(12) STANDARD PATENT (11) Application No. **AU 2019202023 B1**
(19) AUSTRALIAN PATENT OFFICE

(54) Title
A Camera Adjusting Rack

(51) International Patent Classification(s)
F16M 11/00 (2006.01)

(21) Application No: **2019202023** (22) Date of Filing: **2019.03.22**

(30) Priority Data

(31) Number	(32) Date	(33) Country
2019101883688	**2019.03.13**	**CN**

(43) Publication Date: **2020.08.27**
(43) Publication Journal Date: **2020.08.27**
(44) Accepted Journal Date: **2020.08.27**

(71) Applicant(s)
Taizhou Jiaojiang Ruijiang Computer Co., Ltd.

(72) Inventor(s)
Wu, Jiangling

(74) Agent / Attorney
Taizhou Jiaojiang Ruijiang Computer Co., Ltd., G29/21 Beissel St, Belconnen, ACT, 2617, AU

ABSTRACT

This invention discloses a camera adjusting rack, including a camera 11, wherein a rotating block 40 that can adjust a rotation angle of the camera 11 is fixed on a bottom end surface of the camera 11. When the whole adjusting rack needs to be fixed on the computer, the pulling block 29 is pulled to drive the pressing block 27 to move to the first side, and the whole adjusting rack is stuck on the computer by using the first spring 31. The distance between the camera and the user can be adjusted by the invention and the user does not need to move the position in shooting. When the angle in the vertical direction of the camera needs to be adjusted, the adjustment can be realized by the knob.

A CAMERA ADJUSTING RACK

TECHNICAL FIELD

[0001] The present invention relates to the field of adjusting rack, in particular to a camera adjusting rack.

BACKGROUND OF THE INVENTION

[0002] Generally, the camera adjusting rack on the computer can not adjust the distance between the camera and the user. When shooting, the user needs to move the position, which is very inconvenient, and the general camera adjusting rack can not adjust the angle of the camera in the vertical direction.

BRIEF SUMMARY OF THE INVENTION

[0003] The aim of the invention is to provide a camera adjusting rack so as to overcome the above problems existing in the prior art.

[0004] A camera adjusting rack according to the present invention comprises a camera, wherein a rotating block that can adjust a rotation angle of the camera is fixed on a bottom end surface of the camera, a moving block is rotatably mounted on an bottom end surface of the rotating block; a moving box is disposed under the moving block; a moving chamber with an opening upward is arranged in the moving box, and the moving chamber is slidably mounted with the moving block; a limiting slot is disposed in a rear side of the moving chamber in a communicating manner; a limiting block is slidably mounted in the limiting slot; an auxiliary cavity is disposed on a front side of the moving chamber in the communicating manner; a front end surface of the limiting block is fixedly provided with a push rod that can drive the moving block to move horizontally; the push rod is fixedly mounted with the moving block; a rotary knob is threadedly mounted on the push rod; the moving block can be fixed by rotating the rotary knob; a fixing box is disposed below the moving box, and the fixing box is internally provided with a fixing mechanism which can fix the whole adjusting rack on a computer; a first side end surface of the fixing box is provided with a light trough

22 Mar 2019
2019202023

with an opening to a first side; a light bulb which can provide illumination at night is fixedly mounted on a top wall of the light trough; a second side of the fixing mechanism is provided with a rotating mechanism which can be used for adjusting an angle in a vertical direction of the camera; the rotating mechanism comprises a threaded box, and a first friction plate for increasing frictional force is fixedly mounted on a first side end surface of the threaded box.

[0005] As further optimized technical proposal, the fixing mechanism further comprises a fixing groove with an opening upward, and the fixing groove is disposed in the fixing box; a fixing rod is rotatably mounted between front and rear inner walls of the fixing groove; the fixing rod is fixedly connected with the moving box; a bottom end surface of the fixing box is provided with a pulling block cavity with an opening downward; a pulling block is slidably mounted in the pulling block cavity; a pressing block cavity with an opening to a first side is disposed in the pulling block cavity in a communicating manner; a pressing block is slidably mounted in the pressing block cavity; a second friction plate is fixedly mounted on a first side end surface of the pressing block; a first spring is fixedly mounted between a second side end surface of the pressing block and a first side inner wall of the pressing block cavity; the pulling block is fixedly connected to the pressing block.

[0006] As further optimized technical proposal, the rotating mechanism further comprises a threaded cavity with an opening upward, and the threaded cavity is disposed in the threaded box; a threaded block is slidably mounted in the threaded cavity; the threaded block is internally provided with a threaded hole with an opening downward; a threaded rod is threadedly mounted in the threaded hole, and the threaded rod is rotatably mounted with the threaded box; a knob is fixedly mounted at a bottom end surface of the threaded rod; a connecting rod is fixedly mounted on a top end surface of the threaded block; a telescopic block is fixedly mounted on a first side end surface of the moving box, and a rotating chamber with an opening to a first side is disposed in the telescopic block; a rotating rod is rotatably mounted between front and back inner walls of the rotating chamber, and the rotating rod is fixedly connected with the connecting rod; a telescopic rod is fixedly mounted on a first side end surface of the telescopic block; a spring chamber with an opening to a first side is disposed in the first side end surface of the moving box; the spring chamber is slidably mounted with the telescopic rod, and a second spring is fixedly mounted between a first side end surface of the telescopic rod and a first side inner wall of the spring chamber.

2019202023 22 Mar 2019

[0007] The benefits of the invention are as follows: the distance between the camera and the user can be adjusted by the invention; the user does not need to move the position in shooting; when the angle in the vertical direction of the camera needs to be adjusted, the adjustment can be realized by the knob; and the invention is worth promoting.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 is the overall structural diagram of the camera adjusting rack in this invention;

[0009] FIG. 2 is the cross-sectional schematic diagram along "A-A" direction in FIG .1.

DETAILED DESCRIPTION OF THE INVENTION

[0010] Referring to Figures 1-2, a camera adjusting rack according to an embodiment of the present invention comprises a camera 11, wherein a rotating block 40 that can adjust a rotation angle of the camera 11 is fixed on a bottom end surface of the camera 11, a moving block 39 is rotatably mounted on an bottom end surface of the rotating block 40; a moving box 38 is disposed under the moving block 39; a moving chamber 43 with an opening upward is arranged in the moving box 38, and the moving chamber 43 is slidably mounted with the moving block 39; a limiting slot 45 is disposed in a rear side of the moving chamber 43 in a communicating manner; a limiting block 46 is slidably mounted in the limiting slot 45; an auxiliary cavity 42 is disposed on a front side of the moving chamber 43 in the communicating manner; a front end surface of the limiting block 46 is fixedly provided with a push rod 12 that can drive the moving block 39 to move horizontally; the push rod 12 is fixedly mounted with the moving block 39; a rotary knob 41 is threadedly mounted on the push rod 12; the moving block 39 can be fixed by rotating the rotary knob 41; a fixing box 35 is disposed below the moving box 38, and the fixing box 35 is internally provided with a fixing mechanism 80 which can fix the whole adjusting rack on a computer; a first side end surface of the fixing box 35 is provided with a light trough 32 with an opening to a first side; a light bulb 33 which can provide illumination at night is fixedly mounted on a top wall of the light trough 32;a second side of the fixing mechanism 80 is provided with a rotating mechanism 70 which can be used for adjusting an angle in a vertical direction of the camera 11; the rotating mechanism 70 comprises a threaded box 23, and a first friction plate 26 for

increasing frictional force is fixedly mounted on a first side end surface of the threaded box 23.

[0011] The fixing mechanism 80 further comprises a fixing groove 36 with an opening upward, and the fixing groove 36 is disposed in the fixing box 35; a fixing rod 37 is rotatably mounted between front and rear inner walls of the fixing groove 36; the fixing rod 37 is fixedly connected with the moving box 38; a bottom end surface of the fixing box 35 is provided with a pulling block cavity 30 with an opening downward; a pulling block 29 is slidably mounted in the pulling block cavity 30; a pressing block cavity 34 with an opening to a first side is disposed in the pulling block cavity 30 in a communicating manner; a pressing block 27 is slidably mounted in the pressing block cavity 34; a second friction plate 28 is fixedly mounted on a first side end surface of the pressing block 27; a first spring 31 is fixedly mounted between a second side end surface of the pressing block 27 and a first side inner wall of the pressing block cavity 34; the pulling block 29 is fixedly connected to the pressing block 27, so that when the whole adjusting rack needs to be fixed on the computer, the pulling block 29 is pulled to drive the pressing block 27 to move to a first side, and by using the first spring 31, the whole adjusting rack is stuck on the computer.

[0012] The rotating mechanism 70 further comprises a threaded cavity 20 with an opening upward, and the threaded cavity 20 is disposed in the threaded box 23; a threaded block 21 is slidably mounted in the threaded cavity 20; the threaded block 21 is internally provided with a threaded hole 22 with an opening downward; a threaded rod 24 is threadedly mounted in the threaded hole 22, and the threaded rod 24 is rotatably mounted with the threaded box 23; a knob 25 is fixedly mounted at a bottom end surface of the threaded rod 24; a connecting rod 19 is fixedly mounted on a top end surface of the threaded block 21; a telescopic block 16 is fixedly mounted on a first side end surface of the moving box 38, and a rotating chamber 17 with an opening to a first side is disposed in the telescopic block 16; a rotating rod 18 is rotatably mounted between front and back inner walls of the rotating chamber 17, and the rotating rod 18 is fixedly connected with the connecting rod 19; a telescopic rod 15 is fixedly mounted on a first side end surface of the telescopic block 16; a spring chamber 14 with an opening to a first side is disposed in the first side end surface of the moving box 38; the spring chamber 14 is slidably mounted with the telescopic rod 15, and a second spring 13 is fixedly mounted between a first side end surface of the telescopic rod 15

2019202023 22 Mar 2019

and a first side inner wall of the spring chamber 14; and when the angle in the vertical direction of the camera 11 needs to be adjusted, the knob 25 is rotated to drive the threaded rod 24 to rotate, then the threaded block 21 is driven to move up and down, and the connecting rod 19 is driven to move up and down, then the telescopic rod 15 slides in the spring chamber 14, so that the moving box 38 is rotated to a certain angle, and the camera 11 is rotated in a vertical direction.

[0013] When in use, when the whole adjusting rack needs to be fixed on the computer, the pulling block 29 is pulled to drive the pressing block 27 to move to the first side, and the whole adjusting rack is stuck on the computer by using the first spring 31; when the angle in the vertical direction of the camera 11 needs to be adjusted, the knob 25 is rotated to drive the threaded rod 24 to rotate, then the threaded block 21 is driven to move up and down, then the connecting rod 19 is driven to move up and down, and the telescopic rod 15 slides in the spring chamber 14, so that the moving box 38 is rotated to the certain angle, and the camera 11 is rotated in the vertical direction; and when a distance between the camera 11 and a user needs to be adjusted, the push rod 12 is pushed to drive the moving block 39 to move horizontally, then the camera 11 is moved horizontally, and the moving block 39 can be fixed at a certain position by the rotary knob 41, and the camera 11 is rotated to drive the rotating block 40 to rotate, and an angle of the camera 11 in a horizontal direction can be adjusted.

[0014] The invention has the advantageous effects that the distance between the camera and the user can be adjusted by the invention; the user does not need to move the position in shooting; when the angle in the vertical direction of the camera needs to be adjusted, the adjustment can be realized by the knob; and the invention is worth promoting.

[0015] It is clear to those skilled in the art that various variants of the above embodiments can be made without departing from the general spirit and conception of the present invention. All of them fall within the scope of protection of the present invention. The protection scheme of the invention is based on the claim attached to the invention.

2019202023 22 Mar 2019

CLAIMS

1. A camera adjusting rack, comprising:

a camera, wherein a rotating block that can adjust a rotation angle of the camera is fixed on a bottom end surface of the camera;

a moving block rotatably mounted on an bottom end surface of the rotating block;

a moving box disposed under the moving block;

a moving chamber with an opening upward arranged in the moving box, and the moving chamber slidably mounted with the moving block;

a limiting slot disposed in a rear side of the moving chamber in a communicating manner;

a limiting block slidably mounted in the limiting slot;

an auxiliary cavity disposed on a front side of the moving chamber in the communicating manner;

a front end surface of the limiting block fixedly provided with a push rod that can drive the moving block to move horizontally;

the push rod fixedly mounted with the moving block;

a rotary knob threadedly mounted on the push rod;

the moving block which can be fixed by rotating the rotary knob;

a fixing box disposed below the moving box, and the fixing box internally provided with a fixing mechanism which can fix the whole adjusting rack on a computer;

a first side end surface of the fixing box provided with a light trough with an opening to a first side;

a light bulb which can provide illumination at night fixedly mounted on a top wall of the light trough;

a second side of the fixing mechanism provided with a rotating mechanism which can be used for adjusting an angle in a vertical direction of the camera;

the rotating mechanism which comprises a threaded box, and a first friction plate for increasing frictional force fixedly mounted on a first side end surface of the threaded box.

2. The camera adjusting rack as defined in claim 1, wherein the fixing mechanism further comprises a fixing groove with an opening upward, and the fixing groove is disposed in the fixing box;

a fixing rod is rotatably mounted between front and rear inner walls of the fixing groove;

the fixing rod is fixedly connected with the moving box;

a bottom end surface of the fixing box is provided with a pulling block cavity with an opening downward;

a pulling block is slidably mounted in the pulling block cavity;

a pressing block cavity with an opening to a first side is disposed in the pulling block cavity in a communicating manner;

a pressing block is slidably mounted in the pressing block cavity;

a second friction plate is fixedly mounted on a first side end surface of the pressing block;

a first spring is fixedly mounted between a second side end surface of the pressing block and a first side inner wall of the pressing block cavity;

22 Mar 2019 2019202023

the pulling block is fixedly connected to the pressing block;

whereby when the whole adjusting rack needs to be fixed on the computer, the pulling block is pulled to drive the pressing block to move to a first side, and by using the first spring, the whole adjusting rack is stuck on the computer.

3. The camera adjusting rack as defined in claim 1, wherein the rotating mechanism further comprises a threaded cavity with an opening upward, and the threaded cavity is disposed in the threaded box;

a threaded block is slidably mounted in the threaded cavity;

the threaded block is internally provided with a threaded hole with an opening downward;

a threaded rod is threadedly mounted in the threaded hole, and the threaded rod is rotatably mounted with the threaded box;

a knob is fixedly mounted at a bottom end surface of the threaded rod;

a connecting rod is fixedly mounted on a top end surface of the threaded block;

a telescopic block is fixedly mounted on a first side end surface of the moving box, and a rotating chamber with an opening to a first side is disposed in the telescopic block;

a rotating rod is rotatably mounted between front and back inner walls of the rotating chamber, and the rotating rod is fixedly connected with the connecting rod;

a telescopic rod is fixedly mounted on a first side end surface of the telescopic block;

a spring chamber with an opening to a first side is disposed in the first side end surface of the moving box;

the spring chamber is slidably mounted with the telescopic rod, and a second spring is fixedly mounted between a first side end surface of the telescopic rod and a first side inner wall of the spring chamber;

whereby when the angle in the vertical direction of the camera needs to be adjusted, the knob is rotated to drive the threaded rod to rotate, then the threaded block is driven to move up and down, and the connecting rod is driven to move up and down, then the telescopic rod slides in the spring chamber, so that the moving box is rotated to a certain angle, and the camera is rotated in a vertical direction.

2019202023 22 Mar 2019

DRAWINGS

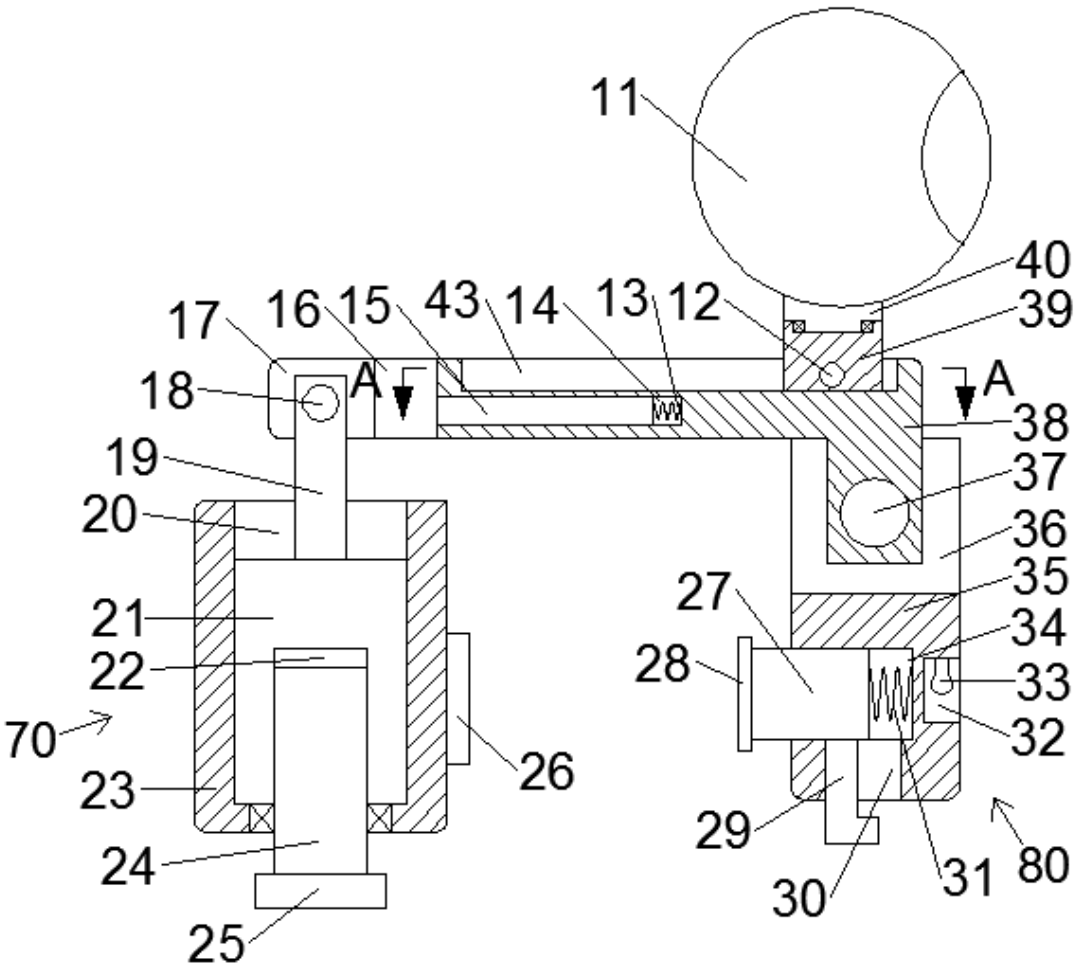

Figure 1

2019202023 22 Mar 2019

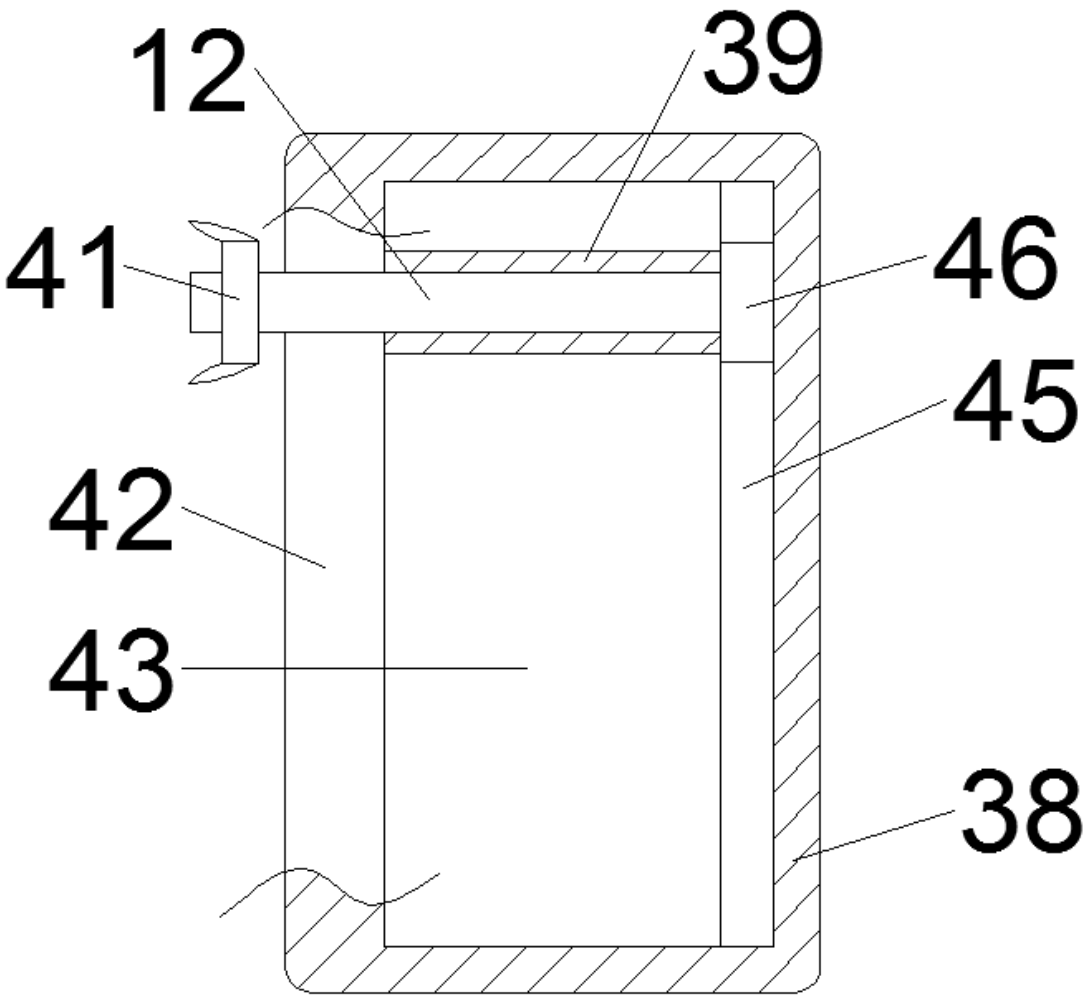

Figure 2