

**CPC****COOPERATIVE PATENT CLASSIFICATION****B66F****HOISTING, LIFTING, HAULING OR PUSHING, NOT OTHERWISE PROVIDED FOR, e.g. DEVICES WHICH APPLY A LIFTING OR PUSHING FORCE DIRECTLY TO THE SURFACE OF A LOAD**

({invalid lifting devices [A61G 7/10](#); } mounting artificial islands on piles or like supports [E02B 17/00](#) : scaffolding combined with lifting devices [E04G 1/22](#); lifting devices for sliding forms [E04G 11/24](#); lifting of buildings [E04G 23/06](#); shores or struts [E04G 25/00](#); lifts or other hoisting devices on ladders [E06C 7/12](#); props for mining [E21D 15/00](#))

**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:

[B66F 19/02](#) covered by [B66F 19/00](#)

**B66F 1/00****Devices, e.g. jacks, for lifting loads in predetermined steps**[B66F 1/02](#)

- with locking elements, e.g. washers, co-operating with posts

[B66F 1/025](#)

- . {the devices being operated by fluid pressure ([B66F 1/08](#) takes precedence)}

[B66F 1/04](#)

- . the posts being toothed

[B66F 1/06](#)

- . . and the devices being actuated mechanically

[B66F 1/08](#)

- . . and the devices being operated by fluid pressure

**B66F 3/00****Devices, e.g. jacks, adapted for uninterrupted lifting of loads (mobile jacks of the garage type [B66F 5/00](#))**[B66F 3/005](#)

- {with rocking arm or sector}

[B66F 3/02](#)

- with racks actuated by pinions

[B66F 3/04](#)

- . with several racks

[B66F 3/06](#)

- . with racks comprising pivotable toothed sections or segments, e.g. arranged in pairs

[B66F 3/08](#)

- screw operated ([B66F 3/44](#) takes precedence; [gearings F16H](#))

[B66F 3/10](#)

- . with telescopic sleeves

[B66F 3/12](#)

- . comprising toggle levers (lazy-tongs mechanisms [B66F 3/22](#))

[B66F 3/14](#)

- . actuated through pawl-and-ratchet mechanisms

[B66F 3/16](#)

- . actuated through bevel-wheel gearings

[B66F 3/18](#)

- . actuated through worm gearings

[B66F 3/20](#)

- . actuated through multiple or change-speed gearings

[B66F 3/22](#)

- Lazy-tongs mechanisms ({[B66F 11/042](#) takes precedence})

[B66F 3/24](#)

- fluid-pressure operated ([water-pressure machines F03B](#); [hydraulic gearings F16H](#); [cylinders, pistons F16J](#); [fluid-pressure servomotors F15B](#))

[B66F 3/242](#)

- . {suspended jacks}

[B66F 3/245](#)

- . {comprising toggle levers (lazy-tongs mechanisms [B66F 3/22](#))}

- B66F 3/247 . . {pneumatically actuated (B66F 3/35 takes precedence)}
- B66F 3/25 . . Constructional features
- B66F 3/26 . . . Adaptations or arrangements of pistons
- B66F 3/28 . . . . telescopic
- B66F 3/30 . . . with positive brakes or lock
- B66F 3/32 . . . with means for avoiding excessive shocks on completion of movements
- B66F 3/35 . . . Inflatable flexible elements, e.g. bellows (inflatable load-engaging elements B66F 3/40; connection of valves to inflatable elastic bodies B60C 29/00)
- B66F 3/36 . . . Load-engaging elements
- B66F 3/38 . . . . adjustable relative to piston
- B66F 3/40 . . . . inflatable (connection of valves to inflatable elastic bodies B60C 29/00)
- B66F 3/42 . . . with self-contained pumps, e.g. actuated by hand
- B66F 3/43 . . Pyrotechnical jacks
- B66F 3/44 . with self-contained electric driving motors
- B66F 3/46 . Combinations of several jacks with means for interrelating lifting or lowering movements

#### **B66F 5/00 Mobile jacks of the garage type mounted on wheels or rollers**

- B66F 5/02 . with mechanical lifting gear
- B66F 5/025 . . {screw-actuated}
- B66F 5/04 . with fluid-pressure-operated lifting gear

#### **B66F 7/00 Lifting frames, e.g. for lifting vehicles; Platform lifts ({B66F 11/04 takes precedence } ; for lift-truck platform B66F 9/06)**

- B66F 7/02 . with platforms suspended from ropes, cables, or chains {or screws and movable along pillars}
- B66F 7/025 . . {screw operated}
- B66F 7/04 . . hydraulically or pneumatically operated
- B66F 7/06 . with platforms supported by levers for vertical movement
- B66F 7/0608 . . {driven by screw or spindle}
- B66F 7/0616 . . {Suspended platforms, i.e. the load platform hangs from the base}
- B66F 7/0625 . . {with wheels for moving around the floor}
- B66F 7/0633 . . {Mechanical arrangements not covered by the following subgroups}
- B66F 7/0641 . . {Single levers, e.g. parallel links}
- B66F 7/065 . . {Scissor linkages, i.e. X-configuration}
- B66F 7/0658 . . . {Multiple scissor linkages horizontally arranged}
- B66F 7/0666 . . . {Multiple scissor linkages vertically arranged}
- B66F 7/0675 . . . . {Auxiliary scissors, e.g. above main scissors}
- B66F 7/0683 . . . {Scissor linkage plus tilting action}
- B66F 7/0691 . . {Asymmetric linkages, i.e. Y-configuration}

- B66F 7/08 . . . hydraulically or pneumatically operated
- B66F 7/085 . . . {pneumatically operated}
- B66F 7/10 . . with platforms supported directly by jacks
- B66F 7/12 . . . by mechanical jacks
- B66F 7/14 . . . . screw operated
- B66F 7/16 . . . by one or more hydraulic or pneumatic jacks
- B66F 7/18 . . . . by a single central jack
- B66F 7/20 . . . . by several jacks with means for maintaining the platforms horizontal during movement
- B66F 7/22 . . with tiltable platforms (tilting vehicles for unloading [B65G 67/34](#))
- B66F 7/24 . . for raising or lowering vehicles by their own power
- B66F 7/243 . . . {Ramps}
- B66F 7/246 . . . {Wheel supporting trolleys}
- B66F 7/26 . . for selective lifting of parts of vehicles (mobile garage jacks [B66F 5/00](#))
- B66F 7/28 . . Constructional details, e.g. end stops, pivoting supporting members, sliding runners adjustable to load dimensions

**B66F 9/00**

**Devices for lifting or lowering bulky or heavy goods for loading or unloading purposes** (mobile or transportable lifts in, or associated with, buildings and specially adapted to be shifted from one part of a building or other structure to another part or to another building or structure [B66B 9/16](#); cranes [B66C](#))

- B66F 9/02 . . Stationary loaders or unloaders, e.g. for sacks
- B66F 9/04 . . . hydraulically actuated or controlled
- B66F 9/06 . . . movable, with their loads, on wheels or the like, e.g. fork-lift trucks (vehicle aspects [B60](#) to [B62](#); vehicles predominantly for transporting loads and modified to facilitate loading or unloading [B60P 1/00](#); low-lift hand trucks for transporting goods [B62B 3/06](#))
- B66F 9/061 . . . {characterised by having a lifting jib}
- B66F 9/063 . . . {Automatically guided}
- B66F 9/065 . . . non-masted (mobile jacks of the garage type mounted on wheels or rollers [B66F 5/00](#))
- B66F 9/0655 . . . . {with a telescopic boom}
- B66F 9/07 . . . Floor-to-roof stacking devices, e.g. "stacker cranes", "retrievers"
- B66F 9/072 . . . . {Travelling gear therefor}
- B66F 9/075 . . . Constructional features or details
- B66F 9/07504 . . . . {Accessories, e.g. for towing, charging, locking}
- B66F 9/07509 . . . . {Braking}
- B66F 9/07513 . . . . {Details concerning the chassis}
- B66F 9/07518 . . . . . {Fuel or oil tank arrangements}
- B66F 9/07522 . . . . . {Variable length or width chassis}
- B66F 9/07527 . . . . . {Covers for e.g. engines or batteries}
- B66F 9/07531 . . . . . {Battery compartments}
- B66F 9/07536 . . . . . . {Battery stoppers, i.e. means to hold battery in position}

B66F 9/0754	. . . . {Battery removal arrangements}
B66F 9/07545	. . . {Overhead guards}
B66F 9/0755	. . . {Position control; Position detectors}
B66F 9/07554	. . . {Counterweights}
B66F 9/07559	. . . {Stabilizing means}
B66F 9/07563	. . . {Fork-lift trucks adapted to be carried by transport vehicles}
B66F 9/07568	. . . {Steering arrangements}
B66F 9/07572	. . . {Propulsion arrangements}
B66F 9/07577	. . . . {not supported by wheels, e.g. tracks or air cushions}
B66F 9/07581	. . . {Remote controls}
B66F 9/07586	. . . {Suspension or mounting of wheels on chassis}
B66F 9/0759	. . . {Details of operating station, e.g. seats, levers, operator platforms, cabin suspension}
B66F 9/07595	. . . {Cooling arrangements for device or operator}
B66F 9/08	. . . Masts; Guides; Chains
B66F 9/082	. . . . {inclinable}
B66F 9/085	. . . . {Multiple forks, i.e. more than one pair mounted on a single mast or with more than one mast}
B66F 9/087	. . . . {Monomasts}
B66F 9/10	. . . . movable in a horizontal direction relative to truck
B66F 9/105	. . . . . {Articulated, i.e. front chassis with wheels and mast rotatable relative to rear chassis with wheels}
B66F 9/12	. . . Platforms; Forks; Other load supporting or gripping members
B66F 9/122	. . . . {longitudinally movable}
B66F 9/125	. . . . {rotatable about a longitudinal axis}
B66F 9/127	. . . . {Working platforms}
B66F 9/14	. . . . laterally movable, e.g. swingable, for slewing or transverse movements
B66F 9/141	. . . . . {with shuttle-type movement}
B66F 9/142	. . . . . {Movements of forks either individually or relative to each other}
B66F 9/143	. . . . . {Movements of forks relative to each other - symmetric}
B66F 9/144	. . . . . {Movements of forks relative to each other - independent}
B66F 9/145	. . . . . {Rotation of fork around vertical axis}
B66F 9/146	. . . . . {Side shift, i.e. both forks move together sideways relative to fork support}
B66F 9/147	. . . . . {Whole unit including fork support moves relative to mast}
B66F 9/148	. . . . . {Whole unit including fork support moves sideways}
B66F 9/149	. . . . . {Whole unit including fork support rotates}
B66F 9/16	. . . . inclinable relative to mast
B66F 9/165	. . . . . {Foldable forks, i.e. where only the horizontal section moves}
B66F 9/18	. . . . Load gripping or retaining means

B66F 9/181	. . . . . {by suction means}
B66F 9/182	. . . . . {by magnetic means}
B66F 9/183	. . . . . {Coplanar side clamps}
B66F 9/184	. . . . . {Roll clamps}
B66F 9/185	. . . . . {by internally expanding grippers}
B66F 9/186	. . . . . {Container lifting frames}
B66F 9/187	. . . . . {Drum lifting devices}
B66F 9/188	. . . . . {Stacked-bricks lifting devices}
B66F 9/19	. . . . . Additional means for facilitating unloading
B66F 9/195	. . . . . {for pushing the load}
B66F 9/20	. . . Means for actuating or controlling masts, platforms, or forks (power take-off from vehicle transmissions, combined with vehicle propulsion systems <a href="#">B60K</a> )
B66F 9/205	. . . . . {Arrangements for transmitting pneumatic, hydraulic or electric power to movable parts or devices (for cranes <a href="#">B66C 13/12</a> )}
B66F 9/22	. . . . . Hydraulic devices or systems
B66F 9/24	. . . . . Electrical devices or systems
<b>B66F 11/00</b>	<b>Lifting devices specially adapted for particular uses not otherwise provided for (ground-engaging vehicle fittings for supporting, lifting or manoeuvring the vehicle <a href="#">B60S 9/00</a>)</b>
B66F 11/04	. for movable platforms or cabins, e.g. on vehicles, permitting workmen to place themselves in any desired position for carrying out required operations ({Working platforms on fork-lift trucks <a href="#">B66F 9/127</a> ; } vehicle aspects of service vehicles <a href="#">B60P 3/14</a> ; platforms for cleaning windows <a href="#">A47L 3/02</a> ; devices for rescuing persons from buildings <a href="#">A62B 1/02</a> ; liftable or lowerable platforms for use on ladders <a href="#">E06C 7/16</a> ; maintenance travellers for bridges <a href="#">E01D 19/10</a> ; scaffolds on an extensible sub-structure <a href="#">E04G 1/22</a> )
B66F 11/042	. . {actuated by lazy-tongs mechanisms or articulated levers}
B66F 11/044	. . {Working platforms suspended from booms}
B66F 11/046	. . . {of the telescoping type}
B66F 11/048	. . {Mobile camera platform}
<b>B66F 13/00</b>	<b>Common constructional features or accessories</b>
B66F 13/005	. {Thrust chain devices}
<b>B66F 15/00</b>	<b>Crowbars or levers</b>
<b>B66F 17/00</b>	<b>Safety devices, e.g. for limiting or indicating lifting force</b>
B66F 17/003	. {for fork-lift trucks}
B66F 17/006	. {for working platforms}
<b>B66F 19/00</b>	<b>Hoisting, lifting, hauling or pushing, not otherwise provided for</b>
B66F 19/005	. {Lifting devices for manhole covers}
<b>B66F 2700/00</b>	<b>Lifting apparatus</b>

- B66F 2700/02
  - Lifting devices with a toothed post and pawl latch or with a post and locking elements
- B66F 2700/025
  - • with a post and locking elements
- B66F 2700/03
  - Lifting jacks with pinion and rack
- B66F 2700/04
  - Jacks with screw and nut
- B66F 2700/05
  - Hydraulic jacks
- B66F 2700/052
  - • Support- or transmission members
- B66F 2700/055
  - • Jacks with a single cylinder
- B66F 2700/057
  - • • Pistons, e.g. telescopic; Cylinders or sealing joints; Hydraulic travel-limiting devices or shock damping
- B66F 2700/07
  - Lifting devices actuated by the driving force of water
- B66F 2700/09
  - Other lifting devices
- B66F 2700/12
  - Lifting platforms for vehicles or motorcycles or similar lifting apparatus
- B66F 2700/123
  - • Details concerning the support members or devices not related to the lifting itself
- B66F 2700/126
  - • Arrangements in which the platform is fixed to the upper end of a single or plural jacks