

EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 462

DATE: JANUARY 1, 2018

PROJECT MP0389

The following classification changes will be effected by this Notice of Changes:

<u>Action*</u>	<u>Subclass</u>	<u>Group(s)</u>
New Definitions	H02J	50/00
	H02J	50/05
	H02J	50/10
	H02J	50/12
	H02J	50/15
	H02J	50/20
	H02J	50/23
	H02J	50/27
	H02J	50/30
	H02J	50/40
	H02J	50/50
	H02J	50/60
	H02J	50/70
	H02J	50/80
	H02J	50/90

This Notice of Changes includes the following [Check the ones included]:

1. CLASSIFICATION SCHEME CHANGES
 - A. New, Modified or Deleted Group(s)
 - B. New, Modified or Deleted Warning Notice(s)
 - C. New, Modified or Deleted Note(s)
 - D. New, Modified or Deleted Guidance Heading(s)
2. DEFINITIONS (New or Modified)
 - A. DEFINITIONS (Full definition template)
 - B. DEFINITIONS (Definitions Quick Fix)
3. REVISION CONCORDANCE LIST (RCL)
4. CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)
5. CROSS-REFERENCE LIST (CRL)

Create the following new Definitions section **H02J 50/00**:

2. A. DEFINITIONS (new)

H02J 50/00

Circuit arrangements or systems for wireless supply or distribution of electric power

Definition statement

This place covers:

Functional and operational aspects of systems for the wireless supply or distribution of electric power, regardless of the type of wireless power transmission used.

Circuit arrangements for the wireless supply or distribution of electric power.

In this main group, wireless supply or distribution of electric power involves both of the following steps:

(1) conversion of electrical energy from a power source for transfer by wireless transmission;

(2) reception of the wirelessly transmitted energy and re-conversion into electrical energy for distribution or delivery to an electrical load.

Synonyms and Keywords

In patent documents the following abbreviations are often used:

WPT	Wireless Power Transfer
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In patent documents, the following words/expressions are often used as synonyms:

wireless power transmission, wireless energy transmission, wireless power transfer, contactless power transfer, cordless power transfer.

Create the following new Definitions section **H02J 50/05**:

2. A. DEFINITIONS (new)

H02J 50/05

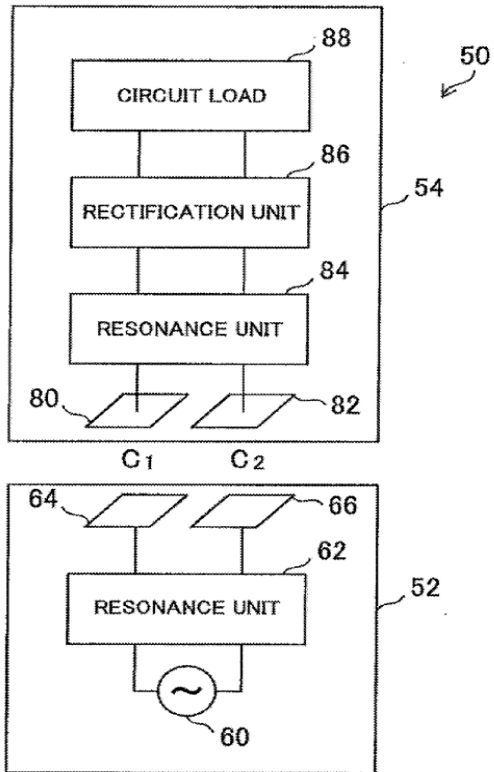
using capacitive coupling

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using capacitive coupling between the plates of at least two capacitive elements, the plates being located in separate units involved in contactless power transmission.

The figure below is an illustrative example which falls within the scope of this subgroup. In the figure, the pairs of plates 64 and 80, and 66 and 82 create two capacitive elements C1 and C2 through which power is transferred from a power transmitter 52 to a power receiver 54.



References

Informative references

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

Capacitors; Capacitors, rectifiers, detectors, switching devices, light-sensitive or temperature-sensitive devices of the electrolytic type	H01G
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Create the following new Definitions section **H02J 50/10**:

2. A. DEFINITIONS (new)

H02J 50/10

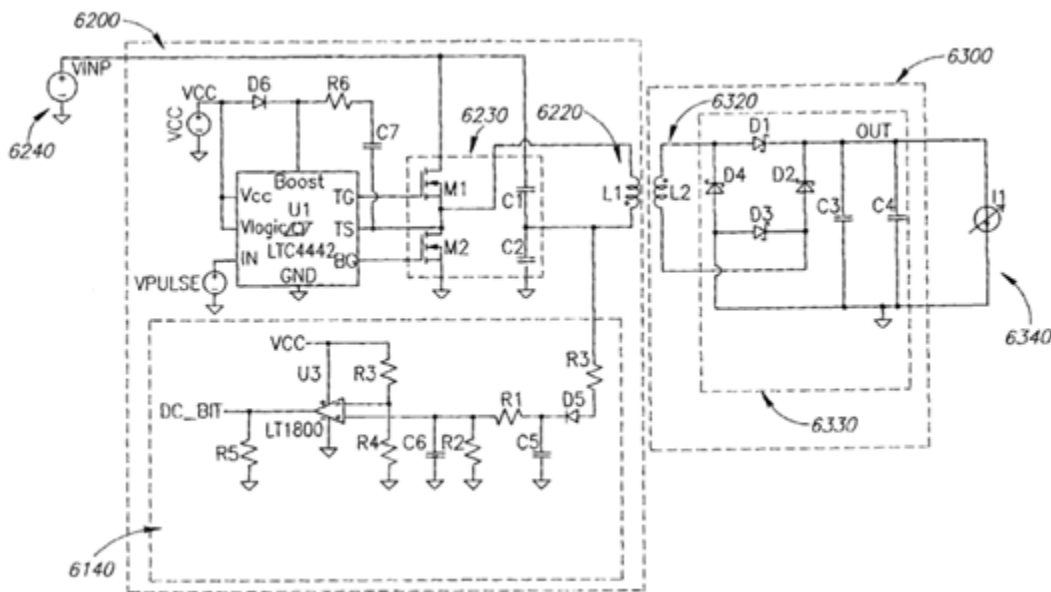
using inductive coupling

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using inductive coupling, i.e. electromagnetic interaction between two or more inductive coils, at least one coil being located in a unit separate from the others, the units being involved in contactless power transmission.

The figure below is an illustrative example which falls within the scope of this subgroup.



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References

Informative references

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

Magnets; inductances; transformers	H01F
Adaptations of transformers or inductances for inductive coupling	H01F 38/14
Conversion of dc power input into dc power output	H02M 3/00
Conversion of ac power input into ac power output	H02M 5/00
Conversion of ac power input into dc power output; conversion of dc power input into ac power output	H02M 7/00
Induction heating	H05B 6/02

Create the following new Definitions section **H02J 50/12**:

2. A. DEFINITIONS (new)

H02J 50/12

of the resonant type

Definition statement

This place covers:

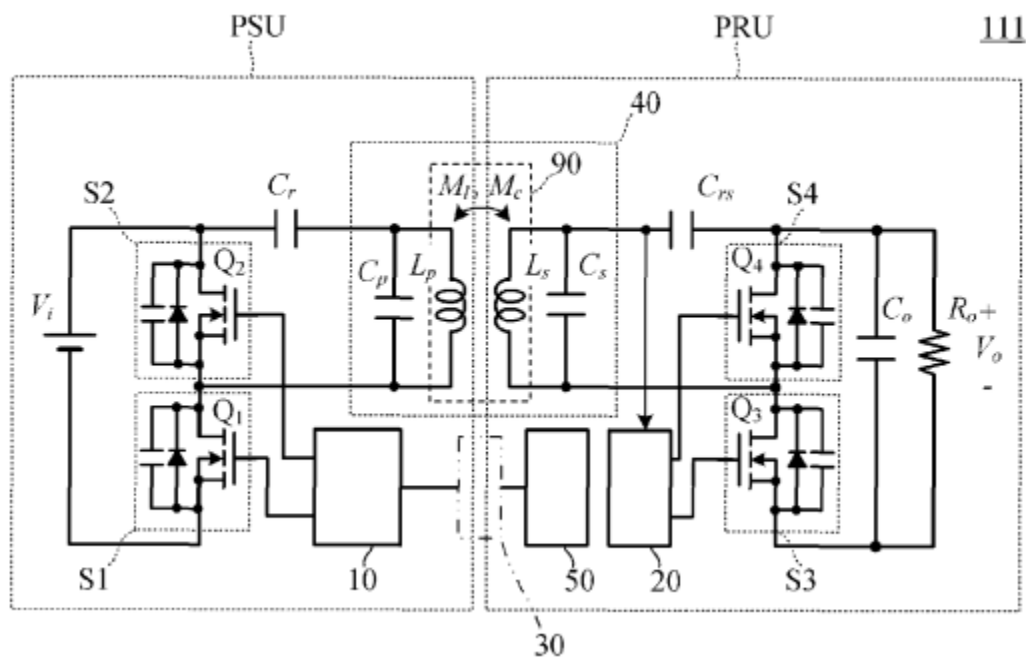
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Circuit arrangements or systems for wireless supply or distribution of electric power using inductive coupling of the resonant type, i.e. in which at least one coil forms part of a resonant circuit.

In the illustrative example, resonant circuits Cr-Cp-Lp and Crs-Cs-Ls constitute a resonant circuit 40 which has a specific resonant frequency f_r at which the total impedance of the resonant circuit 40 is minimized so that transmission efficiency of electric power between the power emitter circuit in PSU and power receiver circuit in PRU is increased.

FIG. 1



References

Informative references

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

Magnets; inductances; transformers	H01F
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Resonant circuits, resonators	H03H
Converters	H02M
Tuning resonant circuits	H03J

Create the following new Definitions section **H02J 50/15**:

2. A. DEFINITIONS (new)

H02J 50/15

using ultrasonic waves

References

Informative references

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

Non-electric signal transmission systems using acoustic waves	G08C 23/02
Transmission systems employing ultrasonic waves	H04B 11/00

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Create the following new Definitions section **H02J 50/20**:

2. A. DEFINITIONS (new)

H02J 50/20

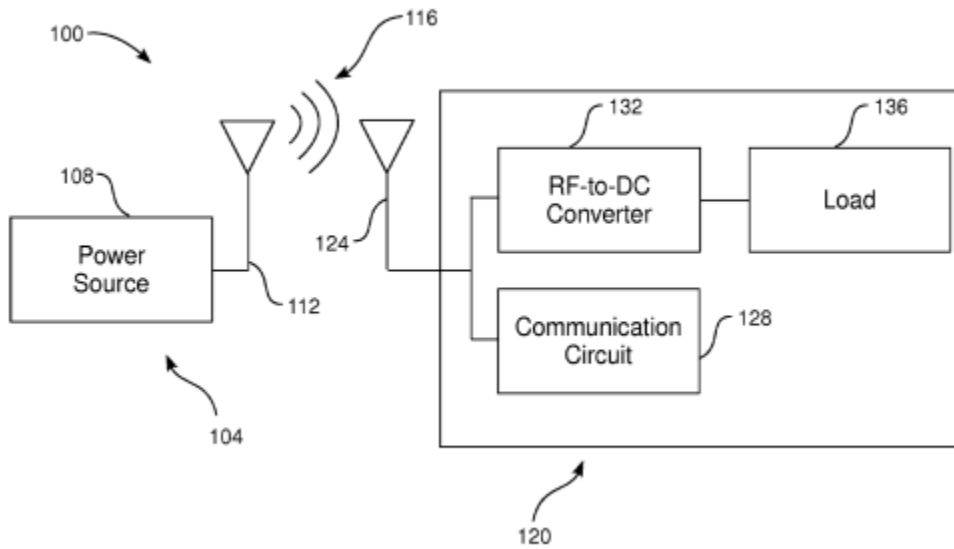
using microwaves or radio frequency waves

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using microwaves or radio frequency waves.

The figure below exemplifies the subject-matter to be classified in this subgroup. Power generated in power source 108 is converted into radiofrequency and transmitted by antenna 112 in transmitter 104 to antenna 124 in receiver 120, and used to power load 136.



References

Informative references

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

Aerials	H01Q
Radiofrequency identification	G06K
Radio transmission systems	H04B 7/00

Create the following new Definitions section **H02J 50/23**:

2. A. DEFINITIONS (new)

H02J 50/23

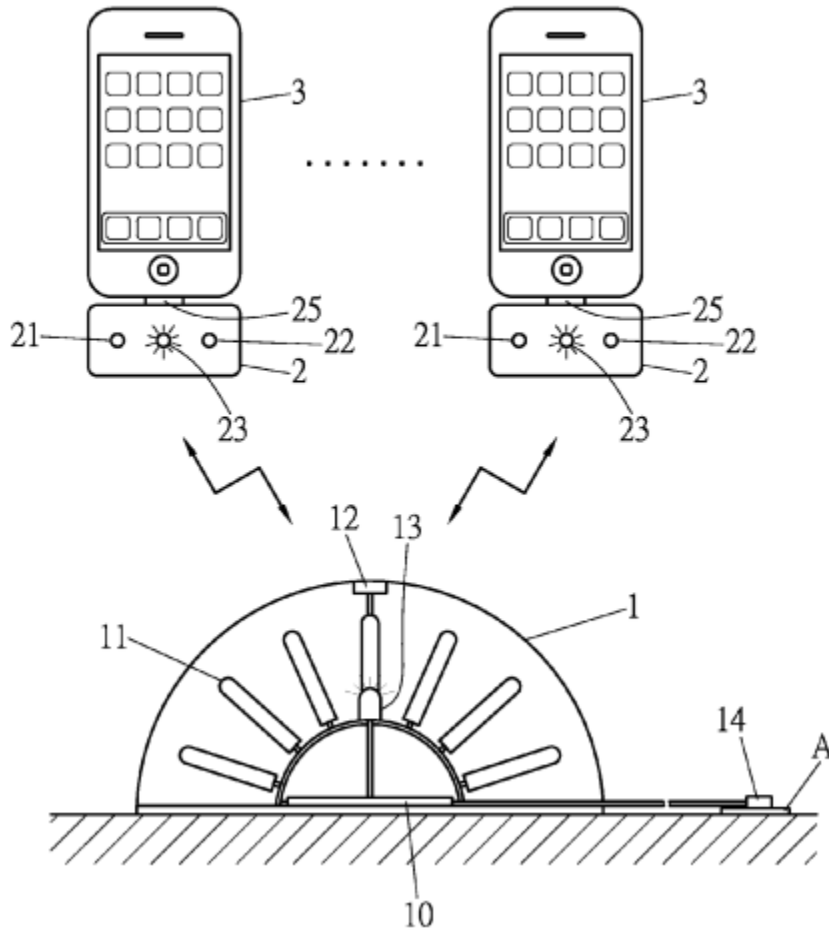
characterised by the type of transmitting antennas, e.g. directional array antennas or Yagi antennas

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using microwaves or radio frequency waves, characterised by the type of transmitting antennas, e.g. directional array antennas or Yagi antennas

The figure below is an illustrative example relevant for this subgroup. The directional antenna 11 of the transmitting station 1 sends power to the receiver 21 of the charging device 2.



References

Informative references

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

Types of antennas, structural details or features of antennas, special arrangements of antennas	H01Q
Radio transmission systems	H04B 7/00

Create the following new Definitions section **H02J 50/27**:

2. A. DEFINITIONS (new)

H02J 50/27

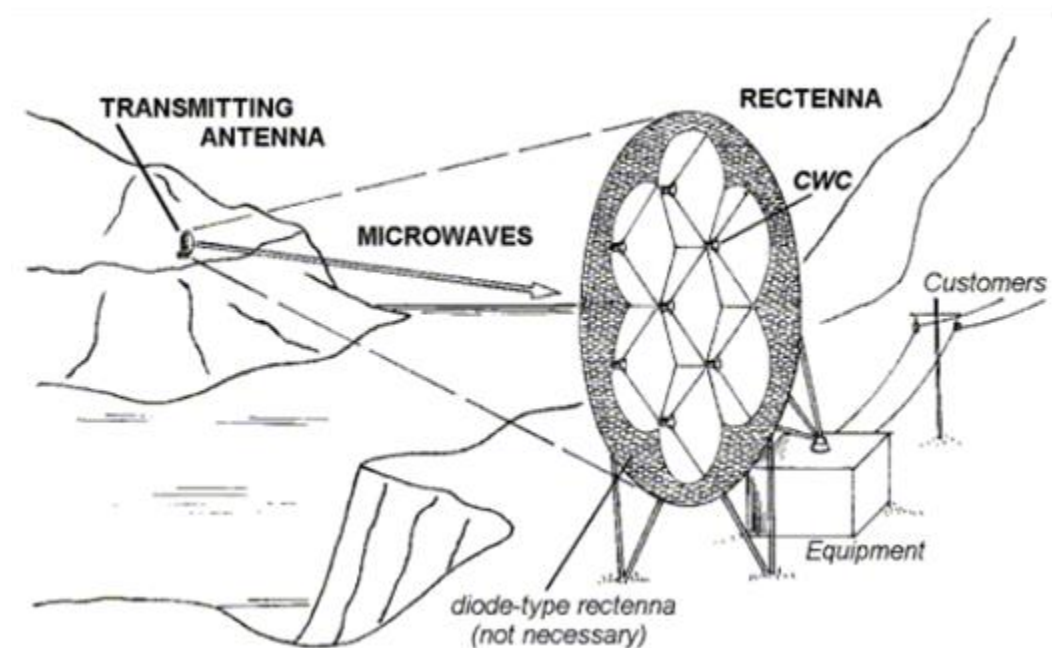
characterised by the type of receiving antennas, e.g. rectennas

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using microwaves or radio frequency waves characterised by the type of receiving antennas, e.g. rectennas.

The figure below is an illustrative example relevant for this subgroup.



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References

Informative references

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

Types of antennas, structural details or features of antennas, special arrangements of antennas	H01Q
Radio transmission systems	H04B 7/00

Create the following new Definitions section **H02J 50/30**:

2. A. DEFINITIONS (new)

H02J 50/30

using light, e.g. lasers

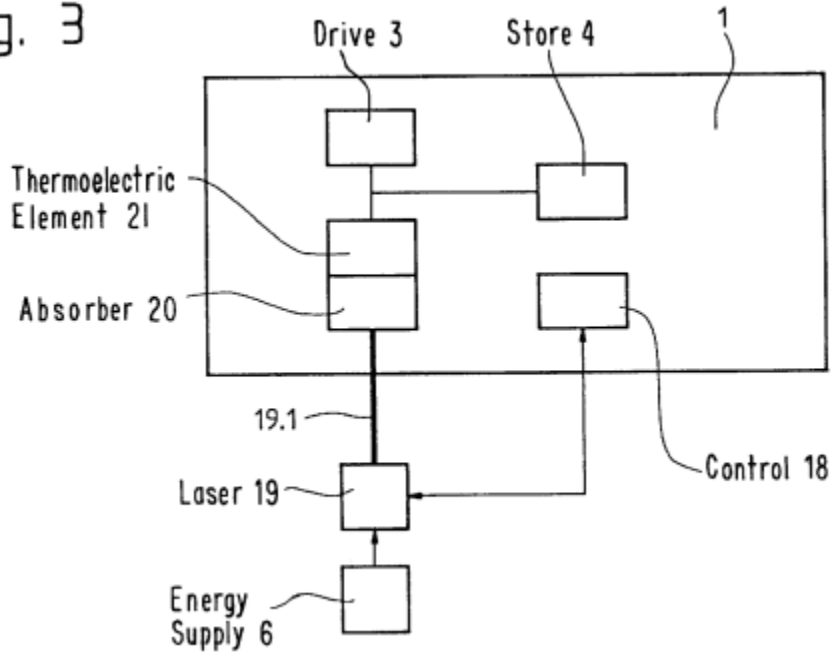
Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using light, e.g. lasers

The figure below is an illustrative example for this subgroup. A laser 19.1 emitted by laser unit 19 heats absorber 20 and heat is converted into electrical energy by thermoelectric element 21.

Fig. 3



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References

Informative references

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

Non-electric transmission systems using light waves	G08C 23/04
Transmission systems employing infrared, visible or ultraviolet light	H04B 10/00
Lasers	H01S 3/00

Create the following new Definitions section **H02J 50/40**:

2. A. DEFINITIONS (new)

H02J 50/40

using two or more transmitting or receiving devices (H02J 50/50 takes precedence)

Definition statement

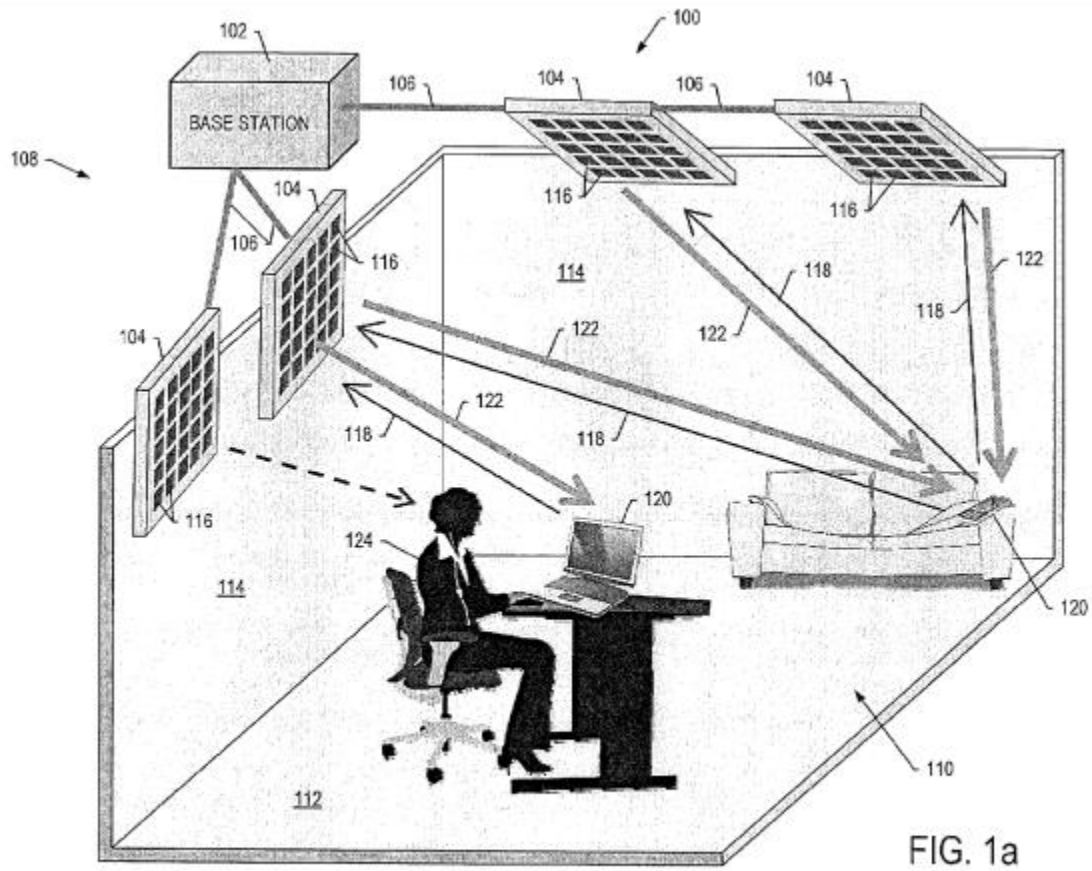
This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power involving two or more transmitting or receiving devices.

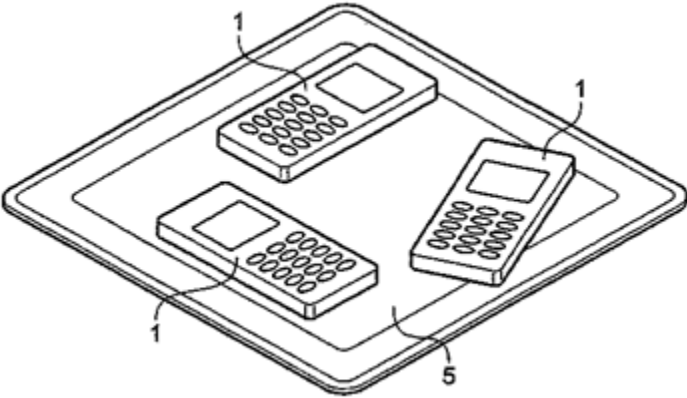
The figure below is also an illustrative example for this subgroup. In the figure, the several transmitting devices transmit electric power to several receiving devices simultaneously.

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The figure below is also an illustrative example of this subgroup with two or more receiving devices involved. In the figure, the transmitting device transmits electric power to several receiving devices 1 simultaneously.



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References

Limiting references

This place does not cover:

using additional energy repeaters between transmitting devices and receiving devices	H02J 50/50
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Informative references

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

Radio transmission diversity systems using a plurality of spaced independent aerials	H04B 7/04
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Create the following new Definitions section **H02J 50/50**:

2. A. DEFINITIONS (new)

H02J 50/50

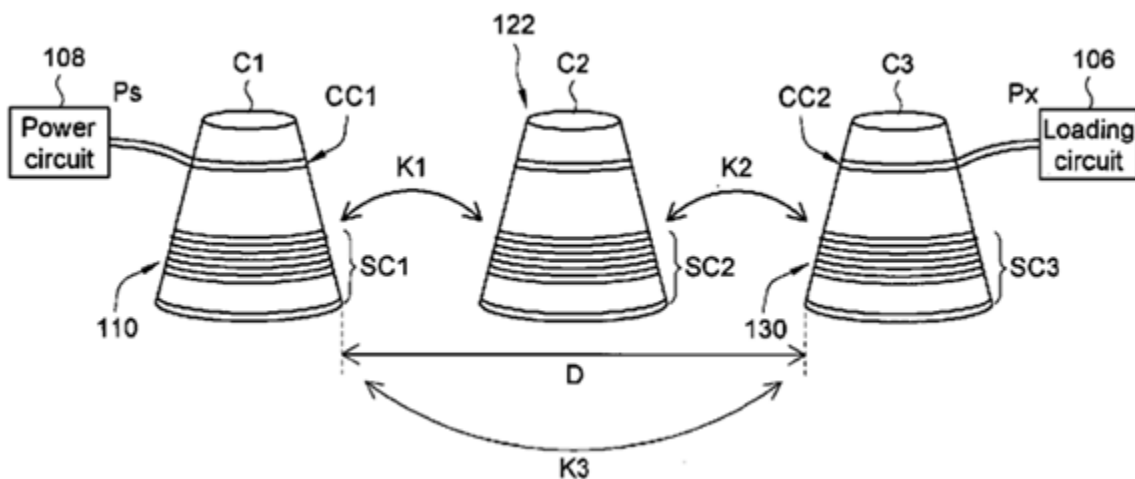
using additional energy repeaters between transmitting devices and receiving devices

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power using additional energy repeaters between transmitting devices and receiving devices. The repeater(s) must be physically located between the transmitting devices the receiving devices, and must be separate from them.

The figure below is an example falling within the scope of this subgroup. In the figure, the repeater C2 repeats electric power transmission between the transmitting device C1 and the receiving device C3.



Create the following new Definitions section **H02J 50/60**:

2. A. DEFINITIONS (new)

H02J 50/60

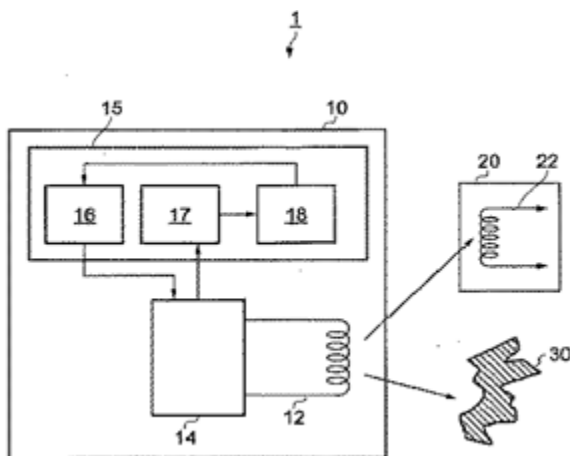
responsive to the presence of foreign objects, e.g. detection of living beings

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power responsive to the presence of foreign objects, wherein active parts of these circuit arrangements or systems, e.g. coils or antennas, are involved in the detection of, or the response to the presence of, foreign objects.

The figure below is an illustrative example for this subgroup. In the figure, the transmitting device 10 detects the presence of the foreign object 30.



Relationships with other classification places

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Mechanical aspects related to mechanical removing of foreign object are classified in the relevant field of technology.

References

Informative references

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

Detection of object presence using reflection of radio waves	G01S 13/04
Detection of object presence using reflection of acoustic waves	G01S 15/04
Electric or magnetic detection of objects	G01V 3/08 ; G01V 3/15
Optical detection of objects	G01V 8/10

Create the following new Definitions section **H02J 50/70**:

2. A. DEFINITIONS (new)

H02J 50/70

involving the reduction of electric, magnetic or electromagnetic leakage fields

References

Informative references

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

Details of transformers or inductances - special means for preventing or reducing unwanted electric or magnetic effects, e.g. leakage fields	H01F 27/34
Suppression or limitation of noise or interference	H04B 15/02
Screening of apparatus or components against electric or magnetic fields	H05K 9/00
Devices for absorbing waves radiated from an aerial	H01Q 17/00

Create the following new Definitions section **H02J 50/80**:

2. A. DEFINITIONS (new)

H02J 50/80

involving the exchange of data, concerning supply or distribution of electric power, between transmitting devices and receiving devices

References

Informative references

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

IC cards	G06K 19/07
Transmitting signals characterised by the use of a wireless electrical link	G08C 17/00
Non-electric signal transmission systems	G08C 23/00
Responders; (passive) Transponders	H04B 1/59
Near-field transmission systems, e.g. inductive loop type	H04B 5/00
Transmission systems employing electromagnetic waves other than radio-waves	H04B 10/00

Create the following new Definitions section **H02J 50/90**:

2. A. DEFINITIONS (new)

H02J 50/90

involving detection or optimisation of position, e.g. alignment

Definition statement

This place covers:

Circuit arrangements or systems for wireless supply or distribution of electric power electrically detecting and/or optimising the relative position between emitters, receivers and repeaters, aiming to increase the efficiency of the wireless power transmission, wherein active parts of these circuit arrangements or systems, e.g. coils or antennas, are involved in the detection and/or optimising of the position.

References

Informative references

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

Detection of object position using reflection of radio waves	G01S 13/06
Detection of object position using reflection or reradiation of electromagnetic waves other than radio waves	G01S 17/06
Control of position of vehicles, e.g. automatic pilot	G05D 1/00
Position control	G05D 3/00