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)

Definition statement

This place 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

IPC group B66D1/395 is not used in the internal ECLA classification scheme. Subject matter covered by this group is classified in the following ECLA groups: B66D 1/36, B66D 1/50

References

Limiting references

This place does not cover:

| Lifting arrangements for furniture | A47B |
| Devices for life saving | A62B |
| Winding or unwinding ropes or cables for feeding or storage purposes | B65H |
| Cable winding or unwinding mechanisms for lifts | B66B |
| Winding units specially adapted for drilling operations | E21B 19/008 |
| Lifting arrangements for lamps | F21V |

B66D 1/00

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

Definition statement

This place covers:

Rope, cable or chain winding or unwinding mechanisms for moving all loads except lift cages, e.g. winches for dredges;

Winches mounted on vehicles.

References

Limiting references

This place does not cover:

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

Special rules of classification

Documents should be classified in the lowest subgroup possible and only classified in higher groups if none of the subgroups is applicable. If necessary documents should be classified in multiple subgroups. All non-trivial technical features should be classified. Main groups should only be used when no appropriate subgroup exists.
**B66D 1/005**

{Attaching winches to vehicle wheels}

**Definition statement**

This place covers:

Illustrative example of subject matter classified in **B66D 1/005**

US 4 742 971

**B66D 1/02**

Driving gear

**Definition statement**

This place covers:

Drives using for example springs, see for example US 4 009 843

**B66D 1/04**

manually operated

**Definition statement**

This place covers:

Includes winches which can be driven both manually and powered (also classified in relevant subgroup of **B66D 1/08** and **B66D 1/12**).
see for example US 2010/0133372

References

Limiting references

This place does not cover:

| Drives for capstan winches | B66D 1/74 |

B66D 1/06

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

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 1/06

US 3 939 729

| Safety devices for motor driven winches | B66D 5/32, B66D 5/34 |
B66D 1/08
incorporating fluid motors

Definition statement
This place covers:
Driven by either pneumatic or hydraulic motors
see for example US 5 692 735

B66D 1/12
incorporating electric motors

Definition statement
This place covers:
Winches with particular motor types or motor drive arrangements
see for example US 2003/0001147
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 - B66D 1/24)}

Definition statement

This place covers:
Including brakes, one-way brakes, one-way clutches, clutches activated alternately with brakes, fixed
ratio gearing unless otherwise provided for in B66D 1/16 - 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)}

Definition statement

This place covers:
E.g. having a clutch activated independently of a brake (B66D 1/20, B66D 1/22, B66D 1/24 take
precedence)

see for example US 7 891 641

References

Limiting references

This place does not cover:

Clutches activated alternately with brakes or 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)

Definition statement

This place covers:
An engine e.g. an internal combustion engine on a motor vehicle or a portable winch

B66D 1/22

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

Definition statement

This place covers:
Illustrative example of subject matter classified in B66D 1/22

US 4 452 429

References

Limiting references

This place does not cover:

| Devices for actuating grab buckets | B66D 1/70 |

B66D 1/225

{variable ratio or reversing gearing (fixed ratio gearing B66D 1/22)}

Definition statement

This place covers:
Illustrative example of subject matter classified in B66D 1/225
References

Limiting references
This place does not cover:

| 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)}

References

Limiting references
This place does not cover:

| Variable ratio planetary gearings | B66D 1/225 |

B66D 1/26

having several drums or barrels

Definition statement
This place covers:

Illustrative example of subject matter classified in B66D 1/26

US 3 787 031
B66D 1/28
Other constructional details

Definition statement
This place covers:
Including e.g. frame and bearing arrangements;
Subgroups B66D 1/30 - B66D 1/525 take precedence

B66D 1/30
Rope, cable, or chain drums or barrels

Definition statement
This place covers:
Including drum construction; cooling;

References
Limiting references
This place does not cover:

| Capstans | B66D 1/74 |

B66D 1/34
Attachment of ropes or cables to drums or barrels

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/34
US 2002/0104918
B66D 1/36
Guiding, or otherwise ensuring winding in an orderly manner, of ropes, cables, or chains

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/36
US 2005/0279977

B66D 1/365
{by means of pivotably mounted drums or barrels}

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/365
US 4 002 321
B66D 1/38
by means of guides movable relative to drum or barrel

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/38
US 4 235 394

B66D 1/39
by means of axially-movable drums or barrels (pivotably mounted drums or barrel B66D 1/365)

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/39
US 4 087 060
References

Limiting references

This place does not cover:

Pivotably mounted drums or barrels B66D 1/365

B66D 1/42

non-automatic

Definition statement

This place covers:

Control devices which do not respond to external conditions

References

Limiting references

This place does not cover:

Remote controls for crane winches B66C 13/40

B66D 1/44

pneumatic of hydraulic

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 1/42

US 6 371 447
**B66D 1/46**

**electric**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/46](#)

US 2008/0099738

![FIG 2](image)

**B66D 1/48**

**automatic**

**Definition statement**

*This place covers:*

includes pneumatic and hydraulic control arrangements

US 2005/0143219

![Diagram](image)
**B66D 1/485**

{electrical}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in B66D 1/485

US 5 818 185

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**B66D 1/50**

for maintaining predetermined rope, cable, or chain tension, e.g. in ropes or cables for towing craft, in chains for anchors; Warping or mooring winch-cable tension control

**Definition statement**

*This place covers:*

Ensures cable tension does not rise above or fall below desired value.

see for example US 7 389 973

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**FIG. 4**
References

Limiting references

This place does not cover:

| Slack prevention controls for cranes | B66C 13/10 |

B66D 1/505

{electrical}

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 1/505

US 2010/0116191

B66D 1/52

for varying rope or cable tension, e.g. when recovering craft from water

Definition statement

This place covers:

Compensates for motion of load
see for example US 7 775 383

References

Limiting references

This place does not cover:

| Swell compensation controls for cranes | B66C 13/02 |

B66D 1/525

{electrical}

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 1/525

US 2007/0272906
B66D 1/54

Safety gear

References

Limiting references

This place does not cover:

| Safety gear for cranes | B66C 15/00 |

B66D 1/56

Adaptations of limit switches

Definition statement

This place covers:
Responsive to cable length or position

References

Limiting references

This place does not cover:

| Limit switch arrangements for portable winches | B66D 3/24 |
| Limit switch arrangements for cranes | B66C 13/50 |

B66D 1/60

adapted for special purposes

References

Limiting references

This place does not cover:

| Vehicle mounted winches | B66D 1/00 |

B66D 1/605

{scaffolding winches (B66D 1/74 takes precedence)}

Definition statement

This place covers:
Illustrative example of subject matter classified in B66D 1/605
US 6 688 582

Relationships with other classification places
Also classified in B66C 3/32

B66D 1/62
for actuating grab buckets (electrical control in cranes B66C 13/32)

Special rules of classification
This subgroup not used. Documents are classified in B66C 3/06 - B66C 3/125

B66D 1/64
by means of a single rope or chain

Special rules of classification
This subgroup not used. Documents are classified in B66C 3/06 - B66C 3/125

B66D 1/66
driven by a single motor

Special rules of classification
This subgroup not used. Documents are classified in B66C 3/06 - B66C 3/125

B66D 1/68
driven by two motors

Special rules of classification
This subgroup not used. Documents are classified in B66C 3/06 - B66C 3/125

B66D 1/70
driven through planetary or differential gearings

Special rules of classification
This subgroup not used. Documents are classified in B66C 3/06 - B66C 3/125
B66D 1/72
Anchor-chain sprockets; Anchor capstans

Relationships with other classification places
Also classified in B63B 21/00

B66D 1/74
Capstans

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/74
US 2010/0242824

References
Limiting references
This place does not cover:

<table>
<thead>
<tr>
<th>Non driven bollards</th>
<th>B63B 21/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive handles in general</td>
<td>G05G 1/085</td>
</tr>
</tbody>
</table>

B66D 1/7405
{having two or more drums providing tractive force}

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 1/7405
see for example US 4 634 102

**B66D 1/741**

{and having rope storing means}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 1/741**

US 2010/0262384

**B66D 1/7415**

{Friction drives, e.g. pulleys, having a cable winding angle of less than 360 degrees}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 1/7415**
US 6 070 858

B66D 1/7494

{Self-tailing capstans}

Definition statement

This place covers:
Illustrative example of subject matter classified in B66D 1/7494

US 4 595 173

B66D 1/76

having auxiliary drums or barrels for storing the ropes or cables

Definition statement

This place covers:
Includes capstans with drum and capstans with storage compartment
see for example EP 1 985 575

**B66D 1/78**

for shunting, e.g. in marshalling yards

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 1/78**

US 3 502 301

**B66D 1/80**

for scrapers

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 1/80**

US 3 488 036

**Relationships with other classification places**

Also classified in **E02F 3/46**
**B66D 1/82**
for slewing and hoisting by means of derricks

**Definition statement**
*This place covers:*
Illustrative example of subject matter classified in [B66D 1/82](#)

DE 24 10 784

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**B66D 3/003**
{using two or more cooperating endless chains}

**Definition statement**
*This place covers:*
Illustrative example of subject matter classified in [B66D 3/003](#)

US 7 682 106
B66D 3/006

{Power actuated devices operating on ropes, cables, or chains for hauling in a mainly horizontal direction (B66D 3/003 takes precedence)}

Definition statement

This place covers:

Also includes similar devices which may be used for lifting.

US 4 615 509

Also includes similar devices which may be used for lifting.

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)

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 3/02
US 2003/0085392

**B66D 3/043**

*Block and tackle system with variable number of cable parts*

**Definition statement**

*This place covers:*

Where the number of active pulleys can be varied e.g. to alter the mechanical advantage.

see for example US 3 794 185

**B66D 3/046**

*Openable pulley blocks*

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in B66D 3/04
B66D 3/06

with more than one pulley

Definition statement

This place covers:
Illustrative example of subject matter classified in B66D 3/06

US 6 386 516

B66D 3/10

Applications of braking or detent devices

Definition statement

This place covers:
Illustrative example of subject matter classified in B66D 3/10
B66D 3/14
lever operated

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 3/14

US 2002/0153519

B66D 3/16
operated by an endless chain passing over a pulley or a sprocket

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 3/16
US 3 542 341

B66D 3/18

Power-operated hoists

Definition statement

This place covers:
Includes pneumatic load-balancing winches
see for example US 2003/0057408
B66D 3/20
with driving motor, e.g. electric motor, and drum or barrel contained in a common housing

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 3/20
US 2008/0265810

B66D 3/22
with variable-speed gearings between driving motor and drum or barrel

Definition statement
This place covers:
Also includes drives with a single gear ratio.
See for example US 3 971 971
B66D 3/24
Applications of limit switches

References

Limiting references

This place does not cover:

| Limit switch arrangements for large winches | B66D 1/56 |
| Limit switch arrangements for cranes       | B66C 13/50 |

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)

Definition statement

This place covers:

braking or detent devices characterised by their application for retarding or preventing rotary movement of a winding drum or barrel

References

Limiting references

This place does not cover:

| Braking devices operating on lift structures | B66B 5/16 |

B66D 5/02
Crane, lift hoist, or winch brakes operating on drums, barrels, or ropes

Definition statement

This place covers:

Includes regenerative braking and non-specified braking arrangements

B66D 5/023

{Cooling of brakes (in general F16D)}

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 5/023
References

Limiting references

This place does not cover:

| General brake cooling | F16D |

B66D 5/026

{Fluid-resistance brakes}

Definition statement

This place covers:

Illustrative example of subject matter classified in B66D 5/026
**B66D 5/04**

acted by centrifugal force

**Definition statement**

This place covers:

Illustrative example of subject matter classified in B66D 5/04

US 6 578 822

**B66D 5/08**

embodying blocks or shoes

**Definition statement**

This place covers:

Illustrative example of subject matter classified in B66D 5/08
**B66D 5/10**

embodying bands

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/10**

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**B66D 5/12**

with axial effect (**B66D 5/22** takes precedence)

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/12**
Illustrative example of subject matter classified in B66D 5/14

US 2006/0151254
B66D 5/16
for action on ropes or cables

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 5/16
US 5 228 540

B66D 5/18
for generating braking forces which are proportional to the loads suspended;
Load-actuated brakes

Definition statement
This place covers:
Illustrative example of subject matter classified in B66D 5/18
US Re. 36 216
**B66D 5/22**

with axial effect

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/22**

US 5 330 036

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**B66D 5/24**

Operating devices

**Definition statement**

*This place covers:*

Includes brake testing arrangements; overload protection

see for example US
**B66D 5/26**

pneumatic or hydraulic

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/26**

US 2003/0155184

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**B66D 5/30**

electrical

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/30**

US 2009/0260927
**B66D 5/32**

Detent devices

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/32**

see for example **US 5 004 177**

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**B66D 5/34**

having latches

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in **B66D 5/34**

**US 2006/0186388**