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(54) **FOUNDATION CONSTRUCTION PLATFORM USED IN A BEACH OR OFFSHORE AREAS**

(76) Inventors: **Jialiang Wu**, Beijing (CN); **Jian Zhang**, (US); **Yanbin Gu**, (US); **Xinming Wang**, (US)

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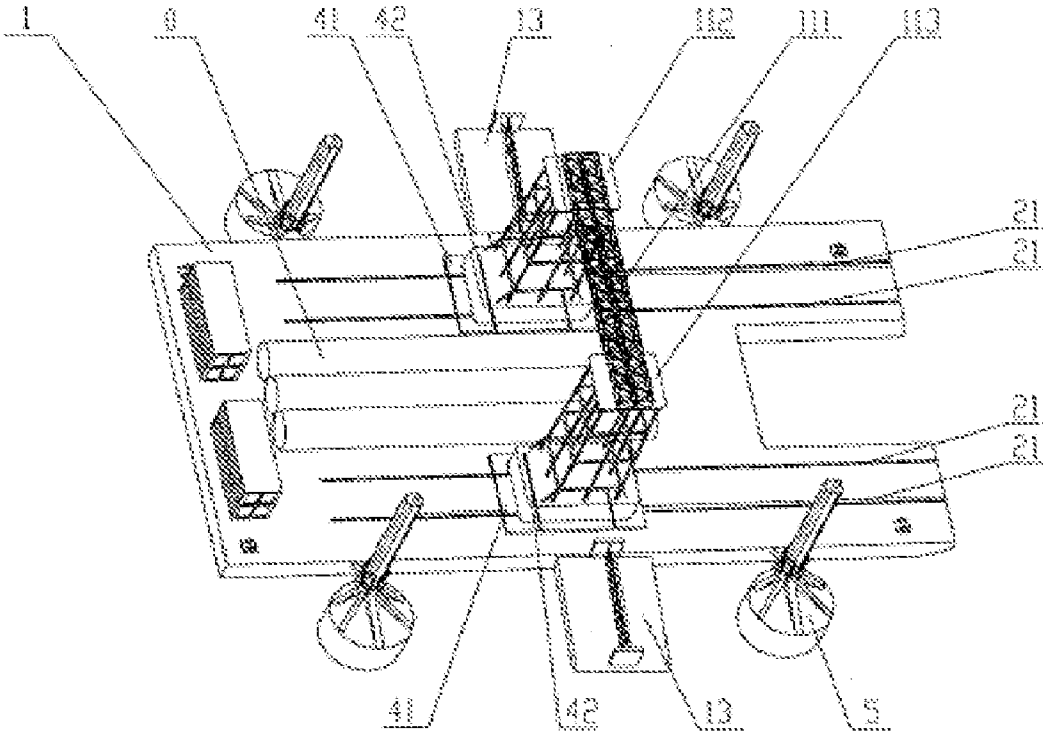
(57) **ABSTRACT**

The invention relates to a foundation construction platform adapted for foundation construction in a beach or offshore areas. The platform comprises a platform body (**1**), outriggers (**5**) mounted on the bottom of the platform body (**1**), a first hoisting frame (**11**) and first slide rails (**21**) longitudinally disposed along the platform body (**1**), the first hoisting frame (**11**) having a first lifting member (**31**) attached to the first transverse beam (**111**) thereof and the first hoisting frame (**11**) being capable of sliding along the first slide rails (**21**). Without other auxiliary equipments, such as, a crane, the operations like removing or rotating a pile can be carried out to decrease the number of the auxiliary equipments on a foundation construction platform so as to reduce the operation cost of the foundation construction platform. The present invention also provides a foundation construction platform including above mentioned hoisting equipments.



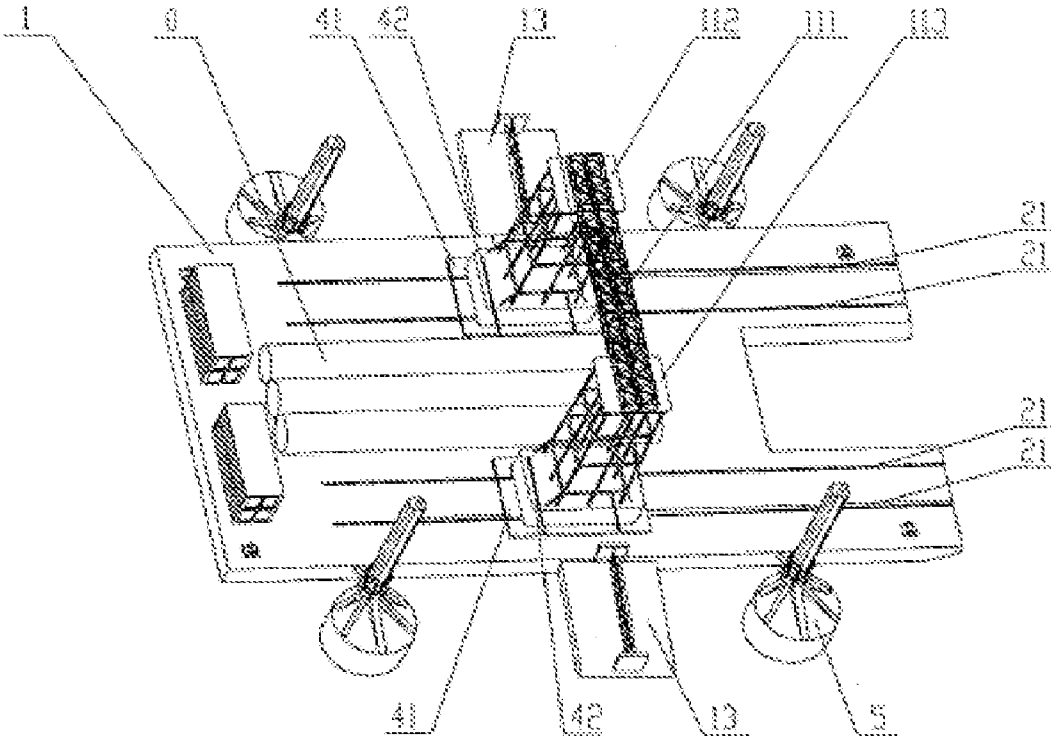


Fig.1

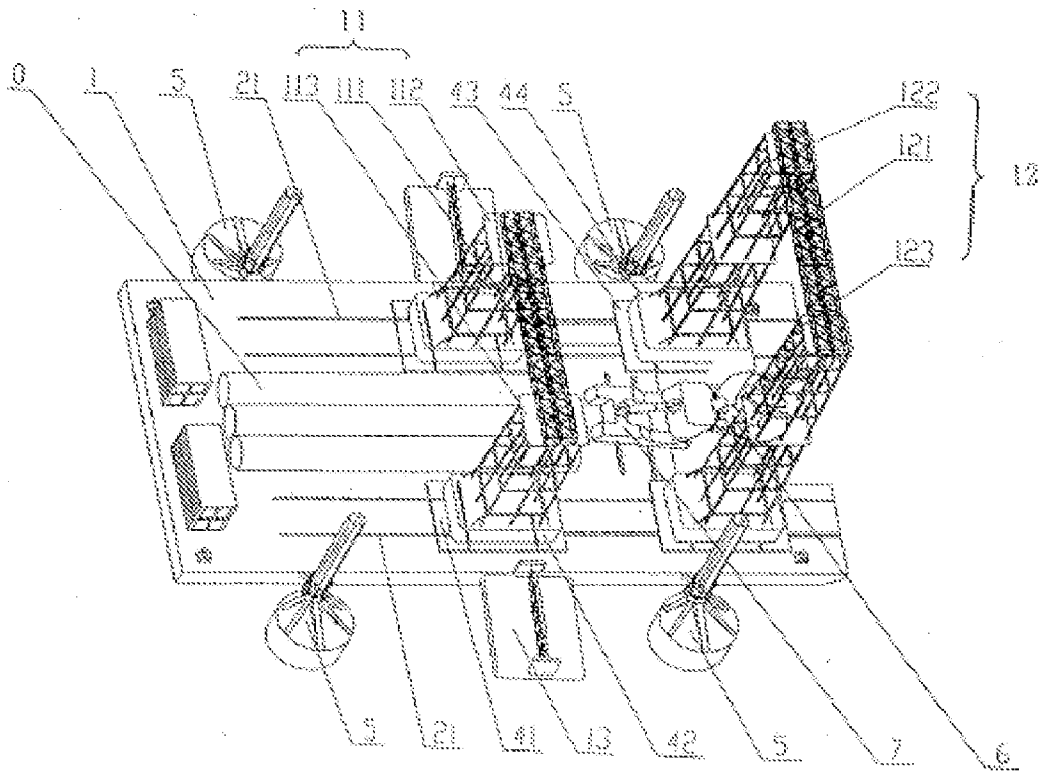


Fig.2

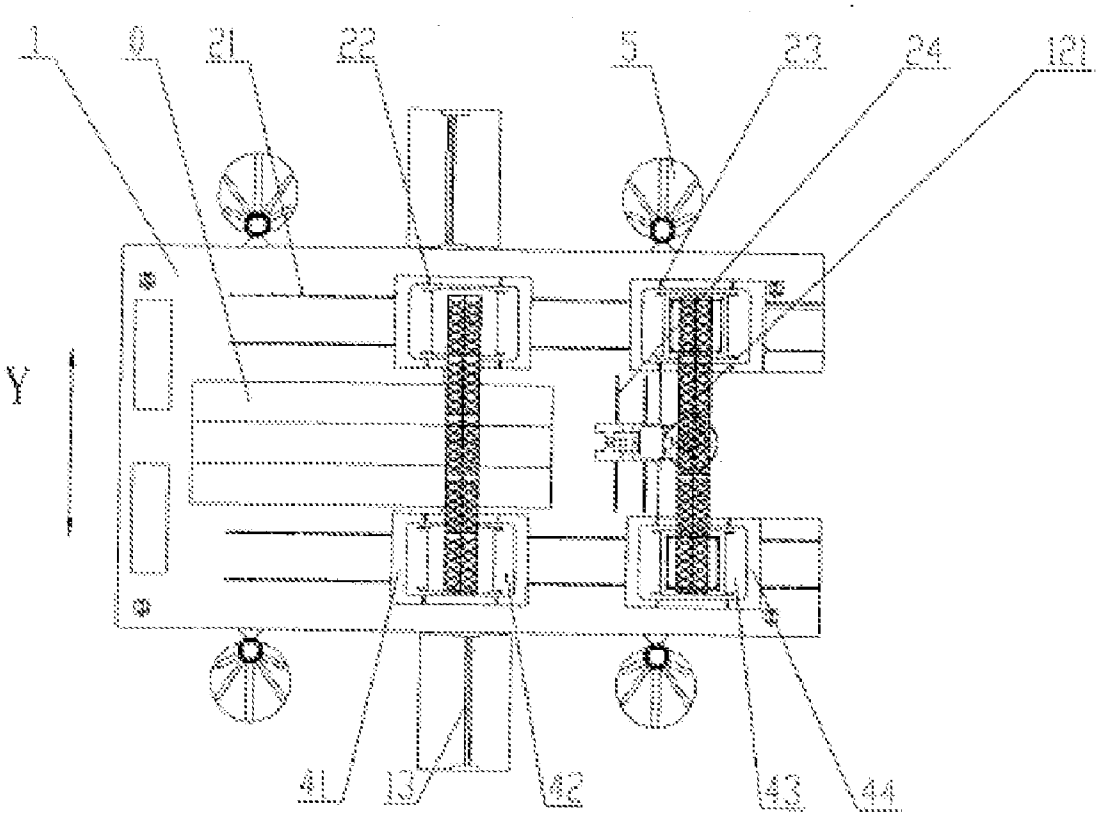


Fig.3

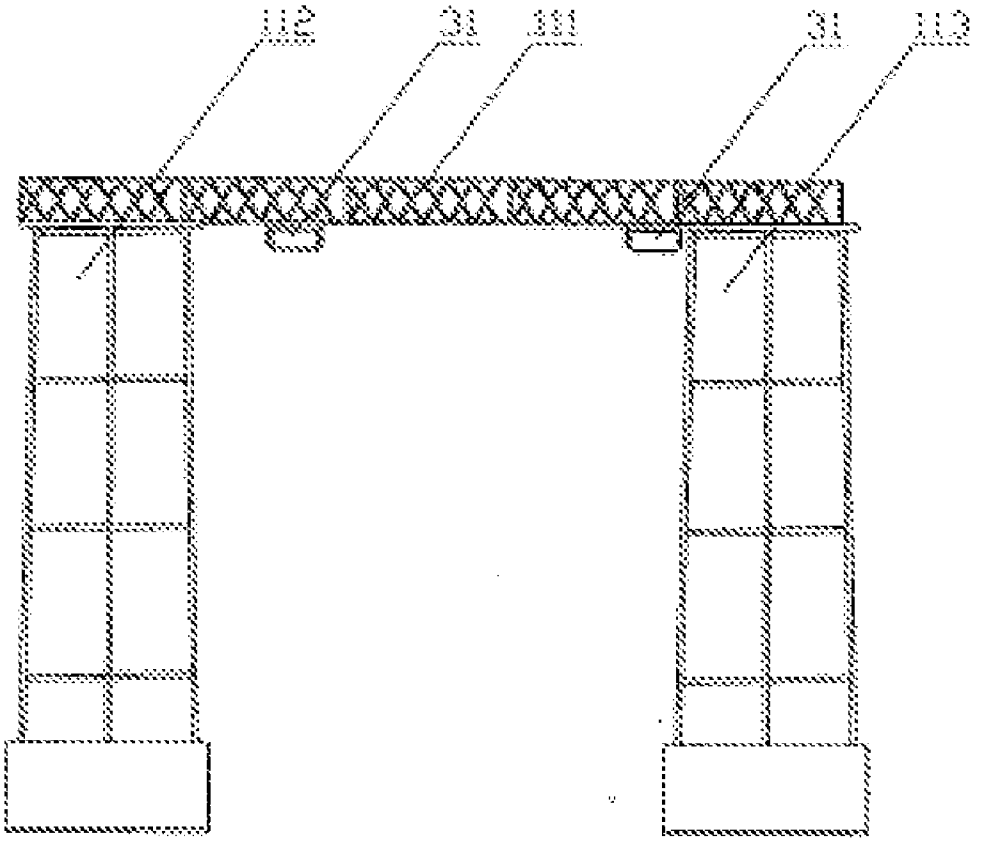


Fig.4

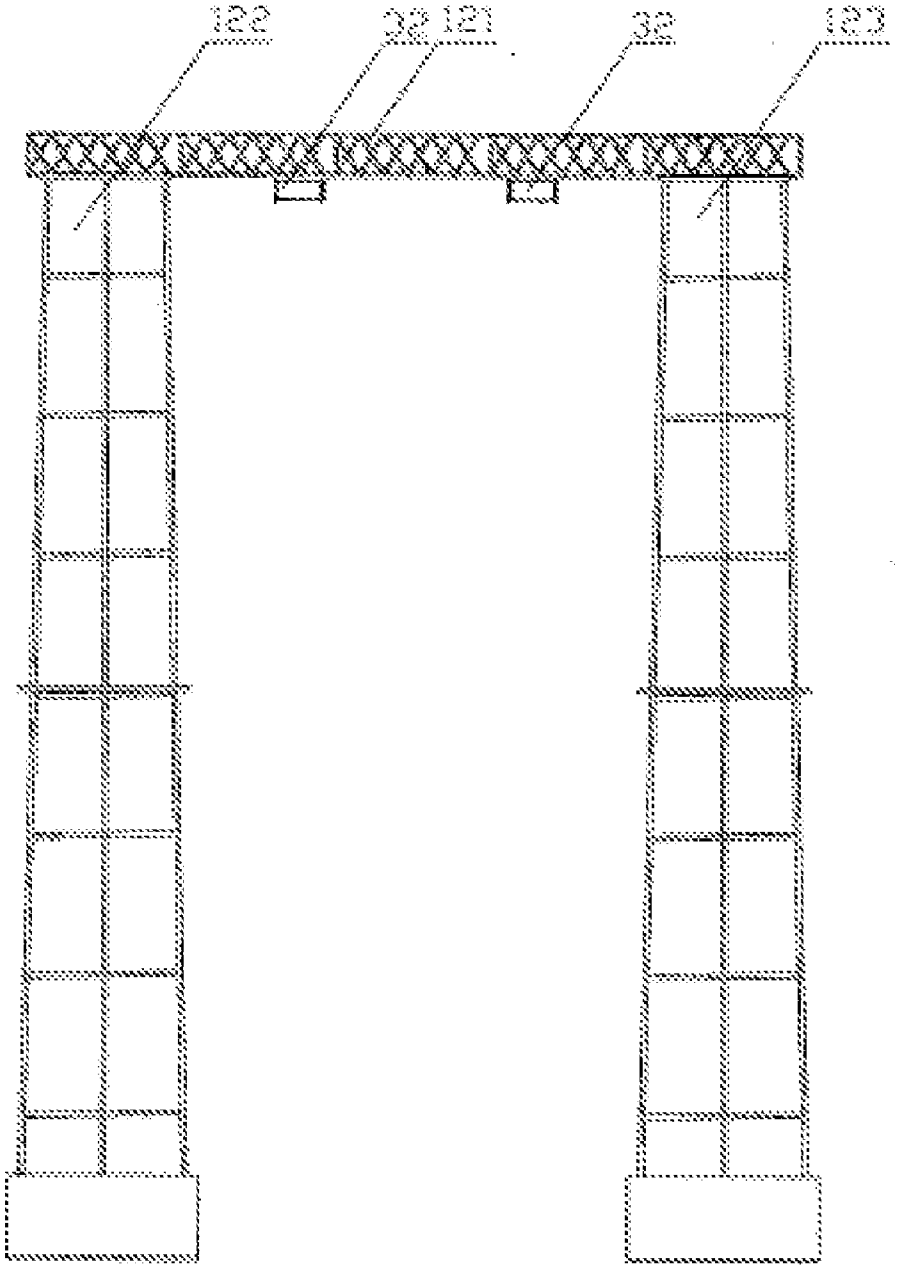


Fig.5

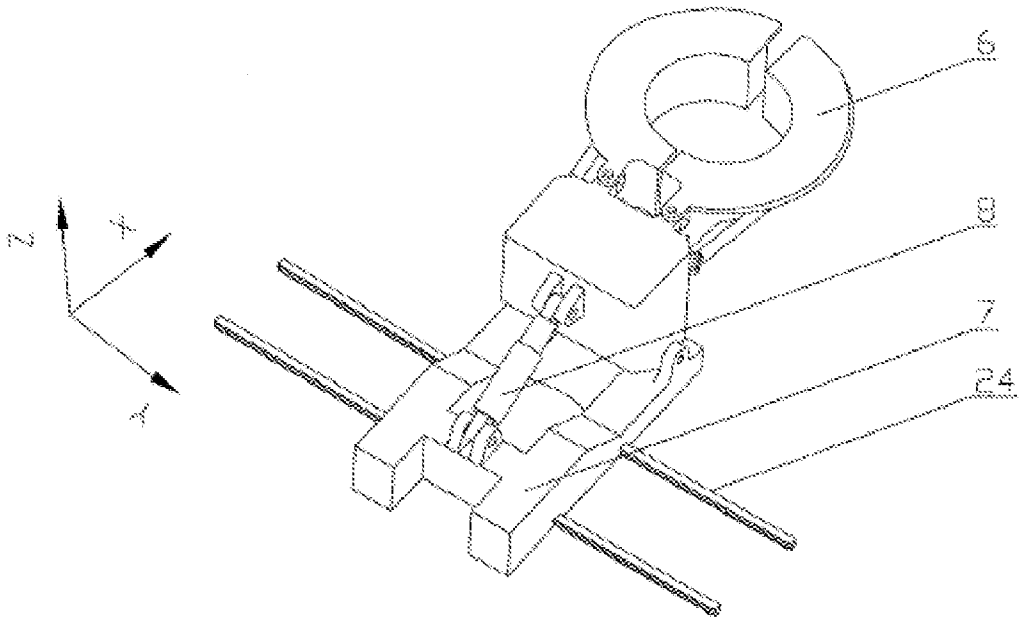


Fig.6

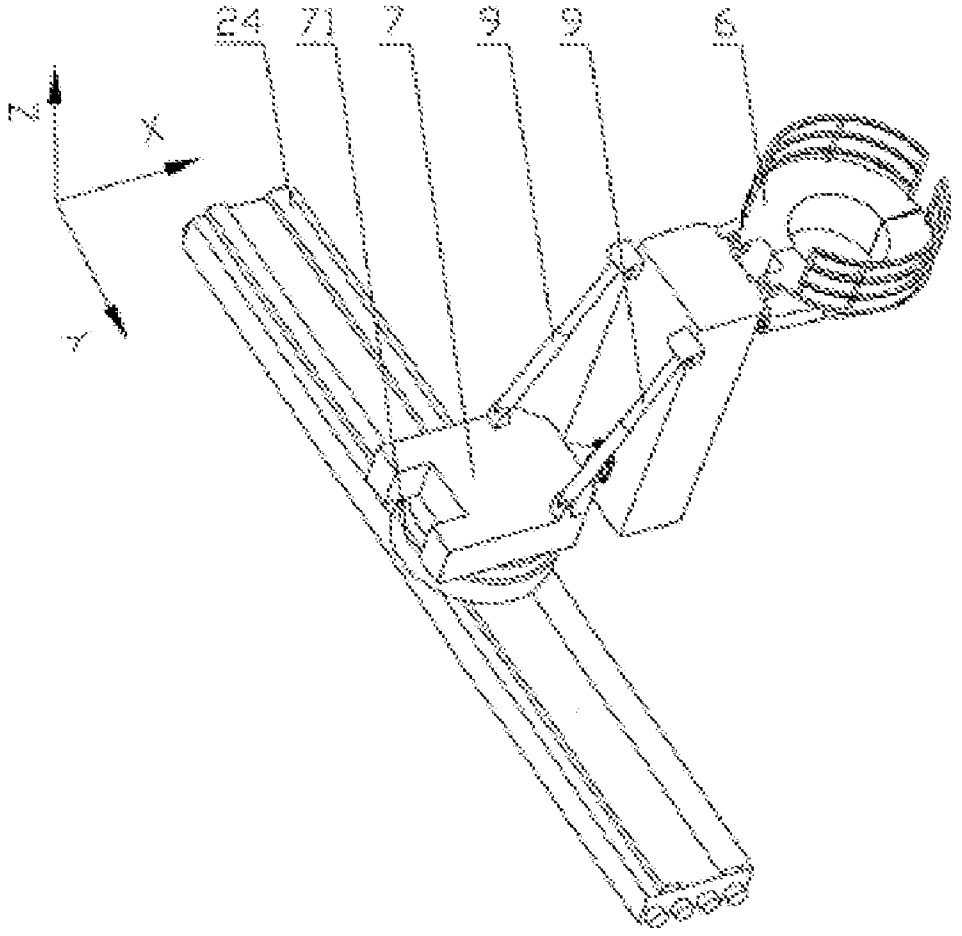


Fig.7

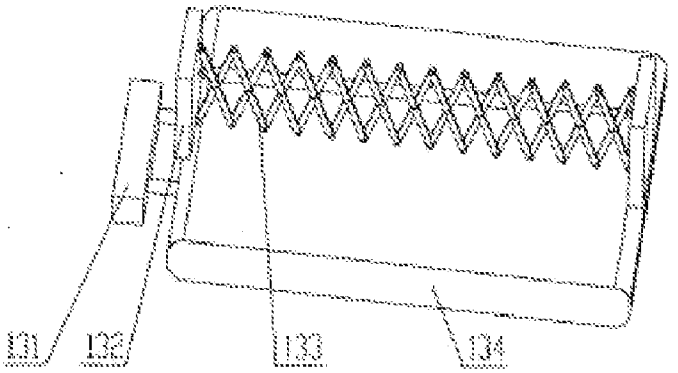
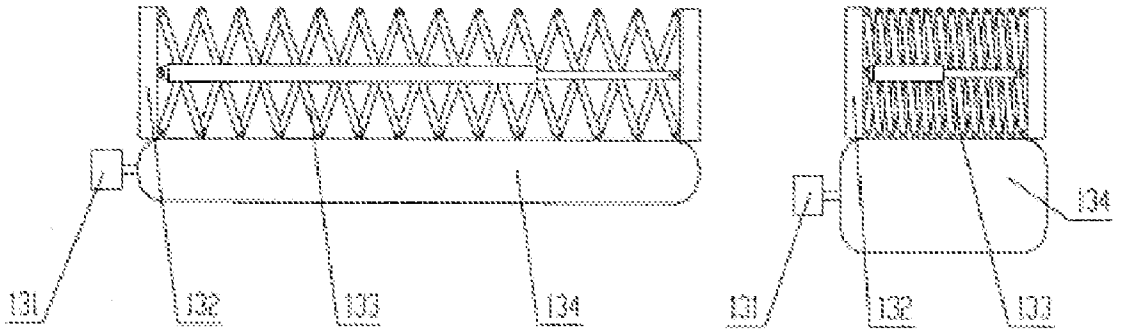


Fig.8



A B

Fig.9

FOUNDATION CONSTRUCTION PLATFORM USED IN A BEACH OR OFFSHORE AREAS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The application claims the benefit of Chinese Patent Application Nos. 200910237983.X, filed Nov. 27, 2009 and 2010112148.6, filed Feb. 10, 2010 under 35 U.S.C §§119(a)-(d), which are hereby incorporated by reference in their entirety.

TECHNICAL FIELD

[0002] The present invention relates to the construction equipment used in a beach or offshore areas, and particularly discloses a foundation construction platform used in a beach or offshore areas.

BACKGROUND ART

[0003] With the rapid economic development of China and the broad exploitation of our offshore resources, the construction equipments used in the offshore areas are widely applied now.

[0004] The beach usually refers to land and water intersection areas including landlocked lakes, inland rivers and offing. The beach has a weak bearing capacity of foundation since it is adjacent waters. Therefore, the foundation construction problem must be given special consideration in the process of a large scale foundation construction.

[0005] The foundation construction platform for piling operation plays an extremely important role in the foundation constructions carried out on a beach or waters. The quality of the foundation construction platform directly determines the efficiency and the quality of the foundation construction. Thus, a person skilled in the art always seeks to manufacture a foundation construction platform with good operating characteristic.

[0006] In a typical foundation construction platform, the platform portion is supported in a river bed or a beach through outriggers; the piles are placed on suitable positions on the platform and are hoisted by a crane (usually a crawler crane) additionally assembled on the platform to transfer them to a working position for piling. The crane can hoist another pile only after finishing above-mentioned process of hoisting and piling one pile, which causes long-period auxiliary operations, such as, removing or rotating a pile, and seriously lowers the working efficiency of piling. Furthermore, due to the use of a crane for removing or rotating a pile, said typical foundation construction platform requires auxiliary equipments such that the operation cost of the foundation construction platform is relatively high. Additionally, the large tonnage of the auxiliary equipments, such as, a crane, also increases the total weight of the foundation construction platform and requires a high bearing capacity of the platform part.

[0007] Also, the outriggers of said typical foundation construction platform has a plate foundation which can not provide enough bearing capacity in the soft soil foundation in the regions, such as, a beach, and can not be easily pulled out if it falls into a dirt bed. Thus, said typical foundation construction platform can not be flexibly moved, and an increase of the travel speed thereof is also restrained.

[0008] As a result, there is an urgent task for a person skilled in the art to solve the technical problem of decreasing the number of the auxiliary equipments on a foundation construction platform so as to reduce the operation cost of the foundation construction platform and enhance the working efficiency of the operations, such as, removing or rotating a pile.

SUMMARY OF THE INVENTION

[0009] The objective of the present application is to provide a foundation construction platform used in a beach or offshore areas, which is capable of independently carrying out the operations, such as, removing or rotating a pile, so as to obtain a low operation cost by using less auxiliary equipments.

[0010] To solve aforementioned technical problem, the present invention provides a foundation construction platform adapted for foundation construction in a beach or offshore areas, comprising a platform body and outriggers mounted on the bottom of the platform body, a first hoisting frame and first slide rails longitudinally disposed along the platform body, the first hoisting frame having a first lifting member attached to the first transverse beam thereof, the first hoisting frame being capable of sliding along the first slide rails.

[0011] Preferably, there are two first slide rails. The first hoisting frame comprises a first vertical post and a second vertical post respectively mounted on both ends of the first transverse beam. Said first vertical post and said second vertical post are respectively supported by said two first slide rails through the first supporting plates attached to the bottoms of the first and second vertical posts, and respectively can slide along said two first slide rails.

[0012] Preferably, the foundation construction platform further comprises second slide rails transversely disposed along respective first supporting plates. Said first vertical post and said second vertical post are respectively supported by said second slide rails through the second supporting plates attached to the bottoms of the first and second vertical posts and can slide along said second slide rails.

[0013] Preferably, the foundation construction platform further comprises a first locking member so as to selectively fastening the first hoisting frame to the platform body.

[0014] Preferably, it further comprises a second hoisting frame having a second lifting member attached to the second transverse beam thereof, the second hoisting frame being capable of sliding along the first slide rails.

[0015] Preferably, there are two first slide rails. The second hoisting frame comprises a third vertical post and a fourth vertical post respectively mounted on both ends of the second transverse beam, said third vertical post and said fourth vertical post are respectively supported by said two first slide rails through the third supporting plates attached to the bottoms of the third and fourth vertical posts, and respectively can slide along said two first slide rails.

[0016] Preferably, the foundation construction platform further comprises third slide rails transversely disposed along the third supporting plates. Said third vertical post and said fourth vertical post are respectively supported by said third slide rails through the fourth supporting plates attached to the bottoms of the third and fourth vertical posts, and can slide along said third slide rails.

[0017] Preferably, the foundation construction platform further comprises a second locking member so as to selectively fastening the second hoisting frame to the platform body.

[0018] Preferably, the outriggers consists of a chamber formed by an upper plate and side walls, said chamber being connected with a pump package via a valve, the pump package selectively supplying to or discharging of pressure from the chamber.

[0019] Preferably, the foundation construction platform further comprises a fastening device which further comprises a pile gripper detachably mounted on the tail of the platform body and fourth slide rails transversely disposed along the platform body, the pile gripper being supported by the fourth slide rails via a mounting member and capable of sliding along the fourth slide rails.

[0020] Preferably, a tilting cylinder is provided between the pile gripper and the mounting member such that the pile gripper can swing in a vertical plane.

[0021] Preferably, the mounting member is mounted on the platform body via a turntable. An oscillating cylinder is further provided between the pile gripper and the mounting member such that the pile gripper can swing in both a horizontal plane and a vertical plane.

[0022] Preferably, two or more draft depth adjusting means are provided symmetrically on the side faces of the platform body.

[0023] Preferably, the draft depth adjusting means comprises a air bag for adjusting the waterplane area of the platform body, an inflating system for inflating or deflating the air bag, an extendable and retractable mechanism connected with the air bag for controlling the extension and retraction of the air bag, and a fixed bearing for fixing the extendable and retractable mechanism to the platform body.

[0024] Preferably, a controlling device of the extendable and retractable mechanism is selected from an oil cylinder, an air cylinder or an electric push rod. The extendable and retractable mechanism includes a plurality of extendable and retractable units subsequently connected with each other, the extendable and retractable units being extendable and retractable sections with a parallelogram four-bar linkage mechanism.

[0025] Preferably, the platform body either can be provided with a power system to obtain a self-propulsion function, or towed by a tug boat without the arrangement of a power system.

[0026] The foundation construction platform used in a beach or offshore areas of the present disclosure comprises a platform body and outriggers mounted on the bottom of the platform body, a first hoisting frame and first slide rails longitudinally disposed along the platform body, the first hoisting frame having a first lifting member attached to the first transverse beam thereof the first hoisting frame being capable of sliding along the first slide rails. During operation, the first hoisting frame is driven by the driving member to slide to a suitable position along the first slide rails to lift a pile by the first lifting member. Then, the first hoisting frame together with the pile slide on the first slide rails to a position for piling where the first hoisting frame puts down the pile for piling operation through the piling members on the platform. In this way, without the help of other auxiliary equipments, such as, a crane, the operations like removing or rotating a pile can be carried out to decrease the number of the auxiliary equipments on a foundation construction platform so as to reduce the operation cost of the foundation construction platform.

[0027] In a preferred embodiment of the present disclosure, the foundation construction platform used in a beach or offshore areas could further comprise a second hoisting frame having a second lifting member attached to the second transverse beam thereof, and being capable of sliding along the first slide rails. While the second hoisting frame rotates a pile, said first hoisting frame could lift another pile at the same time such that the working efficiency of the foundation construction platform can be greatly improved. Furthermore, when a single pile is too heavy to be lifted solely by the first hoisting frame, the second hoisting frame can cooperate with the first hoisting frame to lift the pile so as to enlarge the range of the weights of the piles to be lifted on the foundation construction platform.

[0028] In another preferred embodiment of the present invention, the foundation construction platform can comprise a fastening device which further comprises a pile gripper detachably mounted on the tail of the platform body and fourth slide rails transversely disposed along the platform body, the pile gripper being supported by the fourth slide rails via a mounting member and capable of sliding along the fourth slide rails. After conveyed to the position for piling by the second hoisting frame, the pile is put into and clamped by the pile gripper for piling in an exact position to improve the orientation veracity and the piling quality.

DESCRIPTION OF FIGURES

[0029] FIG. **1** is a stereogram of an illustrative embodiment of the foundation construction platform.

[0030] FIG. **2** is a perspective view of another illustrative embodiment of the foundation construction platform.

[0031] FIG. **3** is a top view of an illustrative embodiment of the foundation construction platform

[0032] FIG. **4** is a side view of an illustrative embodiment of the first hoisting frame

[0033] FIG. **5** is a side view of an illustrative embodiment of the second hoisting frame.

[0034] FIG. **6** is a perspective view of an illustrative embodiment of the fastening device.

[0035] FIG. **7** is a perspective view of another illustrative embodiment of the fastening device.

[0036] FIG. **8** is a perspective view of an illustrative embodiment of the draft depth adjusting means.

[0037] FIG. **9** is a perspective view of an illustrative embodiment of the draft depth adjusting means in an extended state (A) and a folded state (B).

PREFERRED EMBODIMENT

[0038] The purpose of the present disclosure is to provide a foundation construction platform used in a beach or offshore areas, which is capable of independently carrying out the operations, such as, removing or rotating a pile, so as to obtain a low operation cost by using less auxiliary equipments.

[0039] To facilitate the understanding of a professional technician skilled in the art, the technical solution of the present disclosure will be specifically described below with reference to the figures and the embodiments.

[0040] Please make reference to FIG. **1** and FIG. **4**. FIG. **1** is a perspective view of an illustrative embodiment of the foundation construction platform. FIG. **4** is a side view of an illustrative embodiment of the first hoisting frame.

[0041] In an embodiment, the foundation construction platform used in a beach or offshore areas of the present disclosure includes a platform body **1** and outriggers **5** mounted on the bottom of the platform body **1**, a first hoisting frame **11** and first slide rails **21** longitudinally disposed along the plat-

form body **1**. furthermore, the first hoisting frame **11** having a first lifting member **31** attached to the first transverse beam **111** thereof, the first hoisting frame **11** being capable of sliding along the first slide rails **21**.

[0042] The number of the first slide rails **21** can be two. The first hoisting frame **11** can further comprise a first vertical post **112** and a second vertical post **113** respectively mounted on both ends of the first transverse beam **111**. First vertical post **112** and second vertical post **113** are respectively supported by two first slide rails **21** through the first supporting plates **41** attached to the bottoms of the first and second vertical posts and respectively can slide along two first slide rails **21**. The first hoisting frame **11** formed by the first transverse beam **111**, the first vertical post **112** and the second vertical post **113** in this manner, has substantially a frame structure to improve the structure reliability thereof.

[0043] Obviously, the structure of the first hoisting frame **11** is not limited to the specific one described in said embodiment, and it can also be other specific structures which could satisfy the functional requirements. Thus, the specific structure of the first hoisting frame should not be restrained by the description.

[0044] The two first slide rails **21** can move in the range from the most left end to the most right end of the platform body **1** such that the pile rotating range of the first hoisting frame **11** is further enlarged.

[0045] The left end refers to the end in proximity to the first hoisting frame **11** shown in the figures, and correspondingly, the right end refers to the end away from the first hoisting frame **11** shown in the figures.

[0046] On the basis of above-mentioned embodiment, the foundation construction platform of the present disclosure can further include second slide rails **22** (shown in FIG. **3**) transversely disposed along said first supporting plates **41**. Said first vertical post **112** and said second vertical post **113** are respectively supported by said second slide rails **22** through the second supporting plates **42** attached to the bottoms of the first and second vertical posts and can slide along said second slide rails **22**.

[0047] Said first hoisting frame **11** can be selectively fastened onto the platform body **1** by a first locking member (not shown in the figures).

[0048] In some operating conditions, the first slide rails **21** obviously do not necessarily need to extend from the most left end to the most right end of the platform body **1**. Under these circumstances, the length and width of the first slide rails **21** can be specifically designed according to the actual range of use.

[0049] It should be pointed out that the longitudinal direction in the description refers to the direction denoted by X in the figures and correspondingly, the transverse direction in the description refers to the direction denoted by Y in the figures. In addition, Z in the figures denotes a vertical direction.

[0050] During operation of the foundation construction platform, the first hoisting frame **11** is driven by the driving member to slide to a suitable position along the first slide rails **21** to lift a pile **0** by the first lifting member **31**. Then, the first hoisting frame **11** together with the pile **0** slide on the first slide rails **21** to a position for piling where the first hoisting frame **11** puts down the pile **0** for piling operation through the piling members on the platform **1**. In this manner, without the help of other auxiliary equipments, such as, a crane, the operations like removing or rotating a pile can be carried out to decrease the number of the auxiliary equipments on a foundation construction platform so as to reduce the operation cost of the foundation construction platform.

[0051] Further improvements can be made to the foundation construction platform provided by the present application.

[0052] Please make reference to FIG. **2**, FIG. **3** and FIG. **5**. FIG. **2** is a perspective view of another embodiment of the foundation construction platform of the present application. FIG. **3** is a top view of the foundation construction platform. FIG. **5** is a side view of an illustrative embodiment of the second hoisting frame.

[0053] In another embodiment, the foundation construction platform used in a beach or offshore areas of the present disclosure can further comprise a second hoisting frame **12** having a second lifting member **32** attached to the second transverse beam **121** thereof, and being capable of sliding along the first slide rails **21**. While said first hoisting frame **11** lifts one pile, the second hoisting frame **12** can rotate another pile **0** at the same time such that the working efficiency of the foundation construction platform can be greatly improved. Furthermore, when a single pile **0** is too heavy to be lifted solely by the first hoisting frame **11**, the second hoisting frame **12** can cooperate with the first hoisting frame **11** to lift the pile **0** so as to further enlarge the range of the weights of the piles to be lifted on the foundation construction platform.

[0054] The number of the first slide rails **21** can be two. The second hoisting frame **12** can further comprise a third vertical post **122** and a fourth vertical post **123** respectively mounted on both ends of the second transverse beam **121**. Said third vertical post **122** and said fourth vertical post **123** are respectively supported by said two first slide rails **21** through the third supporting plates **43** attached to the bottoms of the third and fourth vertical posts, and respectively slide along said two first slide rails **21**.

[0055] On the basis of aforementioned embodiment, the foundation construction platform of the present disclosure can further comprise third slide rails **23** transversely disposed along the third supporting plates **43**. Said third vertical post **122** and said fourth vertical post **123** are respectively supported by said third slide rails **23** through the fourth supporting plates **44** attached to the bottoms of the third and fourth vertical posts, and can slide along said third slide rails **23**.

[0056] Said second hoisting frame **12** can be selectively fastened to the platform body **1** by a second locking member (not shown in the figures).

[0057] Said first lifting member **31** can be a winch disposed on a suitable position of the first transverse beam **111**. Correspondingly, said second lifting member **32** can be a winch disposed on a suitable position of the second transverse beam **121**. With the winches, the pile **0** is hoisted or lowered. The winch has a simple structure and is easy to be mounted, and thus is widely used in the field of construction machine. Obviously, said first lifting member **31** and said second lifting member **32** will not be limited to winch. The first lifting member **31** and said second lifting member **32** mainly function to lift up the pile **0** from the location where it was stacked and transfer it to the predetermined location for piling. The members with other structures which can also fulfill abovementioned purpose could also be the embodiments of the first lifting member **31** and the second lifting member **32**.

[0058] Said two winches respectively can move with respect to the first transverse beam **111** and the second transverse beam **121**. The transverse movements of the winches

cooperate with the longitudinal movements of the first hoisting frame **11** and the second hoisting frame **12** to enlarge the moving range of the pile **0**.

[0059] The first hoisting frame **11** and the second hoisting frame **12** can have a truss type structure to decrease their deadweights and increase the pile weight they can lift while ensuring the strength. Obviously, the first hoisting frame **11** and the second hoisting frame **12** will not be limited to the truss type structure. They can also be in the form of other frame type structures commonly used in the field if these structures can also fulfill the purpose and ensure the working strength.

[0060] Said first hoisting frame **11** and second hoisting frame **12** slide along the first slide rails **21**, and the specific form is as follows: driven by a power setting, the first hoisting frame **11** and second hoisting frame **12** slide along the first slide rails **21**; the sliding is selectable, that is, when the first hoisting frame **11** and second hoisting frame **12** need to be relocated in the longitudinal direction, they respectively slide along the first slide rails **21** under the action of the power setting; when they move to the suitable position, they can be fastened by the first locking member or the second locking member. Clearly, the first hoisting frame **11** and second hoisting frame **12** can respectively fastened to the platform body **1** in the longitudinal direction. Specifically, the second hoisting frame **12** can be fastened to the platform body **1** while the first hoisting frame **11** is moving, and vice versa, that is, one of them will not be restrained by the locking of the other.

[0061] Both the first locking member and the second locking member can be the members commonly used in the field for locking and fixing.

[0062] The first hoisting frame **11** can have a height smaller than that of the second hoisting frame **12** to reduce production cost of the hoisting device while guaranteeing the functions. Obviously, the height of the first hoisting frame **11** is not necessarily smaller than that of the second hoisting frame **12**. The heights of the two hoisting frames are specifically determined according to the actual operation conditions and the embodiment thereof should not be limited by the description.

[0063] Please make reference to FIGS. **1** to **3**. The outriggers **5** of the present disclosure are attached to the bottom of the platform body **1**. Each outrigger **5** has a foundation including a chamber formed by an upper plate and side walls, the chamber being connected with a pump package via a valve, the pump package selectively supplying to or discharging of pressure from the chamber.

[0064] It must be pointed out that the outriggers **5** with the specific configuration described above are capable of being used in the foundation construction platform provided in aforementioned embodiments.

[0065] During the piling operation of the foundation construction platform, the pump package discharges pressure from the chamber having a bucket-shape foundation. Thus, a pressure difference is created between inside and outside of the chamber since the pressure inside the chamber is gradually reduced. Due to the pressure difference, water flows through the voids in the soil to produce a seepage flow and creates ever-changing flowing water stress field around the bucket-shape foundation of the outriggers **5**. Thus, the resistance on the bottom end of the bucket-shape foundation and the frictional resistance on the side walls are tremendously reduced such that the bucket-shape foundation penetrates under a negative pressure. When the platform needs to be transferred, the pump package supplies pressure to the chamber and increase the pressure within the chamber such that a drawing force is applied to the bucket-shape foundation. Thus, the bucket-shape foundation rises relative to the beach surface and the platform floats off for a quick transfer of the beach construction platform to a new construction location. Therefore, the applicability of the platform is enhanced.

[0066] The foundation construction platform of the present disclosure can further comprise a fastening device by which the pile **0** is clamped for piling operation in an exact position.

[0067] Please make reference to FIG. **6** which is a perspective view of an illustrative embodiment of the fastening device provided by the present application.

[0068] In an embodiment, the fastening device further comprises a pile gripper **6** detachably mounted on the tail of the platform body **1** and fourth slide rails **24** transversely disposed along the platform body **1**, the pile gripper **6** being supported by the fourth slide rails **24** via a mounting member **7** and capable of sliding along the fourth slide rails **24**. After conveyed to the position for piling by the second hoisting frame **12**, the pile **0** is put into and clamped by the pile gripper **6** for piling in an exact position to improve the orientation veracity and the piling quality.

[0069] A tilting cylinder **8** is provided between the pile gripper **6** and the mounting member **7** such that the pile gripper **6** swings in a vertical plane. In this way, during the process of placing the pile **0** into the pile gripper **6** by the second hoisting frame **12**, the pile gripper **6** is tilted first by the tilting cylinder **8** to receive the pile **0** and subsequently is restored for piling operation. Thus, a pile **0** can be easily put into the pile gripper **6** to improve the working efficiency.

[0070] Please make reference to FIG. **7** which is a perspective view of another illustrative embodiment of the fastening device.

[0071] In another embodiment, the mounting member **7** is mounted on the platform body **1** via a turntable **71**. An oscillating cylinder **9** is further provided between the pile gripper **6** and the mounting member **7** such that the pile gripper **6** can swing in both a horizontal and a vertical plane for piling a pile group. Therefore, the range of use of the pile gripper **6** is broadened.

[0072] There can be two oscillating cylinders **9**, respectively mounting on each side of the mounting member **7** (as shown in the figures), so that the pile gripper **6** could swing in a horizontal direction by adjusting respective oscillating cylinder **9**. If the two oscillating oil cylinders **9** move simultaneously, the pile gripper **6** swings in a vertical plane.

[0073] Please make reference to FIGS. **8**, **9**. FIG. **8** is a perspective view of an illustrative embodiment of the draft depth adjusting means. FIG. **9** is a perspective view of the draft depth adjusting means in an extended state (FIG. **9**A) and a folded state (FIG. **9**B).

[0074] In order to fit different depth water, the platform body **1**, in a preferred embodiment, is provided with two or more draft depth adjusting means **13** symmetrically arranged on the two side faces thereof.

[0075] In an embodiment, the draft depth adjusting means **13** comprises an air bag **134** for adjusting the waterplane area of the platform body, an inflating system **131** for inflating or deflating the air bag, an extendable and retractable mechanism **133** connected with the air bag for controlling the extension and retraction of the air bag, and a fixed bearing **132** for fixing the extendable and retractable mechanism to the platform body. A controlling device of the extendable and retractable mechanism **133** is selected from an oil cylinder, an air

cylinder or an electric push rod. The extendable and retractable mechanism includes a plurality of extendable and retractable units subsequently connected with each other, the extendable and retractable units being extendable and retractable sections with a parallelogram four-bar linkage mechanism.

[0076] When a boat sails in a normal sea area, the extendable and retractable mechanism **133** retracts to make the air bag **134** in a folded state (as shown in FIG. **9**A), and the platform body **1** sails with a normal draft depth. At this time, construction platform sails in a fast speed since the resistance is reduced. Reaching a shoal water, the extendable and retractable mechanism **133** extends out and the air bag **134** is inflated (as shown in FIG. **9**B) to become a floating box contacting the water surface for increasing the buoyancy. At that time, the buoyancy is larger than the weight of the entire construction platform which will move upwardly until the buoyancy equals to the weight of the platform. With such a balance, the relatively large waterplane area of the platform body **1** correspondingly reduces the draft depth thereof. Due to the strong controllability of the air bag inflation, the waterplane area of the platform body **1** can be largely increased to correspondingly reduce the draft depth of the boat to an extremely low level so as to meet the requirement for sailing in the shoal water.

[0077] The foundation construction platform used in a beach or offshore areas provided by the present disclosure has been specifically described, and the description elaborates the principle and the mode of implementation of the present invention on the basis of the embodiments. However, the embodiment is only used to make the method and key principle of the present invention easier to be understood. It is realized by a person of ordinary skill in the art that various changes and modifications, without departing from the principle of the present invention, also fall into the protection scope of the claims of the present invention.

1. A foundation construction platform adapted for foundation construction in a beach or offshore areas, comprising:
- a platform body;
- outriggers mounted on the bottom of the platform body;
- a first hoisting frame;
- first slide rails longitudinally disposed along the platform body;
- wherein the first hoisting frame further comprises a first lifting member attached to a first transverse beam, and
- wherein the first hoisting frame is configured to slide along the first slide rails.

2. A foundation construction platform according to claim **1**, further comprising:
- two first slide rails; and
- wherein the first hoisting frame further comprises a first vertical post and a second vertical post respectively mounted on both ends of the first transverse beam,
- said first vertical post and said second vertical post respectively supported by said two first slide rails through first supporting plates attached to the bottoms of the first and second vertical posts, and configured to slide along said two first slide rails.

3. A foundation construction platform according to claim **2**, further comprising:
- second slide rails transversely disposed along respective first supporting plates;
- wherein said first vertical post and said second vertical post are respectively supported by said second slide rails through the second supporting plates attached to the bottoms of the first and second vertical posts and configured to slide along said second slide rails.

4. A foundation construction platform according to claim **3**, wherein the foundation construction platform further comprises a first locking member so as to selectively fasten the first hoisting frame to the platform body.

5. An foundation construction platform according to any one of claims **1**-**4**, further comprising a second hoisting frame including a second lifting member attached to a second transverse beam, the second hoisting frame configured to slide along the first slide rails.

6. A foundation construction platform according to claim **5**, further comprising:
- a third vertical post and a fourth vertical post respectively mounted on both ends of the second transverse beam;
- wherein said third vertical post and said fourth vertical post are respectively supported by said two first slide rails through third supporting plates attached to the bottoms of the third and fourth vertical posts and configured to slide along said two first slide rails.

7. A foundation construction platform according to claim **6**, further comprising:
- third slide rails transversely disposed along the third supporting plates;
- wherein said third vertical post and said fourth vertical post are respectively supported by said third slide rails through fourth supporting plates attached to the bottoms of the third and fourth vertical posts and configured to slide along said third slide rails.

8. A foundation construction platform according to claim **7**, further comprising a second locking member to selectively fasten the second hoisting frame to the platform body.

9. A foundation construction platform according to claim **1**, further comprising:
- outriggers,
- the outriggers comprising a chamber formed by an upper plate and side walls, said chamber being connected with a pump package via a valve, the pump package selectively supplying to or discharging pressure from the chamber.

10. A foundation construction platform according to claim **1**, further comprising:
- a fastening device,
  - the fastening device further comprising
    - a pile gripper detachably mounted on a tail of the platform body and fourth slide rails transversely disposed along the platform body,
  - the pile gripper being supported by the fourth slide rails via a mounting member and configured to slide along the fourth slide rails.

11. A foundation construction platform according to claim **10**, further comprising a tilting cylinder between the pile gripper and the mounting member such that the pile gripper is configured to swing in a vertical plane.

12. An foundation construction platform according to claim **10**, wherein the mounting member is mounted on the platform body via a turntable, and
- wherein an oscillating cylinder is further provided between the pile gripper and the mounting member such that the pile gripper is configured to swing in both a horizontal plane and a vertical plane.

13. A foundation construction platform according to claim **1**, further comprising two or more draft depth adjusting means disposed symmetrically on the side faces of the platform body.

14. A foundation construction platform according to claim **13**, wherein the draft depth adjusting means further comprises an air bag for adjusting the waterplane area of the platform body, an inflating system for inflating or deflating the air bag, an extendable and retractable mechanism connected with the air bag for controlling the extension and retraction of the air bag, and a fixed bearing for fixing the extendable and retractable mechanism to the platform body.

15. A foundation construction platform according to claim **14**, further comprising a controlling device for the extendable and retractable mechanism is selected from an oil cylinder, an air cylinder or an electric push rod; and

wherein the extendable and retractable mechanism includes a plurality of extendable and retractable units subsequently connected with each other, the extendable and retractable units being extendable and retractable sections with a parallelogram four-bar linkage mechanism.

16. A foundation construction platform according to claim **1**, wherein the platform body comprises a power system to obtain a self-propulsion function, or towed by a tug boat.

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