# POSITIONING JIG AND INSPECTION APPARATUS

## TECHNICAL FIELD

**[0001]** The present application relates to the technical field of product positioning, and particularly to a positioning jig and an inspection apparatus.

## BACKGROUND

**[0002]** At present, during the inspection of products, a carrier is generally required to carry and position the products, and some products have positioning requirements in all three X, Y and Z directions. When positioning products in the Z direction, existing carriers are generally provided with a driving structure for driving a positioning block to move along the Z direction so as to position the products, which occupies a large space in the Z direction and results in that the carriers cannot be applied to scenarios with a small space in the Z direction.

## SUMMARY

**[0003]** Based on this, it is necessary to provide a positioning jig and an inspection apparatus capable of positioning a product in the Z direction with less space occupation in the Z direction, so as to be applicable to scenarios with limited space in the Z direction, in view of the problem that existing carriers require a driving structure and a positioning block when positioning products in the Z direction and cause large space occupation in the Z direction.

**[0004]** A positioning jig, comprising:

**[0005]** a base plate; and

**[0006]** a first positioning assembly comprising a support rod, a pressing rod and a driving module, wherein the support rod is provided on the base plate for supporting one side of a workpiece along a first direction, the pressing rod is provided on the base plate rotatably about a rotation axis, the driving module is provided on the base plate and connected to the pressing rod to drive the pressing rod to rotate about the rotation axis, and the pressing rod is capable of abutting against the other side of the workpiece along the

first direction during rotation so as to press the workpiece against the support rod;

**[0007]** wherein the first direction is disposed at an angle to the rotation axis.

**[0008]** According to the positioning jig of the present application, by supporting the workpiece on the support rod, and then driving the pressing rod to rotate and abut against the workpiece by the driving module so as to press the workpiece against the support rod, positioning of the workpiece is realized in the Z direction. Meanwhile, since the workpiece is pressed by the rotating pressing rod, the driving module only needs to drive the pressing rod to rotate, without the need of providing a driving structure in the Z direction, so that the positioning jig occupies less space in the Z direction and can be applied to scenarios with a small space in the Z direction.

**[0009]** In one embodiment, the base plate is provided with an inspection opening penetrating therethrough in the first direction for accommodating the workpiece, the support rod is provided on one side of the base plate along the first direction and extends into the inspection opening, and the pressing rod is rotatably provided on the other side of the base plate along the first direction.

**[0010]** In one embodiment, both the support rod and the pressing rod abut against an edge of the workpiece, so as to expose regions to be inspected on surfaces of two sides of the workpiece along the first direction.

**[0011]** In one embodiment, the first positioning assembly further comprises a mounting seat, the driving module comprises a push rod and a first driving member, the mounting seat is provided on the base plate, both the pressing rod and the push rod are provided on the mounting seat, the pressing rod is rotatable about the rotation axis, the push rod is capable of reciprocating along a second direction at an angle to the first direction, the push rod is connected to the pressing rod, and the first driving member is configured to drive the push rod to move along the second direction so that the push rod actuates the pressing rod to rotate.

**[0012]** In one embodiment, the pressing rod is provided with a docking hole, an extension direction of the docking hole is perpendicular to the rotation axis, a central axis of the docking hole along the extension direction intersects the rotation axis, and one end of the push rod extends into the docking hole and is capable of reciprocating within the

docking hole.

**[0013]** In one embodiment, one end of the push rod is provided with a roller, which is rotatable about an axis parallel to the rotation axis, located in the docking hole, and rollable along the docking hole.

**[0014]** In one embodiment, the driving module further comprises a first reset member, which is connected between the mounting seat and the pressing rod for providing an acting force that causes the pressing rod to rotate and abut against the workpiece, and the first driving member is configured to drive the push rod to actuate the pressing rod to rotate away from the workpiece so as to release the workpiece.

**[0015]** In one embodiment, the driving module further comprises a second reset member, which is capable of acting together with the first reset member to actuate the pressing rod to rotate and abut against the workpiece, and a direction of the acting force provided by the first reset member is different from a direction of an acting force provided by the second reset member.

**[0016]** In one embodiment, both the first reset member and the second reset member are provided as tension springs, two ends of the first reset member are connected to the pressing rod and the mounting seat respectively, and two ends of the second reset member are connected to the mounting seat and the push rod respectively.

**[0017]** In one embodiment, the push rod is capable of passing through a first position and a second position during movement along the second direction, the pressing rod abuts against the workpiece when the push rod is in the first position, the pressing rod is away from the workpiece when the push rod is in the second position, the first driving member is capable of driving the push rod to move from the first position to the second position, and the second reset member is connected between the mounting seat and the push rod for providing an acting force that causes the push rod to move from the second position to the first position.

**[0018]** In one embodiment, the driving module further comprises a push block, the first driving member is connected to the push block to drive the push block to reciprocate along the second direction, and the push block is capable of abutting against one end of the push rod during movement so as to push the push rod to move from the first position to

the second position.

**[0019]** In one embodiment, the driving module further comprises a connecting member, one end of the connecting member is connected to the push rod, and the other end thereof is connected to the pressing rod.

**[0020]** In one embodiment, the connecting member comprises a first connecting portion and a second connecting portion disposed at an angle to each other, one end of the first connecting portion is connected to the push rod, the other end thereof is connected to the second connecting portion, and one end of the second connecting portion away from the first connecting portion is connected to the pressing rod.

**[0021]** In one embodiment, the connecting member is provided in a linear shape.

**[0022]** In one embodiment, the positioning jig further comprises a second positioning assembly, which is provided on the base plate, and is configured to position the workpiece in the second direction.

**[0023]** In one embodiment, the second positioning assembly comprises a fixed block, a positioning block and a second driving member, the fixed block is fixedly connected to the base plate and is provided opposite to the positioning block along the second direction, and the second driving member is provided on the base plate and is capable of driving the positioning block to move toward the fixed block along the second direction, so that the positioning block pushes the workpiece to abut against the fixed block.

**[0024]** In one embodiment, the second positioning assembly further comprises a third reset member, which is connected between the base plate and the positioning block for providing an acting force that causes the positioning block to move away from the fixed block along the second direction.

**[0025]** In one embodiment, the positioning jig further comprises a third positioning assembly, which is provided on the base plate and configured to position the workpiece in a third direction;

**[0026]** wherein the first direction, the second direction and the third direction are arranged at an angle with respect to each other.

**[0027]** In one embodiment, the positioning jig comprises at least two sets of the

first positioning assemblies, which are arranged at intervals, and each set of first positioning assemblies is configured to position one workpiece in the first direction.

**[0028]** An inspection apparatus comprises the above-mentioned positioning jig.

**[0029]** Details of one or more embodiments of the present application are set forth in the accompanying drawings and the description below. Other features, objects, and advantages of the present application will become apparent from the description, drawings, and claims.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0030]** In order to more clearly illustrate embodiments of the present application or technical solutions in the prior art, accompanying drawings that need to be used in description of the embodiments or the prior art will be briefly introduced as follows. Obviously, drawings in the following description are only some embodiments of the present application. For those skilled in the art, other drawings can also be obtained according to the disclosed drawings without creative efforts.

**[0031]** FIG. 1 is a schematic structural diagram of a positioning jig provided by an embodiment of the present application;

**[0032]** FIG. 2 is a schematic structural diagram of a first positioning assembly in the positioning jig shown in FIG. 1;

**[0033]** FIG. 3 is a schematic structural diagram of partial components of the first positioning assembly in FIG. 2;

**[0034]** FIG. 4 is a schematic structural diagram of the rotation principle of the pressing rod in the first positioning assembly shown in FIG. 1;

**[0035]** FIG. 5 is a schematic structural diagram of the first positioning assembly shown in FIG. 1 when the push rod is in the first position;

**[0036]** FIG. 6 is a schematic structural diagram of the first positioning assembly shown in FIG. 1 when the push rod is in the second position;

**[0037]** FIG. 7 is a schematic structural diagram of partial components of a first positioning assembly in another embodiment;

**[0038]** FIG. 8 is a schematic structural diagram of the second positioning assembly

shown in FIG. 1;

**[0039]** FIG. 9 is a schematic structural diagram of the second positioning assembly shown in FIG. 8 from another angle.

## DETAILED DESCRIPTION

**[0040]** To facilitate a better understanding of the above objects, features and advantages of the present application, specific embodiments of the present application will be described in detail below with reference to the accompanying drawings. In a following description, numerous specific details are set forth in order to provide a thorough understanding of the present application. However, the present application can be implemented in many other ways different from those described here, and those skilled in the art can make similar improvements without violating the essence of the present application. Therefore, the present application is not limited by the specific embodiments disclosed below.

**[0041]** In the description of the present application, it should be understood that, an orientation or positional relationship indicated by terms “center”, “longitudinal”, “lateral”, “length”, “width”, “thickness”, “upper”, “lower”, “front”, “back”, “left”, “right”, “vertical”, “horizontal”, “top”, “bottom”, inner”, “outer”, “clockwise”, “counterclockwise”, “axial”, “radial”, “circumferential” is based on orientations or positional relationships shown in the accompanying drawings, and is only for convenience of describing the present application and simplifying the description, rather than indicating or implying that a device or element referred to must be provided with a particular orientation, be constructed and operate in a particular orientation, and therefore should not be understood as a limitation to the present application.

**[0042]** In addition, terms “first” and “second” are only used for descriptive purposes and should not be understood as indicating or implying relative importance or implying a number of indicated technical features. Therefore, a feature designated as “first”, “second” may expressly or implicitly include at least one of those features. In a description of the present application, “a plurality” means at least two, such as two, three, etc., unless expressly and specifically defined otherwise.

**[0043]** In the present application, unless expressly specified and limited otherwise, terms “installed”, “communicated”, “connected”, “fixed” and other terms should be interpreted

in a broad sense, for example, it can be a fixed connection, a detachable connection, or an integral whole; it can be a mechanical connection or an electrical connection; it can be directly connected, or indirectly connected through an intermediate medium, and it can be an internal communication between two elements or an interaction relationship between the two elements, unless otherwise explicitly defined. For those of ordinary skill in the art, specific meanings of the above terms in the present application can be understood according to specific situations.

**[0044]** In the present application, unless expressly stated and defined otherwise, a first feature "on" or "under" a second feature may be that the first feature is in direct contact with the second feature, or the first feature and the second feature are indirectly contacted through an intermediary. In addition, the first feature being "above", "over" and "on" the second feature may mean that the first feature is directly above or obliquely above the second feature, or simply means that the first feature is on a higher horizontal level than the second feature. The first feature being "below", "under" and "beneath" the second feature may mean that the first feature is directly below or obliquely below the second feature, or simply means that the first feature is on a lower horizontal level than the second feature.

**[0045]** It should be noted that when an element is referred to as being "fixed to" or "arranged on" another element, it can be directly on another element, or there might be an intervening element between them. When an element is referred to as being "connected" to another element, it can be directly connected to another element or intervening elements may also be present. Terms "vertical", "horizontal", "upper", "lower", "left", "right" and similar expressions are used here only for illustration purposes rather than indicating the sole implementation.

**[0046]** As shown in FIG. 1 and FIG. 2, an embodiment of the present application provides a positioning jig 100, comprising a base plate 110 and a first positioning assembly. The first positioning assembly comprises a support rod 121, a pressing rod 122 and a driving module.

**[0047]** The support rod 121 is provided on the base plate 110 for supporting one side of a workpiece along a first direction. The pressing rod 122 is provided on the base plate 110 rotatably about a rotation axis, and the driving module is provided on the base plate 110 and connected to the pressing rod 122 to drive the pressing rod 122 to rotate about the rotation axis.

**[0048]** During rotation, the pressing rod 122 is capable of abutting against the other side of the workpiece along the first direction, so as to press the workpiece against the support rod 121, thereby positioning the workpiece in the first direction.

**[0049]** Wherein, the first direction is disposed at an angle to the rotation axis, and the first direction is a direction perpendicular to the paper surface in FIG. 1. Specifically, in the embodiment shown in FIG. 2, the first direction is perpendicular to the rotation axis, and the first direction is the Z direction.

**[0050]** With the above positioning jig, by supporting the workpiece on the support rod 121, and then driving the pressing rod 122 to rotate and abut against the workpiece by the driving module so as to press the workpiece against the support rod 121, positioning of the workpiece is realized in the Z direction. Meanwhile, since the workpiece is pressed by the rotating pressing rod 122, the driving module only needs to drive the pressing rod 122 to rotate, without the needs of providing a driving structure in the Z direction, so that the positioning jig occupies less space in the Z direction and can be applied to scenarios with a small space in the Z direction.

**[0051]** In one embodiment, the first positioning assembly further comprises a mounting seat 123. The mounting seat 123 is provided on the base plate 110, and the pressing rod 122 is rotatably provided on the mounting seat 123 about the rotation axis.

**[0052]** Further, the driving module comprises a push rod 124 and a first driving member 125. The push rod 124 is provided on the mounting seat 123 to be reciprocally movable along a second direction, and the push rod 124 is connected to the pressing rod 122. The first driving member 125 is configured to drive the push rod 124 to move along the second direction, so that the push rod 124 drives the pressing rod 122 to rotate.

**[0053]** Wherein, the second direction is disposed at an angle to the first direction. Specifically, the second direction is perpendicular to the first direction.

**[0054]** Optionally, the first driving member 125 is a cylinder.

**[0055]** In one embodiment, the pressing rod 122 is rotatably connected to the mounting seat 123 via a rotation shaft 1221. A central axis of the rotation shaft 1221 is the rotation axis, so that the pressing rod 122 is rotatable about the rotation axis.

**[0056]** In a first implementation, the pressing rod 122 is provided with a docking hole,

which is a strip-shaped hole, and one end of the push rod 124 extends into the docking hole and is capable of reciprocating within the docking hole. In this way, the push rod 124 can actuate the pressing rod 122 to reciprocally rotate about the rotation axis during the reciprocating movement along the second direction.

**[0057]** It should be explained that, in a preferred embodiment, an extension direction of the docking hole is perpendicular to the rotation axis, and a central axis of the docking hole along the extension direction intersects the rotation axis, so as to convert the linear movement of the push rod 124 into the rotation of the pressing rod 122.

**[0058]** Optionally, one end of the push rod 124 is provided with a roller, which is rotatable about an axis parallel to the rotation axis, and is located in the docking hole and capable of rolling along the docking hole, so that the push rod 124 can drive the pressing rod 122 to rotate more smoothly.

**[0059]** Referring to FIG. 3 and FIG. 4, in a second implementation, the driving module further comprises a first reset member 126, which is connected between the mounting seat 123 and the pressing rod 122 for providing an acting force that causes the pressing rod 122 to rotate and abut against the workpiece. The first driving member 125 is configured to drive the push rod 124 to actuate the pressing rod 122 to rotate away from the workpiece, so as to release the workpiece.

**[0060]** In a third implementation, the driving module further comprises a second reset member 127. The push rod 124 is capable of passing through a first position and a second position during movement along the second direction.

**[0061]** The first driving member 125 is capable of driving the push rod 124 to move from the first position to the second position, thereby actuating the pressing rod 122 to rotate away from the workpiece; the second reset member 127 is connected between the mounting seat 123 and the push rod 124 for providing an acting force that causes the push rod 124 to move from the second position to the first position.

**[0062]** Of course, as shown in FIG. 4, in a fourth implementation, the driving module may be provided with both the first reset member 126 and the second reset member 127, and the first reset member 126 and the second reset member 127 can act together to actuate the pressing rod 122 to rotate and abut against the workpiece.

**[0063]** Further, a direction of the acting force provided by the first reset member 126 is different from a direction of an acting force provided by the second reset member 127. In this way, it is possible to avoid the occurrence of a dead point during the rotation of the pressing rod 122.

**[0064]** It should be explained that, as shown in FIG. 5 and FIG. 6, the pressing rod 122 only needs to achieve positioning of the workpiece by pressing downward and releasing or placing the workpiece by lifting upward, that is, the rotation range of the pressing rod 122 can be 90°. The first reset member 126 and the second reset member 127 acting together can avoid a dead point in the rotation range of the pressing rod 122.

**[0065]** It should be noted that the present application is mainly described based on the fourth implementation.

**[0066]** For ease of understanding, please refer to FIG. 5 and FIG. 6, the push rod 124 is in the first position in FIG. 5 and in the second position in FIG. 6. In addition, description is made with reference to FIG. 4:

**[0067]** When positioning the workpiece, the push rod 124 is moved rightward under the action of the second reset member 127 to actuate the pressing rod 122 to rotate counterclockwise, while the first reset member 126 also actuates the pressing rod 122 to rotate counterclockwise, so that the pressing rod 122 abuts against the workpiece; when releasing the workpiece, the first driving member 125 drives the push rod 124 to move leftward, the push rod 124 is moved leftward overcoming the acting force of the second reset member 127, and actuates the pressing rod 122 to rotate clockwise overcoming the acting force of the first reset member 126, so that the pressing rod 122 is moved away from the workpiece.

**[0068]** It can be understood that when the push rod 124 is in the second position, the pressing rod 122 is away from the workpiece, so that the workpiece can be released. Meanwhile, it can be determined that the workpiece can also be placed on the support rod 121 at this time.

**[0069]** In one embodiment, the driving module further comprises a connecting member 128, one end of the connecting member 128 is connected to the push rod 124, and the other end thereof is connected to the pressing rod 122, so that the push rod 124 actuates the pressing rod 122 to rotate about the rotation axis during movement along the second direction.

**[0070]** Further, the connecting member 128 comprises a first connecting portion 1281

and a second connecting portion 1282 disposed at an angle to each other, one end of the first connecting portion 1281 is connected to the push rod 124, the other end thereof is connected to the second connecting portion 1282, and one end of the second connecting portion 1282 away from the first connecting portion 1281 is connected to the pressing rod 122. In this way, the horizontal height of the end of the connecting member 128 connected to the push rod 124 can be higher than the horizontal height of the end of the connecting member 128 connected to the pressing rod 122, thereby further reducing the installation height of the pressing rod 122 and reducing the space occupation in the Z direction.

**[0071]** In other embodiments, as shown in FIG. 7, the connecting member 128 may also be linear. In this case, the installation height of the pressing rod 122 can be increased, so as to be suitable for positioning thicker workpieces.

**[0072]** As shown in FIG. 1, in one embodiment, the driving module further comprises a push block 129. The first driving member 125 is connected to the push block 129 to drive the push block 129 to reciprocate along the second direction, and the push block 129 is capable of abutting against one end of the push rod 124 during movement so as to push the push rod 124 to move from the first position to the second position.

**[0073]** In one embodiment, the base plate 110 is provided with an inspection opening 111 penetrating therethrough in the first direction for accommodating the workpiece, the support rod 121 is provided on one side of the base plate 110 along the first direction and extends into the inspection opening 111 to support the workpiece on one side along the first direction. The pressing rod 122 is rotatably provided on the other side of the base plate 110 along the first direction, so as to abut against the other side of the workpiece along the first direction during rotation.

**[0074]** In one embodiment, both the support rod 121 and the pressing rod 122 abut against an edge of the workpiece, so as to expose regions to be inspected on surfaces of two sides of the workpiece along the first direction, thereby enabling simultaneous inspection of the surfaces on both sides of the workpiece along the first direction.

**[0075]** In one embodiment, the first positioning assembly comprises a plurality of support rods 121, which are arranged at intervals along a circumference of the inspection opening 111, so as to support the workpiece more stably.

**[0076]** Further, the first positioning assembly further comprises a plurality of pressing rods 122, a plurality of mounting seats 123 and a plurality of driving modules. The plurality of mounting seats 123 are arranged at intervals along the circumference of the inspection opening 111, each pressing rod 122 is provided on a corresponding one of the mounting seats 123, and each driving module is also provided corresponding to one pressing rod 122, so as to press the workpiece more stably against the support rods 121.

**[0077]** Specifically, in the embodiment shown in FIG. 1, support rods 121 are provided on both sides of the inspection opening 111 along the second direction, and the pressing rods 122 are arranged corresponding to the support rods 121, that is, located on both sides of the inspection opening 111 along the second direction. In addition, the push rods 124 on the same side can be driven by the same first driving member 125 and push block 129.

**[0078]** Referring to FIG. 1, in one embodiment, the positioning jig further comprises a second positioning assembly 130. The second positioning assembly 130 is provided on the base plate 110, and the second positioning assembly 130 is configured to position the workpiece in the second direction.

**[0079]** Referring to FIG. 8 and FIG. 9, further, the second positioning assembly 130 comprises a fixed block 131, a positioning block 132 and a second driving member 133. The fixed block 131 is fixedly connected to the base plate 110, and the fixed block 131 and the positioning block 132 are respectively located on two sides of the inspection opening 111 along the second direction. The second driving member 133 is provided on the base plate 110 and is capable of driving the positioning block 132 to move toward the fixed block 131 along the second direction, so that the positioning block 132 pushes the workpiece to abut against the fixed block 131, thereby positioning the workpiece in the second direction.

**[0080]** Further, the second positioning assembly 130 further comprises a third reset member 134. The third reset member 134 is connected between the base plate 110 and the positioning block 132 for providing an acting force that causes the positioning block 132 to move away from the fixed block 131 along the second direction.

**[0081]** Optionally, the second driving member 133 is a cylinder. When the second driving member 133 extends out, it can drive the positioning block 132 to move toward the fixed block 131 along the second direction; when the second driving member 133 retracts, the

positioning block 132 can move away from the fixed block 131 along the second direction under the action of the third reset member 134.

**[0082]** In one embodiment, the second positioning assembly 130 further comprises a buffer member 135. The buffer member 135 is provided on the positioning block 132, and is configured to abut against the workpiece, so as to prevent the workpiece from being damaged by pressure during positioning.

**[0083]** In one embodiment, the positioning jig further comprises a third positioning assembly 140. The third positioning assembly 140 is provided on the base plate 110, and is configured to position the workpiece in a third direction.

**[0084]** Wherein, the third direction is disposed at an angle to both the first direction and the second direction. Specifically, the first direction, the second direction and the third direction are perpendicular to each other.

**[0085]** It should be noted that the structure and arrangement of the third positioning assembly 140 are the same as those of the second positioning assembly 130, and the third positioning assembly 140 is configured to position the workpiece in the third direction, so details thereof will not be described herein.

**[0086]** In one embodiment, the positioning jig comprises at least two sets of first positioning assemblies, at least two sets of second positioning assemblies 130 and at least two sets of third positioning assemblies 140, and the base plate 110 is provided with at least two inspection openings 111. The at least two inspection openings 111 are arranged at intervals, and each set of first positioning assembly, second positioning assembly 130 and third positioning assembly 140 corresponds to one inspection opening 111, thereby positioning one workpiece in the first direction, the second direction and the third direction, respectively.

**[0087]** In order to facilitate understanding of the technical solution of the present application, the positioning process of the positioning jig in the above embodiments is described herein with reference to FIG. 1, FIG. 4, FIG. 5 and FIG. 6:

**[0088]** First, the driving end of the first driving member 125 extends to drive the push block 129 to move toward the push rod 124, the push block 129 pushes the push rod 124 to move from the first position to the second position, and the connecting member 128 actuates the pressing rod 122 to rotate, so that the pressing rod 122 is lifted up. Next, the workpiece is

placed into the inspection opening 111, and is supported on the support rods 121 at the inspection opening 111.

**[0089]** Then, the second positioning assembly 130 and the third positioning assembly 140 position the workpiece in the second direction and the third direction, respectively. Then, the driving end of the first driving member 125 retracts, and the pressing rod 122 rotates and abuts against the workpiece under the action of the first reset member 126 and the second reset member 127, completing the positioning of the workpiece in the first direction. Meanwhile, the push rod 124 can move back to the first position under the action of the second reset member 127.

**[0090]** It should be noted that, taking the second positioning assembly 130 positioning the workpiece in the second direction first as an example: after the workpiece is positioned in the second direction, the buffer member 135 on the second positioning assembly 130 contacts the workpiece, and then during the subsequent positioning in the third direction and the first direction, the workpiece may move. The provision of the buffer member 135 can prevent the workpiece from being scratched and damaged.

**[0091]** Based on the positioning jig in the above embodiments, the present application further relates to an inspection apparatus, which is capable of inspecting the workpiece positioned on the positioning jig.

**[0092]** The technical features of the above embodiments can be combined arbitrarily. For the sake of brevity, not all possible combinations of the technical features in the above embodiments are described. However, as long as there is no contradiction in the combination of these technical features, it should be considered as a scope of this specification.

**[0093]** The above embodiments represent only a few embodiments of the present application, and are described in detail for clarity. However, this detailed description should not be interpreted as limiting the scope of the present application. It is important to note that those skilled in the art may make various modifications and improvements without departing from the core concept of the present application, and such modifications and improvements fall within the protective scope of the present application. Therefore, the protective scope of the present application shall be subject to the appended claims.

## CLAIMS

1. A positioning jig, characterized by comprising:

a base plate; and

a first positioning assembly comprising a support rod, a pressing rod and a driving module, wherein the support rod is provided on the base plate for supporting one side of a workpiece along a first direction, the pressing rod is provided on the base plate rotatably about a rotation axis, the driving module is provided on the base plate and connected to the pressing rod to drive the pressing rod to rotate about the rotation axis, and the pressing rod is capable of abutting against the other side of the workpiece along the first direction during rotation so as to press the workpiece against the support rod;

wherein the first direction is disposed at an angle to the rotation axis.

2. The positioning jig according to claim 1, characterized in that the base plate is provided with an inspection opening penetrating therethrough in the first direction for accommodating the workpiece, the support rod is provided on one side of the base plate along the first direction and extends into the inspection opening, and the pressing rod is rotatably provided on the other side of the base plate along the first direction.

3. The positioning jig according to claim 1, characterized in that both the support rod and the pressing rod abut against an edge of the workpiece, so as to expose regions to be inspected on surfaces of two sides of the workpiece along the first direction.

4. The positioning jig according to claim 1, characterized in that the first positioning assembly further comprises a mounting seat, the driving module comprises a push rod and a first driving member, the mounting seat is provided on the base plate, both the pressing rod and the push rod are provided on the mounting seat, the pressing rod is rotatable about the rotation axis, the push rod is capable of reciprocating along a second direction at an angle to the first direction, the push rod is connected to the pressing rod, and the first driving

member is configured to drive the push rod to move along the second direction so that the push rod actuates the pressing rod to rotate.

5. The positioning jig according to claim 4, characterized in that the pressing rod is provided with a docking hole, an extension direction of the docking hole is perpendicular to the rotation axis, a central axis of the docking hole along the extension direction intersects the rotation axis, and one end of the push rod extends into the docking hole and is capable of reciprocating within the docking hole.

6. The positioning jig according to claim 5, characterized in that one end of the push rod is provided with a roller, which is rotatable about an axis parallel to the rotation axis, located in the docking hole, and rollable along the docking hole.

7. The positioning jig according to claim 4, characterized in that the driving module further comprises a first reset member, which is connected between the mounting seat and the pressing rod for providing an acting force that causes the pressing rod to rotate and abut against the workpiece, and the first driving member is configured to drive the push rod to actuate the pressing rod to rotate away from the workpiece so as to release the workpiece.

8. The positioning jig according to claim 7, characterized in that the driving module further comprises a second reset member, which is capable of acting together with the first reset member to actuate the pressing rod to rotate and abut against the workpiece, and a direction of the acting force provided by the first reset member is different from a direction of an acting force provided by the second reset member.

9. The positioning jig according to claim 8, characterized in that both the first reset member and the second reset member are provided as tension springs, two ends of the first reset member are connected to the pressing rod and the mounting seat respectively, and two ends of the second reset member are connected to the mounting seat and the push rod

respectively.

10. The positioning jig according to claim 8, characterized in that the push rod is capable of passing through a first position and a second position during movement along the second direction, the pressing rod abuts against the workpiece when the push rod is in the first position, the pressing rod is away from the workpiece when the push rod is in the second position, the first driving member is capable of driving the push rod to move from the first position to the second position, and the second reset member is connected between the mounting seat and the push rod for providing an acting force that causes the push rod to move from the second position to the first position.

11. The positioning jig according to claim 10, characterized in that the driving module further comprises a push block, the first driving member is connected to the push block to drive the push block to reciprocate along the second direction, and the push block is capable of abutting against one end of the push rod during movement so as to push the push rod to move from the first position to the second position.

12. The positioning jig according to claim 4, characterized in that the driving module further comprises a connecting member, one end of the connecting member is connected to the push rod, and the other end thereof is connected to the pressing rod.

13. The positioning jig according to claim 12, characterized in that the connecting member comprises a first connecting portion and a second connecting portion disposed at an angle to each other, one end of the first connecting portion is connected to the push rod, the other end thereof is connected to the second connecting portion, and one end of the second connecting portion away from the first connecting portion is connected to the pressing rod.

14. The positioning jig according to claim 12, characterized in that the connecting member is provided in a linear shape.

15. The positioning jig according to any one of claims 1 to 14, characterized in that the positioning jig further comprises a second positioning assembly, which is provided on the base plate, and is configured to position the workpiece in the second direction.

16. The positioning jig according to claim 15, characterized in that the second positioning assembly comprises a fixed block, a positioning block and a second driving member, the fixed block is fixedly connected to the base plate and is provided opposite to the positioning block along the second direction, and the second driving member is provided on the base plate and is capable of driving the positioning block to move toward the fixed block along the second direction, so that the positioning block pushes the workpiece to abut against the fixed block.

17. The positioning jig according to claim 16, characterized in that the second positioning assembly further comprises a third reset member, which is connected between the base plate and the positioning block for providing an acting force that causes the positioning block to move away from the fixed block along the second direction.

18. The positioning jig according to any one of claims 15 to 17, characterized in that the positioning jig further comprises a third positioning assembly, which is provided on the base plate and configured to position the workpiece in a third direction;

wherein the first direction, the second direction and the third direction are arranged at an angle with respect to each other.

19. The positioning jig according to any one of claims 1 to 18, characterized in that the positioning jig comprises at least two sets of the first positioning assemblies, which are arranged at intervals, and each set of first positioning assemblies is configured to position one workpiece in the first direction.

20. An inspection apparatus, characterized by comprising the positioning jig according to any one of claims 1 to 19.