To this end, according to an aspect of the invention, there is provided an electrically powered cycle comprising:

- a frame having a saddle,
- at least one rear wheel rotatably mounted on the frame,
- a front wheel rotatably mounted on a fork integral to a handlebar, the front wheel defining a direction of advancement of the cycle, the handlebar having a central portion hinged to the frame and two lateral arms with handles,
- a removable rechargeable battery having a flattened shape and comprising:
  . first and second main faces defining a thickness of the battery,
  . two opposing first sides,
  . two opposing second sides,
- a receptacle for receiving said battery and connecting it electrically,

characterized in that the receptacle is on the central portion of the handlebar,

in that the receptacle comprises two parallel lateral flanges facing one another, extending along the direction of advancement of the cycle between a back end and a front end, the front end being raised relative to the back end in the normal usage position of the cycle, the receptacle being open at the front and back ends of the lateral flanges, the receptacle being shaped to permit slotting the first sides of the battery by sliding the battery rearward on the lateral flanges of the receptacle from the front end of said lateral flanges, and the receptacle being shaped to limit the rearward sliding of the battery when said battery is engaged in the receptacle,

in that the lateral flanges of the receptacle comprise electrical connectors suitable for engaging with complementary connectors that are part of the battery, in order to connect the battery electrically to an electrical circuit that is part of the cycle, when the battery is engaged in the receptacle,

and in that the receptacle is shaped so that a user seated on the saddle can see at least part of the battery when said battery is engaged in said receptacle.

According to another aspect of the invention, there is provided an automatic storage system for cycles, comprising:

- a plurality of removable rechargeable batteries, each having a flattened shape and comprising:
  - . first and second main faces defining between them a thickness of the battery,
  - . two opposing first sides,
  - . two opposing second sides,
- a plurality of electrically powered cycles each comprising:
  - . a frame having a saddle,
  - . at least one rear wheel rotatably mounted on the frame,
  - . a front wheel rotatably mounted on a fork integral to a handlebar, the front wheel defining a direction of advancement of the cycle, the handlebar having a central portion hinged to the frame and two lateral arms with handles,
  - . a receptacle for receiving one of said batteries and for connecting it electrically to the cycle,
- a plurality of fixed locking terminals to which said cycles can be locked,
- and at least one external control device adapted

for selectively allowing the locking and unlocking of cycles on said locking terminals,

characterized in that the receptacle is on the central portion of the handlebar,

in that the receptacle comprises two parallel lateral flanges facing one another, extending along the direction of advancement of the cycle between a back end and a front end, the front end being raised relative to the back end in the normal usage position of the cycle, the receptacle being open at the front and back ends of the lateral flanges, the receptacle being shaped to permit slotting the first sides of the battery by sliding the battery rearward on the lateral flanges of the receptacle from the front end of said lateral flanges, and the receptacle being shaped to limit the rearward sliding of the battery when said battery is engaged in the receptacle,

in that the lateral flanges of the receptacle comprise electrical connectors suitable for engaging with complementary connectors that are part of the battery, in order to connect the battery electrically to an electrical circuit that is part of the cycle, when the battery is engaged in the receptacle,

and in that the receptacle is shaped so that a user seated on the saddle can see at least part of the battery when said battery is engaged in said receptacle.

Herein disclosed is a cycle storage of the kind in question, characterized in that the receptacle is on the central portion of the handlebar,

in that the receptacle comprises two parallel lateral flanges facing one another, extending along the direction of advancement of the cycle between a back end and a front end, the front end being raised relative to the back end in the normal usage position of the cycle, the receptacle

electrical connectors of the receptacle and the complementary connectors of the battery);

- the battery comprises an electronic control circuit and an electronic display means controlled by said electronic control circuit, said display means being visible to the user seated on the saddle;

- the display means comprises light-emitting diodes;

- the electronic control circuit is adapted to receive battery status information and to display said status information by the display means;

- the electronic control circuit is adapted to communicate with a mobile phone comprising navigation means, the electronic control circuit being adapted to receive navigation information from the mobile phone and to display said navigation information by the display means;

- the handlebar comprises a carrying structure and a casing covering said carrying structure, the battery receptacle being integrated with said casing;

- the battery comprises detection means adapted to detect whether the battery is connected to the cycle, and control means adapted to prevent the battery from discharging when the detecting means does not detect that the battery is connected to the cycle (exploiting the fact that the battery is visible to the user; also exploiting the fact that the mobile phone and battery are usually owned by the user and can be configured in advance so that communication between the battery and mobile phone is established instantly and easily).

Also disclosed is an automatic storage system for cycles, comprising:

- a plurality of removable rechargeable batteries, each having a flattened shape and comprising:

back end in the normal usage position of the cycle, the receptacle being open at the front and back ends of the lateral flanges, the receptacle being shaped to permit slotting the first sides of the battery by sliding the battery rearward on the lateral flanges of the receptacle starting from the the front end of said lateral flanges, and the receptacle being shaped to limit the sliding of the battery rearward when said battery is engaged in the receptacle,

in that the lateral flanges of the receptacle comprise electrical connectors suitable for engaging with with complementary connectors that are part of the battery, in order to connect the battery electrically to an electrical circuit that is part of the cycle, when the battery is engaged in the receptacle,

and in that the receptacle is shaped so that a user seated on the saddle can see at least part of the battery when said battery is engaged in said receptacle.

Also disclosed is an electrically powered cycle comprising:

- a frame with a saddle,

- at least one rear wheel rotatably mounted on the frame,

- a front wheel rotatably mounted on a fork integral to a handlebar, the front wheel defining a direction of advancement of the cycle, the handlebar having a central portion hinged to the frame and two lateral arms with handles,

- a removable rechargeable battery,

- a receptacle for receiving said battery and electrically connecting it,

the receptacle being on the central portion of the handlebar,

CLAIMS

1. Electrically powered cycle comprising:

- a frame having a saddle,

- at least one rear wheel rotatably mounted on the frame,

- a front wheel rotatably mounted on a fork integral to a handlebar, the front wheel defining a direction of advancement of the cycle, the handlebar having a central portion hinged to the frame and two lateral arms with handles,

- a removable rechargeable battery having a flattened shape and comprising:

. first and second main faces defining a thickness of the battery,

. two opposing first sides,

. two opposing second sides,

- a receptacle for receiving said battery and connecting it electrically,

characterized in that the receptacle is on the central portion of the handlebar,

in that the receptacle comprises two parallel lateral flanges facing one another, extending along the direction of advancement of the cycle between a back end and a front end, the front end being raised relative to the back end in the normal usage position of the cycle, the receptacle being open at the front and back ends of the lateral flanges, the receptacle being shaped to permit slotting the first sides of the battery by sliding the battery rearward on the lateral flanges of the receptacle from the front end of said lateral flanges, and the receptacle being shaped to limit the rearward sliding of the battery when said battery is engaged in the receptacle,

in that the lateral flanges of the receptacle comprise electrical connectors suitable for engaging with complementary

8. Cycle according to one of the preceding claims, wherein the battery comprises an electronic control circuit and an electronic display means controlled by said electronic control circuit, said display means being visible to the user seated on the saddle.

9. Cycle according to claim 8, wherein the display means comprises light-emitting diodes.

10. Cycle according to claim 8 or claim 9, wherein the electronic control circuit is adapted to receive status information for the battery and to display said status information by the display means.

11. Cycle according to any of claims 8 to 10, wherein the electronic control circuit is adapted to communicate with a mobile phone comprising navigation means, the electronic control circuit being adapted to receive navigation information from the mobile phone and to display said navigation information by the display means.

12. Cycle according to any one of the preceding claims, wherein the handlebar comprises a carrying structure and a casing covering said carrying structure, the receptacle of the battery being integrated with said casing.

13. Cycle according to any one of the preceding claims, wherein the battery comprises detection means adapted to detect whether the battery is connected to the cycle, and control means adapted to prevent the battery from discharging when the detecting means does not detect that the battery is connected to the cycle.

14. Automatic storage system for cycles, comprising:

- a plurality of removable rechargeable batteries, each having a flattened shape and comprising:
  - . first and second main faces defining between them a thickness of the battery,
  - . two opposing first sides,
  - . two opposing second sides,

- a plurality of electrically powered cycles each comprising:

. a frame having a saddle,

. at least one rear wheel rotatably mounted on the frame,

. a front wheel rotatably mounted on a fork integral to a handlebar, the front wheel defining a direction of advancement of the cycle, the handlebar having a central portion hinged to the frame and two lateral arms with handles,

. a receptacle for receiving one of said batteries and for connecting it electrically to the cycle,

- a plurality of fixed locking terminals to which said cycles can be locked,

- and at least one external control device adapted for selectively allowing the locking and unlocking of cycles on said locking terminals,

characterized in that the receptacle is on the central portion of the handlebar,

in that the receptacle comprises two parallel lateral flanges facing one another, extending along the direction of advancement of the cycle between a back end and a front end, the front end being raised relative to the back end in the normal usage position of the cycle, the receptacle being open at the front and back ends of the lateral flanges, the receptacle being shaped to permit slotting the first sides of the battery by sliding the battery rearward on the lateral flanges of the receptacle from the front end of said lateral flanges, and the receptacle being shaped to limit the rearward sliding of the battery when said battery is engaged in the receptacle,

in that the lateral flanges of the receptacle comprise electrical connectors suitable for engaging with complementary connectors that are part of the battery, in order to connect the battery electrically to an electrical circuit that is part