WHAT IS CLAIMED IS:

1. A tired gantry crane for receiving power in a contactless fashion, comprising:

a rechargeable battery provided to supply power from the inside thereof; and

a power collecting unit configured to receive power from a power supply unit installed at the outside,

wherein the power supply unit and the power collecting unit interact with each other by means of magnetic induction.

2. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

wherein the power collecting unit includes a pick-up unit, and the pick-up unit includes a power collecting core and a power collecting coil, and

wherein one end of the pick-up unit is connected to a frame of the tired gantry crane via an arm, and when power is supplied by means of magnetic induction with the power supply unit, the arm is spread to be parallel to the power supply unit formed on a road surface, and then when the tired gantry crane moves, the arm is folded to be perpendicular to the power supply unit.

3. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

wherein the tired gantry crane further comprises a power controller for managing

supply of power, and

wherein the power controller controls supply of power through the rechargeable battery formed therein and the power supply unit depending on an operation state of the tired gantry crane.

4. The tired gantry crane for receiving power in a contactless fashion according to claim 3,

wherein when the tired gantry crane is moving, the power controller controls to supply power from the rechargeable battery to a motor, which operates as a load.

5. The tired gantry crane for receiving power in a contactless fashion according to claim 3,

wherein the tired gantry crane further comprises a unit for detecting a moving direction and a tension of a rope to which a container is suspended, and

wherein the power controller controls to supply power from the power supply unit to a load based on the moving direction and the tension of the rope.

6. The tired gantry crane for receiving power in a contactless fashion according to claim 5,

wherein when the moving direction of the rope is a lifting direction, the power controller supplies power from both the rechargeable battery and the power supply unit to a motor which operates as a load, and

wherein when the moving direction of the rope is a landing direction, the power

controller supplies power from the rechargeable battery to the motor which operates as a load, and the power from the power supply unit is used for charging the rechargeable battery.

7. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

wherein the power supply unit is buried or exposed to be parallel to a road surface.

8. The tired gantry crane for receiving power in a contactless fashion according to claim 1, further comprising:

first laser scanners respectively installed at front and rear portions of a left wheel of the tired gantry crane one by one to sense an obstacle present in a running direction of the tired gantry crane, a transport vehicle present in a transport vehicle area and a container loaded on the transport vehicle by means of vertical rotation and provide corresponding first sensing information;

second laser scanners respectively installed at front and rear portions of a right wheel of the tired crane one by one to sense a container stored in a container yard and a floating structure installed in the running direction of the tired gantry crane by means of vertical rotation and provide corresponding second sensing information; and

a main controller for receiving the first and second sensing information, controlling a collision of the tired gantry crane based on the first or second sensing information, and rotating the first laser scanner to control the first laser scanner to sense the transport vehicle when a container is not loaded on the transport vehicle present in the

transport vehicle area based on the first sensing information.

9. The tired gantry crane for receiving power in a contactless fashion according to claim 8,

wherein the first and second laser scanner is a two-dimensional laser scanner or a three-dimensional laser scanner.

10. The tired gantry crane for receiving power in a contactless fashion according to claim 8,

wherein the first laser scanners sense a fixing device for fixing a container loaded on the transport vehicle to the transport vehicle and provide information about whether the container loaded on the transport vehicle is separated from the transport vehicle when the container is unloaded from the transport vehicle.

11. The tired gantry crane for receiving power in a contactless fashion according to claim 8,

wherein the main controller analyzes a location of the transport vehicle present in the transport vehicle area or the container loaded on the transport vehicle based on the first sensing information, compares the location of the transport vehicle or the location of the container loaded on the transport vehicle with a current location of the tired gantry crane, and provides a guide indication for location adjustment to a driver of the transport vehicle according to the comparison result.

12. The tired gantry crane for receiving power in a contactless fashion according to claim 8,

wherein the main controller analyzes a location of an obstacle present in a running direction of the tired gantry crane based on the first sensing information, compares the location of the obstacle with a current location of the tired gantry crane, and controls the location of the tired gantry crane not to collide with the obstacle.

13. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

first laser scanners respectively installed at front and rear portions of a left wheel of the tired gantry crane one by one to sense an obstacle present in a running direction of the tired gantry crane, a transport vehicle present in a transport vehicle area and a container loaded on the transport vehicle by means of vertical rotation and provide corresponding first sensing information;

second laser scanners respectively installed at front and rear portions of a right wheel of the tired gantry crane one by one to sense a container stored in a container yard and a floating structure installed in the running direction of the tired gantry crane by means of vertical rotation and provide corresponding second sensing information; and

a main controller for receiving the first and second sensing information, controlling a collision of the tired gantry crane based on the first or second sensing information, and rotating the second laser scanner to control the second laser scanner to sense the floating structure when a container is not loaded present in the container yard based on the first sensing information.

14. The tired gantry crane for receiving power in a contactless fashion according to claim 13,

wherein the main controller analyzes a location of the container stored in the container yard or a location of the floating structure based on the second sensing information, compares the location of the container stored in the container yard or the location of the floating structure with a current location of the tired gantry crane, and controls a location of the tired gantry crane.

15. The tired gantry crane for receiving power in a contactless fashion according to claim 13,

wherein the main controller analyzes a location of an obstacle present in a running direction of the tired gantry crane based on the second sensing information, compares the location of the obstacle with a current location of the tired gantry crane, and controls the tired gantry crane not to collide with the obstacle.

16. The tired gantry crane for receiving power in a contactless fashion according to claim 13,

wherein the floating structure is a booth bar or a cable reel hole.

17. The tired gantry crane for receiving power in a contactless fashion according to claim 13,

wherein the main controller recognizes a location of the floating structure and

~~controls the tired gantry crane based on the recognized distance.~~

18. A straddle carrier for receiving power in a contactless fashion, comprising:

a power collecting unit configured to receive power in a contactless fashion from a power supply unit installed at the outside,

wherein the power collecting unit charges a rechargeable battery installed at the straddle carrier, and

wherein the power supply unit and the power collecting unit interact with each other by means of magnetic induction.

19. The straddle carrier for receiving power in a contactless fashion according to claim 18,

wherein the power collecting unit includes a pick-up unit, and the pick-up unit includes a power collecting core and a power collecting coil, and

wherein one end of the pick-up unit is connected to a bottom frame of the straddle carrier via an elevation unit, and when power is supplied by means of magnetic induction between the power supply unit and power collecting unit, the pick-up unit is disposed adjacently to be parallel to the power supply unit formed on a road surface by means of the elevation unit.

20. The straddle carrier for receiving power in a contactless fashion according to claim 19,

~~wherein the power collecting unit receives power from the power supply unit and~~

~~charges the rechargeable battery with the power when the straddle carrier is moving along~~ a power line or stop, and

wherein the ~~rechargeable~~ battery supplies power to a load when the straddle carrier ~~moves beyond the power line.~~

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WHAT IS CLAIMED IS:

1. A tired gantry crane for receiving power in a contactless fashion, comprising:

a rechargeable battery provided to supply power from the inside thereof; and

a power collecting unit configured to receive power from a power supply unit installed at the outside,

wherein the power supply unit and the power collecting unit interact with each other by means of magnetic induction,

wherein the tired gantry crane further comprises a power controller for managing supply of power,

wherein the power controller controls supply of power through the rechargeable battery formed therein and the power supply unit depending on an operation state of the tired gantry crane,

wherein the tired gantry crane further comprises a unit for detecting a moving direction and a tension of a rope to which a container is suspended,

wherein the power controller controls power to be supplied from the power supply unit to a load based on the moving direction and the tension of the rope,

wherein when the moving direction of the rope is a lifting direction and the tension applied to the rope is a predetermined reference value or above, or when the moving direction of the rope is a landing direction and the tension applied to the rope is the predetermined reference value or above, the power controller supplies power from both the rechargeable battery and the power supply unit to a motor which operates as a load, and

wherein when the moving direction of the rope is a lifting direction and the tension applied to the rope is smaller than the predetermined reference value, or when the moving direction of the rope is a landing direction and the tension applied to the rope is smaller than the predetermined reference value, the power controller supplies power from the rechargeable battery to the motor which operates as a load, and the power from the power supply unit is used for charging the rechargeable battery.

2. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

wherein the power collecting unit includes a pick-up unit, and the pick-up unit includes a power collecting core and a power collecting coil, and

wherein one end of the pick-up unit is connected to a frame of the tired gantry crane via an arm, and when power is supplied by means of magnetic induction with the power supply unit, the arm is spread to be parallel to the power supply unit formed on a road surface, and then when the tired gantry crane moves, the arm is folded to be perpendicular to the power supply unit.

3. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

wherein when the tired gantry crane is moving, the power controller controls to supply power from the rechargeable battery to a motor, which operates as a load.

4. The tired gantry crane for receiving power in a contactless fashion

according to claim 1,

wherein the power supply unit is buried or exposed to be parallel to a road surface.

5. The tired gantry crane for receiving power in a contactless fashion according to claim 1, further comprising:

first laser scanners respectively installed at front and rear portions of a left wheel of the tired gantry crane one by one to sense an obstacle present in a running direction of the tired gantry crane, a transport vehicle present in a transport vehicle area and a container loaded on the transport vehicle by means of vertical rotation and provide corresponding first sensing information;

second laser scanners respectively installed at front and rear portions of a right wheel of the tired crane one by one to sense a container stored in a container yard and a floating structure installed in the running direction of the tired gantry crane by means of vertical rotation and provide corresponding second sensing information; and

a main controller for receiving the first and second sensing information, controlling a collision of the tired gantry crane based on the first or second sensing information, and rotating the first laser scanner to control the first laser scanner to sense the transport vehicle when a container is not loaded on the transport vehicle present in the transport vehicle area based on the first sensing information.

6. The tired gantry crane for receiving power in a contactless fashion according to claim 5,

wherein the first and second laser scanner is a two-dimensional laser scanner or a

three-dimensional laser scanner.

7. The tired gantry crane for receiving power in a contactless fashion according to claim 5,

wherein the first laser scanners sense a fixing device for fixing a container loaded on the transport vehicle to the transport vehicle and provide information about whether the container loaded on the transport vehicle is separated from the transport vehicle when the container is unloaded from the transport vehicle.

8. The tired gantry crane for receiving power in a contactless fashion according to claim 5,

wherein the main controller analyzes a location of the transport vehicle present in the transport vehicle area or the container loaded on the transport vehicle based on the first sensing information, compares the location of the transport vehicle or the location of the container loaded on the transport vehicle with a current location of the tired gantry crane, and provides a guide indication for location adjustment to a driver of the transport vehicle according to the comparison result.

9. The tired gantry crane for receiving power in a contactless fashion according to claim 5,

wherein the main controller analyzes a location of an obstacle present in a running direction of the tired gantry crane based on the first sensing information, compares the location of the obstacle with a current location of the tired gantry crane, and controls the

location of the tired gantry crane not to collide with the obstacle.

10. The tired gantry crane for receiving power in a contactless fashion according to claim 1,

first laser scanners respectively installed at front and rear portions of a left wheel of the tired gantry crane one by one to sense an obstacle present in a running direction of the tired gantry crane, a transport vehicle present in a transport vehicle area and a container loaded on the transport vehicle by means of vertical rotation and provide corresponding first sensing information;

second laser scanners respectively installed at front and rear portions of a right wheel of the tired gantry crane one by one to sense a container stored in a container yard and a floating structure installed in the running direction of the tired gantry crane by means of vertical rotation and provide corresponding second sensing information; and

a main controller for receiving the first and second sensing information, controlling a collision of the tired gantry crane based on the first or second sensing information, and rotating the second laser scanner to control the second laser scanner to sense the floating structure when a container is not loaded present in the container yard based on the first sensing information.

11. The tired gantry crane for receiving power in a contactless fashion according to claim 10,

wherein the main controller analyzes a location of the container stored in the container yard or a location of the floating structure based on the second sensing

information, compares the location of the container stored in the container yard or the location of the floating structure with a current location of the tired gantry crane, and controls a location of the tired gantry crane.

12. The tired gantry crane for receiving power in a contactless fashion according to claim 10,

wherein the main controller analyzes a location of an obstacle present in a running direction of the tired gantry crane based on the second sensing information, compares the location of the obstacle with a current location of the tired gantry crane, and controls the tired gantry crane not to collide with the obstacle.

13. The tired gantry crane for receiving power in a contactless fashion according to claim 10,

wherein the floating structure is a booth bar or a cable reel hole.

14. The tired gantry crane for receiving power in a contactless fashion according to claim 10,

wherein the main controller recognizes a location of the floating structure and controls the tired gantry crane based on the recognized distance.