

ECLA EUROPEAN CLASSIFICATION

B66C

CRANES; LOAD-ENGAGING ELEMENTS OR DEVICES FOR CRANES, CAPSTANS, WINCHES, OR TACKLES ([N: specially adapted for lifting invalids [A61G7/10](#);] rope, cable, or chain winding mechanisms, braking or detent devices therefor B66D; specially adapted for nuclear reactors G21) [C0405]

[N: **WARNING**

[M1202]

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

[B66C23/61](#) covered by [B66C23/60](#)
[B66C23/683](#) covered by [B66C23/68](#)
[B66C23/687](#) covered by [B66C23/70B](#)
[B66C23/69](#) covered by [B66C23/70B](#)
[B66C23/693](#) covered by [B66C23/70B4](#)
[B66C23/697](#) covered by [B66C23/70B8](#)
]

Guide heading:

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

Note

In groups [B66C1/00](#) and [B66C3/00](#) the term "cranes" also covers capstans, winches, or tackles

B66C1/00

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 [F16G11/00](#))

- B66C1/02 . by suction means [N: (suction cups for attaching purposes [F16B47/00](#))]
- B66C1/02B . . [N: for handling bulk or bags] [N1202]
- B66C1/02C . . [N: Circular shape] [N1202]
- B66C1/02D . . [N: Safety measures e.g. sensors, duplicate functions] [N1202]
- B66C1/02H . . [N: Hand held] [N1202]
- B66C1/02L . . [N: Special lip configurations] [N1202]
- B66C1/02M . . [N: Multiple lifting units; More than one suction area] [N1202]
- B66C1/02M1 . . . [N: Separate cups] [N1202]
- B66C1/02M2 . . . [N: Divided cups] [N1202]
- B66C1/02O . . [N: Operating and control devices] [N1202]
- B66C1/02O1 . . . [N: for rotation] [N1202]
- B66C1/02O2 . . . [N: Venturi effect] [N1202]
- B66C1/02O3 . . . [N: actuated by lifting action] [N1202]
- B66C1/02R . . [N: Rectangular or square shape] [N1202]
- B66C1/02S . . [N: Other shapes, e.g. triangular or oval] [N1202]
- B66C1/02U . . [N: Single lifting units; Only one suction cup] [N1202]

- B66C1/04 . by magnetic means
- B66C1/06 . . electromagnetic
- B66C1/08 . . . Circuits therefor (for electromagnets in general [H01F7/18](#))

- B66C1/10 . by mechanical means
- B66C1/10B . . [N: for containers ([B66C1/22B](#) and [B66C1/66B](#) take precedence)]
- B66C1/10B2 . . . [N: for two or more containers end to end] [N1202]
- B66C1/10B4 . . . [N: for two or more containers side by side] [N1202]
- B66C1/10D . . [N: Lifting beam permitting to depose a load through an opening]
- B66C1/10F . . [N: for lifting engines] [N1202]
- B66C1/10T . . [N: for lifting parts of wind turbines] [N1202]
- B66C1/12 . . Slings comprising chains, wires, ropes, or bands; Nets (article side grippers suspended by ropes or chains from crane hooks [B66C1/42](#))
- B66C1/12B . . . [N: Sling or load protectors]
- B66C1/12D . . . [N: Chain-type slings (chains in general [F16G](#))]
- B66C1/12F . . . [N: Nets]
- B66C1/14 . . . Slings with hooks
- B66C1/16 . . . Slings with load-engaging platforms or frameworks
- B66C1/18 . . . Band-type slings
- B66C1/20 . . . specially adapted for handling vehicles
- B66C1/22 . . Rigid members, e.g. L-shaped members, with parts engaging the under surface of the loads; Crane hooks
- B66C1/22B . . . [N: for containers]
- B66C1/22F . . . [N: for flexible intermediate bulk containers (FIBC)] [N0008]
- B66C1/24 . . . Single members engaging the loads from one side only
- B66C1/26 with means for releasing the loads
- B66C1/28 . . . Duplicate, e.g. pivoted, members engaging the loads from two sides
- B66C1/30 and also arranged to grip the sides of the loads
- B66C1/32 of piled or stacked articles
- B66C1/34 . . . Crane hooks
- B66C1/36 with means, e.g. spring-biased detents, for preventing inadvertent disengagement of loads
- B66C1/38 adapted for automatic disengagement from loads on release of cable tensions (for parachutes [B64D](#))
- B66C1/40 formed or fitted with load measuring or indicating devices
- B66C1/42 . . Gripping members engaging only the external or internal surfaces of the articles (for handling or stripping castings or ingots during manufacture [B22D29/00](#))
- B66C1/42B . . . [N: actuated by lifting force ([B66C1/44](#), [B66C1/58](#) take precedence)]
- B66C1/42D . . . [N: motor actuated ([B66C1/44](#), [B66C1/58](#) take precedence)]
- B66C1/42D2 [N: by hydraulic or pneumatic motors]
- B66C1/44 . . . and applying frictional forces
- B66C1/44B [N: actuated by lifting force]
- B66C1/44D [N: motor actuated]

- B66C1/44D2 [N: by hydraulic or pneumatic motors]
- B66C1/46 by inflatable elements
- B66C1/48 to vertical edge portions of sheets, tubes, or like thin or thin-walled articles
(internally-expanding grippers [B66C1/54](#))
- B66C1/48B [N: Coil lifting devices]
- B66C1/54 Internally-expanding grippers for handling hollow articles ([B66C1/46](#) takes
precedence)
- B66C1/56 for handling tubes
- B66C1/58 and deforming the articles, e.g. by using gripping members such as tongs or
grapples
- B66C1/58B [N: Log grapples]
- B66C1/59 Tongs for sacks
- B66C1/62 comprising article-engaging members of a shape complementary to that of the
articles to be handled
- B66C1/62B [N: for gripping drums or barrels]
- B66C1/64 for T- or I-section beams or girders
- B66C1/66 for engaging holes, recesses, or abutments on articles specially provided for
facilitating handling thereof
- B66C1/66B [N: for containers (fastening of containers on vehicles [B60P7/06B](#),
[B60P7/06B2](#))]
- B66C1/66C [N: for connection to anchor inserts embedded in concrete structures]
- B66C1/68 mounted on, or guided by, jibs ([jibs B66C23/64](#))

- B66C3/00** **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
[B65D19/00](#); dredges equipped with grabs [E02F](#))**

- B66C3/00B [N: Grab supports, e.g. articulations; Oscillation dampers; Orientation ([B66C3/16](#) takes
precedence)]
- B66C3/02 Bucket grabs
- B66C3/04 Tine grabs
- B66C3/06 Grabs actuated by a single rope or chain
- B66C3/08 and having tipping rings
- B66C3/10 and having buckets opening automatically upon the grab being lowered on to the
dump of material
- B66C3/10B [N: Devices for control]
- B66C3/12 Grabs actuated by two or more ropes
- B66C3/12B [N: Devices for control]
- B66C3/14 Grabs opened or closed by driving motors thereon
- B66C3/16 by fluid motors
- B66C3/18 by electric motors

- B66C3/20 . mounted on, or guided by, jibs (jibs [B66C23/64](#))

Guide heading: **Other common features; Details**

B66C5/00 Base supporting structure with legs

- B66C5/02 . Fixed or travelling bridges or gantries, i.e. elongated structures of inverted L or of inverted U shape[N: or tripods] [C9902]
- B66C5/02B . . [N: Tripods] [N9902]
- B66C5/04 . . with runways or tracks supported for movements relative to bridge or gantry
- B66C5/06 . . with runways or tracks supported for lateral swinging movements
- B66C5/08 . . with vertically invlinable runways or tracks
- B66C5/10 . Portals, i.e. essentially circular or square platforms with three or more legs specially adapted for supporting slewing jib cranes

B66C6/00 Girders, or track-supporting structures, specially adapted for cranes (base supporting structures with legs [B66C5/00](#); girders in general [E04C3/02](#))

B66C7/00 Runways, tracks or trackways for trolleys or cranes

- B66C7/02 . for underhung trolleys or cranes
- B66C7/04 . . Trackway suspension
- B66C7/06 . . . on supports constructed for easy erection, e.g. transportable
- B66C7/08 . Constructional features of runway rails or rail mountings (of general application [E01B](#))
- B66C7/10 . Arrangements or devices for extending runways or tracks
- B66C7/12 . 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](#))
- B66C7/14 . . Runway interlocking devices
- B66C7/16 . Devices specially adapted for limiting trolley or crane travel; Arrangements of buffer-stops (buffer-stops of interest apart from this application [B61K7/18](#); limit-switch arrangements, limit circuits [B66D1/56](#))

B66C9/00 Travelling gear incorporated in or fitted to trolleys or cranes ([N: for floor-to-roof stacking devices [B66F9/07B](#)]; for dredgers [E02F](#)) [C9604]

- B66C9/02 . for underhung trolleys or cranes
- B66C9/04 . to facilitate negotiation of curves
- B66C9/06 . for more than one rail gauge
- B66C9/08 . Runners; Runner bearings (wheels for railbound vehicles [B60B](#))

- B66C9/10 . Undercarriages or bogies, e.g. end carriages, end bogies
- B66C9/12 . . with load-distributing means for equalising wheel pressure
- B66C9/14 . Trolley or crane travel drives ([rope, cable, or chain drives for loads or trolleys B66C11/16](#); [control B66C13/18](#))
- B66C9/16 . with means for maintaining alignment between wheels and track
- B66C9/18 . with means for locking trolleys or cranes to runways or tracks to prevent inadvertent movements

- B66C11/00** **Trolleys or crabs, e.g. operating above runways** ([runways, tracks or trackways therefor B66C7/00](#); [winch mechanisms B66D](#))
- B66C11/02 . with operating gear or operator`s cabin suspended, or laterally offset, from runway or track
- B66C11/04 . . Underhung trolleys ([power-operated hoists with driving motor and drum or barrel contained in a common housing B66D3/20](#))
- B66C11/06 . . . running on monorails ([overhead railway systems B61B](#))
- B66C11/08 . with turn-tables
- B66C11/10 . . equipped with jibs ([jib-cranes B66C23/00](#))
- B66C11/12 . having hoisting gear adapted to special load-engaging elements and not otherwise provided for
- B66C11/14 . adapted to operate on crane or bridge structure of particular configuration, e.g. on reinforced concrete girders of rectangular cross-section
- B66C11/16 . Rope, cable, or chain drives for trolleys; Combinations of such drives with hoisting gear
- B66C11/18 . . comprising endless ropes or cables
- B66C11/20 . . 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 B66D1/14](#))
- B66C11/22 . . actuated pneumatically or hydraulically
- B66C11/24 . . with means for locating or sustaining the loads or trolleys in predetermined positions; Hay hoists
- B66C11/26 . . . Abutments; Stop blocks; End stops

- B66C13/00** **Other constructional features or details**
- B66C13/00B . [[N: Cranes carrying advertisements or the like](#)] [[N1202](#)]
- B66C13/02 . 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 B66D1/52](#))
- B66C13/04 . Auxiliary devices for controlling movements of suspended loads, or preventing cable

- slack
- B66C13/06 . . for minimising or preventing longitudinal or transverse swinging of loads
- B66C13/06B . . . [N: electrical]
- B66C13/06D . . . [N: for minimising vibration of a boom] [N1202]
- B66C13/08 . . for depositing loads in desired attitudes or positions
- B66C13/08B . . . [N: electrical]
- B66C13/10 . . for preventing cable slack (control devices for rope, cable, or chain winding mechanisms, e.g. for controlling tensions, [B66D1/40](#))
- B66C13/10B . . . [N: electrical]
- B66C13/12 . Arrangements of means for transmitting pneumatic, hydraulic, or electric power to movable parts of devices
- B66C13/14 . . to load-engaging elements or motors associated therewith
- B66C13/16 . Applications of indicating, registering, or weighing devices (in crane hooks [B66C1/40](#); in safety gear [B66C15/00](#); weighing-apparatus [G01G](#); remote indicating in general [G08](#))
- B66C13/18 . Control systems or devices (exclusively for rope, cable, or chain winding mechanisms [B66D1/40](#))
- B66C13/20 . . for non-electric drives (transmitting control pulses [B66C13/40](#))
- B66C13/22 . . for electric drives (transmitting control pulses [B66C13/40](#); systems or devices of general application [H02P](#))
- B66C13/23 . . . Circuits for controlling the lowering of the load
- B66C13/24 by dc motors
- B66C13/26 by ac motors
- B66C13/28 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
- B66C13/30 . . . Circuits for braking, traversing, or slewing motors
- B66C13/32 . . . 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 [B66D1/62](#))
- B66C13/34 through differential or planetary gearing
- B66C13/36 Single-motor-drive control systems
- B66C13/38 Systems controlling independent motors
- B66C13/40 . . Applications of devices for transmitting control pulses; Applications of remote control devices (control in general [G05](#))
- B66C13/42 . . . Hydraulic transmitters
- B66C13/44 . . . Electrical transmitters
- B66C13/46 . . Position indicators for suspended loads or for crane elements
- B66C13/48 . . Automatic control of crane drives for producing a single or repeated working cycle; Programme control
- B66C13/50 . . Applications of limit circuits or of limit-switch arrangements (for winding mechanisms [B66D1/56](#))
- B66C13/52 . Details of compartments for driving engines or motors or of operator's stands or

- cabins
- B66C13/54 . . Operator`s stands or cabins
- B66C13/56 . . . Arrangements of handles or pedals

- B66C15/00** **Safety gear (for rope, cable, or chain winding mechanisms [B66D1/54](#))**
- B66C15/02 . for retaining load-engaging elements in the event of rope or cable breakage
- B66C15/04 . for preventing collisions, e.g. between cranes or trolleys operating on the same track
- B66C15/04B . . [N: electrical]
- B66C15/06 . Arrangements or use of warning devices
- B66C15/06B . . [N: electrical]

- Guide heading:** **Kinds or types of cranes (adaptations of girders or of track-supporting structures [B66C6/00](#))**

- B66C17/00** **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**
- B66C17/04 . with lifting beams, e.g. slewable beams, carrying load-engaging elements, e.g. magnets, hooks ([constructions of load-engaging elements \[B66C1/00\]\(#\), \[B66C3/00\]\(#\)](#))
- B66C17/06 . specially adapted for particular purposes, e.g. in foundries, forges; combined with auxiliary apparatus serving particular purposes ([B66C17/04 takes precedence](#))
- B66C17/08 . . for charging treatment chambers, e.g. furnaces, kilns, ovens ([charging furnaces in general \[F27D3/00\]\(#\)](#))
- B66C17/10 . . for transporting ladles
- B66C17/12 . . 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 \[B66C17/18\]\(#\); grippers for handling or stripping casting or ingots during manufacture \[B22D29/00\]\(#\)](#))
- B66C17/14 . . . Tong cranes with means for moving article-pushers relative to the tongs
- B66C17/16 . . . Tong cranes with means for turning the tongs about a vertical axis
- B66C17/18 . . for manipulating workpieces during forging operations ([work-pieces manipulators in forging machines \[B21J13/10\]\(#\)](#))
- B66C17/20 . . for hoisting or lowering heavy load carriers, e.g. freight containers, railway wagons
- B66C17/22 . . for hoisting or lowering locomotives
- B66C17/24 . . for building ships on slipways
- B66C17/26 . . combined with auxiliary apparatus, e.g. log saws, pushers for unloading vehicles, means for shunting railway vehicles

- B66C19/00** **Cranes comprising trolleys or crabs running on fixed or movable bridges or gantries ([B66C17/00 takes precedence](#); base supporting structures with legs [B66C5/00](#); jib cranes [B66C23/00](#))**

- B66C19/00B . [N: Container cranes ([B66C19/00F](#) takes precedence)]
- B66C19/00D . [N: Straddle carriers ([B66C19/00F](#) takes precedence)] [M1202]
- B66C19/00F . [N: for containers]
- B66C19/02 . collapsible [N: ([B66C19/00B](#), [B66C19/00D](#) takes precedence)]

- B66C21/00** **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 [B66C11/16](#); railway systems [B61B](#); rope or cable winding mechanisms [B66D1/00](#))**
- B66C21/02 . with cable-ways supported on framework swingably connected to groundengaging elements
- B66C21/04 . with cable-ways supported at one end or both ends on bodily movable framework, e.g. framework mounted on rail track
- B66C21/06 . . 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
- B66C21/08 . Sag carriers or rope trolleys, suspended or not, e.g. fixed but offering clearance for travelling gear
- B66C21/10 . . travelling

- B66C23/00** **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 [B65C5/00](#))**
- B66C23/00B . [N: with balanced jib, e.g. pantograph arrangement, the jib being moved manually]
- B66C23/02 . with non-adjustable and non-inclinable jibs mounted solely for slewing movements
- B66C23/02C . . [N: Pivot axis common with column] [N1202]
- B66C23/02M . . [N: with particular mounting for base of column] [N1202]
- B66C23/02S . . [N: Pivot axis separated from column axis] [N1202]
- B66C23/04 . with jibs the effective length of which is variable in operation, e.g. longitudinally displaceable, extensible
- B66C23/06 . with jibs mounted for jibbing or luffing movements
- B66C23/08 . . and adapted to move the loads in predetermined paths
- B66C23/10 . . . the paths being substantially horizontal; Level-luffing jib-cranes
- B66C23/12 with means for automatically varying the effective length of the hoisting rope or cable
- B66C23/14 with means, e.g. pantograph arrangements, for varying jib configuration
- B66C23/16 . with jibs supported by columns, e.g. towers having their lower end mounted for slewing movements
- B66C23/16C . . [N: where only part of the column rotates, i.e. at least the bottom part is fixed]

- N1202]
- B66C23/16S . . [N: Simple cranes with jibs which may be fixed or can slew or luff] [N1202]
 - B66C23/18 . specially adapted for use in particular purposes
 - B66C23/18B . . [N: for use erecting wind turbines ([B66C23/20T](#) takes precedence)] [N1202]
 - B66C23/20 . . with supporting couples provided by walls of buildings or like structures
 - B66C23/20C . . . [N: with supporting couples provided from above, e.g. by ceilings of buildings] [N1202]
 - B66C23/20F . . . [N: with supporting couples provided from below, e.g. by floors of buildings] [N1202]
 - B66C23/20P . . . [N: with supporting couples provided by posts, e.g. scaffolding, trees or masts] [N1202]
 - B66C23/20R . . . [N: for use on top of roofs] [N1202]
 - B66C23/20S . . . [N: with supporting couples provided by iso containers] [N1202]
 - B66C23/20T . . . [N: with supporting couples provided by wind turbines] [N1202]
 - B66C23/20W . . . [N: with supporting couples provided from the side, e.g. by walls of buildings] [N1202]
 - B66C23/22 . . . Window cranes, i.e. adapted to be supported in window openings
 - B66C23/24 . . . Mobile wall cranes
 - B66C23/26 . . 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 \[B66C23/20\]\(#\); mounted on vehicles \[B66C23/36\]\(#\); jib constructions \[B66C23/64\]\(#\)](#))
 - B66C23/28 . . . constructed to operate at successively higher levels
 - B66C23/28B [N: with frameworks composed of assembled elements] [N9510]
 - B66C23/28B2 [N: with locking devices] [N9510]
 - B66C23/30 with frameworks composed of telescopic elements
 - B66C23/30B [N: with locking devices]
 - B66C23/32 Self-hoisting cranes
 - B66C23/34 Self-erecting cranes, i.e. with hoisting gear adapted for crane erection purpose
 - B66C23/34B [N: with telescopic elements]
 - B66C23/34D [N: adapted for transport purposes]
 - B66C23/34F [N: with locking devices]
 - B66C23/34H [N: the erection being operated by jacks]
 - B66C23/36 . . mounted on road or rail vehicles; Manually-movable jib-cranes for use in workshops; Floating cranes ([with pneumatic or hydraulic motors \[B66C23/54\]\(#\); vehicle or ship aspects \[B60\]\(#\) to \[B63\]\(#\)](#))
 - B66C23/36B . . . [N: dismantable into smaller units for transport purposes] [N1202]
 - B66C23/38 . . . with separate prime movers for crane and vehicle
 - B66C23/40 . . . with a single prime mover for both crane and vehicle
 - B66C23/42 . . . with jibs of adjustable configuration, e.g. foldable
 - B66C23/44 . . . Jib-cranes adapted for attachment to standard vehicles, e.g. agricultural tractors
 - B66C23/46 . . . Mobile jib-cranes with non-sleuable jibs
 - B66C23/48 . . . Manually-movable jib cranes for use in workshops
 - B66C23/48B [N: for lifting and moving engines, e.g. car or aero engines or parts thereof]

- N1202]
- B66C23/50 . . . mounted on railway vehicles, e.g. breakdown cranes
- B66C23/52 . . . Floating cranes ([floating dredgers E02F](#))
- B66C23/52B [N: [Double slewing cranes on ships](#)]
- B66C23/53 including counterweight or means to compensate for list, trim, or skew of the vessel or platform ([counterweights or supports for balancing lifting couples B66C23/72](#); [equipment to decrease unwanted vessel movements B63B39/00](#)) [N1202]
- B66C23/54 . [N: IPC4] with pneumatic or hydraulic motors, e.g. for actuating jib-cranes on tractors
- B66C23/54D . . [N: [with arrangements for avoiding dead centre problems during cylinder motion](#)] [N1202]
- B66C23/56 . . [N: IPC4] of the reciprocating type
- B66C23/58 . arranged to carry out a desired sequence of operations automatically, e.g. hoisting followed by luffing and slewing
- B66C23/58B . . [N: [electrical](#)]
- B66C23/60 . Derricks
- B66C23/60B . . [N: [employing ships` masts](#)] ([B66C23/52B](#) takes precedence)
- B66C23/62 . Constructional features or details ([of dredgers E02F](#))
- B66C23/64 . . Jibs
- B66C23/66 . . . Outer or upper end constructions
- B66C23/68 . . . foldable or otherwise adjustable in configuration
- B66C23/70 . . . constructed of sections adapted to be assembled to form jibs or various lengths
- B66C23/70B [N: [telescopic](#)]
- B66C23/70B1 [N: [with a jib extension boom](#)]
- B66C23/70B2 [N: [telescoped by flexible elements, e.g. cables, chains or bands](#)]
- B66C23/70B4 [N: [telescoped by hydraulic jacks](#)]
- B66C23/70B6 [N: [telescoped by other means](#)]
- B66C23/70B8 [N: [guiding devices for telescopic jibs](#)]
- B66C23/70B10 [N: [locking devices for telescopic jibs](#)]
- B66C23/72 . . Counterweights or supports for balancing lifting couples
- B66C23/74 . . . separate from jib
- B66C23/76 and movable to take account of variations of load or of variations of length of jib
- B66C23/78 . . . Supports, e.g. outriggers, for mobile cranes
- B66C23/80 hydraulically actuated
- B66C23/82 . . Luffing gear
- B66C23/82A . . . [N: [Bracing equipment for booms \(Abspannstütze\)](#)] [N1202]
- B66C23/82A1 [N: [Bracing equipment acting in vertical direction](#)] [N1202]
- B66C23/82A2 [N: [Bracing equipment acting in horizontal direction](#)] [N1202]
- B66C23/82A3 [N: [Bracing equipment acting at an inclined angle to vertical and horizontal directions](#)] [N1202]
- B66C23/82A3A [N: [where the angle is adjustable](#)] [N1202]

- B66C23/84
 - . . Slewing gear ([anti-friction bearings F16C](#))
- B66C23/86
 - . . . hydraulically actuated
- B66C23/88
 - . Safety gear ([for cranes in general B66C15/00](#); [for rope, cable, or chain winding mechanisms B66D1/54](#))
- B66C23/90
 - . . Devices for indicating or limiting lifting moment
- B66C23/90B
 - . . . [\[N: electrical\]](#)
- B66C23/92
 - . . Snubbers or dashpots for preventing backwards swinging of jibs, e.g. in the event of cable or tackle breakage
- B66C23/94
 - . . for limiting slewing movements

- B66C25/00** **Cranes not provided for in groups B66C17/00 to B66C23/00 [\[N0704\]](#)**