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:

<table>
<thead>
<tr>
<th>Description</th>
<th>IPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifting arrangements for furniture</td>
<td>A47B</td>
</tr>
<tr>
<td>Devices for life saving</td>
<td>A62B</td>
</tr>
<tr>
<td>Winding or unwinding ropes or cables for feeding or storage purposes</td>
<td>B65H</td>
</tr>
<tr>
<td>Cable winding or unwinding mechanisms for lifts</td>
<td>B66B</td>
</tr>
<tr>
<td>Winding units specially adapted for drilling operations</td>
<td>E21B 19/008</td>
</tr>
<tr>
<td>Lifting arrangements for lamps</td>
<td>F21V</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Description</th>
<th>IPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable or mobile lifting or hauling appliances</td>
<td>B66D 3/00</td>
</tr>
</tbody>
</table>

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

**References**

- **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

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**B66D 1/30**

**Rope, cable, or chain drums or barrels**

**Definition statement**

*This place covers:*

Including drum construction; cooling;

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**References**

**Limiting references**

*This place does not cover:*

<table>
<thead>
<tr>
<th>Capstans</th>
<th><strong>B66D 1/74</strong></th>
</tr>
</thead>
</table>

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**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

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**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

![Diagram of hydraulic system]
**B66D 1/46**

**electric**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in B66D 1/46

US 2008/0099738

![Diagram](image1)

**B66D 1/48**

**automatic**

**Definition statement**

*This place covers:*

includes pneumatic and hydraulic control arrangements

US 2005/0143219

![Diagram](image2)
**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:

<table>
<thead>
<tr>
<th>Swell compensation controls for cranes</th>
</tr>
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<tbody>
<tr>
<td>B66C 13/02</td>
</tr>
</tbody>
</table>

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
Relationships with other classification places
Also classified in **E04G 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

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**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](#)
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)

Relationships with other classification places

sheaves F16H55/04

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
US 5 249 543

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
US 4 934 660

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

US 2 850 125

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
actuated 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

US 2011/0001102

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
US 7 857 289

**B66D 5/14**

**embodying discs**

**Definition statement**

_This place covers:_

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

![Diagram 1](image)

**B66D 5/30**

electrical

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/30](#)

US 2009/0260927

![Diagram 2](image)
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