting load-carriers not leaving the conveyer path
- B65G 2811/0689 . . . Releasing constant material flow
- B65G 2811/0694 for permanently occupying the conveyer path
- B65G 2811/09 . Driving means for the conveyers
- B65G 2811/091 . . the conveyer type being irrelevant
- B65G 2811/092 . . . a single conveyer having more than one driving means
- B65G 2811/093 . . . Control means for automatic stop, start or warning variation during conveying operations
- B65G 2811/095 . . Speed variation control means
- B65G 2811/096 . . . without reversal of the conveying direction
- B65G 2811/097 . . . with reversal of the conveying direction

B65G 2811/098 . . . for combined motions

B65G 2812/00 Indexing codes relating to the kind or type of conveyers

- B65G 2812/01 . Conveyers composed of several types of conveyers
- B65G 2812/011 . . . one conveyer being driven by another one
- B65G 2812/012 . . . for conveying material successively by a series of conveyers
- B65G 2812/013 . . . without relative movement between conveyers
- B65G 2812/014 . . . with relative movement between conveyers
- B65G 2812/015 the conveyers being movably linked
- B65G 2812/016 . . . for conveying material by co-operating units in tandem
- B65G 2812/017 . . . using tilted or side by side conveyer sections
- B65G 2812/018 . . . between conveyer sections
- B65G 2812/019 . . . using two or more elevators

- B65G 2812/02 . Belt or chain conveyers
- B65G 2812/02009 . . . Common features for belt or chain conveyers
- B65G 2812/02019 . . . Supporting or guiding frames
- B65G 2812/02029 Transportable conveyer frames
- B65G 2812/02039 Profiles or beams
- B65G 2812/02049 with guiding means for displaceable conveyer accessories
- B65G 2812/02059 with supporting arrangements for ducts or cables or shaped as fluid ducts
- B65G 2812/02069 Rails
- B65G 2812/02079 Switches
- B65G 2812/02089 . . . Driving means
- B65G 2812/02099 . . . Safety measures in case of driving element breakage
- B65G 2812/02108 . . . Protection means
- B65G 2812/02118 . . . Gathering means for material falling from the conveyer
- B65G 2812/02128 . . . Belt conveyers
- B65G 2812/02138 . . . Common features for belt conveyers
- B65G 2812/02148 Driving means for the belts
- B65G 2812/02158 Means preventing dust penetration
- B65G 2812/02168 Belts provided with guiding means, e.g. rollers
- B65G 2812/02178 . . . characterised by the material
- B65G 2812/02188 Metallic belts
- B65G 2812/02198 Non-metallic belts
- B65G 2812/02207 Partially metallic belts
- B65G 2812/02217 . . . characterised by the configuration
- B65G 2812/02227 . . . for vertical conveyance
- B65G 2812/02237 provided with buckets
- B65G 2812/02247 using belts with bucket profiles
- B65G 2812/02257 the load remaining on the belt due to centrifugal forces
- B65G 2812/02267 . . . Conveyers having endless traction elements

B65G 2812/02277	...	Common features for chain conveyers
B65G 2812/02287	....	Driving means
B65G 2812/02297	.....	Arrangements for downward conveyance
B65G 2812/02306	.....	Driving drums
B65G 2812/02316	.....	with means for assuring constant linear speed of chains
B65G 2812/02326	....	Chains, cables or the like
B65G 2812/02336	.....	Accessories
B65G 2812/02346	.....	Grippers associated with chain parts
B65G 2812/02356	.....	characterised by the material
B65G 2812/02366	.....	Flexible links
B65G 2812/02376	.....	characterised by the configuration
B65G 2812/02386	.....	Woven chains
B65G 2812/02396	.....	Links and their attaching means
B65G 2812/02405	....	Means preventing dust penetration
B65G 2812/02415	...	with load-carrying surfaces supported by traction means
B65G 2812/02425	....	Continuous or uninterrupted load-carrying surfaces
B65G 2812/02435	.....	the surfaces being below the traction means
B65G 2812/02445	.....	the surfaces being an endless belt
B65G 2812/02455	.....	the surfaces being above, between or beside the traction means
B65G 2812/02465	.....	for conveyance along curves
B65G 2812/02475	.....	along vertical curves
B65G 2812/02485	.....	the load-carrying surfaces being fixed or non-movably linked to the traction means
B65G 2812/02495	.....	load-carrying surfaces using platforms or grids
B65G 2812/02504	.....	load-carrying surfaces with up-standing walls, e.g. with bucket profile
B65G 2812/02514	.....	in longitudinal direction only
B65G 2812/02524	.....	in transverse direction only
B65G 2812/02534	.....	the surfaces being an endless belt
B65G 2812/02544	.....	with bucket profile
B65G 2812/02554	.....	the load-carrying surfaces being pivotally attached to the traction means
B65G 2812/02564	.....	Tipping means
B65G 2812/02574	.....	Guiding means to maintain load-carrying surfaces horizontal
B65G 2812/02584	.....	the load-carrying surfaces resting on the traction means
B65G 2812/02594	.....	Reversing means
B65G 2812/02603	.....	Load-carrying surfaces adapted to be displaced relative to the traction means
B65G 2812/02613	....	the load-carrying surfaces being separated from each other, e.g. individual load carriers
B65G 2812/02623	.....	and pivotally mounted
B65G 2812/02633	.....	for bulk material
B65G 2812/02643	.....	Loading or unloading means
B65G 2812/02653	.....	for articles

B65G 2812/02663	.....	Loading or unloading means
B65G 2812/02673	.....	the load-carriers being arranged above, between or beside the traction means
B65G 2812/02683	.....	and fixed or non-movably linked to the traction means
B65G 2812/02693	.....	for vertical or inclined conveyance
B65G 2812/02702	.....	Details
B65G 2812/02712	.....	Loading or unloading means
B65G 2812/02722	.....	Frames
B65G 2812/02732	.....	with guiding means for the traction means
B65G 2812/02742	.....	Bucket elevators for bulk material
B65G 2812/02752	.....	Elevators for articles
B65G 2812/02762	.....	Load-carriers
B65G 2812/02772	.....	Plates or buckets
B65G 2812/02782	.....	with upstanding walls
B65G 2812/02792	.....	the load-carriers being connected pivotally to the traction means
B65G 2812/02801	.....	Loading or unloading means
B65G 2812/02811	.....	guided at least partially along a vertical or inclined direction
B65G 2812/02821	.....	with guiding means to remain in a load-carrying position
B65G 2812/02831	.....	the load-carriers resting on the traction means
B65G 2812/02841	.....	Reversing means
B65G 2812/02851	.....	load-carriers adapted to be displaced relative to the traction means
B65G 2812/02861	...	moving the materials over supporting surfaces by impeller means e.g. scrapers
B65G 2812/02871	....	for bulk material
B65G 2812/02881	.....	Scraper conveyers
B65G 2812/02891	.....	Troughs, channels or conduits
B65G 2812/029	.....	Guiding means for displaceable conveyer accessories
B65G 2812/0291	.....	Supporting arrangements for cables or ducts
B65G 2812/0292	.....	with oppositely-moving parts of the conveyer located in a common plane
B65G 2812/0293	.....	Guiding means for the scrapers
B65G 2812/0294	.....	Wear pieces
B65G 2812/0295	.....	Scraper chains
B65G 2812/0296	.....	Attachments of scrapers to traction elements
B65G 2812/0297	.....	to one chain
B65G 2812/0298	.....	to more than one chain
B65G 2812/0299	..	Conveyers having independant belt or chain conveyer sections
B65G 2812/03	.	Vibrating conveyers
B65G 2812/0304	..	Driving means or auxiliary devices
B65G 2812/0308	...	Driving means
B65G 2812/0312	....	for shaking
B65G 2812/0316	.....	using oppositely moving cylinders
B65G 2812/032	...	Help-conveyers

B65G 2812/0324	..	Frames
B65G 2812/0328	...	dismountable
B65G 2812/0332	...	deformable
B65G 2812/0336	...	movable
B65G 2812/034	...	Frame parts
B65G 2812/0344	....	Guiding means for conveyed materials
B65G 2812/0348	..	Supporting or guiding means for troughs
B65G 2812/0352	...	Rollers or balls
B65G 2812/0356	....	the roller or ball holders joining trough parts
B65G 2812/036	...	Pivoting arms
B65G 2812/0364	...	Springs
B65G 2812/0368	...	Flexible non-elastic suspension means, e.g. chains, cables
B65G 2812/0372	..	Connections between trough parts
B65G 2812/0376	...	using a traction or stiffening means connecting all trough parts
B65G 2812/038	...	adjustable
B65G 2812/0384	..	Troughs, tubes or the like
B65G 2812/0388	...	characterised by the configuration
B65G 2812/0392	....	Screw-, spiral- or ring-shaped
B65G 2812/0396	...	characterised by the material
B65G 2812/05	.	Screw-conveyers
B65G 2812/0505	..	Driving means, constitutive elements or auxiliary devices
B65G 2812/0511	...	Conveyer screws
B65G 2812/0516	....	characterised by the material
B65G 2812/0522	.....	Flexible screws
B65G 2812/0527	....	characterised by the configuration, e.g. hollow, toothed
B65G 2812/0533	.....	with opposite threads
B65G 2812/0538	.....	with changing diameter
B65G 2812/0544	...	Houses or frames
B65G 2812/055	....	Connecting means
B65G 2812/0555	....	characterised by the materials, e.g. flexible houses
B65G 2812/0561	....	characterised by the shape
B65G 2812/0566	.....	for preventing blockage of materials
B65G 2812/0572	....	Discharging valves
B65G 2812/0577	..	for bulk material
B65G 2812/0583	...	Drum arrangements
B65G 2812/0588	...	without houses
B65G 2812/0594	...	with parallel screws
B65G 2812/06	.	Skip or hopper conveyers
B65G 2812/0609	..	Constitutive elements or auxiliary devices
B65G 2812/0618	...	Skips, hoppers or similar containers
B65G 2812/0627	....	characterised by the configuration

B65G 2812/0636	.....	provided with guiding means
B65G 2812/0645	.....	for vertical transport
B65G 2812/0654	...	Tipping means
B65G 2812/0663	....	arranged on tracks along which the skips are guided
B65G 2812/0672	..	Loading or unloading skips
B65G 2812/0681	...	by reciprocating skips along guiding means
B65G 2812/069	....	for vertical shaft transport
B65G 2812/08	.	Chutes
B65G 2812/081	..	Connecting means
B65G 2812/082	...	telescopic
B65G 2812/083	...	pivoting
B65G 2812/084	..	Cleaning means
B65G 2812/085	..	characterised by the configuration
B65G 2812/086	...	Screw-like chutes
B65G 2812/087	....	provided with material moving or braking means
B65G 2812/088	..	characterised by the material
B65G 2812/09	.	Walking beam conveyers
B65G 2812/12	.	Conveyers with reciprocating means
B65G 2812/14	.	Turntables
B65G 2812/15	.	Throwing-conveyers
B65G 2812/16	.	Pneumatic conveyers
B65G 2812/1608	..	for bulk material
B65G 2812/1616	...	Common means for pneumatic conveyers
B65G 2812/1625	....	Feeding or discharging means
B65G 2812/1633	.....	using Venturi effect
B65G 2812/1641	...	Air pressure systems
B65G 2812/165	....	Details
B65G 2812/1658	....	with fluidisation of materials
B65G 2812/1666	.....	without porous wall
B65G 2812/1675	...	in which materials continuously flow from suction to pressure pipes
B65G 2812/1683	....	without passing through the air-pressure generator
B65G 2812/1691	...	Pumping systems
B65G 2812/18	.	Conveyers with suspended load-carriers operated by hand or gravity
B65G 2812/182	..	load-carriers, rollers therefor
B65G 2812/184	..	loading or unloading arrangements
B65G 2812/186	..	Arresting, braking or escapement means
B65G 2812/188	..	Rails or switches
B65G 2812/99	.	Conveyer systems not otherwise provided for

B65G 2813/00 Indexing codes relating to transport for special purposes

- B65G 2813/02 . Devices without motors and bearing wheels for moving or tilting heavy loads
- B65G 2813/023 .. Load-carriers
- B65G 2813/026 ... for bales, boxes or the like, by using pointed means

B65G 2814/00 Indexing codes relating to loading or unloading articles or bulk materials

- B65G 2814/02 . Auxiliary devices or arrangements
- B65G 2814/0205 .. for preventing breakage, pulverisation or damage to materials
- B65G 2814/0211 ... using moving braking means to slow down the speed during free fall
- B65G 2814/0217 .. for emptying as completely as possible
- B65G 2814/0223 ... General arrangements
- B65G 2814/0229 ... Air jet devices
- B65G 2814/0235 ... using liquid means
- B65G 2814/0241 .. for spreading out the material over the whole surface to be loaded
- B65G 2814/0247 ... by displacement of the feeding means
- B65G 2814/0252 ... using scraping belts or chains
- B65G 2814/0258 ... using shaking or vibrating means
- B65G 2814/0264 ... using screw conveyers
- B65G 2814/027 ... using chutes
- B65G 2814/0276 ... using scraping means other than belts or chains
- B65G 2814/0282 ... using turntables
- B65G 2814/0288 ... using throwing means
- B65G 2814/0294 ... using air jets
- B65G 2814/03 . Loading or unloading means
- B65G 2814/0301 .. General arrangements
- B65G 2814/0302 ... Central control devices
- B65G 2814/0304 ... Stacking devices
- B65G 2814/0305 Adding to the top
- B65G 2814/0307 the loading platform being lowered during stacking
- B65G 2814/0308 ... Destacking devices
- B65G 2814/031 Removing from the top
- B65G 2814/0311 ... Other article loading or unloading devices
- B65G 2814/0313 with vertically reciprocating platforms
- B65G 2814/0314 ... for moving bulk material downwards
- B65G 2814/0316 to a storage room
- B65G 2814/0317 by tipping a container
- B65G 2814/0319 through a closable or non-closable outlet opening
- B65G 2814/032 using a belt or chain conveyer in or beneath the opening
- B65G 2814/0322 as measuring instrument

B65G 2814/0323	.....	with chutes or plates in or beneath the opening
B65G 2814/0325	.....	with rotating drums, cylinders or cones in or beneath the opening
B65G 2814/0326	...	for moving bulk material upwards or horizontally
B65G 2814/0328	.....	Picking-up means
B65G 2814/0329	.....	Common features for picking-up means
B65G 2814/0331	.....	Belt or chain conveyers
B65G 2814/0332	.....	Bucket conveyers
B65G 2814/0334	.....	Scraper conveyers
B65G 2814/0335	.....	Shaking or vibrating conveyers
B65G 2814/0337	.....	Paddle wheels
B65G 2814/0338	.....	Inclined plates or chutes
B65G 2814/034	.....	Raking devices
B65G 2814/0341	.....	Scraping devices
B65G 2814/0343	.....	Rotating discs, drums or gathering arms
B65G 2814/0344	..	Control or feeding or discharging using level or weight measuring means
B65G 2814/0346	..	for guided skips
B65G 2814/0347	..	for cars or linked car-trains with individual load-carriers
B65G 2814/0349	...	loading continuously successive cars without material spillage
B65G 2814/035	...	Feeding or discharging devices adapted to car shapes
B65G 2814/0352	...	Feeding or discharging devices operated by cars
B65G 2814/0353	...	the load being lifted and the cars being moved beneath the load
B65G 2814/0355	...	the car floor and subframe being tilted or removed
B65G 2814/0356	...	the whole car being tilted
B65G 2814/0358	....	by means of tilting rails
B65G 2814/0359	....	by means of car tipplers
B65G 2814/0361	.....	Accessories
B65G 2814/0362	.....	locking or unlocking cars in the tipplers
B65G 2814/0364	.....	Means for loading or unloading cars in the tipplers
B65G 2814/0365	.....	Moving devices for tipplers
B65G 2814/0367	.....	Lifting means
B65G 2814/0368	.....	Means enhancing unloading
B65G 2814/037	.....	using a tipping platform incorporated in a ring-like rotating structure
B65G 2814/0371	.....	Driving means therefor
B65G 2814/0373	.....	the rotation resulting from power driven displacement of the structure
B65G 2814/0374	.....	the rotation resulting from the car weight only
B65G 2814/0376	.....	with relative movement between platform and structure
B65G 2814/0377	.....	with simultaneous tipping of several cars above or beside each other
B65G 2814/0379	.....	using a tipping platform without ring-like structure
B65G 2814/038	.....	Driving means therefor
B65G 2814/0382	.....	Fluid-operated lifting means
B65G 2814/0383	.....	Lifting means with suspended platforms

B65G 2814/0385	.....	the platform tipping around a single axis
B65G 2814/0386	.....	the axis remaining in a fixed position
B65G 2814/0388	.....	the axis being parallel with the car longitudinal axis
B65G 2814/0389	.....	the axis being parallel with the car transverse axis
B65G 2814/0391	.....	the axis being moved parallel with itself
B65G 2814/0392	.....	the platform tipping around several axes
B65G 2814/0394	.....	around parallel axes
B65G 2814/0395	.....	around crossing axes
B65G 2814/0397	..	for ships
B65G 2814/0398	..	for aircraft