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SUPPORT COMPONENT AND LAMINATION DEVICE

Abstract

The embodiments of the present application provide a support component and a lamination device. The support component is configured to laminate a curved cover plate with a flexible screen, and the support component includes: a flexible support table configured to support the flexible screen; and a base arranged on a side of the flexible support table in a first direction and configured to support the flexible support table, and the flexible support table includes a central area and first edge areas located on two sides of the central area in a second direction, the base includes first abutting portions, and at least part of the first edge area abuts against and between two of the first abutting portions that are arranged oppositely in a third direction, the first direction, the second direction, and the third direction intersecting each other.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] The present application a continuation of International Application No. PCT/CN2023/090877 filed on Apr. 26, 2023, which claims priority to Chinese Patent Application No. 202211480203.6, filed on Nov. 24, 2022. All of the aforementioned patent applications are hereby incorporated by reference in their entireties.

FIELD

[0002] The present application relates to the field of flexible screen lamination equipment, and in particular to a support component and a lamination device.

BACKGROUND

[0003] With the advent of the ubiquitous screen era, people's demand for full screens is becoming stronger and stronger. In order to increase the screen-to-body ratio, dual-curved lamination technology and quad-curved lamination technology have emerged.

[0004] In the prior art, the flexible characteristics of the flexible screen are mainly used to achieve a full screen. At present, the lamination methods for the flexible screen are mainly to use a silicone pad to press the flexible screen to an inner side of a glass curved cover plate. During lamination, the silicone pad is deformed due to the pressures from upper and lower jigs, to complete the lamination of the flexible screen with the curved cover plate. When an insufficient force is exerted by the silicone pad on the flexible screen, it is possible to cause bubbles between the flexible screen and the curved cover plate.

SUMMARY

[0005] Embodiments of the present application provide a support component and a lamination device, which are intended to solve the problem of the generation of bubbles during lamination of a flexible screen with a curved cover plate.

[0006] In an aspect, the embodiments of the present application provide a support component for laminating a curved cover plate with a flexible screen, the support component including: a flexible support table configured to support the flexible screen; and a base arranged on a side of the flexible support table in a first direction and configured to support the flexible support table, wherein the flexible support table includes a central area and first edge areas located on two sides of the central area in a second direction, the base includes first abutting portions, and at least part of the first edge area abuts against and between two of the first abutting portions that are arranged oppositely in a third direction, the first direction, the second direction, and the third direction intersecting each other.

[0007] In a second aspect, the embodiments of the present application further provide a lamination device configured to laminate a curved cover plate with a flexible screen, the lamination device including a support component according to any of the above embodiments of the first aspect, and a pressing table, the pressing table being arranged on one side of the support component, the pressing table having a receiving recess for receiving the curved cover plate, and an opening of the receiving recess facing the support component.

[0008] The support component provided in the embodiments of the present application is

configured to support the flexible screen during the lamination of the curved cover plate with the flexible screen. The flexible support table includes a central area and first edge areas, the first edge areas being more susceptible to deformation relative to the central area. At least part of the first edge area abuts against and between two of the first abutting portions that are arranged oppositely in a third direction, and the first abutting portions can provide the first edge area with limiting forces facing each other in the third direction, so that the problem of insufficient force exerted by the first edge area on the flexible screen due to excessive deformation of the first edge area can be alleviated, and the problem of lamination bubbles between the curved cover plate and the flexible screen can thus be alleviated.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a structural schematic view of a curved cover plate and a flexible screen which are laminated by using a lamination device according to an embodiment of the present application;

[0010] FIG. 2 is a structural schematic perspective view of a support component according to an embodiment of the present application;

[0011] FIG. 3 is a top view of a flexible support table of a support component according to an embodiment of the present application;

[0012] FIG. 4 is a structural schematic perspective view of a support component according to another embodiment of the present application;

[0013] FIG. 5 is a structural schematic perspective view of a base of a support component according to another embodiment of the present application; and

[0014] FIG. 6 is a structural schematic perspective view of a support component according to still another embodiment of the present application;

[0015] FIG. 7 is a structural schematic perspective view of a support component according to still another embodiment of the present application;

[0016] FIG. 8 is a structural schematic view of a stopper of a support component according to still another embodiment of the present application;

[0017] FIG. 9 is a structural schematic perspective view of a support component according to yet another embodiment of the present application;

[0018] FIG. 10 is a structural schematic perspective view of a flexible support table of a support component according to yet another embodiment of the present application;

[0019] FIG. 11 is a structural schematic perspective view of a base of a support component according to yet another embodiment of the present application; and

[0020] FIG. 12 is a structural schematic view of a lamination device according to an embodiment of the present application.

DETAILED DESCRIPTION OF EMBODIMENTS

[0021] As shown in FIG. 1, FIG. 1 shows a structural schematic exploded view of a display device including a flexible screen 20 and a curved cover plate 10 which are laminated with each other. The curved cover plate 10 includes a flattened portion 12 and a specially-shaped portion 11 located on at least one side in a circumferential direction of the flattened portion 12. The specially-shaped portion 11 is bent with respect to the flattened portion 12, and the flexible screen 20 is laminated with the flattened portion 12 and the specially-shaped portion 11 so that the specially-shaped portion 11 is also available for display, thereby increasing the screen-to-body ratio of the display device.

[0022] During the lamination of the flexible screen 20 with the curved cover plate 10, the flexible screen 20 is generally arranged on a deformable flexible support table 200, such that the flexible screen 20 can be better laminated with the specially-shaped portion 11 of the curved cover plate 10

by means of the deformation of the flexible support table **200**. In the prior art, since the shape of the specially-shaped portion **11** is irregular, the specially-shaped portion **11** has a specially-shaped curved surface, resulting in lamination bubbles between the specially-shaped portion **11** and the flexible screen **20**.

[0023] In order to solve the above problem, the present application is filed. In order to better understand the present application, a support component and a lamination device according to the embodiments of the present application will be described in detail below with reference to FIGS. 2 to 12.

[0024] Referring to FIG. 2, FIG. 2 is a structural schematic perspective view of a support component according to an embodiment of the first aspect of the present application.

[0025] As shown in FIG. 2, the embodiments of the first aspect of the present application provide a support component for laminating a curved cover plate **10** with a flexible screen **20** as shown in FIG. 1. The support component includes a flexible support table **200** and a base **100**. The flexible support table **200** is configured to support the flexible screen **20**. The flexible support table **200** includes a central area **210** and first edge areas **220** located on two sides of the central area **210** in a second direction X. The base **100** is arranged on one side of the flexible support table **200** in a first direction Z and configured to support the flexible support table **200**. The base **100** includes a first abutting portion **120**, and at least part of the first edge area **220** abuts against and between two first abutting portions **120** that are arranged oppositely in a third direction Y. The first direction Z, the second direction X and the third direction Y intersect each other.

[0026] The base **100** may be configured in a variety of ways. In one embodiment, the base **100** may be formed from a rigid material such as metal and plastic, such that the base **100** can provide good support for the flexible support table **200**.

[0027] The flexible support table **200** may be configured in a variety of ways. In one embodiment, the flexible support table **200** may be formed from a flexible material such as silicone, such that the flexible support table **200** has a good deformation capability. The flexible support table **200** may alternatively be formed from another elastic material with deformation capability, as long as the flexible support table **200** has a certain flexibility, and the surface of the flexible support table **200** for supporting the flexible screen **20** can be deformed.

[0028] In one embodiment, the surface of the flexible support table **200** for supporting the flexible screen **20** is adapted to the shape of the curved cover plate **10**.

[0029] One first abutting portion **120**, or two or more first abutting portions **120** spaced apart from each other in the second direction X may be provided on the same side of the flexible support table **200**.

[0030] The support component provided in the embodiments of the present application is configured to support the flexible screen **20** during the lamination of the curved cover plate **10** with the flexible screen **20**. The support component includes a flexible support table **200** and a base **100**. The flexible support table **200** is configured to support the flexible screen **20**, and the base **100** is configured to support the flexible support table **200**. The flexible support table **200** includes a central area **210** and first edge areas **220**. The first edge areas **220** are more susceptible to deformation. At least part of the first edge area **220** abuts against and between two of the first abutting portions **120** that are arranged oppositely in the third direction Y, and the first abutting portions **120** can provide the first edge area **220** with limiting forces facing each other in the third direction Y, so that the problem of insufficient force exerted by the first edge area **220** on the flexible screen **20** due to excessive deformation of the first edge area can be alleviated, and the problem of lamination bubbles between the curved cover plate **10** and the flexible screen **20** can thus be alleviated.

[0031] Referring to FIGS. 3 to 5 together, FIG. 3 is a top view of a flexible support table **200** of a support component according to an embodiment of the present application, FIG. 4 is a structural schematic perspective view of a support component according to another embodiment of the

present application, and FIG. 5 is a structural schematic perspective view of a base **100** of a support component according to another embodiment of the present application.

[0032] In some embodiments, as shown in FIGS. 3 to 5, a surface of the flexible support table **200** for supporting the flexible screen **20** in the first edge area **220** is curved.

[0033] In these embodiments, the surface of the flexible support table **200** for supporting the flexible screen **20** in the first edge area **220** is curved, so that the flexible support table **200** support the flexible screen **20** in the first edge area **220** to laminate with the specially-shaped portion **11**. It is likely to generate lamination bubbles during the lamination of the specially-shaped portion **11** with the flexible screen **20**. The first abutting portions **120** can provide the first edge area **220** with limiting forces facing each other in the third direction Y, so that the problem of insufficient force exerted by the first edge area **220** on the flexible screen **20** due to excessive deformation of the first edge area can be alleviated, and the problem of lamination bubbles between the specially-shaped portion **11** and the flexible screen **20** can thus be alleviated.

[0034] In one embodiment, an extension width of the first abutting portion **120** is greater than or equal to the extension width of the first edge area **220** in the second direction X. The first abutting portion **120** has a relatively large size, so that it is possible to alleviate the problem of the first edge area **220** and the first abutting portion **120** being not aligned accurately due to manufacturing errors or alignment errors and the first abutting portion **120** failing to properly limit the first edge area **220**. The size of the first abutting portion **120** is large enough so that the first abutting portion **120** can limit the entire first edge area **220** and at least part of the central area **210**, thereby better alleviating the problem of excessive deformation of the flexible support table **200**.

[0035] The number of first edge areas **220** may be set in a variety of ways, the number of first edge areas **220** may be one, and the one first edge area **220** is located on one side of the central area **210**.

[0036] In some other embodiments, two first edge areas **220** are respectively arranged on two sides of the central area **210**, two first abutting portions **120** are arranged on the same side of the flexible support table **200**, and each first abutting portion **120** is configured to abut against a respective first edge area **220**. That is, each first abutting portion **120** corresponds to one first edge area **220** and is configured to abut against the first edge area **220**.

[0037] In these embodiments, the flexible support table **200** includes two first edge areas **220**, so that the flexible support table **200** can support the flexible screen **20** to laminate with the dual-curved cover plate **10**. The two first abutting portions **120** are arranged on the same side of the flexible support table **200**, so that each first edge area **220** can be limited by the first abutting portions **120**, thereby better alleviating the problem of excessive deformation of the flexible support table **200**, and thus better alleviating the problem of lamination bubbles between the curved cover plate **10** and the flexible screen **20**.

[0038] Referring to FIGS. 3 and 6 together, FIG. 6 is a structural schematic perspective view of a support component according to still another embodiment of the present application.

[0039] In some embodiments, as shown in FIGS. 3 and 6, the flexible support table **200** further includes second edge areas **230** located on two sides of the central area **210** in the third direction Y, and bent areas **240** each connecting the first edge area **220** and the second edge area **230**. At least part of the bent area **240** is located between two of the first abutting portions **120** that are arranged oppositely in the third direction Y.

[0040] In these embodiments, the bent area **240** is arranged closer to the corner of the flexible support table **100**, the bent area **240** is more susceptible to deformation, and at least part of the bent area **240** is located between the two first abutting portions **120**, so that the first abutting portion **120** can limit the bent area **240**, to alleviate the problem of insufficient support force caused by large deformation of the bent area **240**, which makes it easy for lamination bubbles to generate between the flexible screen **20** and the curved cover plate **10**.

[0041] In some embodiments, the base **100** further includes second abutting portions **110**, and at least part of the second edge area **230** abuts against and between two of the second abutting

portions **110** that are arranged oppositely in the second direction X.

[0042] In these embodiments, the flexible support table **200** includes second edge areas **230**. The second edge areas **230** are susceptible to deformation. At least part of the second edge area **230** abuts against and between two of the second abutting portions **110** that are arranged oppositely in the second direction X, and the second abutting portions **110** can provide the second edge area **230** with limiting forces facing each other in the second direction X, so that the problem of insufficient force exerted by the second edge area **230** on the flexible screen **20** due to excessive deformation of the second edge area can be alleviated, and the problem of lamination bubbles between the curved cover plate **10** and the flexible screen **20** can thus be alleviated.

[0043] In one embodiment, the surface of the flexible support table **200** for supporting the flexible screen **20** in the second edge area **230** is curved, so that the flexible support table **200** support the flexible screen **20** in the second edge area **230** to laminate with the specially-shaped portion **11**. It is likely to generate lamination bubbles during the lamination of the specially-shaped portion **11** with the flexible screen **20**, and the second abutting portions **110** can provide the second edge area **230** with limiting forces facing each other in the second direction X, thereby alleviating the problem of lamination bubbles between the specially-shaped portion **11** and the flexible screen **20**.

[0044] In one embodiment, at least part of the bent area **240** abuts against and between two of the second abutting portions **110** that are arranged oppositely in the second direction X. In this way, the second abutting portions **110** can limit the bent areas **240**, and the first abutting portions **120** can also limit the bent areas **240**. That is, corner portions of the flexible support table **200** are limited on all sides by the second abutting portions **110** and the first abutting portions **120**, so that the problem of lamination bubbles being likely to be generated between the curved cover plate **10** and the flexible screen **20** due to insufficient support force caused by the deformability of the bent area **240** can be better alleviated.

[0045] In one embodiment, the second edge areas **230** are both located between the two second abutting portions **110** arranged oppositely in the second direction X. That is, both the second edge areas **230** can be stopped by the second abutting portions **110**, thereby better alleviating the problem of insufficient support force caused by excessive deformation of the second edge areas **230**, and thus better alleviating the problem of lamination bubbles between the specially-shaped portion **11** and the flexible screen **20**.

[0046] In one embodiment, an extension width of the second abutting portion **110** is greater than or equal to the extension width of the second edge area **230** in the third direction Y. The second abutting portion **110** has a relatively large size, so that it is possible to alleviate the problem of the second edge area **230** and the second abutting portion **110** being not aligned accurately due to manufacturing errors or alignment errors and the second abutting portion **110** failing to properly limit the second edge area **230**. The size of the second abutting portion **110** is large enough so that the second abutting portion **110** can limit the entire second edge area **230** and at least part of the central area **210**, thereby better alleviating the problem of excessive deformation of the flexible support table **200**.

[0047] The number of second edge areas **230** may be set in a variety of ways, the number of second edge areas **230** may be one, and the one second edge area **230** is located on one side of the central area **210**.

[0048] In some other embodiments, two second edge areas **230** are respectively arranged on two sides of the central area **210**, two second abutting portions **110** are arranged on the same side of the flexible support table **200**, and each second abutting portion **110** is configured to abut against a respective second edge area **230**. That is, each second abutting portion **110** corresponds to one second edge area **230** and abuts against the second edge area **230**.

[0049] In these embodiments, the flexible support table **200** includes two second edge areas **230** and two first edge areas **220**, so that the flexible support table **200** can support the flexible screen **20** to laminate with a quad-curved cover plate **10**. The two second abutting portions **110** are

arranged on the same side of the flexible support table **200**, so that each second edge area **230** can be limited by the second abutting portions **110**, thereby better alleviating the problem of excessive deformation of the flexible support table **200**, and thus better alleviating the problem of lamination bubbles between the curved cover plate **10** and the flexible screen **20**.

[0050] The base **100** may be configured in a variety of ways. The base **100** may be integrally formed and configured to support and limit the entire flexible support table **200**.

[0051] In some other embodiments, as shown in FIGS. **4** to **6**, the base **100** includes a body **130** and stoppers **140**. The body **130** includes support protrusions **131** spaced apart from each other in the second direction X and configured to support the first edge areas **220**, and two of the stoppers **140** are spaced apart from each other in the third direction Y and arranged between adjacent two of the support protrusions **131**.

[0052] In these embodiments, the base **100** includes the body **130** and the stoppers **140**, the body **130** includes the support protrusions **131** spaced apart from each other in the second direction X, and the support protrusions **131** are, for example, configured to provide support to first arc-shaped areas of the flexible support table **200**. The stoppers **140** are arranged between two support protrusions **131**, and the two stoppers **140** are spaced apart from each other in the third direction Y. The two stoppers **140** may for example be configured to provide support to the second edge areas **220** of the flexible support table **200**, or the two stoppers **140** are configured to provide the flexible support table **200** with limiting forces facing each other in the third direction Y. The base **100** can be adapted to flexible support tables **200** of different sizes by changing the distance between the two stoppers **140**, so that the adaptability of the base **100** can be improved. Furthermore, it is also possible to tolerate manufacturing errors of the flexible support table **200** in the third direction Y by changing the distance between the two stoppers **140**.

[0053] In one embodiment, the body **130** further includes a support recess between the two support protrusions **131**. The support recess is formed by recessing relative to the support protrusions **131** in a direction away from the flexible support table **200**, and the stoppers **140** may be arranged on the support recess. In one embodiment, the support recess is configured to support the central area **210** of the flexible support table **200**.

[0054] When the base **100** includes a body **130** and stoppers **140**, as shown in FIGS. **4** to **6**, the support protrusion **131** is provided with both the second abutting portion **110** and the first abutting portion **120**. For example, the second abutting portion **110** and the first abutting portion **120** may be provided integrally with the support protrusion **131**.

[0055] In some embodiments, referring to FIGS. **7** and **8** together, FIG. **7** is a structural schematic perspective view of a support component according to still another embodiment of the present application, and FIG. **8** is a structural schematic view of a stopper **140** of a support component according to still another embodiment of the present application. As shown in FIGS. **7** and **8**, the stopper **140** is provided with the second abutting portion **110** and the first abutting portion **120**. For example, the second abutting portion **110** and the first abutting portion **120** may be provided integrally with the stopper **140**. One of the support protrusion **131** and the stopper **140** is provided with the second abutting portion **110** and the first abutting portion **120**, so that the structure of the base **100** can be simplified, thereby facilitating the manufacturing and formation of the base **100**.

[0056] As shown in FIGS. **2** to **8**, the second abutting portion **110** and the first abutting portion **120** can limit the flexible support table **200** at an outer periphery of the flexible support table **200**.

[0057] In some embodiments, at least one of the second abutting portion **110** and the first abutting portion **120** is located at the outer periphery of the flexible support table **200**. For example, the second abutting portion **110** and the first abutting portion **120** are both located at the outer periphery of the flexible support table **200**. When the flexible support table **200** is limited from the outer periphery, the flexible support table **200** does not need to make changes in shape, so that the shape and structure of the flexible support table **200** can be simplified, thereby facilitating the manufacturing and formation of the flexible support table **200**.

[0058] When both the second abutting portion **110** and the first abutting portion **120** limit the flexible support table **200** from the outer periphery of the flexible support table **200**, the number of second abutting portions **110** is for example four, two of the second abutting portions **110** being in one group. The two groups of second abutting portions **110** are respectively arranged on two sides of the flexible support table **200** in the second direction X, and two second abutting portions **110** of the same group located on the same side of the flexible support table **200** in the second direction X are spaced apart from each other in the third direction Y. The number of first abutting portions **120** is for example four, two of the first abutting portions **120** being in one group. The two groups of first abutting portions **120** are respectively arranged on two sides of the flexible support table **200** in the third direction Y, and two first abutting portions **120** of the same group located on the same side of the flexible support table **200** in the third direction Y are spaced apart from each other in the second direction X.

[0059] In one embodiment, the four second abutting portions **110** and the four first abutting portions **120** are located at four corners of the orthographic projection of the flexible support table **200** in the first direction Z, and the second abutting portion **110** and the first abutting portion **120** adjacent to each other may be provided integrally to further simplify the structure of the base **100**.

[0060] In one embodiment, the second abutting portion **110** includes a first stop surface **111** facing the flexible support table **200**, the first abutting portion **120** includes a second stop surface **121** facing the flexible support table **200**, and the first stop surface **111** and the second stop surface **121** adjacent to each other are connected in a smooth transition. The scratching of the flexible support table **200** by the second abutting portion **110** and the first abutting portion **120** can be reduced, to prolong the service life of the flexible support table **200**.

[0061] In one embodiment, when the second abutting portion **110** and the first abutting portion **120** limit the flexible support table **200** from the outer periphery of the flexible support table **200**, the extension height of the second abutting portion **110** and/or the first abutting portion **120** in the first direction Z is greater than or equal to 2 mm, to alleviate the problem of the insufficient limiting force provided to the flexible support table **200** due to the insufficient height of the second abutting portion **110** and/or the first abutting portion **120**.

[0062] Referring to FIGS. **9** to **11** together, FIG. **9** is a structural schematic perspective view of a support component according to yet another embodiment of the present application, FIG. **10** is a structural schematic perspective view of a flexible support table **200** of a support component according to yet another embodiment of the present application, and FIG. **11** is a structural schematic perspective view of a base **100** of a support component according to yet another embodiment of the present application.

[0063] In some embodiments, as shown in FIGS. **9** to **11**, the flexible support table **200** includes a mating portion **250**, and a support portion **260** arranged on a side of the mating portion **250** facing away from the base **100** and configured to support the flexible screen **20**, the second abutting portion **110** and the first abutting portion **120** abut against the mating portion **250**, and orthographic projections of the second abutting portion **110** and the first abutting portion **120** in the first direction Z at least partially overlap an orthographic projection of the support portion **260** in the first direction Z.

[0064] In these embodiments, the flexible support table **200** includes the mating portion **250** and the support portion **260**, the second abutting portion **110** and the first abutting portion **120** are configured to abut against the mating portion **250**, and the second abutting portion **110** and the first abutting portion **120** limit the deformation of the flexible support table **200** by providing limiting forces to the mating portion **250**. Furthermore, the orthographic projections of the second abutting portion **110** and the first abutting portion **120** in the first direction Z at least partially overlapping the orthographic projection of the support portion **260** in the first direction Z means that at least part of the second abutting portion **110** and at least part of the first abutting portion **120** are located on a side of the support portion **260** facing the base **100**, and at least part of the second abutting

portion **110** and at least part of the first abutting portion **120** can provide support to the support portion **260**, to increase the force exerted by the support portion **260** on the flexible screen **20**, thereby better alleviating the problem of lamination bubbles between the flexible screen **20** and the curved cover plate **10**.

[0065] Therefore, during the lamination of the curved cover plate **10** with the flexible screen **20**, the second abutting portion **110** and the first abutting portion **120** in the embodiments of the present application can not only limit the deformation of the flexible support table **200** by applying a force to the mating portion **250**, to increase the force exerted by the flexible support table **200** on the flexible screen **20**; but can also increase the force exerted by the support portion **260** on the flexible screen **20** by providing support to the support portion **260**, to further alleviate the problem of lamination bubbles between the flexible screen **20** and the curved cover plate **10**.

[0066] In one embodiment, the mating portion **250** may be located in the first edge area **220** and/or the second edge area **230**.

[0067] In some embodiments, the mating portion **250** includes a recess **251** formed by recessing toward the support portion **260**. The recess **251** includes a first abutting surface **251a** and a second abutting surface **251b**. The base **100** includes a body **130** and a boss **150** arranged at the body **130** and received in the recess **251**, the second abutting portion **110** is a surface of the boss **150** that abuts against the first abutting surface **251a**, and the first abutting portion **120** is the surface of the boss **150** that abuts against the second abutting surface **251b**.

[0068] The first abutting surface **251a** and the second abutting surface **251b** are surfaces of the flexible support table **200** facing the recess **251**.

[0069] In these embodiments, the mating portion **250** is provided with a recess **251**, and the base **100** is provided with a boss **150**. The boss **150** is located in the recess **251** to provide support to the support portion **260**. The boss **150** is provided with the second abutting portion **110** and the first abutting portion **120**, and the cooperation of the boss **150** and the recess **251** can also provide the mating portion **250** with limiting forces in the second direction X and the third direction Y.

[0070] As described above, when the base **100** includes the support protrusion **131**, the boss **150** may be arranged at the support protrusion **131**. When the number of second abutting portions **110** and the number of first abutting portions **120** are both four, the number of bosses **150** may be four, and the four bosses **150** are arranged corresponding to four corners of the flexible support table **200**. That is, two of the bosses **150** are spaced apart from each other in the third direction Y on the support protrusion **131**.

[0071] In some embodiments, an orthographic projection of the boss **150** in the first direction Z is located within the orthographic projection of the support portion **260** in the first direction Z. In this way, the boss **150** can provide better support to the support portion **260**, and can reduce the size of the boss **150**, simplifying the structure of the base **100**.

[0072] As described above, the flexible support table **200** includes the central area **210**, the first edge areas **220** and the second edge areas **230**, the flexible support table **200** further includes the bent areas **240** each connecting the first edge area **220** and the second edge area **230**, and the recess **251** is located in the bent area **240**.

[0073] In these embodiments, the shape of the surface of the flexible support table **200** in the bent area **240** is more complex, and it is more likely to generate lamination bubbles when the flexible screen **20** supported by the bent area **240** is laminated with the curved cover plate **10**. The recess **251** is located in the bent area **240**, and the corresponding boss **150** can thus support the support portion **260** in the bent area **240**, to increase the force exerted by the support portion **260** in the bent area **240** on the flexible screen **20**, thereby better alleviating the problem of lamination bubbles being likely to be generated between the flexible screen **20** supported by the bent area **240** and the curved cover plate **10**.

[0074] In some embodiments, the mating portion **250** includes a bottom surface **252** facing the base **100** and a side surface **253** connected to a peripheral side of the bottom surface **252**, and at least

part of an opening of the recess **251** is located at the side surface **253**.

[0075] In these embodiments, the opening of the recess **251** faces the base **100** and is partially located at the side surface **253**, that is, the recess **251** is provided near a top corner of the flexible support table **200**, so that the problem of lamination bubbles being likely to be generated when the flexible screen **20** is laminated with the curved cover plate **10** at the top corner of the flexible support table **200** can be better alleviated.

[0076] In one embodiment, a depth of the recess **251** that extends in the first direction Z is greater than or equal to 1 mm, and/or a height of the boss **150** that extends in the first direction Z is greater than or equal to 1 mm, to alleviate the problem of insufficient support force caused by insufficient height of the boss **150**, thereby ensuring that the support portion **260** can provide sufficient support to the flexible screen **20**.

[0077] The depth of the recess **251** that extends in the first direction Z is the distance between the bottom wall surface (i.e., the second abutting surface **251b**) of the recess **251** and the bottom surface **252** in the first direction Z. The height of the boss **150** is the height of the boss **150** protruding from the body **130** in the first direction Z. When the boss **150** is arranged at the support protrusion **131**, the height of the boss **150** is the height of the boss **150** protruding from the support protrusion **131** in the first direction Z.

[0078] As described above, the number of second abutting portions **110** may be two or more. In some embodiments, as shown in FIGS. **2** to **8**, two of the second abutting portions **110** are spaced apart from each other in the third direction Y and arranged on the same side of the flexible support table **200**, and each of the second abutting portions **110** is provided integrally with the first abutting portion **120** adjacent to the second abutting portion. When the two second abutting portions **110** are spaced apart from each other in the third direction Y and arranged on the same side of the flexible support table **200** in the second direction X, each second abutting portions **110** is close to the respective first abutting portion **120**, so that the integral provision of the second abutting portion **110** with the adjacent first abutting portion **120** can simplify the structure and shape of the base **100**.

[0079] In one embodiment, the first abutting portion **120** is formed by extending in the second direction X and integrally connected between the two second abutting portions **110**, at which time part of the first abutting portion **120** may be also used as the stopper **140** described above, further simplifying the structure and shape of the base **100**.

[0080] In some embodiments, two of the first abutting portions **120** are arranged on the same side of the flexible support table **200**, the two first abutting portions **120** on the same side of the flexible support table **200** are spaced apart from each other in the second direction X, and each first abutting portion **120** is integrally formed with the second abutting portion **110** adjacent to the first abutting portion. For example, the first abutting portion **120** and the second abutting portion **110** may be combined to form an L-shaped structure to limit the flexible support table **200** in two directions. The L-shaped structure can be integrally formed with the support protrusion **131** described above.

[0081] Referring to FIG. **12**, FIG. **12** is a structural schematic view of a lamination device according to an embodiment of the present application.

[0082] As shown in FIG. **12**, in a second aspect, the embodiments of the present application further provide a lamination device configured to laminate a curved cover plate **10** with a flexible screen **20**. The lamination device includes a support component according to any of the above embodiments of the first aspect, and a pressing table **300**. The pressing table **300** is arranged on one side of the support component, and the pressing table **300** has a receiving recess **310** for receiving the curved cover plate **10**. An opening of the receiving recess **310** faces the support component. Since the lamination device according to the embodiments of the present application includes the support component as described above, the lamination device of the embodiments of the present application has the beneficial effects of the support component as described above, which will not be repeated herein.

Claims

1. A support component for laminating a curved cover plate with a flexible screen, the support component comprising: a flexible support table configured to support the flexible screen; and a base arranged on a side of the flexible support table in a first direction and configured to support the flexible support table, wherein the flexible support table comprises a central area and first edge areas located on two sides of the central area in a second direction, the base comprises first abutting portions, and at least part of the first edge area abuts against and between two of the first abutting portions arranged oppositely in a third direction, the first direction, the second direction, and the third direction intersecting each other.
2. The support component according to claim 1, wherein the flexible support table further comprises second edge areas located on two sides of the central area in the third direction, and bent areas each connecting the first edge area and the second edge area, at least part of the bent area being located between two of the first abutting portions that are arranged oppositely in the third direction.
3. The support component according to claim 2, wherein an extension width of the first abutting portion is greater than or equal to the extension width of the first edge area in the second direction.
4. The support component according to claim 2, wherein the two first edge areas are arranged on the two sides of the central area, two of the first abutting portions are arranged on the same side of the flexible support table in the third direction, and each of the first abutting portions corresponds to one of the first edge areas and is configured to abut against the first edge area.
5. The support component according to claim 2, wherein the base comprises second abutting portions, and at least part of the second edge area abuts against and between two of the second abutting portions arranged oppositely in the second direction; and a surface of the flexible support table for supporting the flexible screen in the second edge area is curved.
6. The support component according to claim 5, wherein at least part of the bent area abuts against and between two of the second abutting portions that are arranged oppositely in the second direction; and an extension width of the second abutting portion is greater than or equal to the extension width of the second edge area in the third direction; and the two second edge areas are arranged on the two sides of the central area, two of the second abutting portions are arranged on the same side of the flexible support table, and each of the second abutting portions corresponds to one of the second edge areas and is configured to abut against the second edge area.
7. The support component according to claim 5, wherein the base comprises a body and stoppers, the body comprising support protrusions spaced apart from each other in the second direction and configured to support the first edge areas, two of the stoppers being spaced apart from each other in the third direction and arranged between adjacent two of the support protrusions, and the support protrusion is provided with both the second abutting portion and the first abutting portion, or the stopper is provided with both the second abutting portion and the first abutting portion.
8. The support component according to claim 5, wherein at least one of the second abutting portion and the first abutting portion is located at an outer periphery of the flexible support table.
9. The support component according to claim 8, wherein the second abutting portion and the first abutting portion are both located at the outer periphery of the flexible support table; and an extension height of the second abutting portion and the first abutting portion is greater than or equal to 2 mm in the first direction.
10. The support component according to claim 9, wherein the second abutting portion comprises a first stop surface facing the flexible support table, the first abutting portion comprises a second stop surface facing the flexible support table, and the first stop surface and the second stop surface adjacent to each other are connected in a smooth transition.
11. The support component according to claim 8, wherein the flexible support table comprises a

mating portion, and a support portion arranged on a side of the mating portion facing away from the base and configured to support the flexible screen, the second abutting portion and the first abutting portion abut against the mating portion, and orthographic projections of the second abutting portion and the first abutting portion in the first direction at least partially overlap an orthographic projection of the support portion in the first direction.

12. The support component according to claim 11, wherein the mating portion comprises a recess formed by recessing toward the support portion, the recess comprising a first abutting surface and a second abutting surface; and the base comprises a body and a boss arranged at the body and received in the recess, the second abutting portion is a surface of the boss that abuts against the first abutting surface, and the first abutting portion is a surface of the boss that abuts against the second abutting surface.

13. The support component according to claim 12, wherein an orthographic projection of the boss in the first direction is located within the orthographic projection of the support portion in the first direction.

14. The support component according to claim 12, wherein the recess is located in the bent area.

15. The support component according to claim 12, wherein the mating portion comprises a bottom surface facing the base and a side surface connected to a peripheral side of the bottom surface, and at least part of an opening of the recess is located at the side surface.

16. The support component according to claim 12, wherein a depth of the recess extended in the first direction is greater than or equal to 1 mm, and a height of the boss extended in the first direction is greater than or equal to 1 mm.

17. The support component according to claim 5, wherein two of the second abutting portions spaced apart from each other in the third direction are arranged on the same side of the flexible support table in the second direction, and each of the second abutting portions is provided integrally with the first abutting portion adjacent to the second abutting portion.

18. The support component according to claim 17, wherein the first abutting portion is formed by extending in the second direction and integrally connected between two of the second abutting portions, or two of the first abutting portions are spaced apart from each other on the same side of the flexible support table, and each of the first abutting portions is integrally formed with the second abutting portion adjacent to the first abutting portion.

19. The support component according to claim 1, wherein a surface of the flexible support table for supporting the flexible screen in the first edge area is curved.

20. A lamination device configured to laminate a curved cover plate with a flexible screen, the lamination device comprising: a support component of claim 1, and a pressing table arranged on one side of the support component, the pressing table comprising a receiving recess for receiving the curved cover plate, and an opening of the receiving recess facing the support component.
