

## 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	<a href="#">A47B</a>
Devices for life saving	<a href="#">A62B</a>
Winding or unwinding ropes or cables for feeding or storage purposes	<a href="#">B65H</a>
Cable winding or unwinding mechanisms for lifts	<a href="#">B66B</a>
Winding units specially adapted for drilling operations	<a href="#">E21B 19/008</a>
Lifting arrangements for lamps	<a href="#">F21V</a>

## 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:*

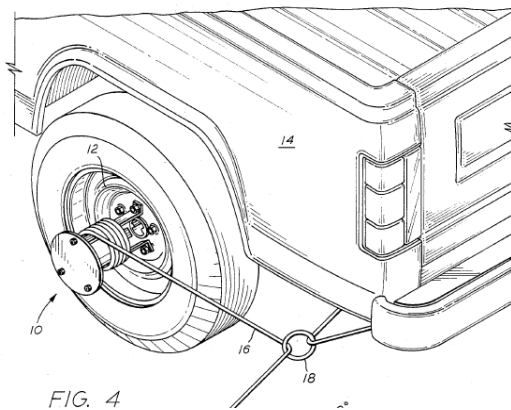
Portable or mobile lifting or hauling appliances	<a href="#">B66D 3/00</a>
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### Special rules of classification

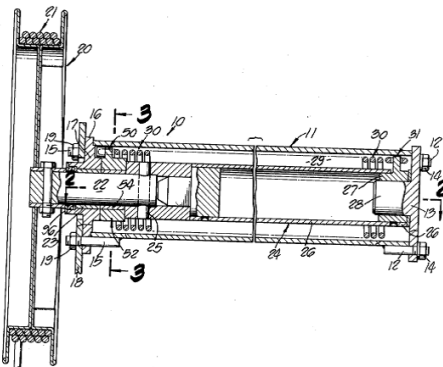
Documents should be classified in the lowest subgroup possible and only classified in higher groups if none of the subgroups is applicable. If necessary documents should be classified in multiple subgroups. All non-trivial technical features should be classified. Main groups should only be used when 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](#)

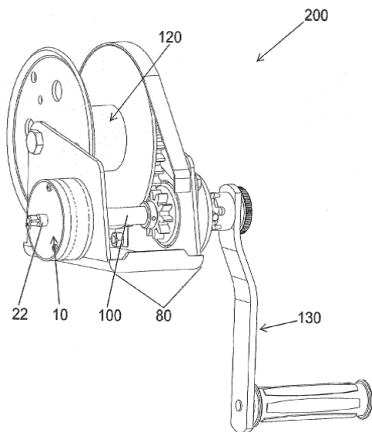
US 4 742 971

**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	<a href="#">B66D 1/74</a>
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**B66D 1/06**

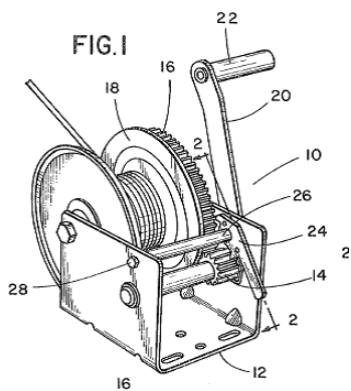
**Safety cranks for preventing unwanted crank rotation and subsequent lowering of the loads**

**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	<a href="#">B66D 5/32</a> , <a href="#">B66D 5/34</a>
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## B66D 1/08

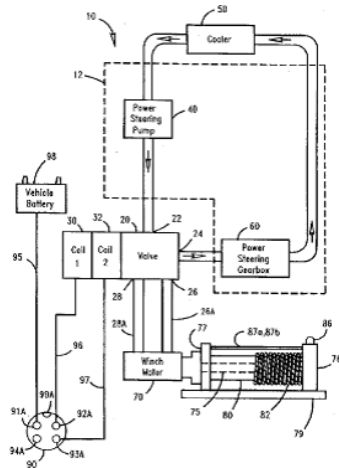
incorporating fluid motors

### Definition statement

*This place covers:*

Driven by either pneumatic or hydraulic motors

see for example US 5 692 735



## B66D 1/12

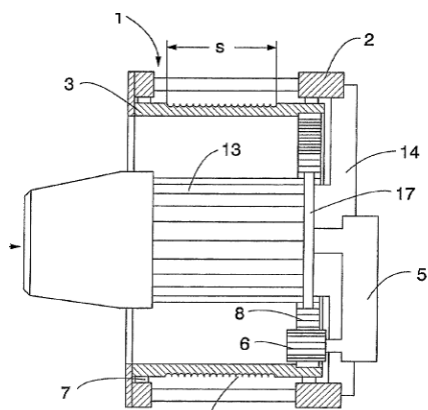
incorporating electric motors

### 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

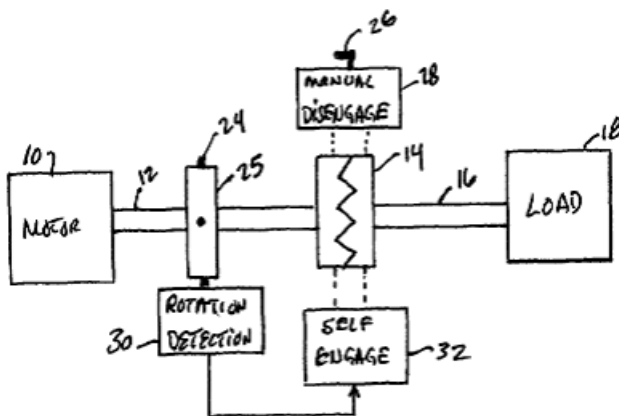
the drums or barrels being freely rotatable {, e.g. having a clutch activated independently of a brake ([B66D 1/20](#), [B66D 1/22](#), [B66D 1/24](#) take precedence; clutches activated alternately with brakes [B66D 1/14](#), slip couplings [B66D 1/14](#))}

### 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	<a href="#">B66D 1/14</a>
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**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**

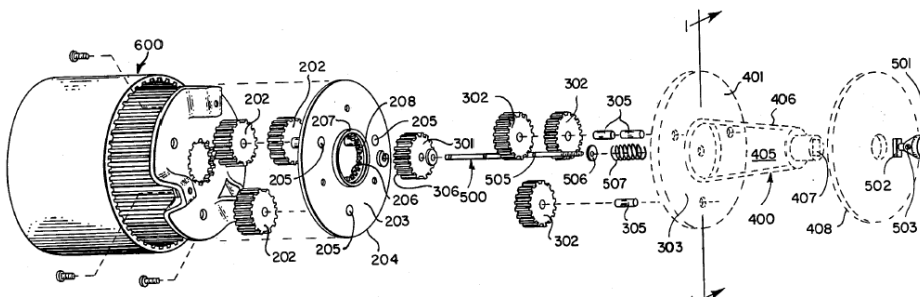
Planetary or differential gearings (for actuating grab buckets [B66D 1/70](#) ){, i.e. with planet gears having movable axes of rotation}

**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	<a href="#">B66D 1/70</a>
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**B66D 1/225**

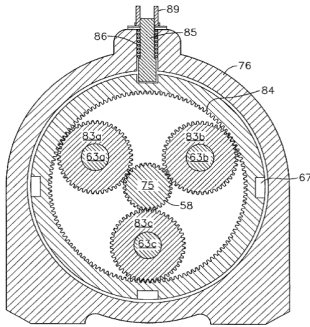
{variable ratio or reversing gearing (fixed ratio gearing [B66D 1/22](#))}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/225](#)

US 5 842 684



**References**

**Limiting references**

*This place does not cover:*

Fixed ratio gearing	<a href="#">B66D 1/22</a>
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**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	<a href="#">B66D 1/225</a>
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**B66D 1/26**

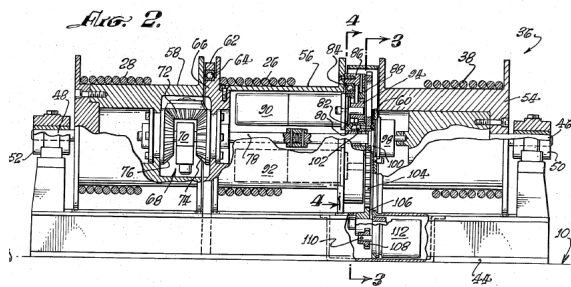
having several drums or barrels

**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	<a href="#">B66D 1/74</a>
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## B66D 1/34

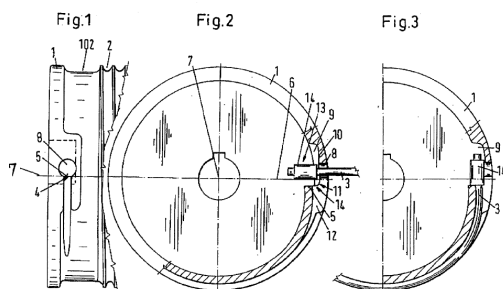
### Attachment of ropes or cables to drums or barrels

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/34](#)

US 2002/0104918





## B66D 1/36

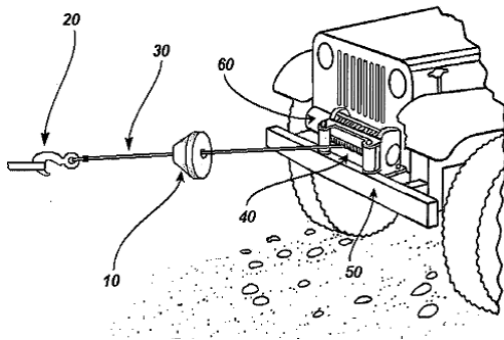
Guiding, or otherwise ensuring winding in an orderly manner, of ropes, cables, or chains

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/36](#)

US 2005/0279977



## B66D 1/365

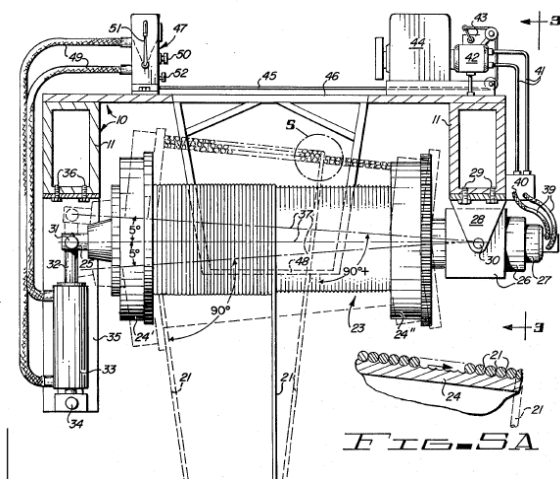
{by means of pivotably mounted drums or barrels}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/365](#)

US 4 002 321



## B66D 1/38

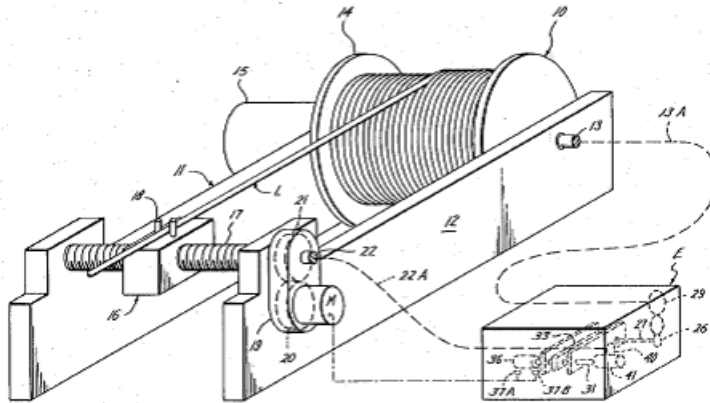
by means of guides movable relative to drum or barrel

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/38](#)

US 4 235 394



## B66D 1/39

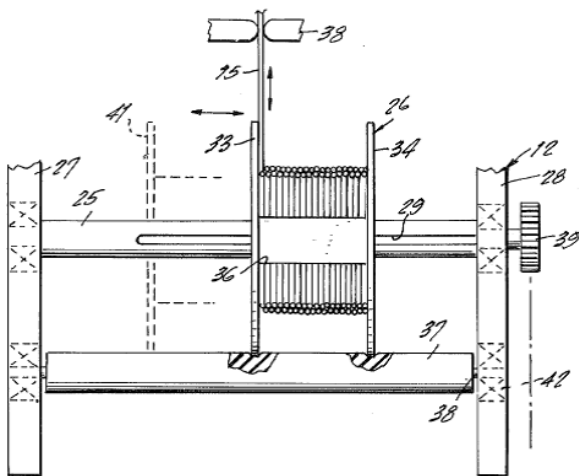
by means of axially-movable drums or barrels {(pivotably mounted drums or barrel [B66D 1/365](#))}

### 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	<a href="#">B66D 1/365</a>
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**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	<a href="#">B66C 13/40</a>
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**B66D 1/44**

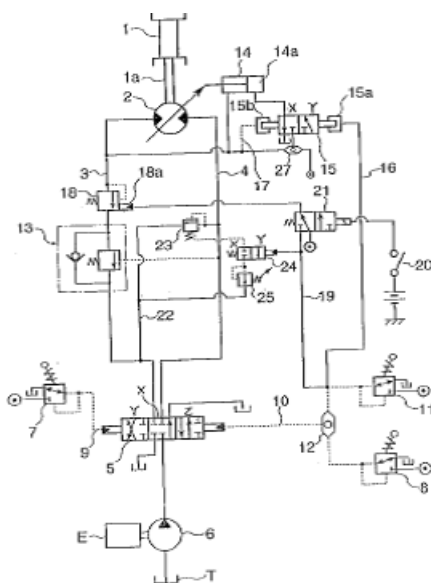
**pneumatic or hydraulic**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/42](#)

US 6 371 447



## B66D 1/46

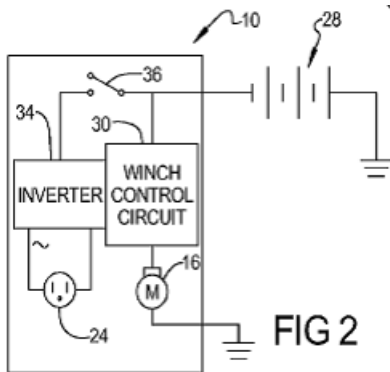
electric

### Definition statement

*This place covers:*

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

US 2008/0099738



## B66D 1/48

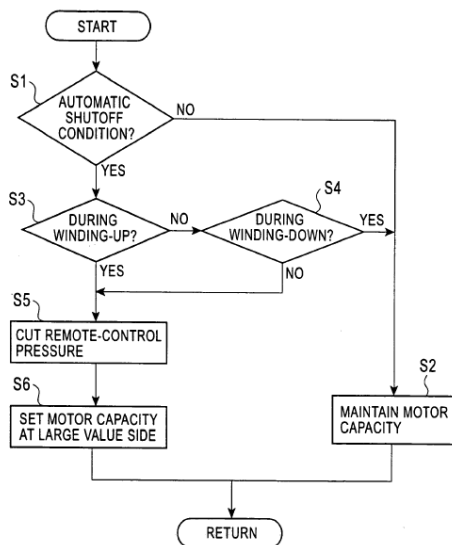
automatic

### Definition statement

*This place covers:*

includes pneumatic and hydraulic control arrangements

US 2005/0143219



## B66D 1/485

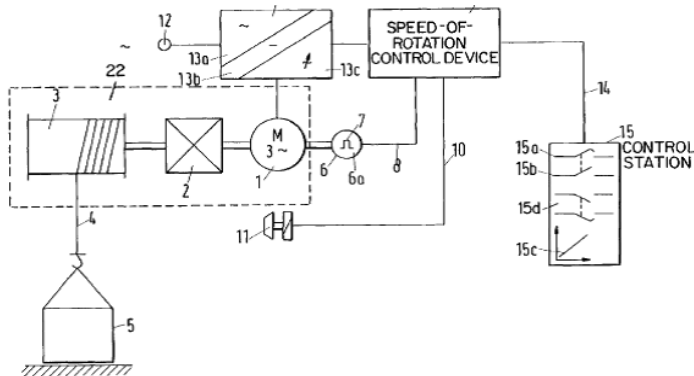
{electrical}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/485](#)

US 5 818 185



## B66D 1/50

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

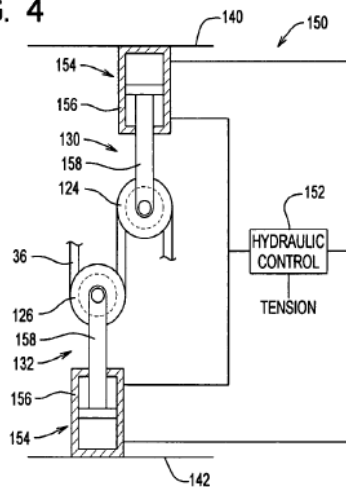
### Definition statement

*This place covers:*

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

see for example US 7 389 973

FIG. 4



## References

### Limiting references

This place does not cover:

Slack prevention controls for cranes	<a href="#">B66C 13/10</a>
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## B66D 1/505

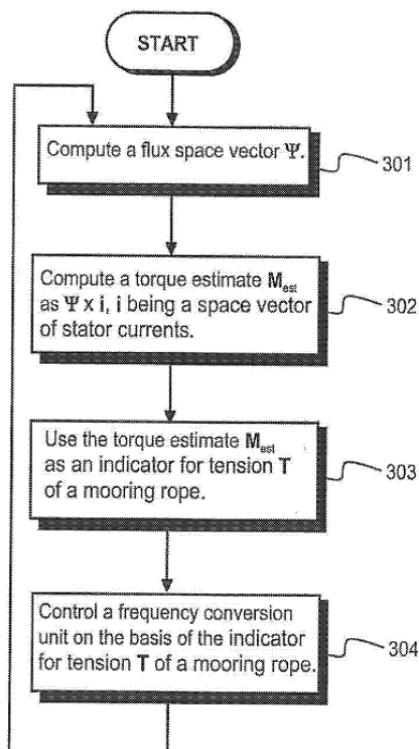
{electrical}

### Definition statement

This place covers:

Illustrative example of subject matter classified in [B66D 1/505](#)

US 2010/0116191



## B66D 1/52

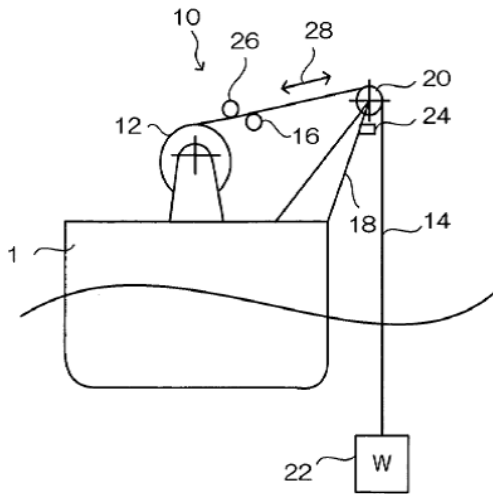
for varying rope or cable tension, e.g. when recovering craft from water

### 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	<a href="#">B66C 13/02</a>
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**B66D 1/525**

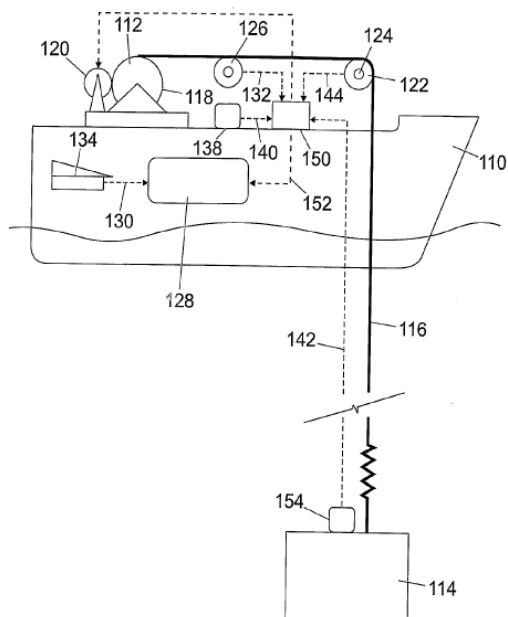
{electrical}

**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	<a href="#">B66C 15/00</a>
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**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	<a href="#">B66D 3/24</a>
Limit switch arrangements for cranes	<a href="#">B66C 13/50</a>

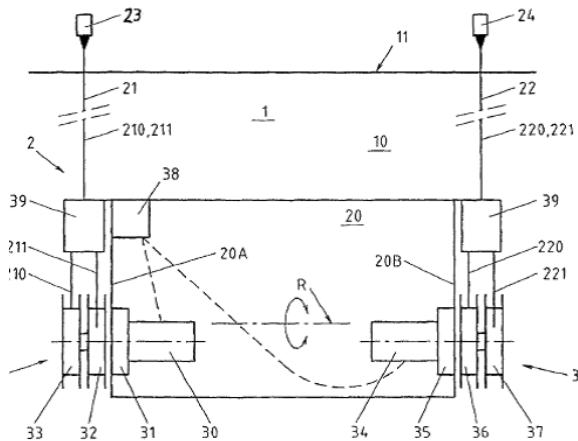
**B66D 1/60****adapted for special purposes****References****Limiting references***This place does not cover:*

Vehicle mounted winches	<a href="#">B66D 1/00</a>
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**B66D 1/605****{scaffolding winshes ([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 [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

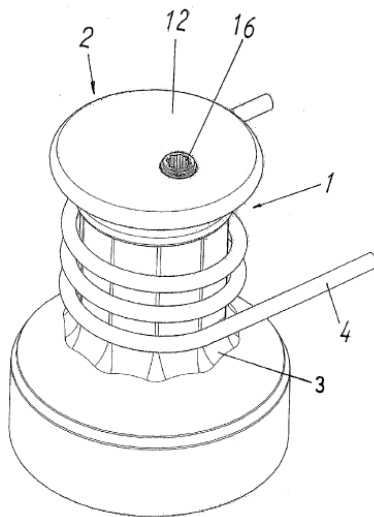
driven through planetary or differential gearings

### 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](#)

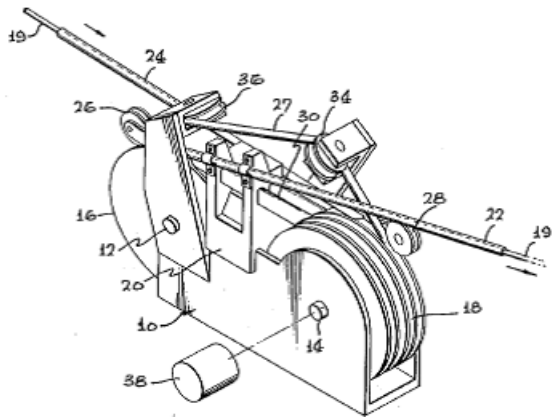
US 2010/0242824

**References****Limiting references***This place does not cover:*

Non driven bollards	<a href="#">B63B 21/10</a>
Drive handles in general	<a href="#">G05G 1/085</a>

**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**

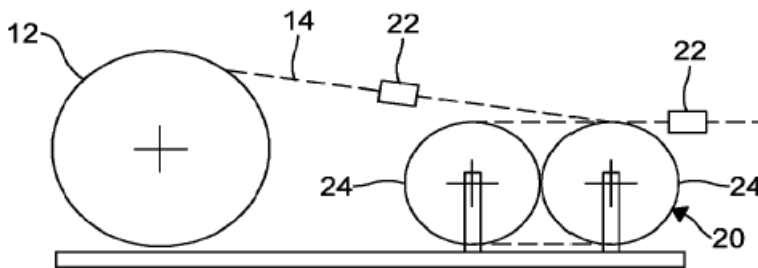
{and having rope storing means}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/741](#)

US 2010/0262384



**B66D 1/7415**

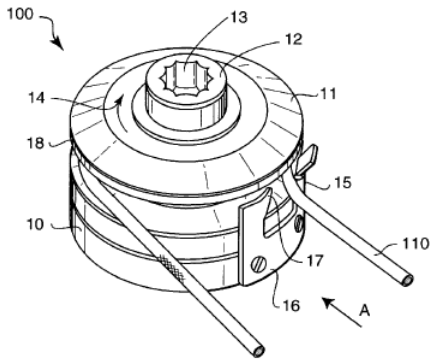
{Friction drives, e.g. pulleys, having a cable winding angle of less than 360 degrees}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/7415](#)

US 6 070 858



**B66D 1/7494**

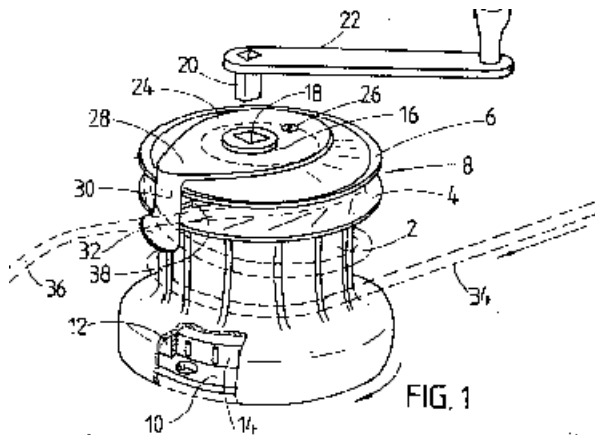
{Self-tailing capstans}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/7494](#)

US 4 595 173



**B66D 1/76**

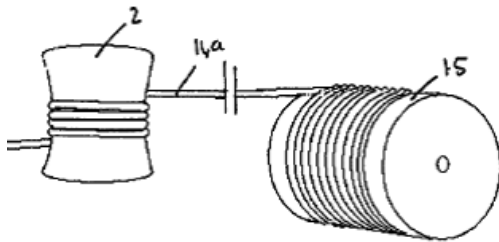
having auxiliary drums or barrels for storing the ropes or cables

**Definition statement**

*This place covers:*

Includes capstans with drum and capstans with storage compartment

see for example EP 1 985 575



## B66D 1/78

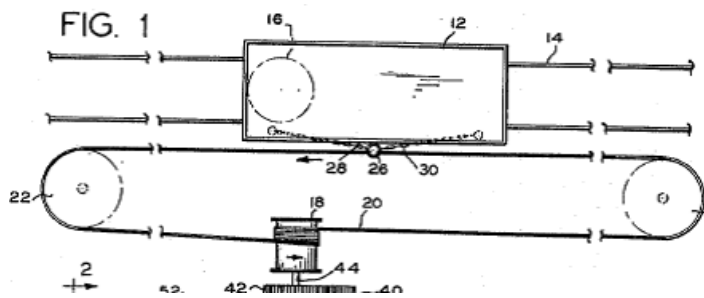
for shunting, e.g. in marshalling yards

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/78](#)

US 3 502 301



## B66D 1/80

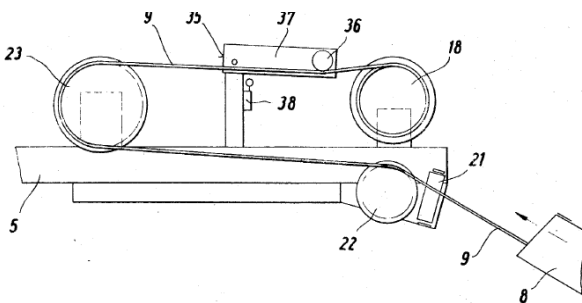
for scrapers

### 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

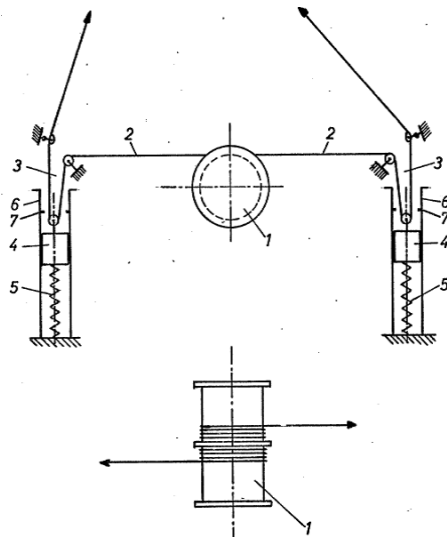
for slewing and hoisting by means of derricks

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 1/82](#)

DE 24 10 784



## B66D 3/003

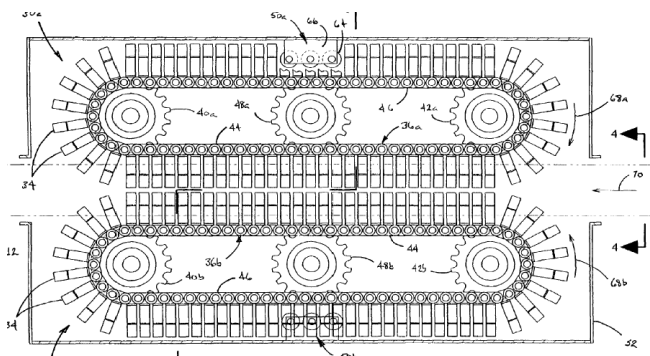
{using two or more cooperating endless chains}

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/003](#)

US 7 682 106



## B66D 3/006

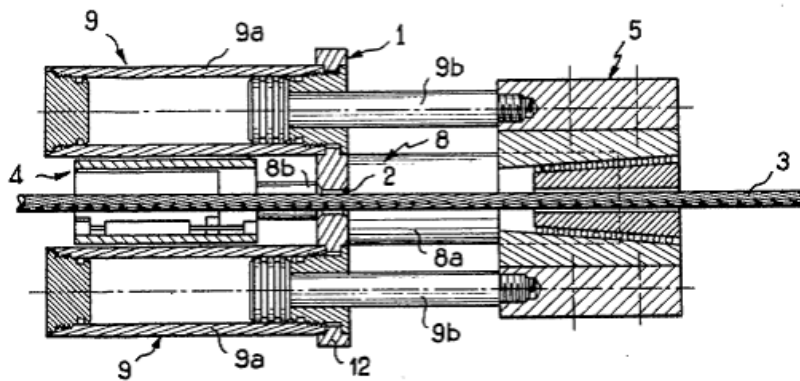
{Power actuated devices operating on ropes, cables, or chains for hauling in a mainly horizontal direction ([B66D 3/003](#) takes precedence)}

### 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

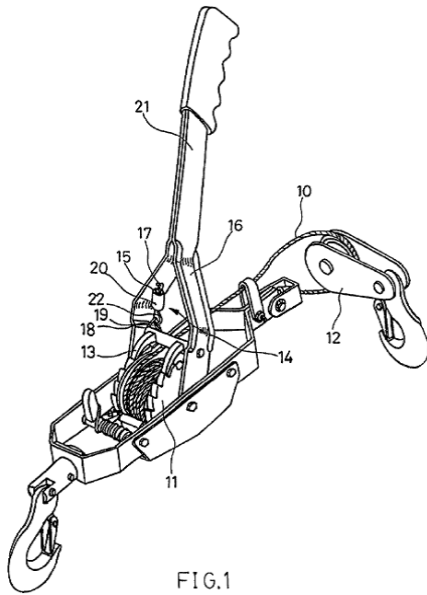
Manually-operated, e.g. lever-actuated, devices operating on ropes, cables, or chains for hauling in a mainly horizontal direction ([B66D 3/04](#), [B66D 3/12](#) take precedence)

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/02](#)

US 2003/0085392



### B66D 3/043

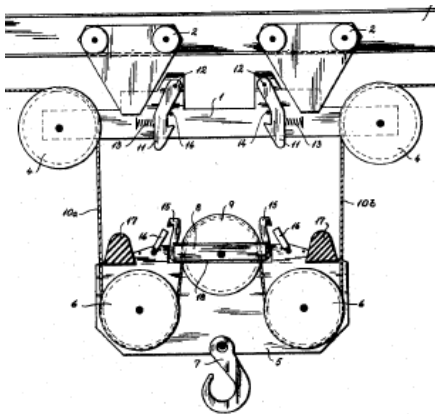
{Block and tackle system with variable number of cable parts}

#### 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}

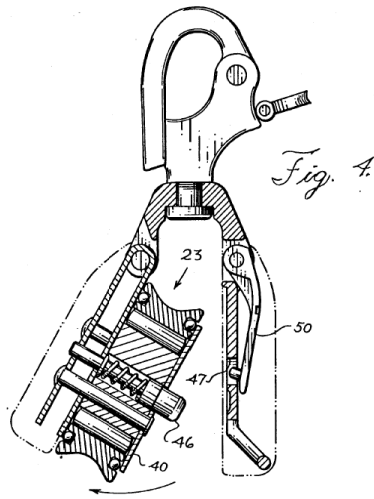
#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/04](#)



US 5 249 543



### B66D 3/06

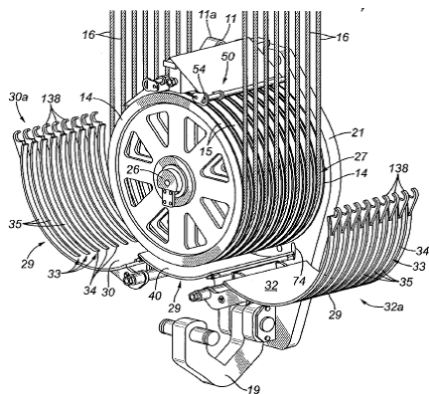
with more than one pulley

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/06](#)

US 6 386 516



### B66D 3/10

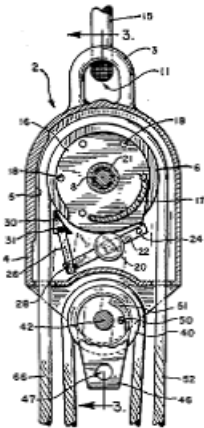
Applications of braking or detent devices

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/10](#)

US 4 934 660



**B66D 3/14**

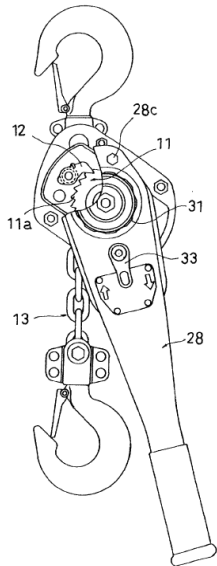
**lever operated**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/14](#)

US 2002/0153519



**B66D 3/16**

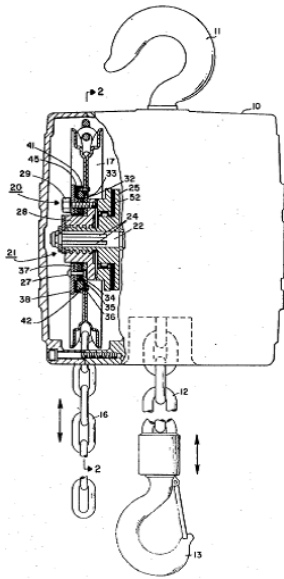
**operated by an endless chain passing over a pulley or a sprocket**

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/16](#)

US 3 542 341



## B66D 3/18

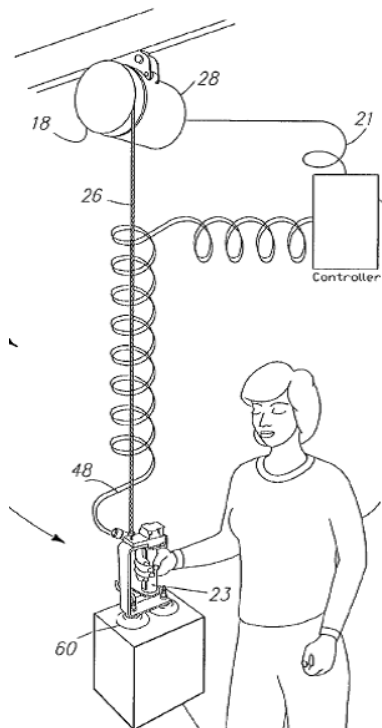
### Power-operated hoists

#### Definition statement

*This place covers:*

Includes pneumatic load-balancing winches

see for example US 2003/0057408



## B66D 3/20

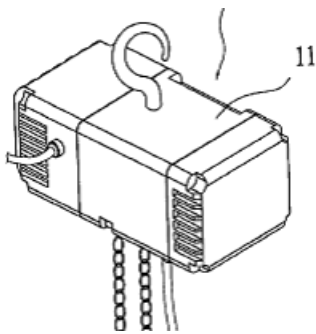
with driving motor, e.g. electric motor, and drum or barrel contained in a common housing

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 3/20](#)

US 2008/0265810



## B66D 3/22

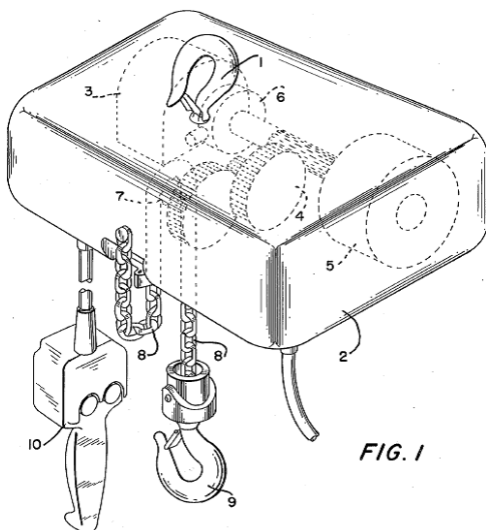
with variable-speed gearings between driving motor and drum or barrel

### 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	<a href="#">B66D 1/56</a>
Limit switch arrangements for cranes	<a href="#">B66C 13/50</a>

## 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	<a href="#">B66B 5/16</a>
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## 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

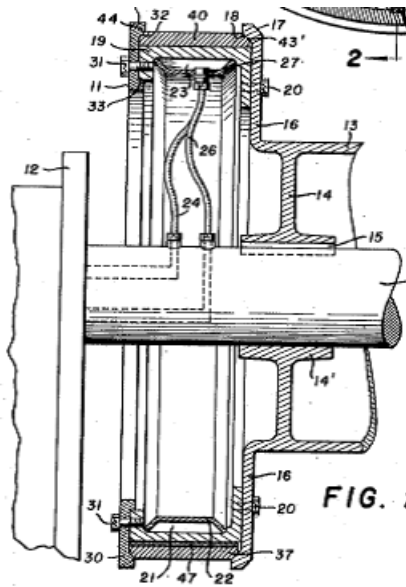
**{Cooling of brakes (in general [F16D](#))}**

#### 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
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**B66D 5/026**

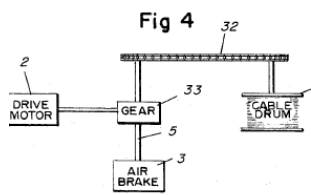
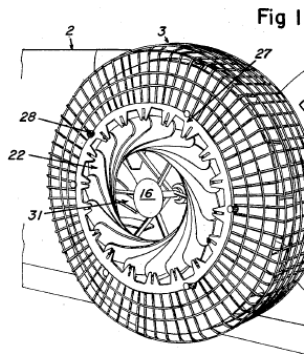
{Fluid-resistance brakes}

**Definition statement**

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/026](#)

US 3 158 231



### B66D 5/04

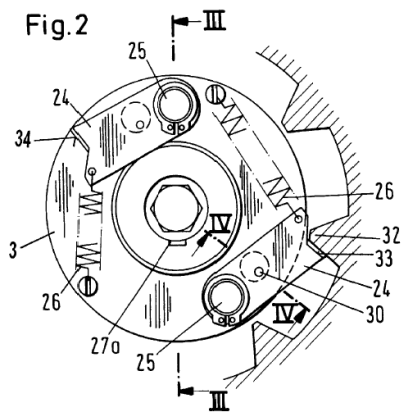
actuated by centrifugal force

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/04](#)

US 6 578 822



### B66D 5/08

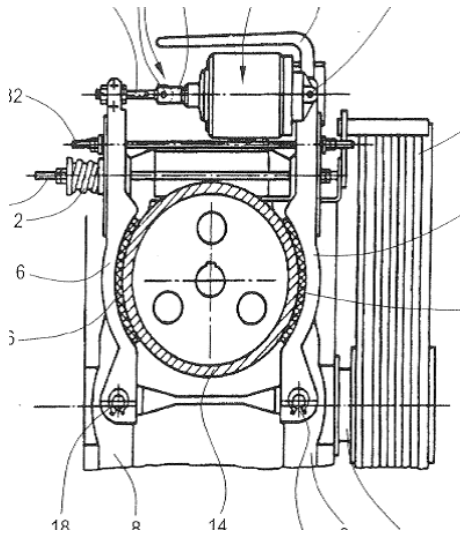
embodying blocks or shoes

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/08](#)

US 2011/0011682



**B66D 5/10**

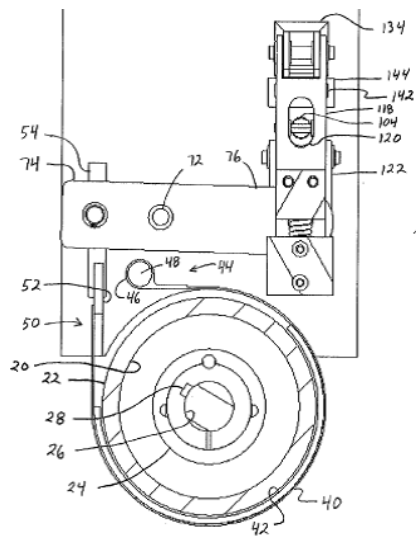
**embodying bands**

**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

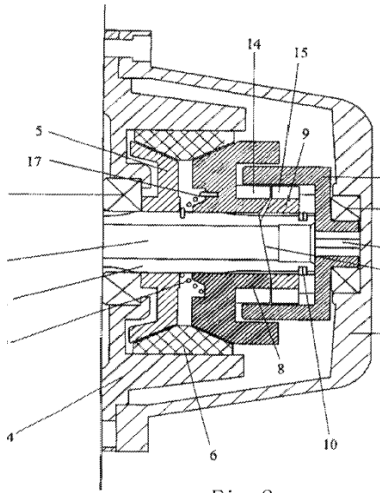


Fig. 2

## B66D 5/14

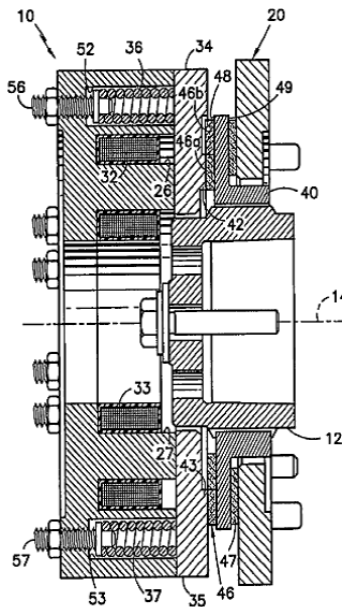
### embodying discs

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/14](#)

US 2006/0151254



## B66D 5/16

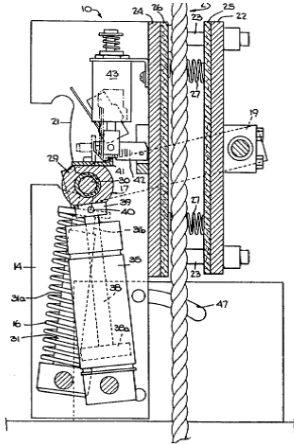
for action on ropes or cables

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/16](#)

US 5 228 540



## B66D 5/18

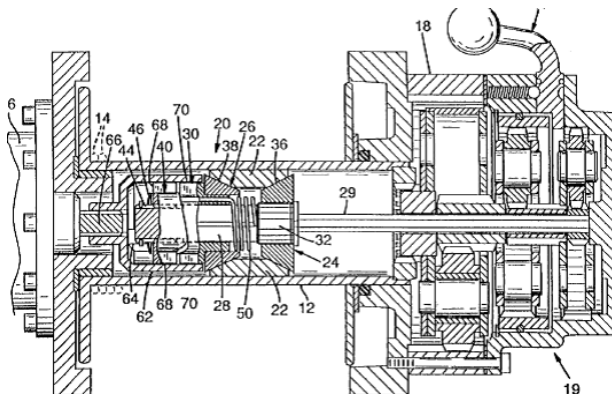
for generating braking forces which are proportional to the loads suspended;  
Load-actuated brakes

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/18](#)

US Re. 36 216



## B66D 5/22

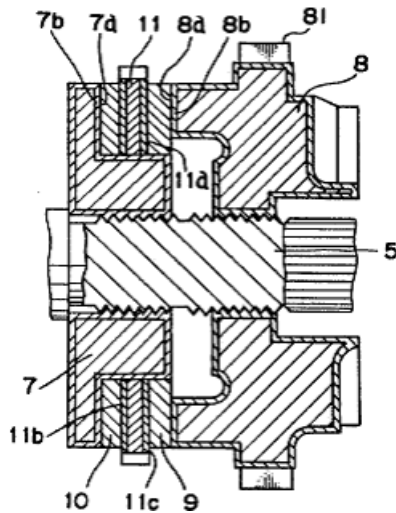
with axial effect

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/22](#)

US 5 330 036



## B66D 5/24

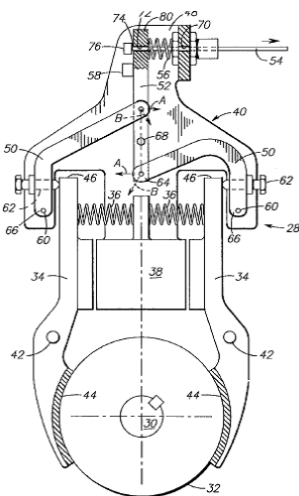
Operating devices

### Definition statement

*This place covers:*

Includes brake testing arrangements; overload protection

see for example US



## B66D 5/26

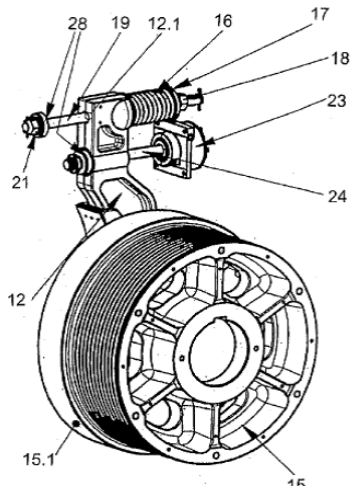
pneumatic or hydraulic

### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/26](#)

US 2003/0155184



## B66D 5/30

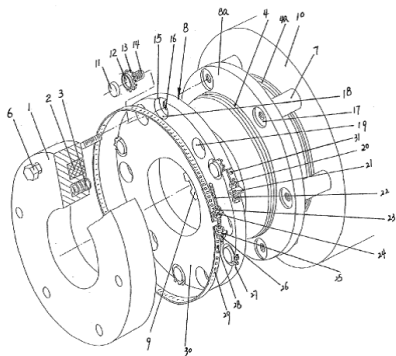
electrical

### Definition statement

*This place covers:*

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

US 2009/0260927



## B66D 5/32

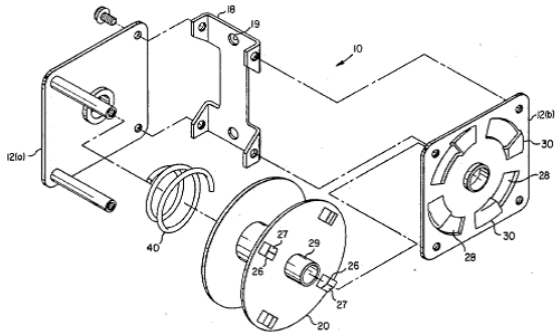
### Detent devices

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/32](#)

see for example US 5 004 177



## B66D 5/34

### having latches

#### Definition statement

*This place covers:*

Illustrative example of subject matter classified in [B66D 5/34](#)

US 2006/0186388

