

CPC**COOPERATIVE PATENT CLASSIFICATION****B66C**

CRANES; LOAD-ENGAGING ELEMENTS OR DEVICES FOR CRANES, CAPSTANS, WINCHES, OR TACKLES ({ specially adapted for lifting invalids [A61G 7/10](#); } rope, cable, or chain winding mechanisms, braking or detent devices therefor [B66D](#) ; specially adapted for nuclear reactors [G21](#))

WARNING

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

[B66C 23/61](#) covered by [B66C 23/60](#)
[B66C 23/683](#) covered by [B66C 23/68](#)
[B66C 23/687](#) covered by [B66C 23/701](#)
[B66C 23/69](#) covered by [B66C 23/701](#)
[B66C 23/693](#) covered by [B66C 23/705](#)
[B66C 23/697](#) covered by [B66C 23/707](#)

Guidance heading: Load-engaging elements or devices attached to lifting or lowering gear of cranes or adapted for connection therewith

NOTE

In groups [B66C 1/00](#) and [B66C 3/00](#) the term "cranes" also covers capstans, winches, or tackles

B66C 1/00

Load-engaging elements or devices attached to lifting or lowering gear of cranes or adapted for connection therewith for transmitting lifting forces to articles or groups of articles (fastening to cables or ropes [F16G 11/00](#))

- B66C 1/02 . by suction means { (suction cups for attaching purposes [F16B 47/00](#)) }
- B66C 1/0206 .. { for handling bulk or bags }
- B66C 1/0212 .. { Circular shape }
- B66C 1/0218 .. { Safety measures e.g. sensors, duplicate functions }
- B66C 1/0225 .. { Hand held }
- B66C 1/0231 .. { Special lip configurations }
- B66C 1/0237 .. { Multiple lifting units; More than one suction area }
- B66C 1/0243 ... { Separate cups }
- B66C 1/025 ... { Divided cups }
- B66C 1/0256 .. { Operating and control devices }
- B66C 1/0262 ... { for rotation }
- B66C 1/0268 ... { Venturi effect }
- B66C 1/0275 ... { actuated by lifting action }
- B66C 1/0281 .. { Rectangular or square shape }
- B66C 1/0287 .. { Other shapes, e.g. triangular or oval }

- B66C 1/0293 .. { Single lifting units; Only one suction cup }
- B66C 1/04 . by magnetic means
- B66C 1/06 .. electromagnetic
- B66C 1/08 ... Circuits therefor (for electromagnets in general [H01F 7/18](#))
- B66C 1/10 . by mechanical means
- B66C 1/101 .. { for containers ([B66C 1/223](#) and [B66C 1/663](#) take precedence) }
- B66C 1/102 ... { for two or more containers end to end }
- B66C 1/104 ... { for two or more containers side by side }
- B66C 1/105 .. { Lifting beam permitting to depose a load through an opening }
- B66C 1/107 .. { for lifting engines }
- B66C 1/108 .. { for lifting parts of wind turbines }
- B66C 1/12 .. Slings comprising chains, wires, ropes, or bands; Nets (article side grippers suspended by ropes or chains from crane hooks [B66C 1/42](#))
- B66C 1/122 ... { Sling or load protectors }
- B66C 1/125 ... { Chain-type slings (chains in general [F16G](#)) }
- B66C 1/127 ... { Nets }
- B66C 1/14 ... Slings with hooks
- B66C 1/16 ... Slings with load-engaging platforms or frameworks
- B66C 1/18 ... Band-type slings
- B66C 1/20 ... specially adapted for handling vehicles
- B66C 1/22 .. Rigid members, e.g. L-shaped members, with parts engaging the under surface of the loads; Crane hooks
- B66C 1/223 ... { for containers }
- B66C 1/226 ... { for flexible intermediate bulk containers (FIBC) }
- B66C 1/24 ... Single members engaging the loads from one side only
- B66C 1/26 with means for releasing the loads
- B66C 1/28 ... Duplicate, e.g. pivoted, members engaging the loads from two sides
- B66C 1/30 and also arranged to grip the sides of the loads
- B66C 1/32 of piled or stacked articles
- B66C 1/34 ... Crane hooks
- B66C 1/36 with means, e.g. spring-biased detents, for preventing inadvertent disengagement of loads
- B66C 1/38 adapted for automatic disengagement from loads on release of cable tensions (for parachutes [B64D](#))
- B66C 1/40 formed or fitted with load measuring or indicating devices
- B66C 1/42 .. Gripping members engaging only the external or internal surfaces of the articles (for handling or stripping castings or ingots during manufacture [B22D 29/00](#))
- B66C 1/422 ... { actuated by lifting force ([B66C 1/44](#), [B66C 1/58](#) take precedence) }
- B66C 1/425 ... { motor actuated ([B66C 1/44](#), [B66C 1/58](#) take precedence) }
- B66C 1/427 { by hydraulic or pneumatic motors }
- B66C 1/44 ... and applying frictional forces
- B66C 1/442 { actuated by lifting force }

- B66C 1/445 { motor actuated }
- B66C 1/447 { by hydraulic or pneumatic motors }
- B66C 1/46 by inflatable elements
- B66C 1/48 to vertical edge portions of sheets, tubes, or like thin or thin-walled articles
(internally-expanding grippers [B66C 1/54](#))
- B66C 1/485 { Coil lifting devices }
- B66C 1/54 Internally-expanding grippers for handling hollow articles ([B66C 1/46](#) takes
precedence)
- B66C 1/56 for handling tubes
- B66C 1/58 and deforming the articles, e.g. by using gripping members such as tongs or
grapples
- B66C 1/585 { Log grapples }
- B66C 1/59 Tongs for sacks
- B66C 1/62 comprising article-engaging members of a shape complementary to that of the
articles to be handled
- B66C 1/625 { for gripping drums or barrels }
- B66C 1/64 for T- or I-section beams or girders
- B66C 1/66 for engaging holes, recesses, or abutments on articles specially provided for
facilitating handling thereof
- B66C 1/663 { for containers (fastening of containers on vehicles [B60P 7/13](#),
[B60P 7/132](#)) }
- B66C 1/666 { for connection to anchor inserts embedded in concrete structures }
- B66C 1/68 mounted on, or guided by, jibs (jibs [B66C 23/64](#))

- B66C 3/00** **Load-engaging elements or devices attached to lifting or lowering gear of cranes or
adapted for connection therewith and intended primarily for transmitting lifting
forces to loose materials; Grabs (buckets and other containers [B65D](#) , e.g. pallets
[B65D 19/00](#); dredges equipped with grabs [E02F](#))**

- B66C 3/005 . . { Grab supports, e.g. articulations; Oscillation dampers; Orientation ([B66C 3/16](#) takes
precedence) }

- B66C 3/02 . . Bucket grabs

- B66C 3/04 . . Tine grabs

- B66C 3/06 . . Grabs actuated by a single rope or chain
- B66C 3/08 and having tipping rings
- B66C 3/10 and having buckets opening automatically upon the grab being lowered on to the
dump of material
- B66C 3/105 { Devices for control }

- B66C 3/12 . . Grabs actuated by two or more ropes
- B66C 3/125 { Devices for control }

- B66C 3/14 . . Grabs opened or closed by driving motors thereon
- B66C 3/16 by fluid motors

- B66C 3/18 . . by electric motors
- B66C 3/20 . mounted on, or guided by, jibs (jibs [B66C 23/64](#))

Guidance heading: Other common features; Details

B66C 5/00 Base supporting structure with legs

- B66C 5/02 . Fixed or travelling bridges or gantries, i.e. elongated structures of inverted L or of inverted U shape { or tripods }
- B66C 5/025 . . { Tripods }
- B66C 5/04 . . with runways or tracks supported for movements relative to bridge or gantry
- B66C 5/06 . . with runways or tracks supported for lateral swinging movements
- B66C 5/08 . . with vertically invlinable runways or tracks
- B66C 5/10 . Portals, i.e. essentially circular or square platforms with three or more legs specially adapted for supporting slewing jib cranes

B66C 6/00 Girders, or track-supporting structures, specially adapted for cranes (base supporting structures with legs [B66C 5/00](#); girders in general [E04C 3/02](#))

B66C 7/00 Runways, tracks or trackways for trolleys or cranes

- B66C 7/02 . for underhung trolleys or cranes
- B66C 7/04 . . Trackway suspension
- B66C 7/06 . . . on supports constructed for easy erection, e.g. transportable
- B66C 7/08 . Constructional features of runway rails or rail mountings (of general application [E01B](#))
- B66C 7/10 . Arrangements or devices for extending runways or tracks
- B66C 7/12 . Devices for changing direction of travel or for transferring from one runway to another; Crossings; Combinations of tracks of different gauges (transfer devices of general application [E01B](#))
- B66C 7/14 . . Runway interlocking devices
- B66C 7/16 . Devices specially adapted for limiting trolley or crane travel; Arrangements of buffer-stops (buffer-stops of interest apart from this application [B61K 7/18](#); limit-switch arrangements, limit circuits [B66D 1/56](#))

B66C 9/00 Travelling gear incorporated in or fitted to trolleys or cranes ({ for floor-to-roof stacking devices [B66F 9/072](#) }; for dredgers [E02F](#))

- B66C 9/02 . for underhung trolleys or cranes
- B66C 9/04 . to facilitate negotiation of curves

- B66C 9/06 . for more than one rail gauge
- B66C 9/08 . Runners; Runner bearings ([wheels for railbound vehicles B60B](#))
- B66C 9/10 . Undercarriages or bogies, e.g. end carriages, end bogies
- B66C 9/12 . . with load-distributing means for equalising wheel pressure
- B66C 9/14 . Trolley or crane travel drives ([rope, cable, or chain drives for loads or trolleys B66C 11/16](#); [control B66C 13/18](#))
- B66C 9/16 . with means for maintaining alignment between wheels and track
- B66C 9/18 . with means for locking trolleys or cranes to runways or tracks to prevent inadvertent movements

- B66C 11/00** **Trolleys or crabs, e.g. operating above runways ([runways, tracks or trackways therefor B66C 7/00](#); [winch mechanisms B66D](#))**
- B66C 11/02 . with operating gear or operator`s cabin suspended, or laterally offset, from runway or track
- B66C 11/04 . . Underhung trolleys ([power-operated hoists with driving motor and drum or barrel contained in a common housing B66D 3/20](#))
- B66C 11/06 . . . running on monorails ([overhead railway systems B61B](#))
- B66C 11/08 . with turn-tables
- B66C 11/10 . . equipped with jibs ([jib-cranes B66C 23/00](#))
- B66C 11/12 . having hoisting gear adapted to special load-engaging elements and not otherwise provided for
- B66C 11/14 . adapted to operate on crane or bridge structure of particular configuration, e.g. on reinforced concrete girders of rectangular cross-section
- B66C 11/16 . Rope, cable, or chain drives for trolleys; Combinations of such drives with hoisting gear
- B66C 11/18 . . comprising endless ropes or cables
- B66C 11/20 . . Arrangements, e.g. comprising differential gears, enabling simultaneous or selective operation of travelling and hoisting gear; Arrangements using the same rope or cable for both travelling and hoisting, e.g. in Temperley cranes ([power transmissions between driving motors and winch drums B66D 1/14](#))
- B66C 11/22 . . actuated pneumatically or hydraulically
- B66C 11/24 . . with means for locating or sustaining the loads or trolleys in predetermined positions; Hay hoists
- B66C 11/26 . . . Abutments; Stop blocks; End stops

- B66C 13/00** **Other constructional features or details**
- B66C 13/005 . { [Cranes carrying advertisements or the like](#) }
- B66C 13/02 . Devices for facilitating retrieval of floating objects, e.g. for recovering crafts from water

(handling live-boats [B63B](#) ; salvaging, or hauling-out on slipways, waterborne vessels [B63C](#) ; winding mechanism controls [B66D 1/52](#))

- B66C 13/04 . Auxiliary devices for controlling movements of suspended loads, or preventing cable slack
- B66C 13/06 . . for minimising or preventing longitudinal or transverse swinging of loads
- B66C 13/063 . . . { electrical }
- B66C 13/066 . . . { for minimising vibration of a boom }
- B66C 13/08 . . for depositing loads in desired attitudes or positions
- B66C 13/085 . . . { electrical }
- B66C 13/10 . . for preventing cable slack (control devices for rope, cable, or chain winding mechanisms, e.g. for controlling tensions, [B66D 1/40](#))
- B66C 13/105 . . . { electrical }
- B66C 13/12 . Arrangements of means for transmitting pneumatic, hydraulic, or electric power to movable parts of devices
- B66C 13/14 . . to load-engaging elements or motors associated therewith
- B66C 13/16 . Applications of indicating, registering, or weighing devices (in crane hooks [B66C 1/40](#); in safety gear [B66C 15/00](#); weighing-apparatus [G01G](#) ; remote indicating in general [G08](#))
- B66C 13/18 . Control systems or devices (exclusively for rope, cable, or chain winding mechanisms [B66D 1/40](#))
- B66C 13/20 . . for non-electric drives (transmitting control pulses [B66C 13/40](#))
- B66C 13/22 . . for electric drives (transmitting control pulses [B66C 13/40](#); systems or devices of general application [H02P](#))
- B66C 13/23 . . . Circuits for controlling the lowering of the load
- B66C 13/24 by dc motors
- B66C 13/26 by ac motors
- B66C 13/28 utilising regenerative braking for controlling descent of heavy loads and having means for preventing rotation of motor in the hoisting direction when load is released
- B66C 13/30 . . . Circuits for braking, traversing, or slewing motors
- B66C 13/32 . . . for operating grab bucket hoists by means of one or more electric motors used both for hoisting and lowering the loads and for opening and closing the bucket jaws (other aspects or rope, cable, or chain winding mechanisms specially adapted for actuating grab buckets [B66D 1/62](#))
- B66C 13/34 through differential or planetary gearing
- B66C 13/36 Single-motor-drive control systems
- B66C 13/38 Systems controlling independent motors
- B66C 13/40 . . Applications of devices for transmitting control pulses; Applications of remote control devices (control in general [G05](#))
- B66C 13/42 . . . Hydraulic transmitters
- B66C 13/44 . . . Electrical transmitters
- B66C 13/46 . . Position indicators for suspended loads or for crane elements
- B66C 13/48 . . Automatic control of crane drives for producing a single or repeated working cycle; Programme control

- B66C 13/50 . . Applications of limit circuits or of limit-switch arrangements ([for winding mechanisms B66D 1/56](#))
- B66C 13/52 . Details of compartments for driving engines or motors or of operator`s stands or cabins
- B66C 13/54 . . Operator`s stands or cabins
- B66C 13/56 . . . Arrangements of handles or pedals
- B66C 15/00 Safety gear ([for rope, cable, or chain winding mechanisms B66D 1/54](#))**
- B66C 15/02 . for retaining load-engaging elements in the event of rope or cable breakage
- B66C 15/04 . for preventing collisions, e.g. between cranes or trolleys operating on the same track
- B66C 15/045 . . { [electrical](#) }
- B66C 15/06 . Arrangements or use of warning devices
- B66C 15/065 . . { [electrical](#) }
- Guidance heading: Kinds or types of cranes ([adaptations of girders or of track-supporting structures B66C 6/00](#))**
- B66C 17/00 Overhead travelling cranes comprising one or more substantially horizontal girders the ends of which are directly supported by wheels or rollers running on tracks carried by spaced supports**
- B66C 17/04 . with lifting beams, e.g. slewable beams, carrying load-engaging elements, e.g. magnets, hooks ([constructions of load-engaging elements B66C 1/00, B66C 3/00](#))
- B66C 17/06 . specially adapted for particular purposes, e.g. in foundries, forges; combined with auxiliary apparatus serving particular purposes ([B66C 17/04 takes precedence](#))
- B66C 17/08 . . for charging treatment chambers, e.g. furnaces, kilns, ovens ([charging furnaces in general F27D 3/00](#))
- B66C 17/10 . . for transporting ladles
- B66C 17/12 . . for handling workpieces, e.g. ingots, which require to be supported temporarily within, or withdrawn from, a treatment chamber, e.g. tong cranes, soaking-pit cranes, stripper cranes ([for manipulating ingots during forging B66C 17/18; grippers for handling or stripping casting or ingots during manufacture B22D 29/00](#))
- B66C 17/14 . . . Tong cranes with means for moving article-pushers relative to the tongs
- B66C 17/16 . . . Tong cranes with means for turning the tongs about a vertical axis
- B66C 17/18 . . for manipulating workpieces during forging operations ([work-pieces manipulators in forging machines B21J 13/10](#))
- B66C 17/20 . . for hoisting or lowering heavy load carriers, e.g. freight containers, railway wagons
- B66C 17/22 . . for hoisting or lowering locomotives
- B66C 17/24 . . for building ships on slipways
- B66C 17/26 . . combined with auxiliary apparatus, e.g. log saws, pushers for unloading vehicles, means for shunting railway vehicles
- B66C 19/00 Cranes comprising trolleys or crabs running on fixed or movable bridges or**

gantries ([B66C 17/00](#) takes precedence; base supporting structures with legs [B66C 5/00](#); jib cranes [B66C 23/00](#))

[B66C 19/002](#) . { [Container cranes](#) ([B66C 19/007](#) takes precedence) }

[B66C 19/005](#) . { [Straddle carriers](#) ([B66C 19/007](#) takes precedence) }

[B66C 19/007](#) . { [for containers](#) }

[B66C 19/02](#) . collapsible { ([B66C 19/002](#), [B66C 19/005](#) takes precedence) }

[B66C 21/00](#) **Cable cranes, i.e. comprising hoisting devices running on aerial cable-ways** ([rope or cable drives for trolleys, combinations of such drives with hoisting gear \[B66C 11/16\]\(#\); railway systems \[B61B\]\(#\) ; rope or cable winding mechanisms \[B66D 1/00\]\(#\) \)](#)

[B66C 21/02](#) . with cable-ways supported on framework swingably connected to groundengaging elements

[B66C 21/04](#) . with cable-ways supported at one end or both ends on bodily movable framework, e.g. framework mounted on rail track

[B66C 21/06](#) . . with one end supported on a framework movable in a curved, e.g. circular, path and the other end by a column rotatable around a vertical axis

[B66C 21/08](#) . Sag carriers or rope trolleys, suspended or not, e.g. fixed but offering clearance for travelling gear

[B66C 21/10](#) . . travelling

[B66C 23/00](#) **Cranes comprising essentially a beam, boom, or triangular structure acting as a cantilever and mounted for translatory or swinging movements in vertical or horizontal planes or a combination of such movements, e.g. jib-cranes, derricks, tower cranes** ([base supporting structures with legs \[B65C 5/00\]\(#\) \)](#)

[B66C 23/005](#) . { [with balanced jib, e.g. pantograph arrangement, the jib being moved manually](#) }

[B66C 23/02](#) . with non-adjustable and non-inclinable jibs mounted solely for slewing movements

[B66C 23/022](#) . . { [Pivot axis common with column](#) }

[B66C 23/025](#) . . { [with particular mounting for base of column](#) }

[B66C 23/027](#) . . { [Pivot axis separated from column axis](#) }

[B66C 23/04](#) . with jibs the effective length of which is variable in operation, e.g. longitudinally displaceable, extensible

[B66C 23/06](#) . with jibs mounted for jibbing or luffing movements

[B66C 23/08](#) . . and adapted to move the loads in predetermined paths

[B66C 23/10](#) . . . the paths being substantially horizontal; Level-luffing jib-cranes

[B66C 23/12](#) with means for automatically varying the effective length of the hoisting rope or cable

[B66C 23/14](#) with means, e.g. pantograph arrangements, for varying jib configuration

- B66C 23/16 . with jibs supported by columns, e.g. towers having their lower end mounted for slewing movements
- B66C 23/163 .. { where only part of the column rotates, i.e. at least the bottom part is fixed }
- B66C 23/166 .. { Simple cranes with jibs which may be fixed or can slew or luff }

- B66C 23/18 . specially adapted for use in particular purposes
- B66C 23/185 .. { for use erecting wind turbines ([B66C 23/207](#) takes precedence) }
- B66C 23/20 .. with supporting couples provided by walls of buildings or like structures
- B66C 23/201 ... { with supporting couples provided from above, e.g. by ceilings of buildings }
- B66C 23/202 ... { with supporting couples provided from below, e.g. by floors of buildings }
- B66C 23/203 ... { with supporting couples provided by posts, e.g. scaffolding, trees or masts }
- B66C 23/205 ... { for use on top of roofs }
- B66C 23/206 ... { with supporting couples provided by iso containers }
- B66C 23/207 ... { with supporting couples provided by wind turbines }
- B66C 23/208 ... { with supporting couples provided from the side, e.g. by walls of buildings }
- B66C 23/22 ... Window cranes, i.e. adapted to be supported in window openings
- B66C 23/24 ... Mobile wall cranes
- B66C 23/26 .. for use on building sites; constructed, e.g. with separable parts, to facilitate rapid assembly or dismantling, for operation at successively higher levels, for transport by road or rail (with supporting couples provided by walls or building [B66C 23/20](#); mounted on vehicles [B66C 23/36](#); jib constructions [B66C 23/64](#))

- B66C 23/28 ... constructed to operate at successively higher levels
- B66C 23/283 { with frameworks composed of assembled elements }
- B66C 23/286 { with locking devices }
- B66C 23/30 with frameworks composed of telescopic elements
- B66C 23/305 { with locking devices }
- B66C 23/32 Self-hoisting cranes
- B66C 23/34 ... Self-erecting cranes, i.e. with hoisting gear adapted for crane erection purpose
- B66C 23/342 { with telescopic elements }
- B66C 23/344 { adapted for transport purposes }
- B66C 23/346 { with locking devices }
- B66C 23/348 { the erection being operated by jacks }
- B66C 23/36 .. mounted on road or rail vehicles; Manually-movable jib-cranes for use in workshops; Floating cranes (with pneumatic or hydraulic motors [B66C 23/54](#); vehicle or ship aspects [B60](#) to [B63](#))

- B66C 23/365 ... { dismantable into smaller units for transport purposes }
- B66C 23/38 ... with separate prime movers for crane and vehicle
- B66C 23/40 ... with a single prime mover for both crane and vehicle
- B66C 23/42 ... with jibs of adjustable configuration, e.g. foldable
- B66C 23/44 ... Jib-cranes adapted for attachment to standard vehicles, e.g. agricultural tractors
- B66C 23/46 ... Mobile jib-cranes with non-sleuable jibs
- B66C 23/48 ... Manually-movable jib cranes for use in workshops
- B66C 23/485 { for lifting and moving engines, e.g. car or aero engines or parts thereof }
- B66C 23/50 ... mounted on railway vehicles, e.g. breakdown cranes

- B66C 23/52 . . . Floating cranes ([floating dredgers E02F](#))
- B66C 23/525 { Double slewing cranes on ships }
- B66C 23/53 including counterweight or means to compensate for list, trim, or skew of the vessel or platform ([counterweights or supports for balancing lifting couples B66C 23/72](#); [equipment to decrease unwanted vessel movements B63B 39/00](#))

- B66C 23/54 . with pneumatic or hydraulic motors, e.g. for actuating jib-cranes on tractors
- B66C 23/545 . . { with arrangements for avoiding dead centre problems during cylinder motion }
- B66C 23/56 . . of the reciprocating type

- B66C 23/58 . arranged to carry out a desired sequence of operations automatically, e.g. hoisting followed by luffing and slewing
- B66C 23/585 . . { electrical }

- B66C 23/60 . Derricks
- B66C 23/605 . . { employing ships` masts } ([B66C 23/525](#) takes precedence)

- B66C 23/62 . Constructional features or details ([of dredgers E02F](#))
- B66C 23/64 . . Jibs
- B66C 23/66 . . . Outer or upper end constructions
- B66C 23/68 . . . foldable or otherwise adjustable in configuration
- B66C 23/70 . . . constructed of sections adapted to be assembled to form jibs or various lengths
- B66C 23/701 { telescopic }
- B66C 23/702 { with a jib extension boom }
- B66C 23/703 { telescoped by flexible elements, e.g. cables, chains or bands }
- B66C 23/705 { telescoped by hydraulic jacks }
- B66C 23/706 { telescoped by other means }
- B66C 23/707 { guiding devices for telescopic jibs }
- B66C 23/708 { locking devices for telescopic jibs }
- B66C 23/72 . . Counterweights or supports for balancing lifting couples
- B66C 23/74 . . . separate from jib
- B66C 23/76 . . . and movable to take account of variations of load or of variations of length of jib

- B66C 23/78 . . . Supports, e.g. outriggers, for mobile cranes
- B66C 23/80 . . . hydraulically actuated
- B66C 23/82 . . Luffing gear
- B66C 23/821 . . . { Bracing equipment for booms (Abspannstütze) }
- B66C 23/823 { Bracing equipment acting in vertical direction }
- B66C 23/825 { Bracing equipment acting in horizontal direction }
- B66C 23/826 { Bracing equipment acting at an inclined angle to vertical and horizontal directions }
- B66C 23/828 { where the angle is adjustable }
- B66C 23/84 . . Slewing gear ([anti-friction bearings F16C](#))
- B66C 23/86 . . . hydraulically actuated

- B66C 23/88 . Safety gear (for cranes in general [B66C 15/00](#); for rope, cable, or chain winding mechanisms [B66D 1/54](#))
- B66C 23/90 . . Devices for indicating or limiting lifting moment
- B66C 23/905 . . . { electrical }
- B66C 23/92 . . Snubbers or dashpots for preventing backwards swinging of jibs, e.g. in the event of cable or tackle breakage
- B66C 23/94 . . for limiting slewing movements

- B66C 25/00** **Cranes not provided for in groups [B66C 17/00](#) to [B66C 23/00](#)**

- B66C 2700/00** **Cranes**

- B66C 2700/01 . General aspects of mobile cranes, overhead travelling cranes, gantry cranes, loading bridges, cranes for building ships on slipways, cranes for foundries or cranes for public works
- B66C 2700/011 . . Cable cranes
- B66C 2700/012 . . Trolleys or runways
- B66C 2700/014 . . . Devices for trolleys running on monorails
- B66C 2700/015 Arrangements which are easily displaceable or dismountable
- B66C 2700/017 . . . Installations characterised by their destination or by the load-engaging element for as far as the trolley is essential
- B66C 2700/018 . . . Construction details related to the trolley movement

- B66C 2700/03 . Cranes with arms or jibs; Multiple cranes
- B66C 2700/0307 . . Cranes in which it is essential that the load is moving horizontally during the luffing movement of the arm or jib
- B66C 2700/0314 . . . in combination with the movement of the counterweight
- B66C 2700/0321 . . Travelling cranes
- B66C 2700/0328 . . . Cranes on rails or on rail vehicles
- B66C 2700/0335 with a slewing arm
- B66C 2700/0342 on a turntable
- B66C 2700/035 Construction details related to the travelling, to the supporting of the crane or to the blocking of the axles; Outriggers; Coupling of the travelling mechanism to the crane mechanism
- B66C 2700/0357 . . . Cranes on road or off-road vehicles, on trailers or towed vehicles; Cranes on wheels or crane-trucks
- B66C 2700/0364 with a slewing arm
- B66C 2700/0371 on a turntable
- B66C 2700/0378 Construction details related to the travelling, to the supporting of the crane or to the blocking of the axles; Outriggers; Coupling of the travelling mechanism to the crane mechanism

- B66C 2700/0385 . . Cranes with trolleys movable along adjustable or slewable arms
- B66C 2700/0392 . . Movement of the crane arm; Coupling of the crane arm with the counterweights; Safety devices for the movement of the arm

- B66C 2700/06 . Cranes in which the lifting movement is done with a hydraulically controlled plunger

- B66C 2700/062 . . mounted on motor vehicles
- B66C 2700/065 . . . with a slewable jib
- B66C 2700/067 on a turntable

- B66C 2700/08 . Electrical assemblies or electrical control devices for cranes, winches, capstans or electrical hoists
- B66C 2700/081 . . with ac motors
- B66C 2700/082 . . Control of the secondary movements, e.g. travelling, slewing, luffing of the jib, changing of the range
- B66C 2700/084 . . Protection measures
- B66C 2700/085 . . Control actuators
- B66C 2700/087 . . Electrical assemblies or electrical control devices for electrically actuated grabs
- B66C 2700/088 . . Remote control of electric cranes