

**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](#)

**Guidance heading:****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 }
- 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**

- 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

**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

**Guidance heading:**

**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