

POWER UNIT

TECHNICAL FIELD

[0001] The application relates to the technical field of power units, in particular to a
5 power unit.

BACKGROUND

[0002] With the development of science and technology, power units are gradually
applied to the industrial field and become a part of an industrial equipment, where the
10 power unit can be an energy supply component. In the prior art, the power unit
includes a power part and a plurality of driving wheels, where the power part operates
via an external force and drives the plurality of driving wheels to rotate relative to a
mounting base. In this case, the plurality of driving wheels are driven by gears and
will stop immediately when the gears stop. However, the inertia of the plurality of
15 driving wheels cannot be utilized due to meshing of the plurality of gears.

SUMMARY

[0003] The application aims to provide a power unit to solve the technical problem
that the inertia of the plurality of driving wheels cannot be utilized due to meshing of
20 the plurality of gears.

[0004] In order to solve the above-mentioned technical problem, the following
technical solution is adopted in the application:

[0005] A power unit, comprises:

[0006] a mounting base;

25 [0007] two driving wheels rotatable relative to the mounting base, each of the two
driving wheels being connected with a first rotating shaft, and the two first rotating
shafts being rotatably mounted on the mounting base;

[0008] a traction assembly comprising a first transmission module, a second
transmission module, and a second rotating shaft, wherein the second rotating shaft is
30 connected with one end of the first transmission module and one end of the second
transmission module, and the other end of the first transmission module and the other
end of the second transmission module are respectively connected with the first
rotating shafts, so that the two driving wheels rotate synchronously; the first
transmission module is a synchronous belt transmission module, and the second

transmission module is a chain transmission module;

[0009] a power assembly connected with the first rotating shaft and driving the first rotating shaft to rotate.

[0010] In the above description, as a further solution, the first transmission module
5 comprises a first synchronous wheel, a second synchronous wheel, and a first synchronous belt, wherein the first synchronous wheel is sleeved on the first rotating shaft, the second synchronous wheel is sleeved on the second rotating shaft, and the first synchronous belt is configured to tow the first synchronous wheel and the second synchronous wheel.

10 **[0011]** In the above description, as a further solution, a wheel diameter of the second synchronous wheel is greater than a wheel diameter of the first synchronous wheel.

[0012] In the above description, as a further solution, the first transmission module and the second transmission module are arranged apart along an axis of the second rotating shaft.

15 **[0013]** In the above description, as a further solution, the second transmission module comprises a first sprocket, a second sprocket, and a first chain, wherein the first sprocket is sleeved on the first rotating shaft, the second sprocket is sleeved on the second rotating shaft, and the first chain is configured to tow the first sprocket and the second sprocket.

20 **[0014]** In the above description, as a further solution, the second sprocket and the second synchronous wheel are both sleeved on the second rotating shaft, and are arranged apart along an axis of the second rotating shaft.

[0015] In the above description, as a further solution, a wheel diameter of the second sprocket is smaller than a wheel diameter of the second synchronous wheel.

25 **[0016]** In the above description, as a further solution, the power assembly comprises a power motor and a third transmission module; wherein the power motor is mounted on the mounting base, one end of the third transmission module is connected with one end of the power motor, and the other end of the third transmission module is connected with the first rotating shaft and drives the first rotating shaft to rotate.

30 **[0017]** In the above description, as a further solution, the third transmission module is a chain transmission module.

[0018] In the above description, as a further solution, the power unit is connected with a solar panel and is capable of working under power supply of the solar panel.

[0019] In the above description, as a further solution, a surface of the solar panel is

provided with an absorption surface, which is exposed to external environment so as to be irradiated by sunlight.

[0020] In the above description, as a further solution, the power unit further comprises a time controller, which is electrically coupled with the power motor and is capable of timing control of the start or stop of the power motor.

[0021] Compared to the prior art, the power unit has the following beneficial effects:

[0022] The two driving wheels are rotatable relative to the mounting base; the two driving wheels are both connected with first rotating shafts, and the two first rotating shafts are rotatably mounted on the mounting base; the traction assembly comprises a first transmission module, a second transmission module and a second rotating shaft, where the second rotating shaft is connected with one end of the first transmission module and one end of the second transmission module, and the other end of the first transmission module and the other end of the second transmission module are respectively connected with the first rotating shafts, so that the two driving wheels rotate synchronously; the first transmission module is a synchronous belt transmission module, and the second transmission module is a chain transmission module. In this case, the first transmission module acts on the second rotating shaft and the first rotating shaft, and the second transmission module acts on the second rotating shaft and the first rotating shaft, so that the second rotating shaft is connected to the two driving wheels, thereby ensuring that the two driving wheels rotate synchronously under the joint action of the second rotating shaft, the first transmission module and the second transmission module, effectively utilizing the inertia of the second rotating shaft, the first transmission module and the second transmission module, and also increasing the rotation number of the two driving wheels.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] FIG. 1 is a perspective structural schematic of a power unit according to a first embodiment of the application;

[0024] FIG. 2 is a front view of a partial structure of the power unit according to the first embodiment of the application;

[0025] FIG. 3 is a top view of FIG. 2;

[0026] FIG. 4 is a schematic of a power unit according to a second embodiment of the application;

[0027] FIG. 5 is a schematic of a power unit according to a third embodiment of the

application;

[0028] FIG. 6 is a schematic of a power unit according to a fourth embodiment of the application;

5 [0029] FIG. 7 is a schematic of a power unit according to a fifth embodiment of the application;

[0030] In the figures: 100 - power unit, 10 - mounting base, 20 - driving wheel, 21 - first rotating shaft, 30 - traction assembly, 31 - first transmission module, 32 - second transmission module, 33 - second rotating shaft, 40 - power assembly, 41 - power motor, 42 - third transmission module, 43 - solar panel, 44 - fan.

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DETAILED DESCRIPTION

[0031] In order to facilitate understanding of those skilled in the art, the application is further described below in conjunction with the embodiments and the drawings, and the content mentioned in the embodiments is not a limitation on the application. The application will be described in detail below in conjunction with the drawings.

15 [0032] With the development of science and technology, power units are gradually applied to the industrial field and become a part of an industrial equipment, where the power unit can be an energy supply component. In the prior art, the power unit includes a power part and a plurality of driving wheels, where the power part operates via an external force and drives the plurality of driving wheels to rotate relative to a mounting base. In this case, the plurality of driving wheels are driven by gears and will stop immediately when the gears stop. However, the inertia of the plurality of driving wheels cannot be utilized due to meshing of the plurality of gears.

20 [0033] The application is intended to provide a power unit 100 to solve the technical problem that the inertia of the plurality of driving wheels cannot be utilized due to meshing of the plurality of gears.

[0034] [First Embodiment]

30 [0035] Referring to Figs. 1-7, a power unit 100 as a specific embodiment comprises a mounting base 10, two driving wheels 20, a traction assembly 30, and a power assembly 40. The mounting base 10 is a support component of the power unit 100 and supports the two driving wheels 20, the traction assembly 30, and the power assembly 40. In an embodiment, the mounting base 10 may be a housing of the power unit 100, or a frame of the power unit 100.

[0036] Where the mounting base 10 is a frame of the power unit 100, the power

assembly 40 lies at the top of the mounting base 10, and the two driving wheels 20 and the traction assembly 30 are at a lateral side of the mounting base 10.

[0037] The two driving wheels 20 are rotatable relative to the mounting base 10. In an embodiment, the two driving wheels 20 are rotatably mounted on the mounting base 10, and may rotate relative to the mounting base 10 under an external force.

[0038] The two driving wheels 20 are each connected with a first rotating shaft 21. The two first rotating shafts 21 are rotatably mounted on the mounting base 10, pass through the mounting base 10 and are connected to the mounting base 10 via bearings. The two first rotating shafts 21 rotate along their own axes and drive the two driving wheels 20 to rotate along an axis of the corresponding first rotating shaft 21.

[0039] The traction assembly 30 is connected to the two driving wheels 20 and drives the two driving wheels 20 to rotate. The traction assembly 30 comprises a first transmission module 31, a second transmission module 32 and a second shaft 33. The second shaft 33 is a middle part of the traction assembly 30. The second shaft 33 is rotatably mounted on the mounting base 10 and may rotate along an axis of the second shaft 33.

[0040] The second shaft 33 is connected to one end of the first transmission module 31 and one end of the second transmission module 32, and the other end of the first transmission module 31 and the other end of the second transmission module 32 are respectively connected to the first shafts 21, so that the two driving wheels 20 rotate synchronously. The first transmission module 31 is a synchronous belt transmission module, and the second transmission module 32 is a chain transmission module.

[0041] The two driving wheels 20 are rotatable relative to the mounting base 10. The two driving wheels 20 are respectively connected to the first shafts 21, and the two first shafts 21 are rotatably mounted on the mounting base 10. The traction assembly 30 comprises the first transmission module 31, the second transmission module 32 and the second shaft 33, where the second shaft 33 is connected to one end of the first transmission module 31 and one end of the second transmission module 32, and the other end of the first transmission module 31 and the other end of the second transmission module 32 are respectively connected to the first shafts 21, so that the two driving wheels 20 rotate synchronously. The first transmission module 31 is a synchronous belt transmission module, and the second transmission module 32 is a chain transmission module. In this case, the first transmission module 31 acts on the second shaft 33 and a first shaft 21, and the second transmission module 32 acts on

the second shaft 33 and a first shaft 21, so that the second shaft 33 is connected to the two driving wheels 20, thereby ensuring that the two driving wheels 20 may rotate synchronously under the joint action of the second shaft 33, the first transmission module 31 and the second transmission module 32, effectively utilizing the inertia of the second shaft 33, the first transmission module 31 and the second transmission module 32, and increasing the rotation number of the two driving wheels 20.

[0042] Herein, the first transmission module 31 is a synchronous belt transmission module, and the second transmission module 32 is a chain transmission module, wherein the first transmission module 31 and the second transmission module 32 are both transmission components and act on the second shaft 33, the first shafts 21 and the driving wheels 20, so that the two driving wheels 20 rotate synchronously. The inertia of the two driving wheels 20 can be fully utilized under driving of the first transmission module 31 and the second transmission module 32, the limitation of gears on the two driving wheels 20 is avoided, therefore the power assembly 40, even in its stop state, can continuously drive the two driving wheels to rotate, and the inertia of the second shaft 33, the first transmission module 31 and the second transmission module 32 can be effectively utilized, increasing the rotation number of the two driving wheels 20.

[0043] In the above description, as a further solution, the first transmission module 31 and the second transmission module 32 are arranged apart along an axis of the second rotating shaft 33. In an embodiment, the first transmission module 31 and the second transmission module 32 are arranged along the left-right direction, and the first transmission module 31 and the second transmission module 32 will not affect each other, thereby ensuring work independence of the first transmission module 31 and the second transmission module 32.

[0044] Since the first transmission module 31 and the second transmission module 32 are both connected to the second rotating shaft 33, the second rotating shaft 33 acts on the first transmission module 31 and the second transmission module 32, thereby ensuring synchronous rotation of the two driving wheels 20, and effectively utilizing the inertia of the second rotating shaft 33, the first transmission module 31 and the second transmission module 32 to increase the rotation number of the two driving wheels 20.

[0045] The first transmission module 31 comprises a first synchronous wheel 311, a second synchronous wheel 312 and a first synchronous belt 313. The first

synchronous wheel 311 is sleeved on the first rotating shaft 21, the second synchronous wheel 312 is sleeved on the second rotating shaft 33, and the first synchronous belt 313 is configured to tow the first synchronous wheel 311 and the second synchronous wheel 312. At this time, the first synchronous belt 313 is sleeved
 5 on the first synchronous wheel 311 and the second synchronous wheel 312, so as to facilitate the transmission between the first synchronous wheel 311 and the second synchronous wheel 312.

[0046] The wheel diameter of the second synchronous wheel 312 is greater than that of the first synchronous wheel 311, and the weight of the second synchronous wheel
 10 312 is greater than that of the first synchronous wheel 311. The second synchronous wheel 312 is connected to the second rotating shaft 33. The greater the mass of the second synchronous wheel 312, the greater the inertia, thereby the inertia of the second synchronous wheel 312 can be better utilized, and the inertia of the second rotating shaft 33, the first transmission module 31 and the second transmission
 15 module 32 can be effectively utilized so as to increase the rotation number of the two driving wheels 20.

[0047] In an embodiment, the second synchronous wheel 312 is keyed to the second rotating shaft 33, achieving a fixed connection between the second synchronous wheel 312 and the second rotating shaft 33, so as to transmit an inertial force of the second
 20 synchronous wheel 312 to the second rotating shaft 33, and then to the two driving wheels 20 via the second rotating shaft 33, thereby increasing the rotation number of the two driving wheels 20.

[0048] In addition, the second transmission module 32 comprises a first sprocket 321, a second sprocket 322 and a first chain 323. The first chain 323 is sleeved on the
 25 first sprocket 321 and the second sprocket 322, and serves as a transmission member between the first sprocket 321 and the second sprocket 322.

[0049] The first sprocket 321 is sleeved on the first rotating shaft 21, the second sprocket 322 is sleeved on the second rotating shaft 33, and the first chain 323 is configured to tow the first sprocket 321 and the second sprocket 322 and transmit
 30 between the first sprocket 321 and the second sprocket 322. In an embodiment, the second rotating shaft 33 is connected with one end of the first transmission module 31 and one end of the second transmission module 32, and the other end of the first transmission module 31 and the other end of the second transmission module 32 are respectively connected to the first rotating shaft 21, so that the two driving wheels 20

rotate synchronously; the first transmission module 31 is a synchronous belt transmission module, and the second transmission module 32 is a chain transmission module. In this case, the first transmission module 31 acts on the second rotating shaft 33 and a first rotating shaft 21, and the second transmission module 32 acts on the second rotating shaft 33 and a first rotating shaft 21, so that the second rotating shaft 33 is connected with the two driving wheels 20, thereby ensuring that the two driving wheels 20 rotate synchronously under the joint action of the second rotating shaft 33, the first transmission module 31 and the second transmission module 32, and effectively utilizing the inertia of the second rotating shaft 33, the first transmission module 31 and the second transmission module 32 to increase the rotation number of the two driving wheels 20.

[0050] The second sprocket 322 and the second synchronous wheel 312 are both sleeved on the second rotating shaft 33 and are arranged apart along the axis of the second rotating shaft 33, and the wheel diameter of the second sprocket 322 is smaller than that of the second synchronous wheel 312. The mass of the second synchronous wheel 312 is increased by increasing the wheel diameter of the second synchronous wheel 312, so that the inertia of the second synchronous wheel 312 upon rotation is increased, and the inertia force of the second synchronous wheel 312 is transmitted to the second rotating shaft 33, and then to the two driving wheels 20 via the second rotating shaft 33, so as to increase the rotation number of the two driving wheels 20.

[0051] The power assembly 40 serves as a power component of a power unit. The power assembly 40 is connected to the first rotating shaft 21 and drives the first rotating shaft 21 to rotate. In this case, the power assembly 40 outputs power to the first rotating shaft 21, so that the first rotating shaft 21 drives the two driving wheels 20 to rotate under the power, and drives the first transmission module 31 and the second transmission module 32 to operate, so that the inertia force of the second synchronous wheel 312 is increased during its work process. At this time, the inertia force of the second synchronous wheel 312 may also be increased with an increase of the rotation speed.

[0052] Specifically, the power assembly 40 comprises a power motor 41 and a third transmission module 42, where the power motor 41 is mounted on the mounting base 10. One end of the third transmission module 42 is connected to one end of the power motor 41, and the other end is connected to the first rotating shaft 21 and drives the first rotating shaft 21 to rotate, so as to drive the first rotating shaft 21 to operate. The

third transmission module 42 transmits the applied force of the power motor 41 to the first rotating shaft 21, so that the force is transmitted to the first transmission module 31 and the second transmission module 32. In the above description, as a further solution, the third transmission module 42 is a chain transmission module.

- 5 **[0053]** In another embodiment, the power motor 41 is connected with a solar panel 43 and may work under power supply of the solar panel 43. In this case, the solar panel 43 may absorb sunlight, and a surface of the solar panel 43 is provided with an absorption surface, which is exposed to external environment so as to be irradiated by sunlight. Therefore, the power motor 41 works under the solar energy, and the third
10 transmission module 42 transmits the applied force of the power motor 41 to the first rotating shaft 21, so that the force is transmitted to the first transmission module 31 and the second transmission module 32. In the above description, as a further solution, the third transmission module 42 is a chain transmission module.

[0054] [Second embodiment]

- 15 **[0055]** Referring to FIG. 4, a fan 44 is provided at one side of the solar panel 43, and the solar panel 43 and the fan 44 may act on the power motor 41 respectively. In an embodiment, the power motor 41 is installed on the mounting base 10; one end of the third transmission module 42 is connected with one end of the power motor 41, and the other end thereof is connected with the first rotating shaft 21 to drive the first
20 rotating shaft 21 to rotate, so as to drive the first rotating shaft 21 to operate. In an embodiment, the first rotating shaft 21 is connected with the second synchronous wheel 312 and drives the second synchronous wheel 312 to rotate. Since the mass of the second synchronous wheel 312 is heavy, the inertia action of the second synchronous wheel 312 upon rotation is increased, so that the inertia force of the
25 second synchronous wheel 312 is transmitted to other components, thereby increasing the rotation number of the two driving wheels 20.

[0056] [Third embodiment]

- [0057]** Referring to FIG. 5, the solar panel 43 acts on the power motor 41, and the power motor 41 is installed on the mounting base 10. One end of the third
30 transmission module 42 is connected with one end of the power motor 41, and the other end thereof is connected with the first rotating shaft 21 to drive the first rotating shaft 21 to rotate, so as to drive the first rotating shaft 21 to operate. In an embodiment, the first rotating shaft 21 is connected with the second synchronous wheel 312 and drives the second synchronous wheel 312 to rotate. Since the mass of

the second synchronous wheel 312 is heavy, the inertia action of the second synchronous wheel 312 upon rotation is increased, so that the inertia force of the second synchronous wheel 312 is transmitted to other components, thereby increasing the rotation number of the two driving wheels 20.

5 [0058] [Fourth Embodiment]

[0059] Referring to FIG. 6, the solar panel 43 acts on the power motor 41, and the solar panel 43 lies above the power motor 41. The power motor 41 is installed on the mounting base 10. One end of the third transmission module 42 is connected with one end of the power motor 41, and the other end thereof is connected with the first rotating shaft 21 to drive the first rotating shaft 21 to rotate, so as to drive the first rotating shaft 21 to operate. In an embodiment, the first rotating shaft 21 is connected with the second synchronous wheel 312 and drives the second synchronous wheel 312 to rotate. Since the mass of the second synchronous wheel 312 is heavy, the inertia action of the second synchronous wheel 312 upon rotation is increased, so that the inertia force of the second synchronous wheel 312 is transmitted to other components, thereby increasing the rotation number of the two driving wheels 20.

[0060] [Fifth embodiment]

[0061] Referring to FIG. 7, the power motor 41 is arranged on one side of the power motor 41 and acts on the power motor 41, and the power motor 41 is mounted on the mounting base 10. One end of the third transmission module 42 is connected to one end of the power motor 41, and the other end thereof is connected to the first rotating shaft 21 to drive the first rotating shaft 21 to rotate, so as to drive the first rotating shaft 21 to operate. In an embodiment, the first rotating shaft 21 is connected with the second synchronous wheel 312 and drives the second synchronous wheel 312 to rotate. Since the mass of the second synchronous wheel 312 is heavy, the inertia action of the second synchronous wheel 312 upon rotation is increased, so that the inertia force of the second synchronous wheel 312 is transmitted to other components, so as to increase the rotation number of the two driving wheels 20.

[0062] In addition, the power unit may further comprise a time controller, which is electrically coupled with the power motor 41 and is capable of timing control of the start or stop of the power motor 41. In an embodiment, when the power motor 41 rotates for a preset time, the time controller automatically cuts off the power motor 41 for a period of time, and terminates work of the power motor 41, so that the second synchronous wheel 312 rotates freely for a period of time under the inertia action.

When the rotation slows down or stops, the time controller is automatically connected with the power motor 41 and provides power to drive rotation of the power motor 41, so that the power motor 41 is not required to be manually powered off and connected.

[0063] Compared to the prior art, the power unit of the application has the following beneficial effects:

[0064] The two driving wheels 20 are rotatable relative to the mounting base 10; the two driving wheels 20 are both connected with first rotating shafts 21, and the two first rotating shafts 21 are rotatably mounted on the mounting base 10; the traction assembly 30 comprises a first transmission module 31, a second transmission module 32 and a second rotating shaft 33, where the second rotating shaft 33 is connected with one end of the first transmission module 31 and one end of the second transmission module 32, and the other end of the first transmission module 31 and the other end of the second transmission module 32 are respectively connected with the first rotating shafts 21, so that the two driving wheels 20 rotate synchronously; the first transmission module 31 is a synchronous belt transmission module, and the second transmission module 32 is a chain transmission module. In this case, the first transmission module 31 acts on the second rotating shaft 33 and a first rotating shaft 21, and the second transmission module 32 acts on the second rotating shaft 33 and a first rotating shaft 21, so that the second rotating shaft 33 is connected to the two driving wheels 20, thus ensuring that the two driving wheels 20 rotate synchronously under the joint action of the second rotating shaft 33, the first transmission module 31 and the second transmission module 32, effectively utilizing the inertia of the second rotating shaft 33, the first transmission module 31 and the second transmission module 32, and also increasing the rotation number of the two driving wheels 20.

[0065] It is noted that the above description only relates to preferable embodiments of the present application and the technical principles as applied. Those skilled in the art may understand that the present application is not limited to specific embodiments described herein, and that various apparent changes, modifications and substitutions can be made by those skilled in the art without departing from the scope of the present application. Thus, although the present application has been described in detail with reference to the above-mentioned embodiments, the present application is not limited to such embodiments, but may also include other equivalents without departing from the concept of the present application. The scope of the present application is only determined by the appended claims.

[0066] In the description of the application, the terms "first", "second" are used only for purpose of description, and cannot be understood as indicating or implying the relative importance or implicitly indicating the number of technical features indicated. Hence, the features defined with "first", "second" may explicitly or implicitly include

5 one or more features.

[0067] The principle and implementation of the present application are described herein by using specific examples, and the above description of examples is only to help understand the method of the application and the core idea thereof. Meanwhile, for those skilled in the art, the specific implementations and applications may vary according to the idea of the application, and therefore, the content of the specification shall not be understood as a limitation on the present application.

[0068] The above only relates to preferable embodiments of the present application, and are not intended to limit the present application in any form. Although the present application is disclosed as above with preferable embodiments, the present application is not limited thereto, and any person skilled in the art can make some changes or modifications to the disclosed technical content within the scope of technical solution of the present application, so as to obtain equivalent embodiments with equivalent changes. Any simple modification, equivalent change and modification made to the above embodiments according to the technical solution of the present application will fall within the scope of the technical solution of the present application.

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CLAIMS

1. A power unit, comprising:

a mounting base;

5 two driving wheels rotatable relative to the mounting base, each of the two driving wheels being connected with a first rotating shaft, and the two first rotating shafts being rotatably mounted on the mounting base;

a traction assembly comprising a first transmission module, a second transmission module, and a second rotating shaft, wherein the second rotating shaft is
10 connected with one end of the first transmission module and one end of the second transmission module, and the other end of the first transmission module and the other end of the second transmission module are respectively connected with the first rotating shafts, so that the two driving wheels rotate synchronously; the first transmission module is a synchronous belt transmission module, and the second
15 transmission module is a chain transmission module;

a power assembly connected with the first rotating shaft and driving the first rotating shaft to rotate.

2. The power unit according to claim 1, wherein the first transmission module
20 comprises a first synchronous wheel, a second synchronous wheel, and a first synchronous belt, wherein the first synchronous wheel is sleeved on the first rotating shaft, the second synchronous wheel is sleeved on the second rotating shaft, and the first synchronous belt is configured to tow the first synchronous wheel and the second synchronous wheel.

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3. The power unit according to claim 2, wherein a wheel diameter of the second synchronous wheel is greater than a wheel diameter of the first synchronous wheel.

4. The power unit according to claim 2, wherein the first transmission module
30 and the second transmission module are arranged apart along an axis of the second rotating shaft.

5. The power unit according to any one of claims 2 to 4, wherein the second transmission module comprises a first sprocket, a second sprocket and a first chain,

wherein the first sprocket is sleeved on the first rotating shaft, the second sprocket is sleeved on the second rotating shaft, and the first chain is configured to tow the first sprocket and the second sprocket.

5 6. The power unit according to claim 5, wherein the second sprocket and the second synchronous wheel are both sleeved on the second rotating shaft, and are arranged apart along an axis of the second rotating shaft.

10 7. The power unit according to claim 6, wherein a wheel diameter of the second sprocket is smaller than a wheel diameter of the second synchronous wheel.

8. The power unit according to claim 1, wherein the power assembly comprises a power motor and a third transmission module;

15 wherein the power motor is mounted on the mounting base, one end of the third transmission module is connected with one end of the power motor, and the other end of the third transmission module is connected with the first rotating shaft and drives the first rotating shaft to rotate.

20 9. The power unit according to claim 8, wherein the third transmission module is a chain transmission module.

10. The power unit according to claim 8, wherein the power unit is connected with a solar panel and is capable of working under power supply of the solar panel.

25 11. The power unit according to claim 10, wherein a surface of the solar panel is provided with an absorption surface, which is exposed to external environment so as to be irradiated by sunlight.

30 12. The power unit of claim 8, wherein the power unit further comprises a time controller, which is electrically coupled with the power motor and is capable of timing control of the start or stop of the power motor.