

CPC**COOPERATIVE PATENT CLASSIFICATION****B66D**

CAPSTANS; WINCHES; TACKLES, e.g. PULLEY BLOCKS; HOISTS (winding or unwinding ropes or cables for feeding or storage purposes [B65H](#); rope or cable winding or unwinding mechanisms for lifts [B66B](#))

NOTE

This subclass covers:

- rope, cable or chain winding or unwinding mechanisms for moving all loads except lift cages, e.g. winches for dredges;
- braking or detent devices characterised by their application for retarding or preventing rotary movement of a winding drum or barrel

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:

[B66D 1/395](#) covered by [B66D 1/36](#), [B66D 1/50](#)

B66D 1/00

Rope, cable, or chain winding mechanisms; Capstans (portable or mobile lifting or hauling appliances [B66D 3/00](#))

B66D 1/005

. {Attaching winches to vehicle wheels}

B66D 1/02

. Driving gear

B66D 1/04

.. manually operated

B66D 1/06

... Safety cranks for preventing unwanted crank rotation and subsequent lowering of the loads

B66D 1/08

.. incorporating fluid motors

B66D 1/10

... Steam driving gear

B66D 1/12

.. incorporating electric motors

B66D 1/14

.. Power transmissions between power sources and drums or barrels {(including brakes, one-way brakes, one-way clutches, clutches activated alternately with brakes, fixed ratio gearing unless otherwise provided for in [B66D 1/16](#) to [B66D 1/24](#))}

B66D 1/16

... the drums or barrels being freely rotatable { e.g. having a clutch activated independently of a brake ([B66D 1/20](#), [B66D 1/22](#), [B66D 1/24](#) take precedence; clutches activated alternately with brakes [B66D 1/14](#), slip couplings [B66D 1/14](#))}

B66D 1/18

.... and the power being transmitted from a continuously operating and irreversible prime mover {i.e. an internal combustion engine e.g. on a motor vehicle or a portable winch}

B66D 1/20

... Chain, belt, or friction drives, e.g. incorporating sheaves {of fixed or variable ratio}

B66D 1/22

... Planetary or differential gearings (for actuating grab buckets [B66D 1/70](#)) {i.e. with planet gears having movable axes of rotation}

B66D 1/225

.... {variable ratio or reversing gearing (fixed ratio gearing [B66D 1/22](#))}

B66D 1/24

... for varying speed or reversing direction of rotation of drums or barrels {i.e. variable ratio or reversing gearing ([B66D 1/225](#) takes precedence)}

- B66D 1/26 . having several drums or barrels
- B66D 1/28 . Other constructional details
- B66D 1/30 .. Rope, cable, or chain drums or barrels
- B66D 1/34 ... Attachment of ropes or cables to drums or barrels
- B66D 1/36 .. Guiding, or otherwise ensuring winding in an orderly manner, of ropes, cables, or chains
- B66D 1/365 ... {by means of pivotably mounted drums or barrels}
- B66D 1/38 ... by means of guides movable relative to drum or barrel
- B66D 1/39 ... by means of axially-movable drums or barrels {(pivotably mounted drums or barrel [B66D 1/365](#))}
- B66D 1/40 .. Control devices
- B66D 1/42 ... non-automatic
- B66D 1/44 pneumatic or hydraulic
- B66D 1/46 electric
- B66D 1/48 ... automatic
- B66D 1/485 {electrical}
- B66D 1/50 for maintaining predetermined rope, cable, or chain tension, e.g. in ropes or cables for towing craft, in chains for anchors; Winding or mooring winch-cable tension control
- B66D 1/505 {electrical}
- B66D 1/52 for varying rope or cable tension, e.g. when recovering craft from water
- B66D 1/525 {electrical}
- B66D 1/54 . Safety gear
- B66D 1/56 .. Adaptations of limit switches
- B66D 1/58 .. responsive to excess of load
- B66D 1/60 . adapted for special purposes
- B66D 1/605 .. {scaffolding winches ([B66D 1/74](#) takes precedence)}
- B66D 1/62 .. for actuating grab buckets ([electrical control in cranes B66C 13/32](#))
- B66D 1/64 ... by means of a single rope or chain
- B66D 1/66 ... driven by a single motor
- B66D 1/68 ... driven by two motors
- B66D 1/70 ... driven through planetary or differential gearings
- B66D 1/72 .. Anchor-chain sprockets; Anchor capstans
- B66D 1/74 .. Capstans
- B66D 1/7405 ... {having two or more drums providing tractive force}
- B66D 1/741 {and having rope storing means}
- B66D 1/7415 ... {Friction drives, e.g. pulleys, having a cable winding angle of less than 360 degrees}
- B66D 1/7421 ... {having a vertical rotation axis}
- B66D 1/7426 {driven by motor only}
- B66D 1/7431 {driven manually only}

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|-------------|-------|---|
| B66D 1/7436 | | {drivable by both motor and manually} |
| B66D 1/7442 | ... | {having a horizontal rotation axis} |
| B66D 1/7447 | | {driven by motor only} |
| B66D 1/7452 | | {driven manually only} |
| B66D 1/7457 | | {drivable by both motor and manually} |
| B66D 1/7463 | ... | {Accessories} |
| B66D 1/7468 | | {Handles} |
| B66D 1/7473 | | {with locking means} |
| B66D 1/7478 | | {Powered handles} |
| B66D 1/7484 | ... | {Details concerning gearing arrangements, e.g. multi-speed} |
| B66D 1/7489 | ... | {having a particular use, e.g. rope ascenders} |
| B66D 1/7494 | ... | {Self-tailing capstans} |
| B66D 1/76 | ... | having auxiliary drums or barrels for storing the ropes or cables |
| B66D 1/78 | ... | for shunting, e.g. in marshalling yards |
| B66D 1/80 | .. | for scrapers |
| B66D 1/82 | .. | for slewing and hoisting by means of derricks |

B66D 3/00**Portable or mobile lifting or hauling appliances**

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|------------|-----|---|
| B66D 3/003 | . | {using two or more cooperating endless chains} |
| B66D 3/006 | . | {Power actuated devices operating on ropes, cables, or chains for hauling in a mainly horizontal direction (B66D 3/003 takes precedence)} |
| B66D 3/02 | . | Manually-operated, e.g. lever-actuated, devices operating on ropes, cables, or chains for hauling in a mainly horizontal direction (B66D 3/04 , B66D 3/12 take precedence) |
| B66D 3/04 | . | Pulley blocks or like devices in which force is applied to a rope, cable, or chain which passes over one or more pulleys, e.g. to obtain mechanical advantage (sheaves F16H 55/00) |
| B66D 3/043 | .. | {Block and tackle system with variable number of cable parts} |
| B66D 3/046 | .. | {Openable pulley blocks} |
| B66D 3/06 | .. | with more than one pulley |
| B66D 3/08 | ... | Arrangements of sheaves |
| B66D 3/10 | ... | Applications of braking or detent devices |
| B66D 3/12 | . | Chain or like hand-operated tackles with or without power transmission gearing between operating member and lifting rope, chain or cable |
| B66D 3/14 | .. | lever operated |
| B66D 3/16 | .. | operated by an endless chain passing over a pulley or a sprocket |
| B66D 3/18 | . | Power-operated hoists |
| B66D 3/20 | .. | with driving motor, e.g. electric motor, and drum or barrel contained in a common housing |
| B66D 3/22 | ... | with variable-speed gearings between driving motor and drum or barrel |
| B66D 3/24 | .. | Applications of limit switches |
| B66D 3/26 | .. | Other details, e.g. housings |

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|--------------------------------|---|
| B66D 5/00 | Braking or detent devices characterised by application to lifting or hoisting gear, e.g. for controlling the lowering of loads (for pulley blocks B66D 3/10) |
| B66D 5/02 | . Crane, lift hoist, or winch brakes operating on drums, barrels, or ropes |
| B66D 5/023 | .. {Cooling of brakes (in general F16D)} |
| B66D 5/026 | .. {Fluid-resistance brakes} |
| B66D 5/04 | .. actuated by centrifugal force |
| B66D 5/06 | .. with radial effect (B66D 5/20 takes precedence) |
| B66D 5/08 | ... embodying blocks or shoes |
| B66D 5/10 | ... embodying bands |
| B66D 5/12 | .. with axial effect (B66D 5/22 takes precedence) |
| B66D 5/14 | ... embodying discs |
| B66D 5/16 | .. for action on ropes or cables |
| B66D 5/18 | .. for generating braking forces which are proportional to the loads suspended; Load-actuated brakes |
| B66D 5/20 | ... with radial effect |
| B66D 5/22 | ... with axial effect |
| B66D 5/24 | .. Operating devices |
| B66D 5/26 | ... pneumatic or hydraulic |
| B66D 5/28 | specially adapted for winding gear, e.g. in mining hoists |
| B66D 5/30 | ... electrical |
| B66D 5/32 | . Detent devices |
| B66D 5/34 | .. having latches |
| B66D 2700/00 | Capstans, winches or hoists |
| B66D 2700/01 | . Winches, capstans or pivots |
| B66D 2700/0108 | .. with devices for paying out or automatically tightening the cable |
| B66D 2700/0116 | .. Manually or spring operated winches |
| B66D 2700/0125 | .. Motor operated winches |
| B66D 2700/0133 | ... Fluid actuated |
| B66D 2700/0141 | ... Electrically actuated |
| B66D 2700/015 | ... Actuated by chain, belt or by friction |
| B66D 2700/0158 | ... Hydraulically controlled couplings or gearings |
| B66D 2700/0166 | ... Winches with multiple drums or with drums with multiple parts of different diameter |
| B66D 2700/0175 | with adjacent drums mounted on a single shaft with a common coupling member |
| B66D 2700/0183 | .. Details, e.g. winch drums, cooling, bearings, mounting, base structures, cable guiding or attachment of the cable to the drum |
| B66D 2700/0191 | ... Cable guiding during winding or paying out |
| B66D 2700/02 | . Hoists or accessories for hoists |
| B66D 2700/021 | .. Hauling devices |

- B66D 2700/023 . . Hoists
- B66D 2700/025 . . . motor operated
- B66D 2700/026 . . Pulleys, sheaves, pulley blocks or their mounting
- B66D 2700/028 . . . Pulley blocks with multiple sheaves
- B66D 2700/03 . Mechanisms with latches or braking devices in general for capstans, hoists or similar devices as well as braking devices actuated electrically or by fluid under pressure
- B66D 2700/035 . . Fluid operated braking devices
- B66D 2700/05 . Brakes with mechanisms with latches for hoists or similar devices
- B66D 2700/07 . Brakes with axial thrust for winches, hoists or similar devices