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A new wind power generation system.

(57)

The invention relates to the technical field of wind power generation and provides a new wind power generation system, comprising a matrix and a pedestal and, the inner of the matrix is arranged with an upper chamber and a lower chamber; The pedestal is below the matrix. In the new wind power generation system, through the cooperating of the matrix and fixing plate, the matrix left in the thermal power plant may be used directly to provide position for mounting a wind power generator and a blade, allowing the matrix left in small thermal power plant to be recycled effectively. The cost of removing the matrix and setting up the pedestal for fixing the wind turbine generator is reduced.

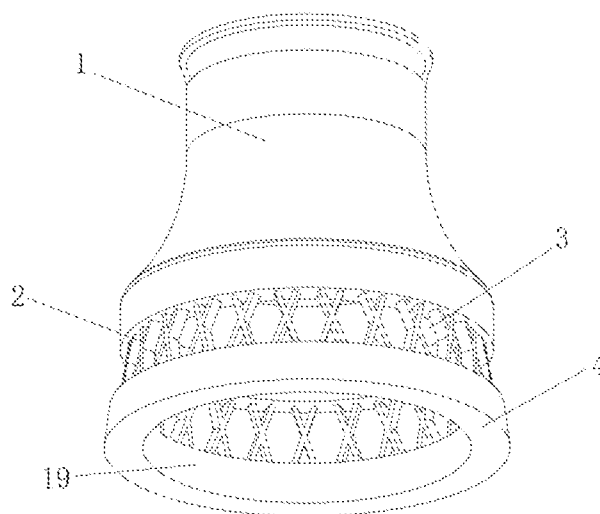


Fig 1

A new wind power generation system

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Technical field

The invention relates to the technical field of the wind power generation, in particular to a new wind power generation system.

5 Background technology

Wind power generation refers to transform the kinetic energy of wind to electric energy. As a renewable energy source, wind energy has been used for a long time, mainly to pump water through windmill and grind flour, etc. How to generate power through wind is the most concerned. Wind power is very environmental protection and the wind energy reserve is huge.

10 Therefore, it is paid more and more attention by countries all over the world. Thermal power generation refers to transform the thermal energy produced by burning the combustible materials to power energy through power-generating plant.

As the increasing of the carbon emission and based on the current situation, to achieve the goals of carbon peak and carbon neutrality, small coal-fired power plants are being phased out
15 everywhere, but a large amount of related buildings such as chimney and cooling tower exist, the removal of which cost a lot. While in the process of wind power generation, a pedestal is needed to fix the power generation equipment, and a lot of investment are needed if a new pedestal is set up. Whereby a new wind power generation system is provided to solve the problems hereinabove.

20 Summary of the application

In view of the above problems, the invention provides a new wind power generation system to improve the above problems.

To achieve the above object, the invention provides the technical scheme as follows: a new wind power generation system, comprising a matrix and a pedestal; The inner of the matrix is
25 provided with an upper chamber and a lower chamber; The pedestal is under the matrix, and a support distributed evenly is fixedly connected therebetween; Wherein, a fixing plate is sleeved on the matrix fixedly; A fixed base distributed evenly on the fixing plate, the outer part of which is opened with a vent that is located on two sides of the fixed base; A wind turbine generator is sleeved in the fixed plate; The top of the wind turbine generator is arranged with a flexible shaft,
30 the outer side of which is fixedly sleeved with a blade; The fixing plate is welded with a supporting base that is located on the outer side of the fixed plate; The supporting base is fixedly mounted with a supporting bracket, the middle part of which is flexibly sleeved with a steady rest.

Further, the matrix is made of a chimney and a cooling tower left in the thermal power

plant.

Further, the vent is distributed evenly on the fixing plate that is made of metal and is opened with a through-hole located between the fixed bases.

Further, the base of the fixing plate is fixedly mounted with a power entry module
5 corresponding to the fixed base; The power entry module is connected electrically with the equipped wind turbine generator and the outer part of the power entry module is fixedly connected with a transmission line.

Further, the outer part of the fixed plate is sleeved with a clamping bolt distributed evenly by thread; A fixed tank matched with the base of the wind turbine generator is arranged on the
10 fixed base; A threaded hole matched with the clamping bolt is arranged on the outer part of the wind turbine generator.

Further, the supporting base and the supporting bracket are made of metal, and the steady rest is matched with the flexible shaft.

Further, the fixing plate is located on the middle part of the matrix; The upper chamber and
15 the lower chamber are located above and below the fixing plate respectively; The sectional diameter of the upper chamber is less than that of the lower chamber.

Further, a circulation cavity distributed evenly is provided between the supporting bases and is communicated with the lower chamber.

The invention provides a new wind power generation system, which has the following
20 beneficial effects:

1. In the new wind power generation system, through the cooperating of the matrix, fixing plate and fixed base, the matrix left in the thermal power plant may be used directly to set up the fixing plate in the matrix and arrange the fixed base on the fixing plate, and to provide position for mounting a wind power generator and a blade through the fixed base, allowing the matrix left
25 in small thermal power plant to be recycled effectively. The cost of removing the matrix and setting up the base for fixing the wind turbine is reduced, and the economy of the new wind power generation system is improved.

2. In the new wind power generation system, through the cooperating of the matrix, the lower chamber, the circulation cavity and the upper chamber, the wind turbine generator of the
30 new wind power generation system produces heat in operation. The wind outside can enter the lower chamber through the circulation cavity. After the cold air is blown upward through the lower chamber, due to the diameter value of the upper chamber is less than that of the lower chamber, the width gets narrower, which speeds up the air flow and ensures the wind power generation. At the same time, the cold air can take away the heat when the wind turbine
35 generator is working, and provide a good working environment for the wind turbine generator.

3. In the new wind power generation system, through the cooperating of the supporting base, supporting bracket and steady rest, in the process of installing the wind turbine generator, the supporting base and supporting bracket are provided to the two sides of the fixed base to make the steady rest to be sleeved on the outer part of the flexible shaft of the wind turbine generator; Finally, a blade is equipped to the outer part of the flexible shaft, the blade rotates driven by the wind power to rotate the flexible shaft, which is supported by the supporting bracket and the steady rest, enhancing the stability of the flexible shaft in operation to ensure the stability of the new wind power generation system as a whole.

Description of attached drawings

To state the technical scheme of the example in the invention clearer, a brief description of the attached drawings needed in the example is given following. It is obvious that the attached drawings described below are only several examples of the invention. For those skilled in the art, other drawings can be obtained from these drawings without any creative effort.

Figure 1 is a schematic diagram of a new wind power generation system provided in the invention;

Figure 2 is an external structural diagram of the new wind power generation system provided in the invention;

Figure 3 is a structural diagram above the fixing plate provided by the invention;

Figure 4 is a structure diagram of the base of the fixing plate provided in the invention;

Figure 5 is an external structural diagram of the fixing plate and the fixed base provided in the invention;

Figure 6 is an external structural diagram of the supporting bracket and wind turbine generator provided in the invention.

In the picture: 1. Matrix; 2. Support; 3. Circulation cavity; 4. Pedestal; 5. Upper chamber; 6. Fixing plate; 7. Blade; 8. Flexible shaft; 9. Supporting bracket; 10. Fixed base; 11. Wind turbine generator; 12. Vent; 13. Supporting base; 14. Clamping bolt; 15. Fixed tank; 16. Threaded hole; 17. Steady rest; 18. Through-hole; 19. Lower chamber; 20. Power entry module; 21. Power transmission line.

Specific embodiments

In combination with the attached drawings of the examples in the invention, the technical scheme of the examples in the invention is described clearly and completely. It is obvious that the described examples are only part in the invention, not all. Based on the examples of the invention, all the other examples obtained by those skilled in the art without creative labor belong to the protection scope of the invention.

Referring to figure 1 to 2, the invention provides a technical scheme: a new wind power

generation system, comprising a matrix 1 and a pedestal 4, the matrix 1 is made of a chimney and a cooling tower left in the thermal power plant. The removal of chimney and cooling tower costs a lot. While in the process of wind power generation, a pedestal is needed to fix the power generation equipment, and a lot of investment are needed if a new pedestal is set up. Therefore, the chimney and cooling tower left in the thermal-power plant are rebuilt directly to form the matrix 1 of the new wind power generation system to save money.

A upper chamber 5 and a lower chamber 19 are arranged in the inner of the matrix 1; The pedestal 4 is located below the matrix 1, and supports 2 distributed evenly are fixedly connected therebetween. Circulation cavities 3 distributed evenly are arranged between the supports 2 and can facilitate the wind outside the matrix 1 into the lower chamber 19 inside the matrix 1; The circulation cavity 3 is communicated with the lower chamber 19, allowing the wind power generation system to operate as a whole.

Referring to figure 3 to 5, the fixing plate 6 is fixedly sleeved in the middle part of the matrix 1; The upper chamber 5 and lower chamber 19 are located above and below the fixing plate 6 respectively. In operation, the wind outside the matrix 1 can enter the lower chamber 19 through the circulation cavity 3. After the cold air is blown upward through the lower chamber 19, due to the sectional diameter of the upper chamber 5 is less than that of the lower chamber 19, the width gets narrower, which speeds up the air flow to drive the blade 7 to rotate.

The fixed bases 10 distributed evenly are provided on the fixing plate 6, the outer part of which is arranged with vent 12 located on the two sides of the fixed base 10; The vents 12 are distributed evenly on the fixing plate 6 that is made of metal for ensuring strength and is used to provide position for mounting the fixed base 10 and the wind turbine generator 11. And the fixing plate 6 is provided with a through-hole 18 between the fixing bases 10. To ensure the air flow can circulate in the matrix 1, the vent 12 and through-hole 18 are arranged on the fixing plate 6.

Referring to figure 3 to 6, the fixed base 10 is sleeved with the wind turbine generator 11, the top of which is arranged with flexible shaft 8. The base of the fixing plate 6 is fixedly provided with power entry module 20 corresponding to the fixed base 10. In the operation, the air flow drives the blade 7 to rotate, the power entry module 20 is connected electrically with the equipped wind turbine generator 11. The outer part of the power entry module 20 is fixedly connected with power transmission line 21. The blade 7 rotates the flexible shaft 8, through the wind turbine generator 11, the mechanical energy produced by rotating of flexible shaft 8 is converted into electrical energy, which is input to the power entry module 20 and is sent out through power transmission line 21.

The clamping bolts 14 distributed evenly are sleeved to the outer part of the fixed base 10

by thread, and fixed tank 15 matched with the base of the wind turbine generator 11 is provided to the fixed base 10 to facilitate installation of wind turbine generator 11; The fixed base 10 is used to provide position for mounting the wind turbine generator 11, the outer part of which is provided with threaded hole 16 matched with the clamping bolt 14. The wind turbine generator 11 is equipped in the fixed tank 15. The fixed base 10 and the wind turbine generator 11 are fixedly connected through the abutting joint between the clamping bolt 14 and the threaded hole 16. The outer of the flexible shaft 8 is fixedly sleeved with the blade 7, and the supporting base 13 located on the outer side of the fixed base 10 is welded on the fixing plate 6.

The supporting base 13 is fixedly mounted to the supporting bracket 9, and the middle part of which is flexibly sleeved with steady rest 17. The supporting base 13 and the supporting bracket 9 are made of metal to ensure the flexible shaft 8 is fixed. The steady rest 17 and the flexible shaft 8 are matched with each other. The steady rest 17 is sleeved on the outer part of the flexible shaft 8 after the supporting bracket 9 and the supporting base 13 are installed to fix the flexible shaft 8 to improve the stability thereof when rotating.

In conclusion, a new wind power generation system provided by the invention, using the matrix 1 left in the thermal power plant to set up the fixing plate 6 in matrix 1. The fixing plate 6 is provided with corresponding fixed base 10 and power entry module 20, The fixed base 10 is used to provide position for mounting the wind turbine generator 11 and blade 7. The wind turbine generator 11 is mounted in the fixed tank 15 of the fixed base 10, and the fixed base 10 and wind turbine generator 11 are fixedly connected by clamping bolt 14. Then the wind turbine generator 11 and the power entry module 20 are connected electrically. The supporting base 13 and supporting bracket 9 are welded on the two sides of the fixed base 10 to allow the steady rest 17 between the supporting brackets 9 to be sleeved on the outer part of the flexible shaft 8, which is sleeved with blade 7 finally. When operating, the wind outside can enter the lower chamber 19 through the circulation cavity 3. After the cold air is blown upward through the lower chamber 19, due to the diameter value of the upper chamber 5 is less than that of the lower chamber 19, the width gets narrower, which speeds up the air flow to drive the blade 7 to rotate. The blade 7 rotates the flexible shaft 8, through the wind turbine generator 11, the mechanical energy produced by rotating of flexible shaft 8 is converted into electrical energy, which is input to the power entry module 20 and is sent out through power transmission line 21. At the same time, the cold air can take away the heat when the wind turbine generator 11 is working, and provide a good working environment for the wind turbine generator 11. In the rotating of the flexible shaft 8, the supporting bracket 9 and the steady rest 17 to support the flexible shaft 8, enhancing the stability of the flexible shaft 8 in operation to ensure the stability of the new wind power generation system as a whole. The construction and working process of the whole new wind

power generation system can be completed.

In the description of the invention, what needs to be illustrated is the orientation or position relationship indicated by the terms such as “central, up, down, left, right, upright, horizontal, inner, outer” is the orientation or position based on the drawings, which is only easy to describe the invention and simplify the description, not to direct or imply the device or element referred to must have specified orientation, and to be constructed and operated in a particular orientation, which can not be understood as the limitation of the invention thereby. The terms of “first, second and third” are only used to describe the aim, not to be understood to indicate or imply relative importance. In addition, unless otherwise expressly stated and qualified, the terms “installation, interconnection and connection” should be understood in a general sense, for instance, it can be fixed connection and detachable connection or integrated connection, mechanical connection and electrical connection, direct connection and indirect connection through an intermediary, and connection between the inner parts of two components. For ordinary skilled in the art, the meaning of above terms in the invention can be understood in specific circumstance. Moreover, the terms “comprise”, “contain” or other variants thereof are intended to include non-exclusively, allowing the process, method, object or equipment that include a set of elements not only comprise these elements, but also comprise other elements without specific list, or comprise the inherent elements in the process, method, object or equipment.

Although the example of the invention has been shown and described, for the ordinary technicians in the field, various changes, modification, substitution and variation can be made within the principle and spirit of the invention, and the scope of the invention is defined by the attached claims and equivalents thereof.

1. A new wind power generation system, comprising a matrix (1) and a pedestal (4); The inner of the matrix (1) is provided with an upper chamber (5) and a lower chamber (19); The
5 pedestal (4) is below the matrix (1), and a support (2) distributed evenly is fixedly connected therebetween; Wherein, a fixing plate (6) is sleeved on the matrix (1) fixedly; A fixed base (10) distributed evenly on the fixing plate (6), the outer part of which is opened with a vent (12) that is located on two sides of the fixed base (10); A wind turbine generator (11) is sleeved in the fixed plate (10); The top of the wind turbine generator (11) is arranged with a flexible shaft (8),
10 the outer side of which is fixedly sleeved with a blade (7); The fixing plate (6) is welded with a supporting base (13) that is located on the outer side of the fixed plate (10); The supporting base (13) is fixedly mounted with a supporting bracket (9), the middle part of which is flexibly sleeved with a steady rest (17).

2. A new wind power generation system of claim 1, characterized by: the matrix (1) is made
15 of a chimney and a cooling tower left in the thermal power plant.

3. A new wind power generation system of claim 1, characterized by: the vent (12) is distributed evenly on the fixing plate (6) that is made of metal and is opened with a through-hole (18) located between the fixed bases (10).

4. A new wind power generation system of claim 1, characterized by: the base of the fixing
20 plate (6) is fixedly mounted with a power entry module (20) corresponding to the fixed base (10); The power entry module (20) is connected electrically with the equipped wind turbine generator (11) and the outer part of the power entry module (20) is fixedly connected with a transmission line (21).

5. A new wind power generation system of claim 1, characterized by: the outer part of the
25 fixed plate (10) is sleeved with a clamping bolt (14) distributed evenly by thread; A fixed tank (15) matched with the base of the wind turbine generator (11) is arranged on the fixed base (10); A threaded hole (16) matched with the clamping bolt (14) is arranged on the outer part of the wind turbine generator (11).

6. A new wind power generation system of claim 1, characterized by: the supporting base
30 (13) and the supporting bracket (9) are made of metal, and the steady rest (17) is matched with the flexible shaft (8).

7. A new wind power generation system of claim 1, characterized by: the fixing plate (6) is

located on the middle part of the matrix (1); The upper chamber (5) and the lower chamber (19)^{LU503682} are located above and below the fixing plate (6) respectively; The sectional diameter of the upper chamber (5) is less than that of the lower chamber (19).

8. A new wind power generation system of claim 1, characterized by: a circulation cavity (3)
5 distributed evenly is provided between the supporting bases (2) and is communicated with the lower chamber (19).

Revendications

1. Un nouveau système de production d'énergie éolienne, comprenant une matrice (1) et un socle (4) ; L'intérieur de la matrice (1) est pourvu d'une chambre supérieure (5) et d'une chambre inférieure (19) ; Le socle (4) se trouve sous la matrice (1), et un support (2) réparti uniformément est relié de manière fixe entre les deux ; Une plaque de fixation (6) est fixée à la matrice (1) par un manchon ; Une base fixe (10) répartie uniformément sur la plaque de fixation (6), dont la partie extérieure est ouverte par un évent (12) situé sur deux côtés de la base fixe (10) ; un aérogénérateur (11) est inséré dans la plaque fixe (10) ; La partie supérieure de l'éolienne (11) est équipée d'un arbre flexible (8), dont le côté extérieur est équipé d'une pale (7) ; la plaque de fixation (6) est soudée à une base de support (13) située sur le côté extérieur de la plaque fixe (10) ; la base de support (13) est montée de manière fixe avec un support (9), dont la partie centrale est équipée d'une lunette (17).

2. Nouveau système de production d'énergie éolienne selon la revendication 1, caractérisé par le fait que la matrice (1) est constituée d'une cheminée et d'une tour de refroidissement laissées dans la centrale thermique.

3. Nouveau système de production d'énergie éolienne selon la revendication 1, caractérisé par le fait que l'évent (12) est réparti uniformément sur la plaque de fixation (6) en métal et s'ouvre par un trou de passage (18) situé entre les bases fixes (10).

4. Nouveau système de production d'énergie éolienne de la revendication 1, caractérisé par : la base de la plaque de fixation (6) est montée de manière fixe avec un module d'entrée de puissance (20) correspondant à la base fixe (10) ; le module d'entrée de puissance (20) est connecté électriquement avec le générateur de turbine éolienne équipé (11) et la partie extérieure du module d'entrée de puissance (20) est connectée de manière fixe avec une ligne de transmission (21).

5. Nouveau système de production d'énergie éolienne de la revendication 1, caractérisé par : la partie extérieure de la plaque fixe (10) est manchonnée avec un boulon de serrage (14) réparti uniformément par filetage ; un réservoir fixe (15) adapté à la base de l'aérogénérateur (11) est disposé sur la base fixe (10) ; un trou fileté (16) adapté au boulon de serrage (14) est disposé sur la partie extérieure de l'aérogénérateur (11).

6. Nouveau système de production d'énergie éolienne selon la revendication 1, caractérisé par le fait que la base de support (13) et le support (9) sont en métal et que la lunette (17) est adaptée à l'arbre flexible (8).

7. Nouveau système de production d'énergie éolienne selon la revendication 1, caractérisé par : la plaque de fixation (6) est située sur la partie centrale de la matrice (1) ; la chambre supérieure (5) et la chambre inférieure (19) sont situées respectivement au-dessus et au-dessous de la plaque de fixation (6) ; le diamètre de section de la chambre supérieure (5) est inférieur à celui de la chambre inférieure (19).

8. Nouveau système de production d'énergie éolienne selon la revendication 1, caractérisé par : une cavité de circulation (3) répartie uniformément est prévue entre les bases de support (2) et est communiquée avec la chambre inférieure (19).

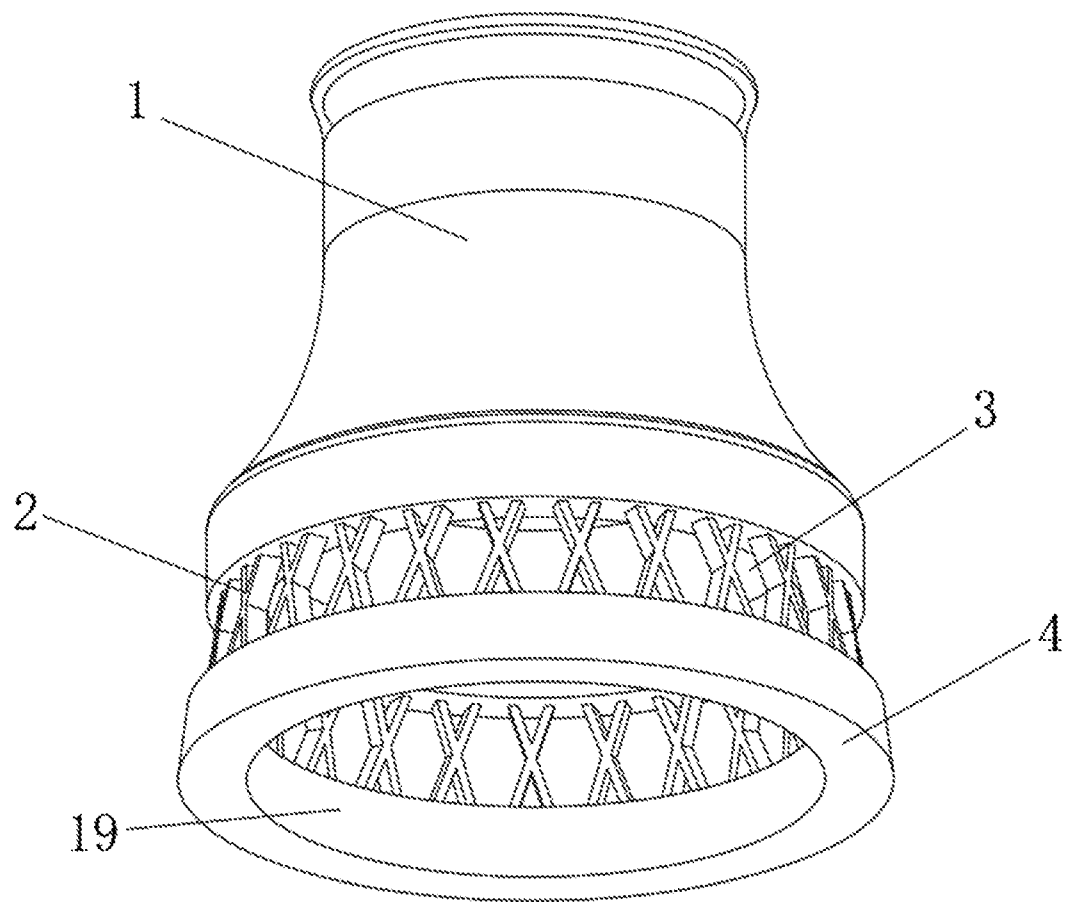


Fig 1

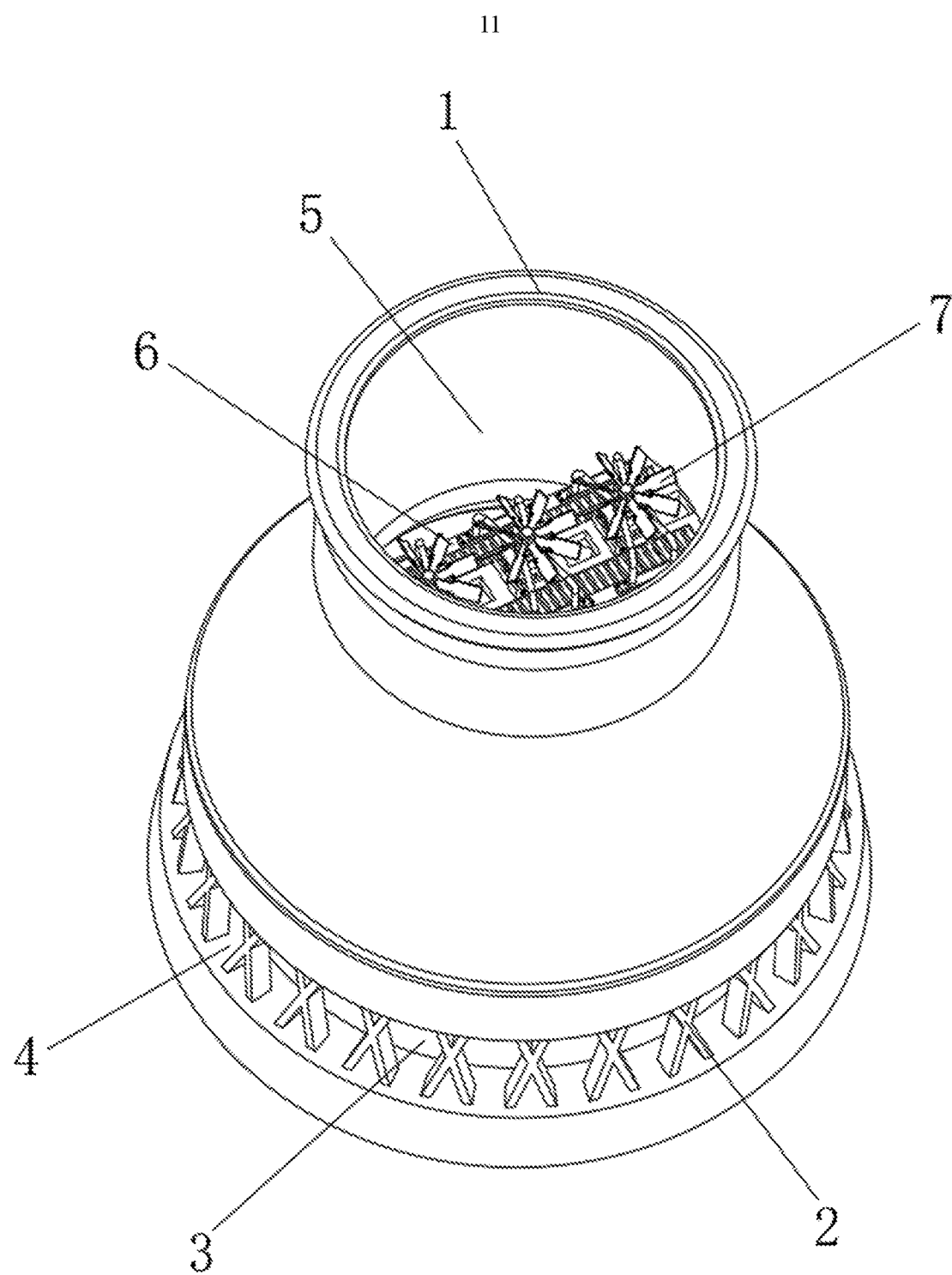


Fig 2

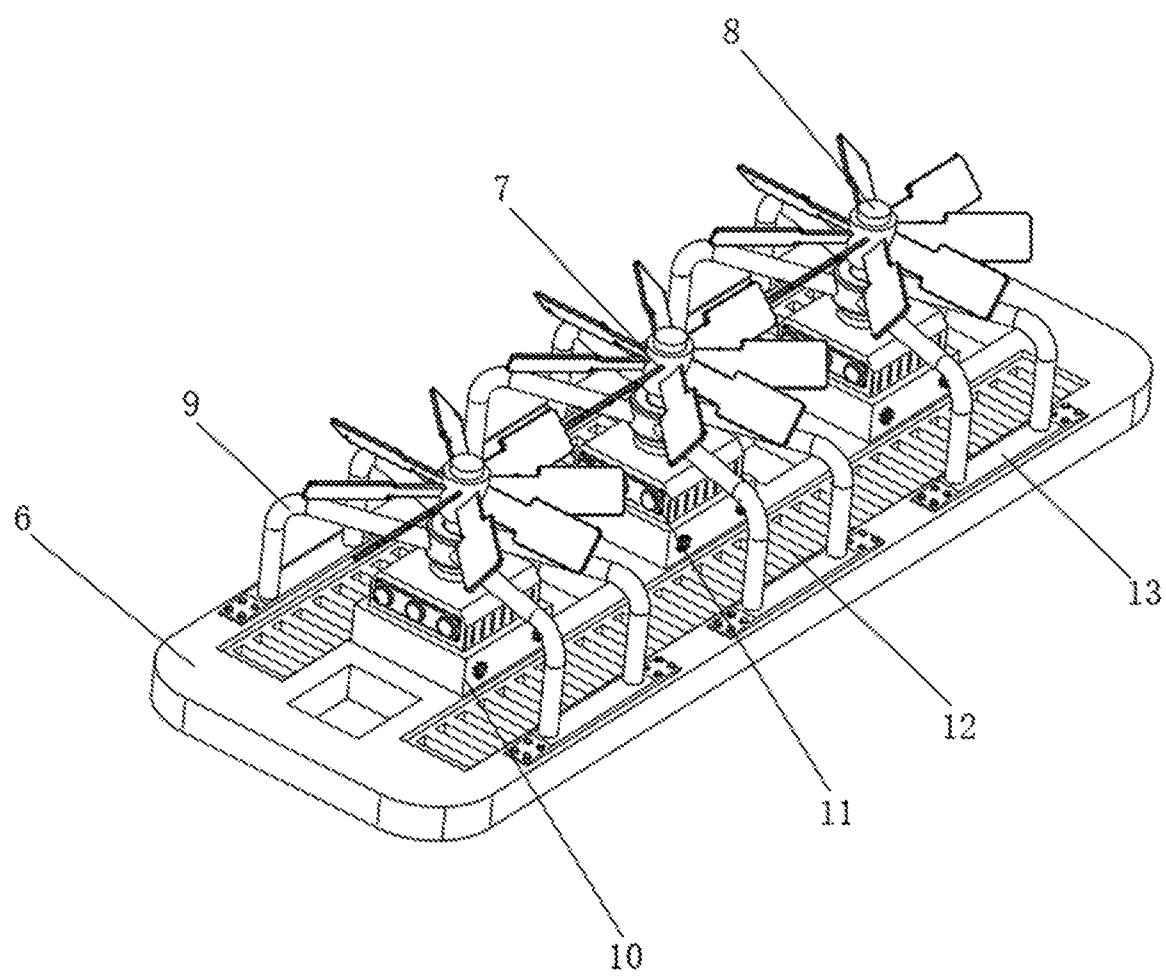


Fig 3

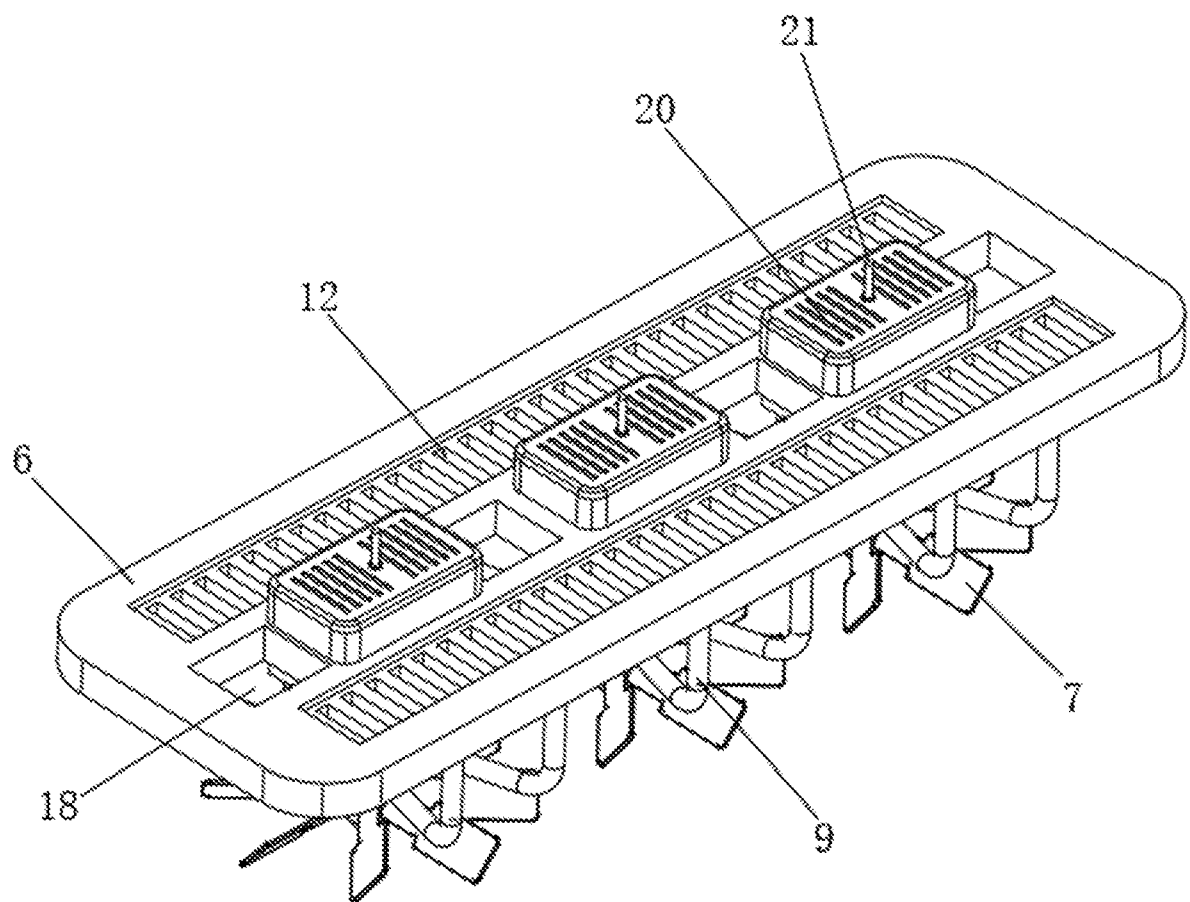


Fig 4

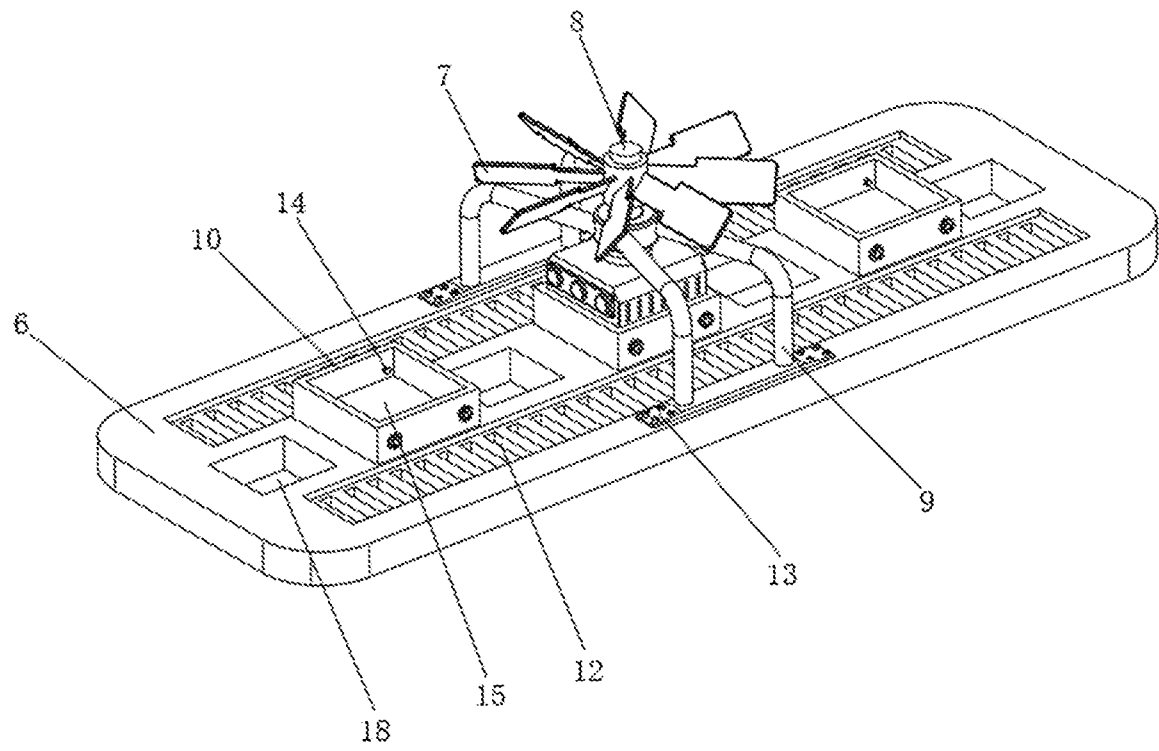


Fig 5

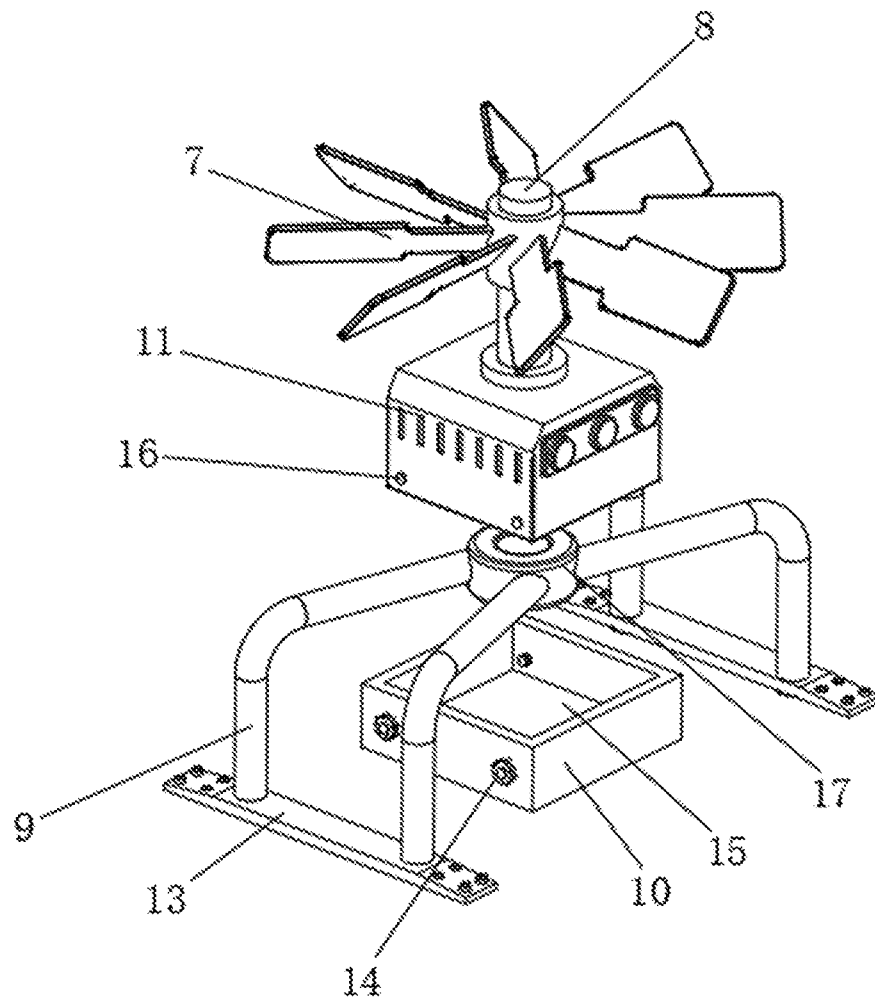


Fig 6