

## B61C

**LOCOMOTIVES; MOTOR RAILCARS (vehicles in general [B60](#); frames or bogies [B61F](#); special railroad equipment for locomotives [B61J](#), [B61K](#))**

### Definition statement

*This place covers:*

General design features or items of locomotives and motor railcars, and non-electric features of electric locomotives. Locomotive or motor railcars are vehicles that pull other vehicles and are provided with a drive unit.

### References

#### Limiting references

*This place does not cover:*

Frames or bogies	<a href="#">B61F</a>
Special railroad equipment for locomotives	<a href="#">B61J</a> , <a href="#">B61K</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Vehicles in general	<a href="#">B60</a>
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## B61C 1/00

**Steam locomotives or railcars (engines [F01](#); characterised by power transmissions [B61C 9/00](#); boilers [F22B](#))**

### Definition statement

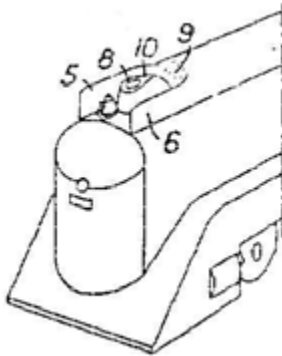
*This place covers:*

Improvement of devices of the steam-driven locomotive and motor railcars.

Typical examples are:

- Improvements of steam-driven locomotives to allow better articulation.
- Improvements of the locomotive boiler.
- Improvements of the throttle valves for high pressure steam locomotives.
- Arrangement of locomotive parts to improve visibility of the driver.

Following drawing shows one example:



**References**

**Limiting references**

*This place does not cover:*

characterised by power transmissions	<a href="#">B61C 9/00</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Locomotives with combined steam and other types of engine, e.g. IC engine	<a href="#">B61C 7/04</a>
Engines	<a href="#">F01</a>
Steam engine plants	<b>F01K15/02B</b>
Boilers	<a href="#">F22B</a>

**B61C 3/00**

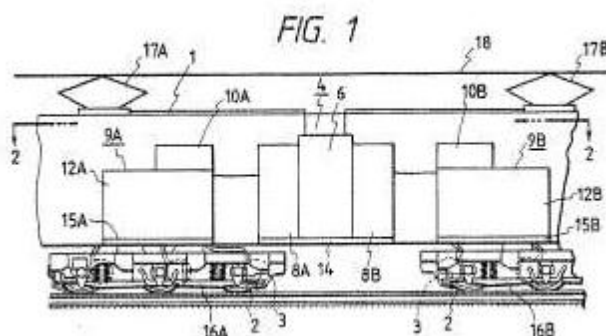
**Electric locomotives or railcars (characterised by power transmission [B61C 9/00](#); electrical features [B60L](#); [H02](#))**

**Definition statement**

*This place covers:*

General design of locomotives of the electric type, and electric locomotives with battery power.

Following drawing shows an example:



## References

### Limiting references

This place does not cover:

characterised by power transmission	<a href="#">B61C 9/00</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Electrical features	<a href="#">B60L, H02</a>
Electric propulsion, e.g. circuits, devices	<a href="#">B60L 15/00</a>
For tramway	<a href="#">B61D 13/00</a>

## B61C 5/00

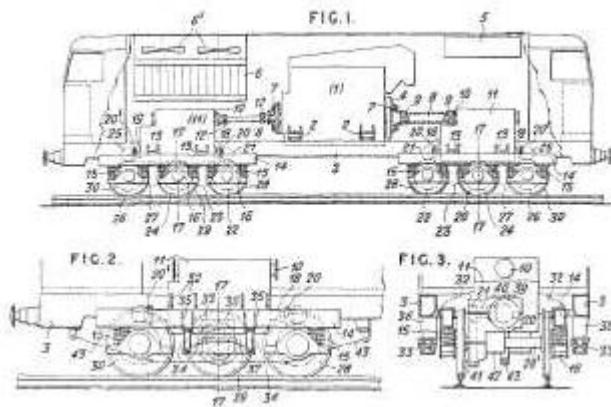
**Locomotives or motor railcars with IC engines or gas turbines (characterised by power transmission [B61C 9/00](#); engines [F02](#))**

### Definition statement

This place covers:

General design and improvements aspects of locomotives with IC (Internal combustion engine) or gas turbine.

Following drawing shows one example:



## References

### Limiting references

This place does not cover:

characterised by power transmission	<a href="#">B61C 9/00</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Filtering, cooling, or silencing cooling air	<a href="#">F01P 11/12</a>
Engines	<a href="#">F02</a>



## B61C 7/00

**Other locomotives or motor railcars characterised by the type of motive power plant used; Locomotives or motor railcars with two or more different kinds or types of motive power**

### Definition statement

*This place covers:*

Locomotives or motor railcars that are not of the steam or electric type or not provided with an IC (internal combustion) engines or gas turbines.

Such locomotives could be:

- Hybrid locomotives with regenerative energy storage system.
- Locomotives comprising a main driving engine and an additional driving engine of a different type.
- Locomotives driven by compressed air.
- Flywheel energy storage combined with a prime motor.

### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Hybrid propulsion systems	<a href="#">B60K 6/00</a>
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## B61C 8/00

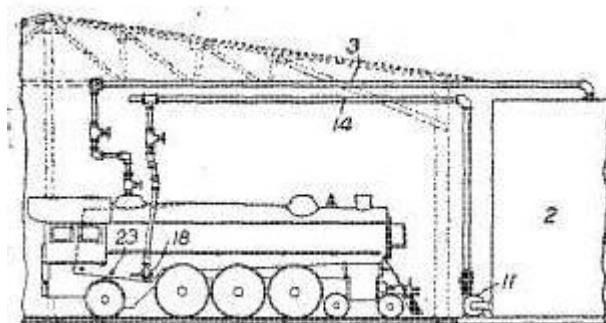
**Filling stations for steam- or pneumatic-accumulator locomotives or motor railcars**

### Definition statement

*This place covers:*

Devices specially adapted for emptying, washing-out or refilling locomotives boilers.

Following drawing shows one example:



## B61C 9/00

**Locomotives or motor railcars characterised by the type of transmission system used; Transmission systems specially adapted for locomotives or motor railcars (machine elements [F16](#))**

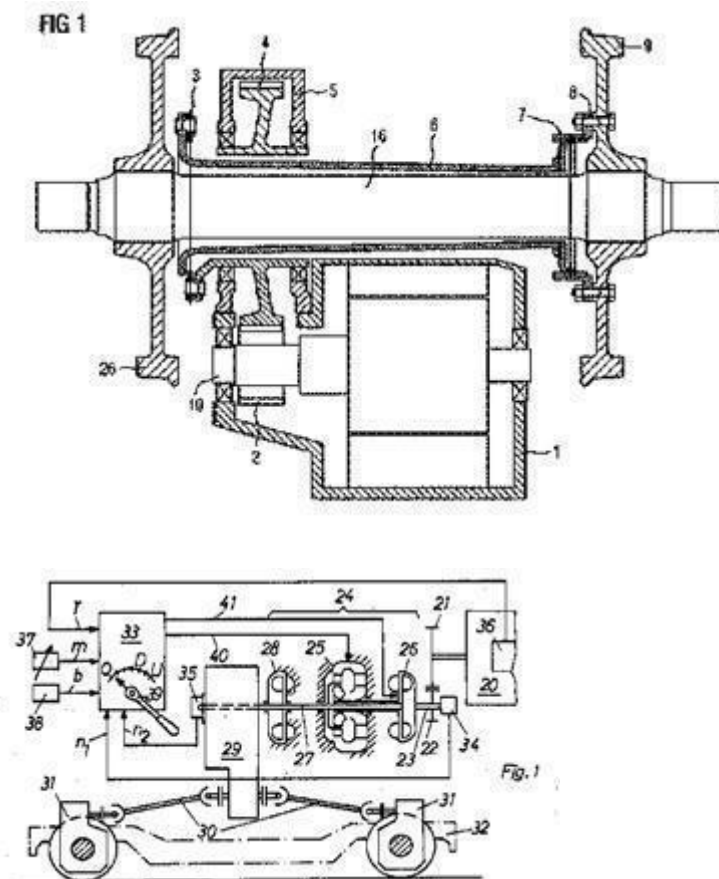
### Definition statement

*This place covers:*

Transmission systems of locomotives of the steam or electric type or locomotives provided with an IC engines or gas turbines. This main-group covers apparatus and methods to determine the transfer of power from the motor unit to the driven wheels. Such apparatus are for example:

- Gear units for locomotives.
- Direct drive electric motor for wheelset.
- Electrohydraulic railway vehicle drive.
- Elastic drive coupling for drive wheel.

Following drawings show two examples:



### References

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Machine elements	<a href="#">F16</a>
Combination of mechanical gearing with fluid gearing	<a href="#">F16H 47/00</a>

Motor engine	<a href="#">H02K</a>
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## B61C 11/00

**Locomotives or motor railcars characterised by the type of means applying the tractive effort; Arrangement or disposition of running gear other than normal driving wheel (constructions wheels [B60B](#))**

### Definition statement

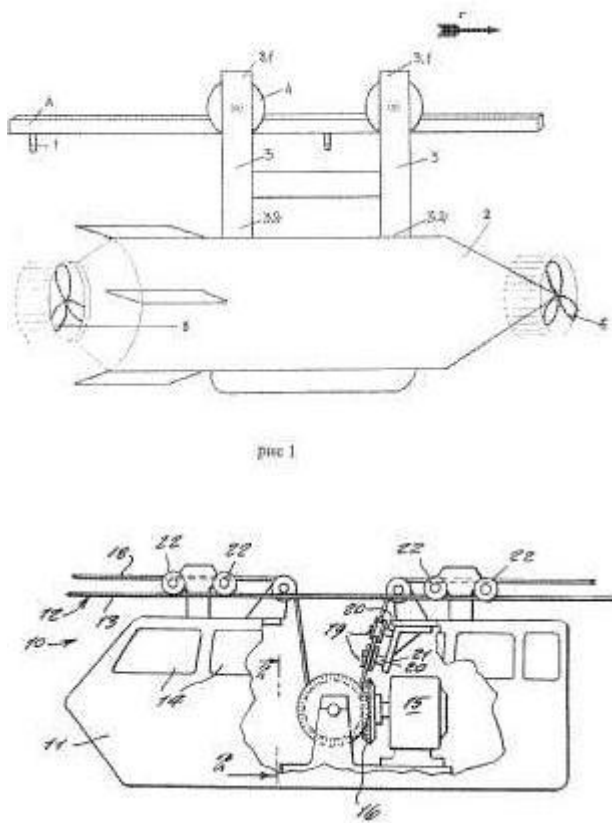
*This place covers:*

Locomotives or motor railcars wherein the tractive effort is not directly applied on normal driving wheels.

Typical examples are:

- Transportation system using magnetic belt propulsion.

Following drawings show two examples:



### References

#### Informative references

Attention is drawn to the following places, which may be of interest for search:

Constructions wheels	<a href="#">B60B</a>
Racks	<a href="#">F16H 55/26</a>

## B61C 13/00

Locomotives or motor railcars characterised by their application to special systems or purposes ([B61C 11/00](#) takes precedence; self-propelled scaffold cars, break-down cranes, inspection trolleys [B61D 15/00](#); general design of track recording vehicles [B61K 9/00](#))

### Definition statement

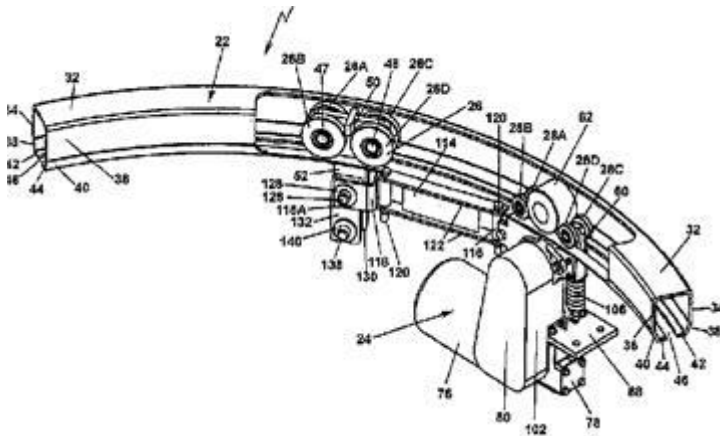
*This place covers:*

Locomotives or motor railcars that are not of the conventional type, thus for special applications.

Typical examples are:

- Locomotives for towing ships.
- Article sorter with self-driving transport base.

Following drawing shows one example:



### References

#### Limiting references

*This place does not cover:*

Locomotives or motor railcars characterised by the type of means applying tractive effort	<a href="#">B61C 11/00</a>
Self-propelled scaffold cars, break-down cranes, inspection trolleys	<a href="#">B61D 15/00</a>
General design of track recording vehicles	<a href="#">B61K 9/00</a>

## B61C 15/00

Maintaining or augmenting the starting or braking power by auxiliary devices and measures; Preventing wheel slippage; Controlling distribution of tractive effort between driving wheels (propelling locomotives or motor railcars by special means [B61C 11/00](#); driving wheels with non-slipping devices [B60B](#); brakes [B61H](#); wetting or lubricating rails [B61K](#))

### Definition statement

*This place covers:*

All devices and methods to improve the rail-wheel contact of a locomotive or motor railcar.

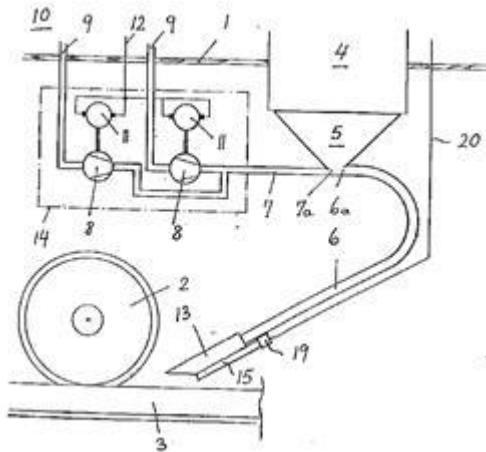


Definition statement

Typical examples are:

- Devices for spraying antislip material.
- Piston control for sanding systems.
- System preventing a wheel flat.
- Friction control between wheel and rail.
- Magnet coil assembly for increasing the traction.

Following drawing shows one example:



**References**

**Limiting references**

*This place does not cover:*

Propelling locomotives or motor railcars by special means	<a href="#">B61C 11/00</a>
Wetting or lubricating rails	<a href="#">B61K</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Driving wheels with non-slipping devices	<a href="#">B60B</a>
Brakes	<a href="#">B61H</a>

**B61C 17/00**

**Arrangement or disposition of parts; Details or accessories not otherwise provided for; Use of control gear and control systems**

**Definition statement**

*This place covers:*

Arrangement or disposition of mechanical or electric parts in the locomotive. This main-group includes also methods and systems for controlling the locomotive.

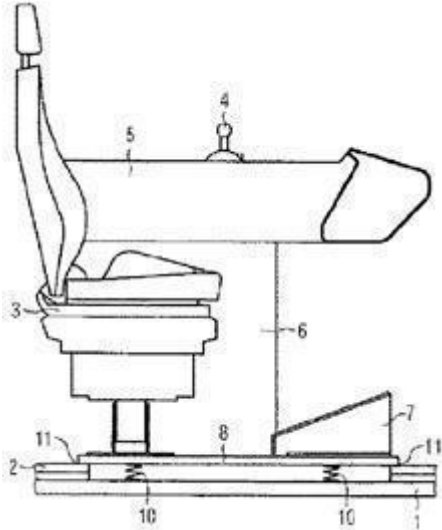
Typical examples are:

- Locomotive engine housing arrangement.
- Radio control systems for locomotives.

Definition statement

- Ventilation grille for railway vehicle engine.
- Comfort improvement of the driver cabin.
- Battery mounting structure, hybrid propulsion.
- Fuel efficiency improvements for locomotives.

Following drawing shows one example:



**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Tanks for vehicles	<a href="#">B60K 15/00</a>
Dead-man's devices	<a href="#">B60L 3/02</a>
Remote controlling of the vehicle	<a href="#">B60L 5/32</a> , <a href="#">B60L 15/40</a>
Installation of electric cables	<a href="#">H02G 3/00</a>
TV systems and cameras	<a href="#">H04N 7/18</a>
Cooling	<a href="#">H05K 7/00</a>

**B61C 17/04**

**Arrangement or disposition of driving cabins, footplates or engine rooms;  
Ventilation thereof (driving cabins and accessories [B61D](#))**

**Definition statement**

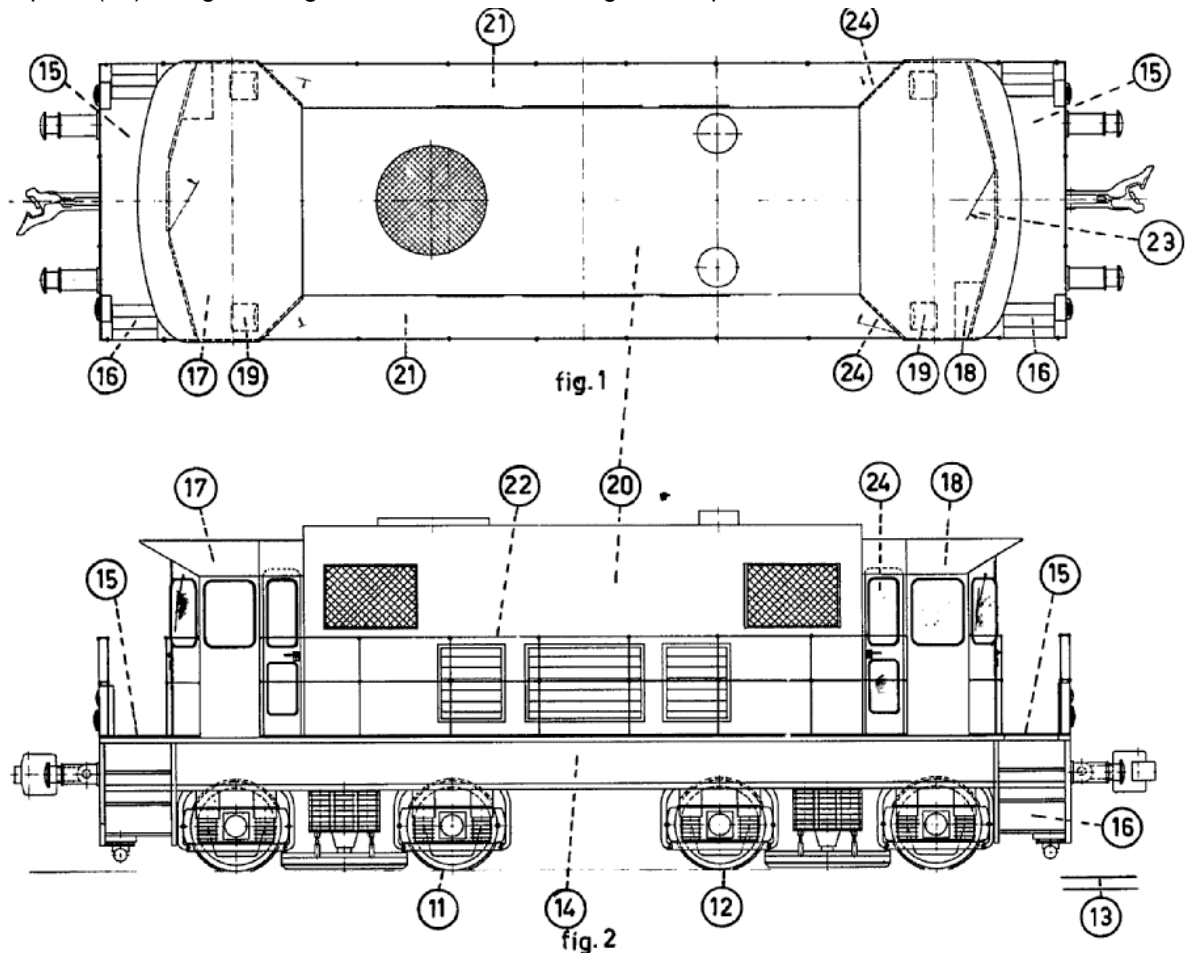
This place covers:

- the location as the composition of the driving cabin in the locomotive or motor railcar;
- the construction of floors or steps on the locomotive or motor railcar;
- the design of engine rooms;
- the ventilation of the driving cabin or the engine rooms.



Definition statement

Example (US4067264): Locomotive having doors (24) with access to a footplate (21) along the length of each side of the engine compartment.



**References**

**Limiting references**

*This place does not cover:*

Driving cabins and accessories	<a href="#">B61D</a>
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**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Supplying, circulating, and filtering air for combustion and engine-cooling purposes	<a href="#">B61C 5/02</a>
Engine rooms	<a href="#">B60K</a>

**B61C 17/08**

**Lubrication systems (in general [F16N](#))**

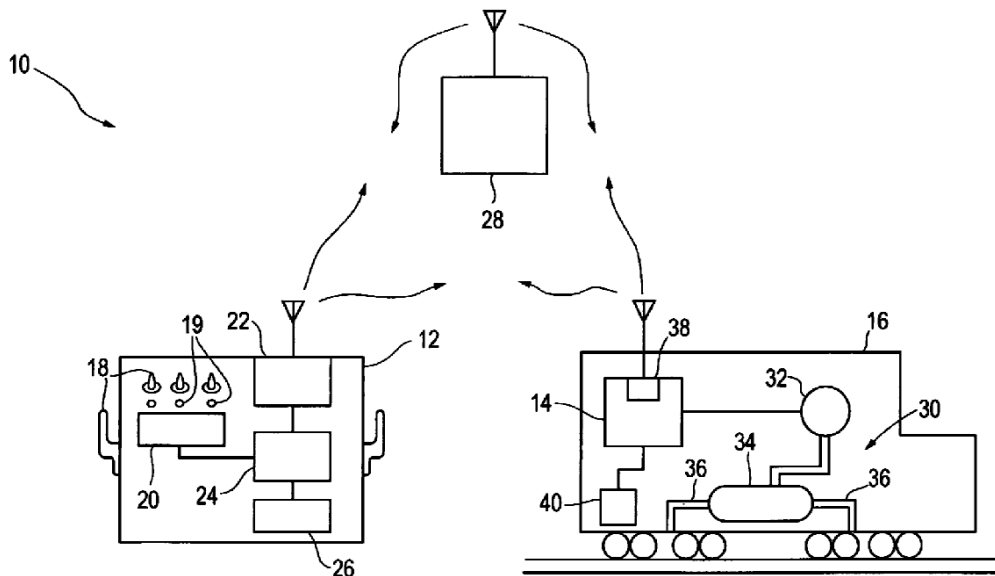
**Definition statement**

*This place covers:*

Lubrication systems specially adapted for rail vehicles

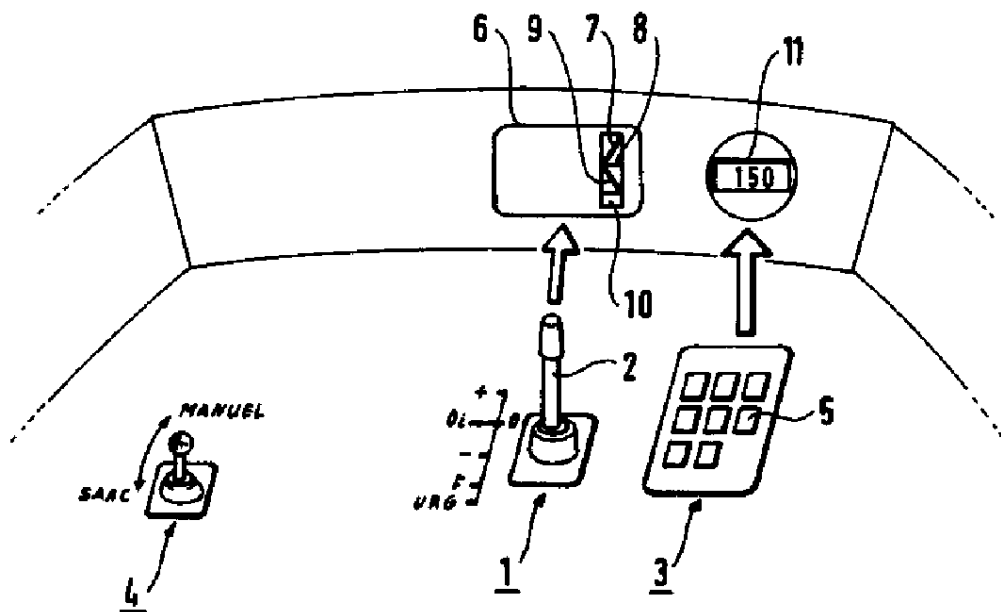


Example (US2005205720): Remotely controlled locomotive in a switchyard using radio transmitting devices for remote control by rail yard personnel.



Example:

Control lever (2) which can be moved to one of several different positions to control the traction and braking unit of the railway.



**References**

**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Arrangement or mounting of propulsion units or of transmissions in vehicles	<a href="#">B60K</a>
Control from points outside the train	<a href="#">B61L 3/00</a>
Fluid-actuated telemotors, servomotors	<a href="#">F15B</a>

Control devices in general	<a href="#">G05</a>
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