

**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 ({ <a href="#">Working platforms on fork-lift trucks 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