

Water Conservancy Project Dredging Device

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Abstract

The invention relates to the field of water conservancy projects, in particular to a dredging device for water conservancy projects. The invention discloses a water conservancy project desilting device, which comprises a treatment box, an end cover, a stirring suction pump, a pumping pump, a T block, a clamping block, a slot, a box, a U block, a spring one, a ring, a cylinder, a slider, a L groove, an oblique block, a T block and a spring two. The invention installs the end cover at the bottom end of the processing box so that the card block is aligned with the rectangular slot on the slot, then pushes the T block, the T block moves through the rectangular slot into the cylinder slot, the T block moves U block and the square moves, the square moves with the end cover, and then drives the U block to move, and the spring is stretched, the block rotates completely into the cylinder slot, and the T block rotates to drive the square to move, When the square block is aligned with the square slot, under the action of spring and elastic force, the U block moves and drives the block to move into the square slot, and then the position of the T block is fixed, and the card block is clamped inside the slot.

Keywords

Water Conservancy Projects; Desilting Device.

1. Introduction

1. a water conservancy desilting device, The utility model is characterized in that it comprises a treatment box (1), an end cover (2), a mixing suction pump (3), a pumping pipe (4), an installation mechanism and a clamping mechanism, An end cover (2) is arranged at the bottom end of the treatment box (1), The middle position of the bottom end cover (2) is fixed with a stirring suction pump (3), A pumping pipe (4) is fixed at the middle position of the top end of the treatment box (1), And the bottom end of the pumping pipe (4) extends to the inside of the treatment box (1), The treatment box (1) is internally fixed with a filter net;

The mounting mechanism comprises a T block (5), a card block (6), a slot (7), a block (8), a U block (9) and a spring 1(10), A T block (5) is arranged at the left and right ends of the end cover (2), The two ends of the treatment box (1) are provided with a card slot (7), An end of the T block (5) passes through the end cover (2) and extends to the inside of the slot (7), And one end of the T block (5) is fixed with a card block (6), The card block (6) is mounted inside the card slot (7), The other end of the T block (5) is provided with a U block (9), One end of the U block (9) passes through the T block (5) and the mounting block (8), One end of the box (8) extends to the inside of the end cover (2), The U block (9) is fixed with a spring 1(10) at one end near the T block (5), And one end of the spring (10) is fixed on the T block (5). One end of the spring is fixed.

2. according to claim[1], a water conservancy project desilting device is characterized in that a square groove is symmetrically arranged at the left and right ends of the end cover (2), and the cross section of the square groove is the same size as the cross section of the square groove (8). One end of the square (8) extends to the inside of the square groove.

3. According to claim, a water conservancy project desilting device is characterized in that the slot (7) is composed of a rectangular slot and a cylindrical slot, The processing box (1) is symmetrically provided with a rectangular slot at both ends, and one end of the cylinder slot is connected with the rectangular slot.

4. a water conservancy desilting device described in claim 1, characterized in that the clamping mechanism comprises a ring (11), a cylinder (12), a slider (13) and a L groove (14), A ring (11) is fixed on the annular side of the pumping pipe (4), A cylinder (12) is fixed at the middle position of the top end of the treatment box (1), And the ring (11) is mounted inside the cylinder (12), Two sliders (13) are symmetrically fixed on the annular side of the ring (11), A L groove (14) is symmetrically arranged inside the cylinder (12), A slider (13) is installed inside the L slot (14).

5. According to claim, a water conservancy project desilting device, characterized in that the clamping mechanism also comprises an oblique block (15), a T round block (16) and a spring two (17), A spring II (17) is arranged on the annular side of the cylinder (12), And the two ends of the spring (17) are fixed on the T type block (16) and the annular side of the cylinder (12) respectively, An end of the T type block (16) extends into the inner part of the cylinder (12), And fixed with oblique blocks (15), A finite position slot is arranged at one end of the slider (13), One end of the oblique block (15) extends to the inside of the limit slot.

6. According to claim, a water conservancy project desilting device is characterized in that the L groove (14) comprises a vertical groove and a horizontal groove, and the cylinder (12) is symmetrically provided with two vertical grooves and two horizontal grooves. One end of the vertical groove is connected with the horizontal groove.

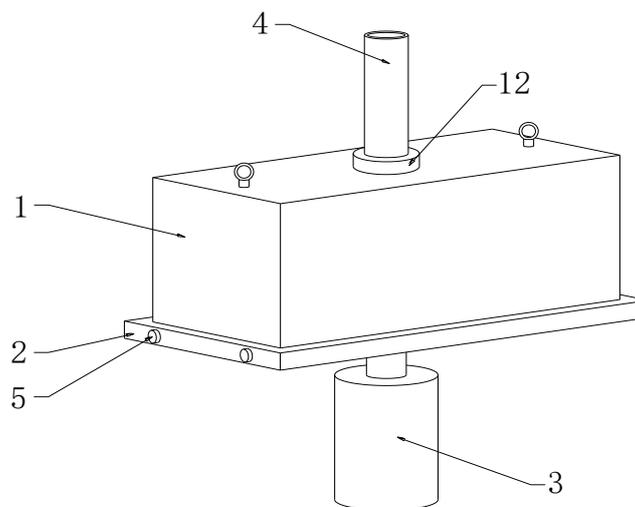


Fig. 1 Attached drawings

2. Background technique

Water conservancy projects are built to control, utilize and protect the surface and underground water resources and the environment. The general term for various projects.

The currently used water conservancy project dredging device has certain defects, lacking a convenient disassembly and assembly mechanism for the end cover. It is inconvenient to maintain the stirring suction pump, and it is inconvenient to clean up the sludge inside the processing tank and Other sundries. Therefore, a water conservancy project dredging device is proposed to solve the above problems.

3. Summary of the invention

In order to make up for the shortcomings of the prior art and solve the problem of the existing dredging device for water conservancy projects, the present invention, a dredging device for water conservancy projects is proposed.

A water conservancy project dredging device, including a treatment tank, an end cover, a stirring suction pump, a suction pipe, and an installation mounting mechanism and clamping mechanism, an end cover is installed at the bottom end of the processing box, and the middle position of the bottom end of the end cover is a stirring suction pump is fixedly installed, and a pumping pipe is fixedly installed at the middle position of the top of the processing box, and the pumping The bottom end of the water pipe extends to the inside of the treatment box, and the inside of the treatment box is fixedly installed with a filter;

The installation mechanism includes a T-shaped block, a clamping block, a clamping slot, a block, a U-shaped block and a spring one. The left and right ends of the end cover are equipped with T-shaped blocks, the left and right ends of the processing box are provided with card slots, and the T-shaped block .One end of the shaped block passes through the end cover and extends to the inside of the slot, and one end of the T-shaped block is fixedly installed with a clamping block. The card block is installed inside the card slot, a U-shaped block is installed at the other end of the T-shaped block, and one end of the U-shaped block passes through the T-shaped block. The U-shaped block is close to the T-shaped block and the block is fixedly installed. One end of the block extends to the inside of the end cap. One end of the block is fixedly installed with spring one, and one end of the spring is fixedly installed on the T-block; The end cover is installed at the bottom of the processing box so that the card block is aligned with the rectangular through slot on the card slot, and then push the T-shaped block, the movement of the T-block drives the clamping block to move through the rectangular slot into the cylindrical groove, and the movement of the T-block drives The U-shaped block and the block move and move, the block moves and the end cover is attached and pushes the block in the opposite direction, and then drives the U-shaped block to move, stretches the spring one, and then rotates the T-shaped block, and the T-shaped block rotates to drive the clamping block .Turns completely into the cylindrical groove, the T-block rotates to drive the square to move, when the square is aligned with the square groove. Under the action of the elastic force of the spring, the movement of the U-shaped block drives the block to move into the square groove, thereby fixing the T-shaped block, the position of the shaped block, the card block is clamped inside the card slot to realize the installation of the end cover.

Preferably, the left and right ends of the end cover are provided with square grooves symmetrically, and the size of the cross section of the square groove is the same as the size of the cross section of the square is the same, and one end of the square extends to the inside of the square slot; when working, the setting of the square slot it is convenient for the square to be clamped inside the square slot to fix the position of the T-block to prevent the T-block from rotating move.

Preferably, the card slot is composed of a rectangular through slot and a cylindrical slot, and the left and right ends of the processing box are opposed to each other. The scale is provided with a rectangular through groove, the inside of the processing box is provided with a cylindrical groove, and one end of the cylindrical groove is connected with the rectangular groove. The grooves are connected, the installation mechanism is provided with four groups, the installation mechanism of the four groups has the same structure, and the installation mechanism of the four groups has the same structure. The mounting mechanism is installed symmetrically on the left and right ends of the end cover; when working, the shape of the card slot is convenient for the card block to be clamped on the card. Inside the tank, the design of four groups of installation mechanisms improves the stability of the end cover installation.

Preferably, the clamping mechanism includes a ring, a cylinder, a sliding block and an L-shaped groove, and the pumping pipe A circular ring is fixedly installed on the annular side surface, a cylinder is fixedly installed in the middle position of the top end of the processing box, and the ring is installed inside the cylinder, and two sliding blocks are symmetrically fixed on the annular side of the ring. Two L-shaped grooves are symmetrically opened inside the cylinder, and a sliding block is installed inside the L-shaped groove; when working, install the ring installed inside the cylinder, so that the sliding block is installed inside the vertical groove, drag the ring downwards, and the movement of

the ring drives the slide the block moves to the end of the vertical groove, and then rotates the ring. The rotation of the ring drives the slider to move into the horizontal groove. Then the slider is clamped inside the L-shaped groove to realize the installation of the pumping pipe.

Preferably, the clamping mechanism further includes an oblique block, a T-shaped round block and two springs, and the cylindrical ring-shaped. Two springs are installed on the side, and the two ends of the springs are respectively fixedly installed on the T-shaped round block and the cylindrical ring. On the side surface, one end of the T-shaped round block extends to the inside of the cylinder, and an oblique block is fixedly installed. A limit slot is opened at one end of the block, and one end of the inclined block extends into the limit slot; when moving along the horizontal groove of the L-shaped groove, the slider moves to squeeze the inclined block. The inclined block is squeezed and moved to drive the T-shaped round block to move, and the spring two is stretched. Aligning of the limit slots when under the action of the elastic force of the second spring, the T-shaped round block moves to drive the inclined block to move into the limit groove and enter the slider is clamped inside the L-shaped groove.

Preferably, the L-shaped groove includes a vertical groove and a horizontal groove, and two vertical grooves are symmetrically arranged inside the cylinder. Groove and two horizontal grooves, one end of the vertical groove is communicated with the horizontal groove; when working, this design is convenient for clamping the slider connected inside the L-shaped groove.

4. The advantages of the present invention

1) Through the structural design of the installation mechanism, the present invention realizes the function of convenient installation of the end cover, and solves the lack of a convenient disassembly and assembly mechanism for the end cover makes it inconvenient to maintain the stirring suction pump, and it is also inconvenient, clean up the sludge and other debris inside the processing box, and improve the convenience of maintenance of the stirring suction pump. And the efficiency of convenient cleaning and disposal of debris inside the box;

2) The invention realizes the function of convenient and fixed installation of the pumping pipe through the structural design of the clamping mechanism, it solves the problem that the pumping pipe is fixedly installed at the top of the processing box, which is inconvenient for disassembly, assembly and maintenance, the invention of the dredging device for water conservancy projects is improved.

5. Description of the drawings

In order to more clearly illustrate the technical solutions in the embodiments of the present invention or the prior art[2], the following will the drawings needed to be used in the description of the embodiments or the prior art are briefly introduced. Obviously, the following the drawings in the description are only some embodiments of the present invention. For those of ordinary skill in the art, other drawings can be obtained based on these drawings without creative labor.

Fig. 2 is a schematic diagram of the overall structure of the present invention;

Fig. 3 is a cross-sectional view of the overall structure of the present invention;

Fig. 4 is a partial enlarged view of A of the present invention;

Fig. 5 is a schematic diagram of the assembly structure of the card block and the card slot of the present invention;

Fig. 6 is a schematic diagram of the structure of the clamping mechanism of the present invention.

In the figure: 1, Treatment box; 2, End cover; 3, Stirring suction pump; 4, Suction pump; 5, T-block; 6, Card block; 7, card slot; 8, square block; 9, U-shaped block; 10, spring one; 11, circular ring; 12, cylinder; 13. Slide block; 14, L-shaped groove; 15, inclined block; 16, T-shaped round block; 17, spring two.

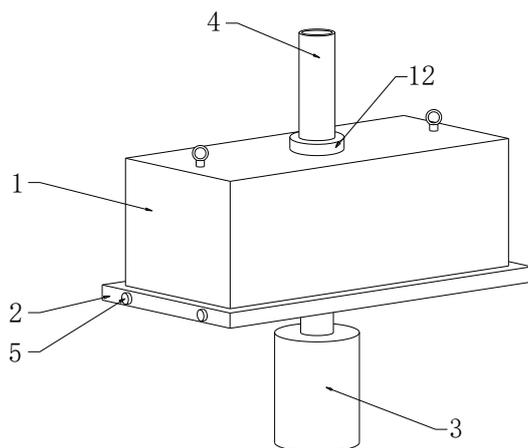


Fig. 2 A schematic diagram of the overall structure of the present invention

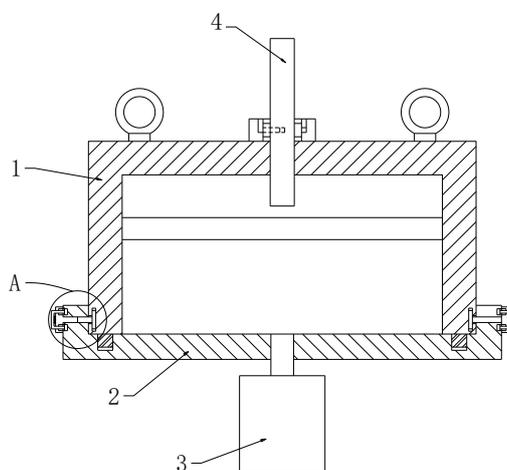


Fig. 3 A cross-sectional view of the overall structure of the present invention

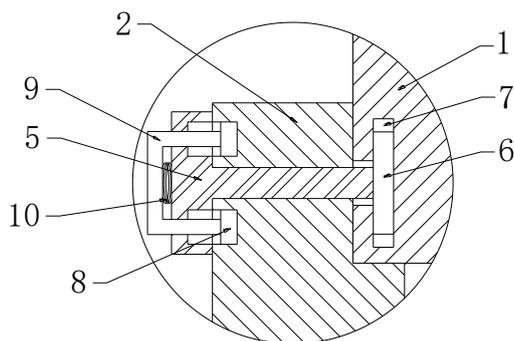


Fig. 4 A partial enlarged view of A of the present invention

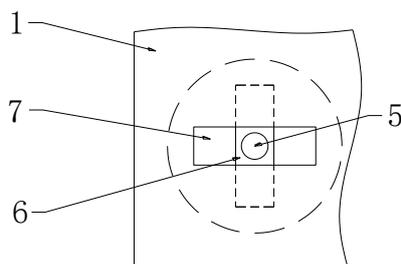


Fig. 5 A schematic diagram of the assembly structure of the card block and the card slot of the present invention

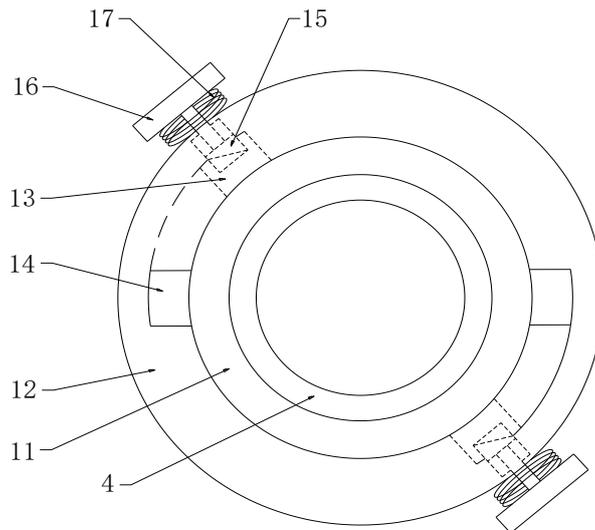


Fig. 6 A schematic diagram of the structure of the clamping mechanism of the present invention.

6. Detailed description

In the following, the technical solutions in the embodiments of the present invention will be carried out in conjunction with the drawings in the embodiments of the present invention. A clear and complete description. Obviously, the described embodiments are only a part of the embodiments of the present invention[3]. They are all examples, based on the embodiments of the present invention, those of ordinary skill in the art have not made All other embodiments obtained under the premise of creative work belong to the protection scope of the present invention.

Please refer to Fig. 2-6, a water conservancy project dredging device, including treatment tank 1, end cover 2, agitator,mixing suction pump 3, suction pipe 4, installation mechanism and clamping mechanism, the bottom end of the processing box 1 is installed with an end cover 2, a stirring suction pump 3 is fixedly installed at the middle of the bottom end of the end cover 2, and the top end of the processing box 1,the pumping pipe 4 is fixedly installed in the middle position, and the bottom end of the pumping pipe 4 extends to the inside of the treatment tank 1. the inside of the handling box 1 is fixedly installed with a filter;

The installation mechanism includes a T-shaped block 5, a clamping block 6, a clamping slot 7, a block 8, a U-shaped block 9 and a spring One 10, T-blocks 5 are installed at the left and right ends of the end cover 2, and both left and right ends of the processing box 1 are open A card slot 7 is provided, one end of the T-shaped block 5 passes through the end cover 2 and extends into the card slot 7, and the T-shaped block 5 a clamping block 6 is fixedly installed at one end, and the clamping block 6 is installed inside the card slot 7, and the other end of the T-shaped block 5 a U-shaped block 9 is installed, and one end of the U-shaped block 9 passes through the T-shaped block 5 and the installation block 8 is fixed, 8 One end extends to the inside of the end cap 2, the U-shaped block 9 is close to the T-shaped block 5, and one end is fixedly installed with a spring10, and one end of the spring 10 is fixedly installed on the T block 5, and the end cover 2 is installed on the bottom end of the processing box 1, align the card block 6 with the rectangular through slot on the card slot 7, and then push the T block 5, and the T block 5 moves the belt The movable block 6 moves through the rectangular through slot into the cylindrical groove, the T-shaped block 5 moves and drives the U-shaped block 9 and the block 8 moves and moves, the block 8 moves and the end cap 2 fits and pushes the block 8 to move in the opposite direction, and then U-shaped block 9 is moved, and the spring 10 is stretched, and then the T-shaped block 5 is rotated, and the T-shaped block is rotated 5 times, the block 6 is driven to rotate completely into the cylindrical groove, and the T-shaped block 5 rotates to drive the block 8 to move. When the block 8 is aligned with the square slot, under the action of the elastic force of the spring 10, the U-shaped block 9 moves and drives the block 8 to move into the

square slot, and then fixes the position of the T-shaped block 5, and clamps the card block 6 to the card slot 7 internal, realize the installation of end cap 2.

As an embodiment of the present invention, the end cap 2 is provided with symmetrical square grooves at the left and right ends, so the size of the cross section of the square groove is the same as the size of the cross section of the box 8, and one end of the box 8 extends to the square inside the slot, when working, the design of the square slot is convenient for the block 8 to be clamped inside the square slot to fix the T-shaped position of block 5 to avoid rotation of T-shaped block 5;

As an embodiment of the present invention, the card slot 7 is composed of a rectangular through slot and a cylindrical slot, the left and right ends of the processing box 1 are symmetrically provided with rectangular through grooves, and the processing box 1 is provided with a cylinder inside, groove, and one end of the cylindrical groove communicates with the rectangular through groove, the installation mechanism is provided with four groups, and the four groups of the installation the structure of the mechanism is the same, the four groups of the installation mechanisms are installed symmetrically on the left and right ends of the end cover 2, the shape of the slot 7 is convenient for the clamping block 6 to be clamped inside the slot 7, and the design of the four groups of installation mechanisms improves the end, the stability of cover 2 installation;

As an embodiment of the present invention, the clamping mechanism includes a ring 11, a cylinder 12, and a slider 13 and an L-shaped groove 14, a ring 11 is fixedly installed on the annular side of the pumping pipe 4, and the processing box 1 A cylinder 12 is fixedly installed in the middle of the top end, and a ring 11 is installed inside the cylinder 12. Two sliding blocks 13 are symmetrically fixed on the side of the ring 11, and two sliding blocks 13 are symmetrically arranged inside the cylinder 12 L-shaped groove 14, and the L-shaped groove 14 is equipped with a sliding block 13 inside. When working, install the ring 11 on the cylinder 12 inside, so that the slider 13 is installed inside the vertical groove, drag the ring 11 downwards, and the ring 11 moves to drive it The slider 13 is moved to the end of the vertical groove, and then the ring 11 is rotated, and the ring 11 rotates to drive the slider 13 to move in. Enter the horizontal groove, and then clamp the slider 13 into the L-shaped groove 14 to realize the installation of the pumping pipe 4;

As an embodiment of the present invention, the clamping mechanism further includes an oblique block 15 and a T-shaped round block 16 and the second spring 17, the circular side of the cylinder 12 is installed with the second spring 17 and the two ends of the spring 17 are respectively fixedly installed on the T-shaped round block 16 and on the annular side surface of the cylinder 12, the T-shaped round block 16 one the end extends to the inside of the cylinder 12, and an oblique block 15 is fixedly installed, one end of the slider 13 is provided with a limited position. Groove, one end of the inclined block 15 extends to the inside of the limit groove. When the sliding block 13 moves along the horizontal groove of the L-shaped groove 14 during operation, the sliding block 13 moves to squeeze the inclined block 15 and the inclined block 15 is subjected to Squeeze move and bring the T-shaped round block 16 is moved and the spring two 17 is stretched. When one end of the inclined block 15 is on the sliding block 13, when the limit grooves of the two are aligned, under the action of the elastic force of the spring two 17, the movement of the T-shaped round block 16 drives the inclined block 15 move into the limit slot, and then snap the slider 13 into the L-shaped slot 14;

As an embodiment of the present invention, the L-shaped groove 14 includes a vertical groove and a horizontal groove, two vertical grooves and two horizontal grooves are symmetrically opened inside the cylinder 12, and one end of the vertical groove is communicated with the horizontal groove. At the same time, this design is convenient for the slider 13 to be clamped inside the L-shaped groove 14

Working principle, install the end cover 2 on the bottom of the processing box 1 so that the moment between the block 6 and the slot 7 align the through-slots, then push the T-shaped block 5, and the movement of the T-shaped block 5 drives the clamping block 6 to move through the rectangular-shaped channel. Entering into the cylindrical groove, the movement of T-shaped block 5 drives U-shaped block 9 and block 8 to move, and block 8 moves, and the end cap 2 is attached and pushes the

block 8 in the opposite direction, which in turn drives the U-shaped block 9 to move, and moves against the spring one 10 is stretched, and then the T-shaped block 5 is rotated, and the T-shaped block 5 is rotated to drive the clamping block 6 to rotate fully into inside the cylindrical slot, the rotation of the T-shaped block 5 drives the movement of the block 8. When the block 8 is aligned with the square slot, the spring under the action of elastic force, the U-shaped block 9 moves and drives the block 8 to move into the square groove, and then fix it. At the position of T block 5, clamp the card block 6 inside the card slot 7 to realize the installation of the end cover 2.

Install the ring 11 inside the cylinder 12 so that the slider 13 is installed inside the vertical groove, and drag it down the movement of the ring 11, the ring 11 drives the slider 13 to move to the end of the vertical groove, and then rotates the ring 11, the ring 11 Rotation drives the slider 13 to move into the horizontal groove, and then the slider 13 is clamped inside the L-shaped groove 14. Realize the installation of the pumping pipe 4.

7. Conclusion

In the description of this specification, reference is made to the terms "one embodiment", "example", and "specifically show descriptions such as "examples" and the like mean specific features, structures, materials, or features described in conjunction with the embodiments or examples. The point is included in at least one embodiment or example of the present invention. In this specification, the above terms the schematic representations do not necessarily refer to the same embodiment or example. Moreover, the specific features and results described, the structure, materials, or characteristics can be combined in any one or more embodiments or examples in a suitable manner together.

The basic principles, main features and advantages of the present invention have been shown and described above. Our skilled in the industry should understand that the present invention is not limited by the above-mentioned embodiments, and the above-mentioned embodiments and descriptions what is described in the book is only to illustrate the principle of the present invention. Without departing from the spirit and scope of the present invention.

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