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(54) **DISPLAY PANEL AND MANUFACTURING METHOD THEREOF**

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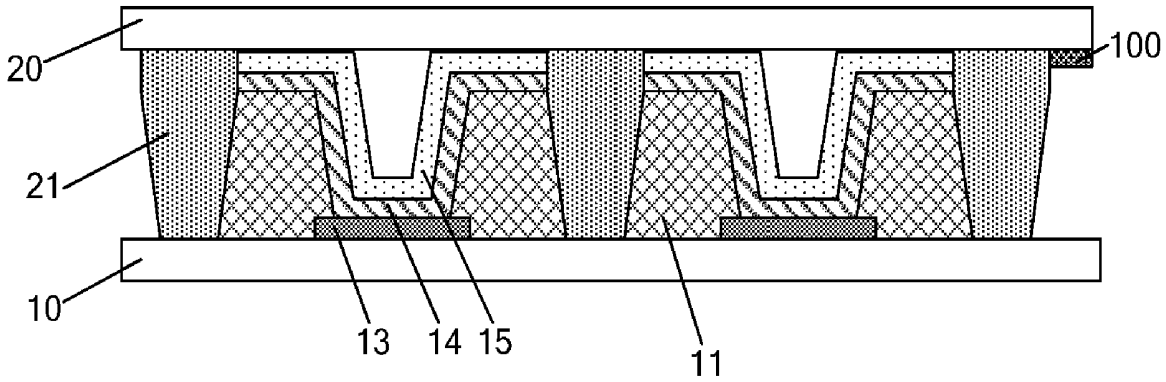
(57) **ABSTRACT**

A display panel and a manufacturing method thereof are provided. The display panel includes a first substrate and a second substrate opposite to each other, the first substrate includes a first base, a pixel definition layer on the first base, and at least one OLED; each OLED includes a first electrode, a light emitting layer, and a second electrode sequentially provided on the first base; and the pixel definition layer defines pixel regions spaced apart, the at least one OLED is provided in the pixel regions, and the pixel definition layer between at least two adjacent pixel regions includes one opening; the second substrate includes a second base, and a connection electrode on a side of the second base proximal to the pixel definition layer, which is arranged inside the opening, and is electrically coupled to the second electrode of the OLEDs adjacent to the opening.



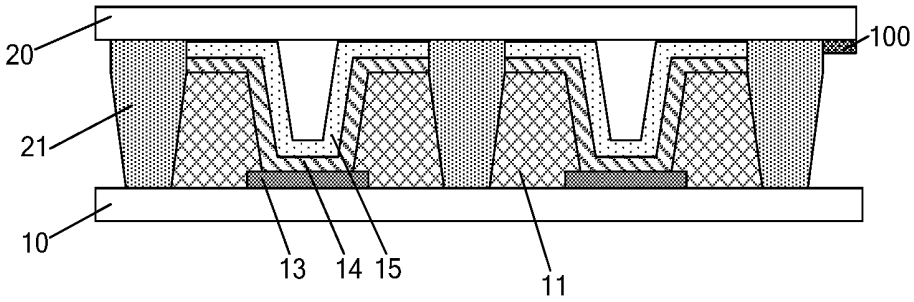
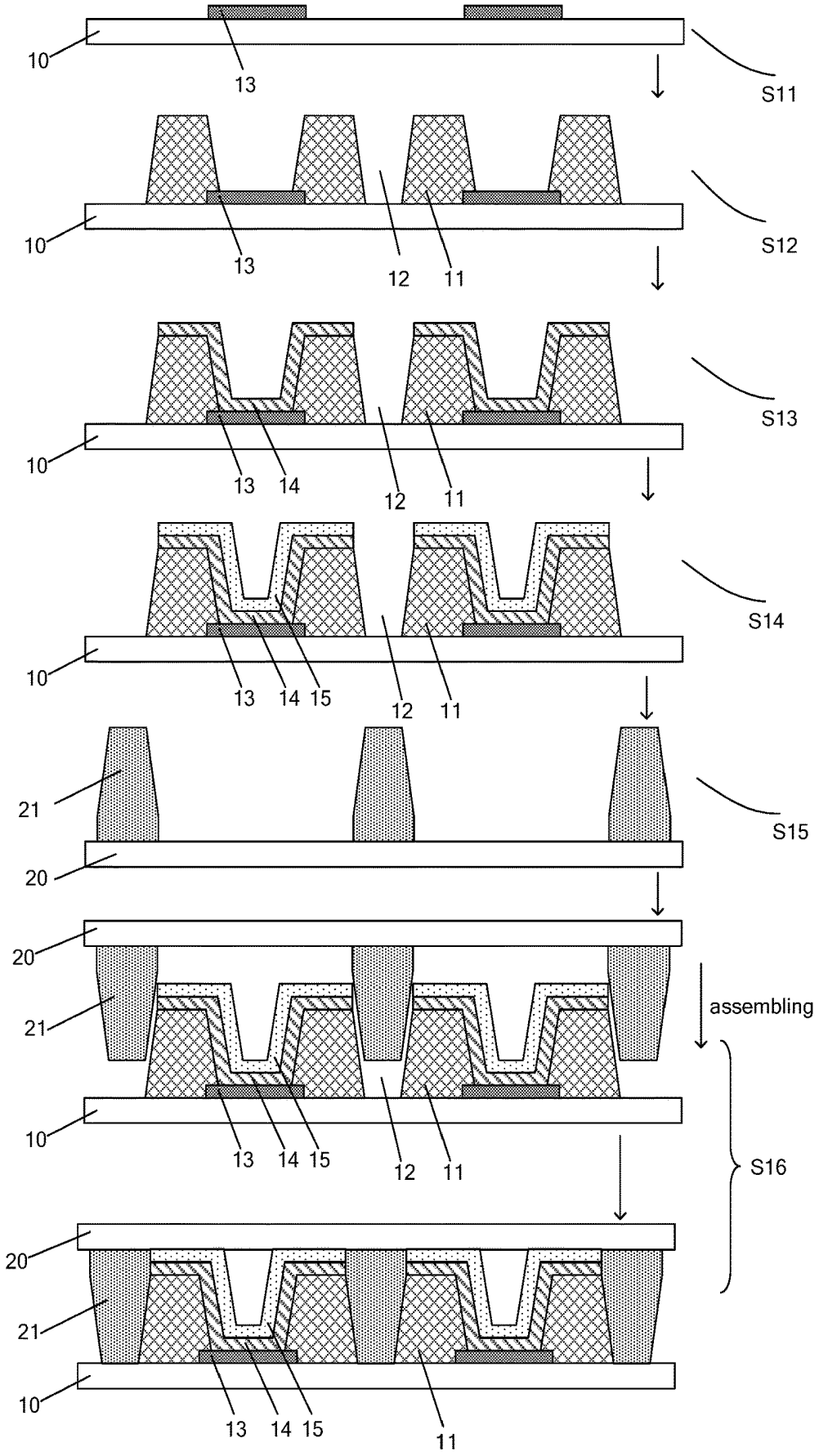


Fig.1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S11
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S14
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S15
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S16
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Fig.2

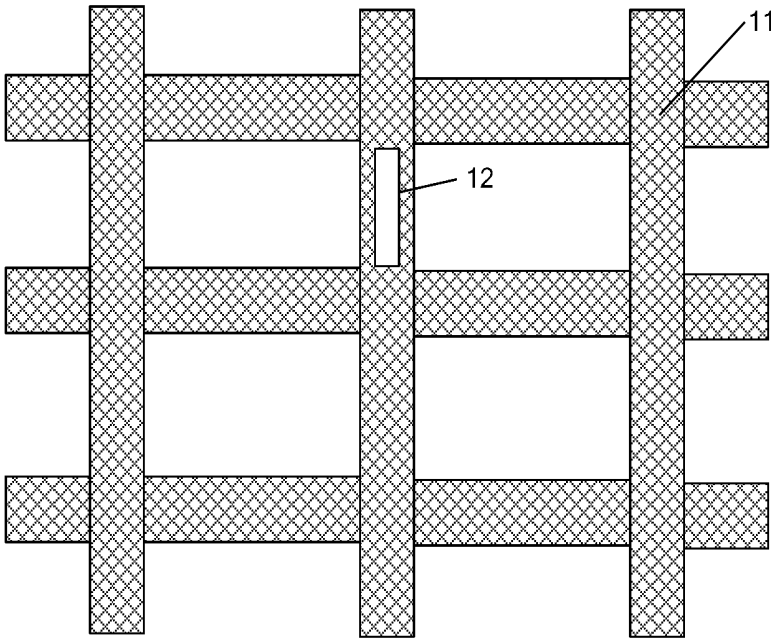


Fig.3

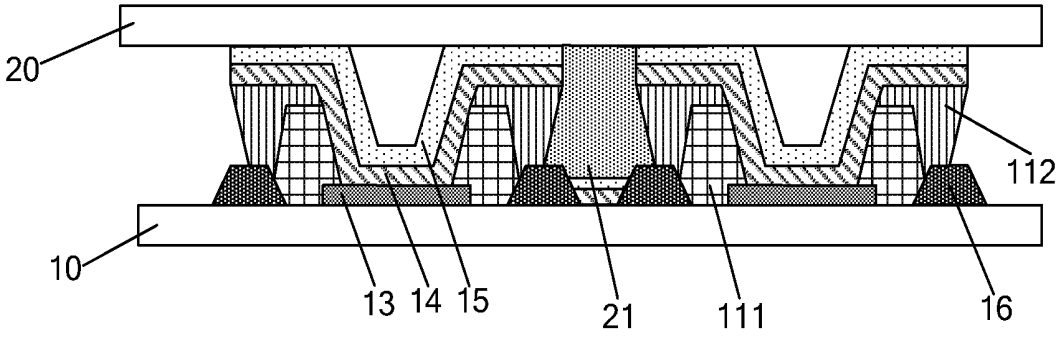
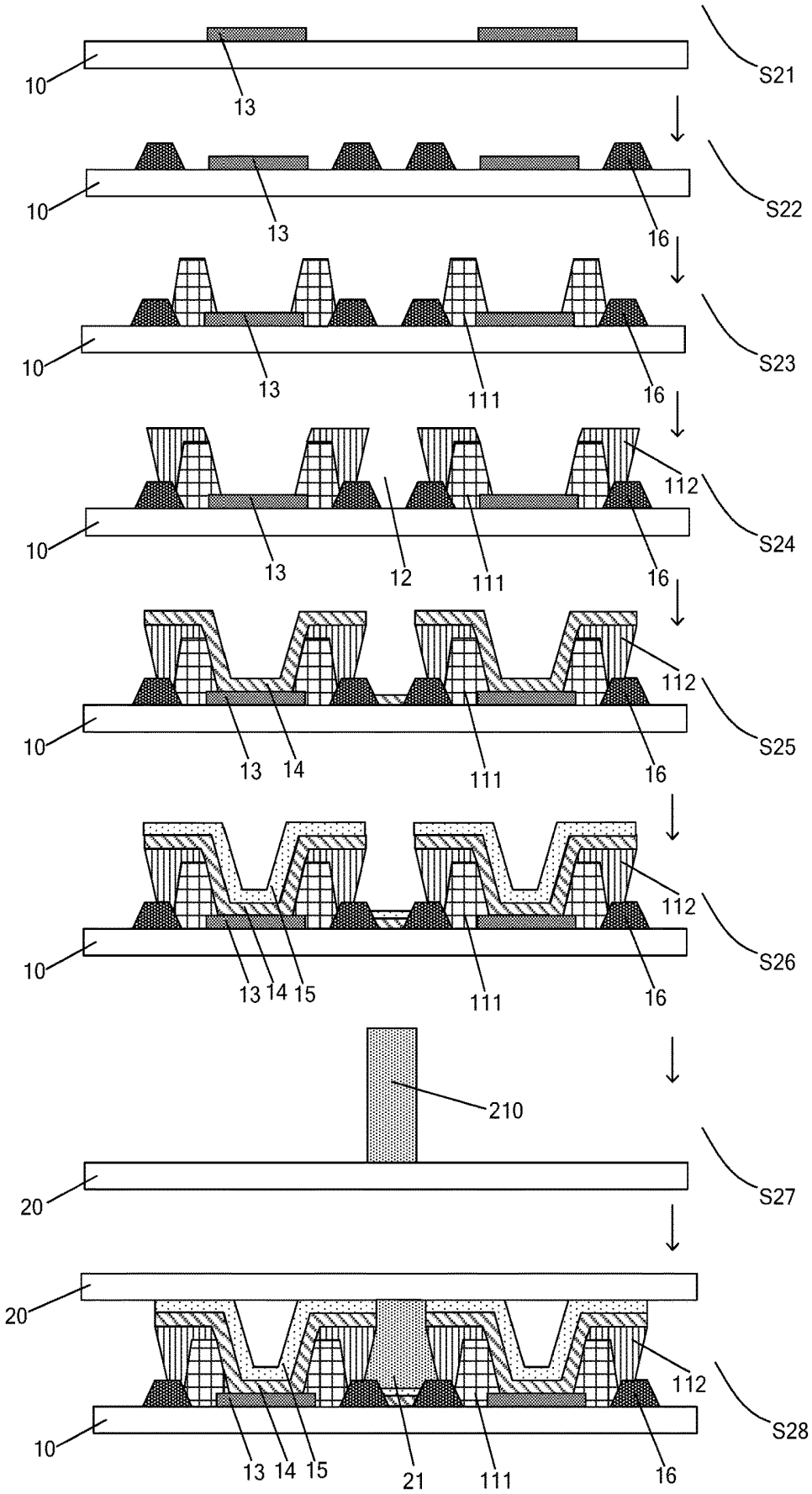


Fig.4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S25
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S28

Fig.5

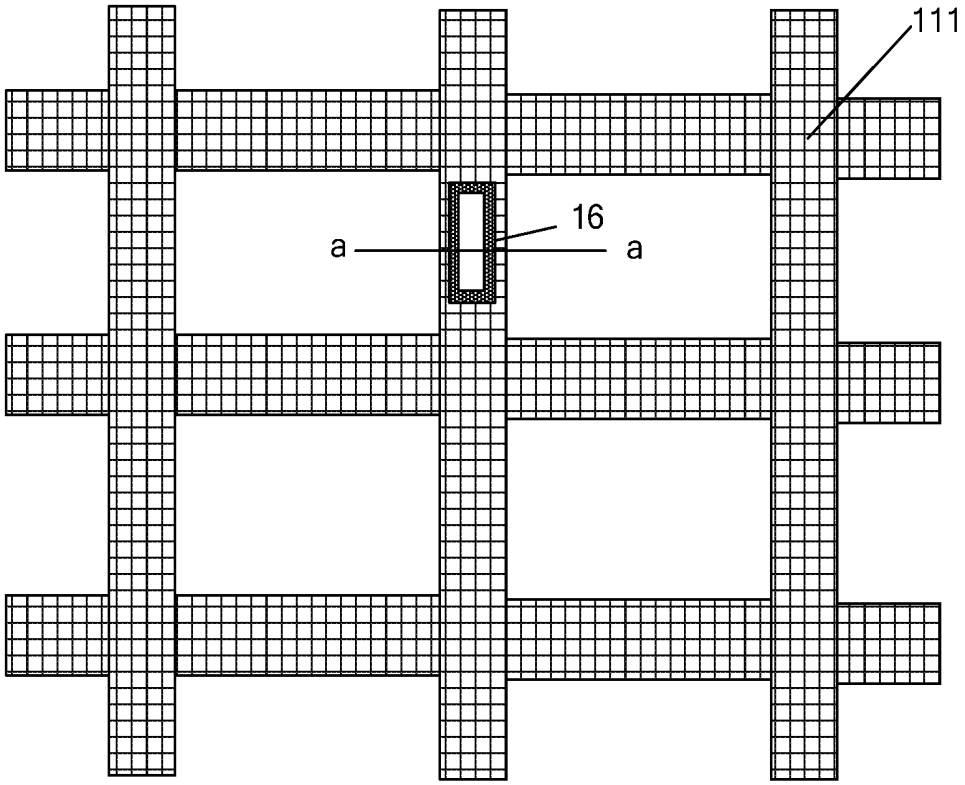


Fig.6

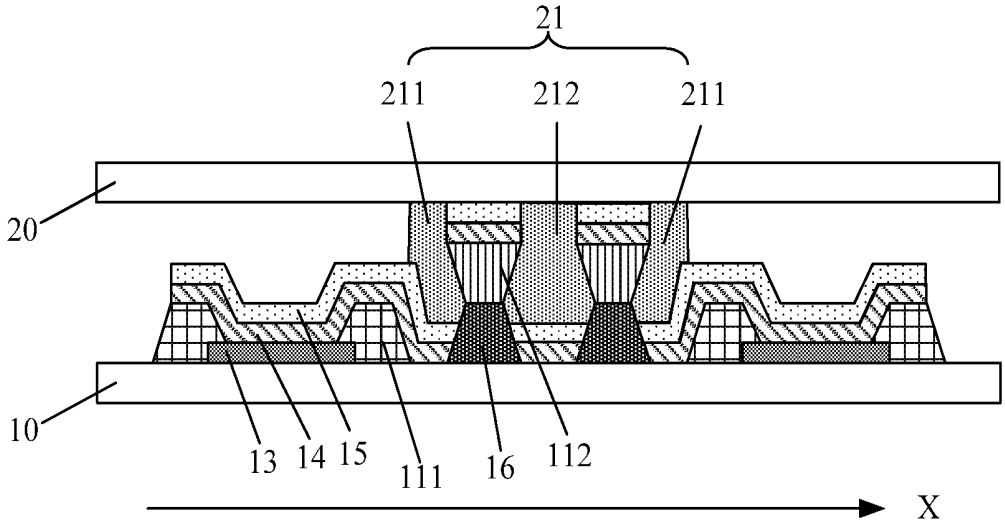
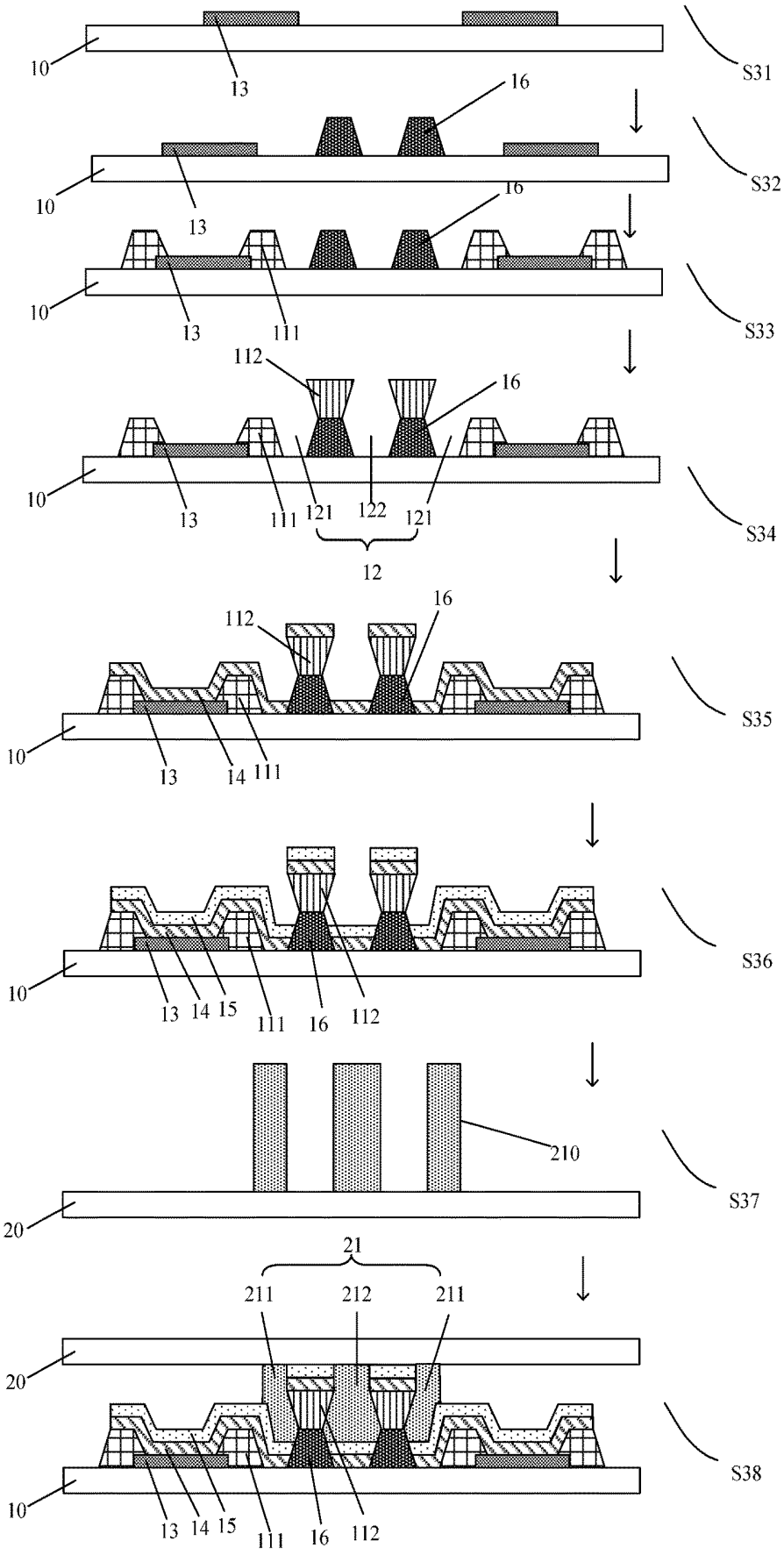


Fig.7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S31
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S32
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S34
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S35
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S37
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212
S38

Fig.8

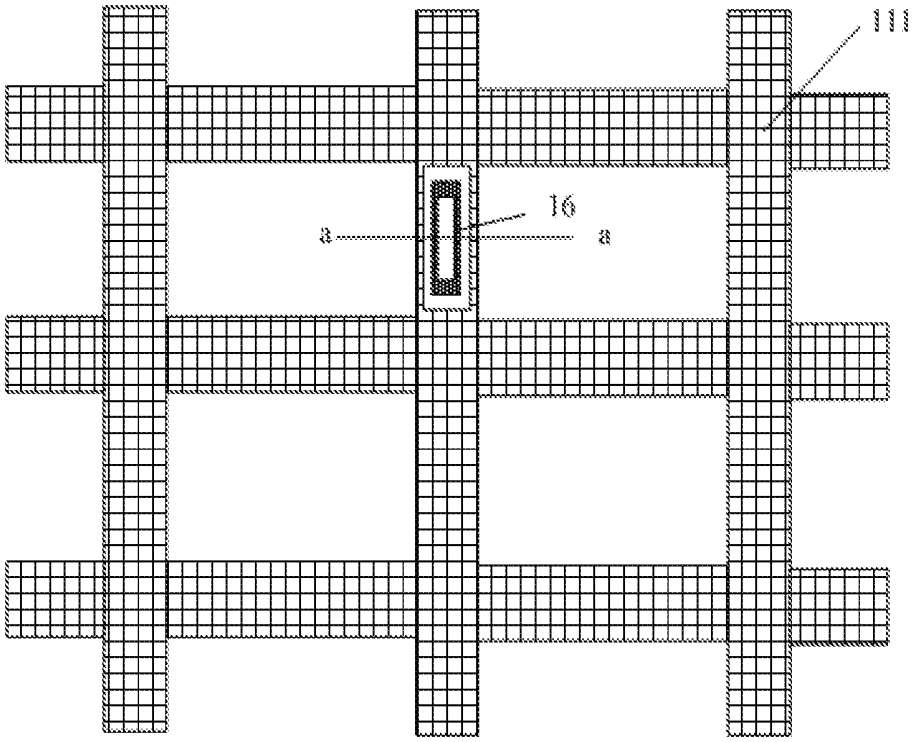

Fig.9

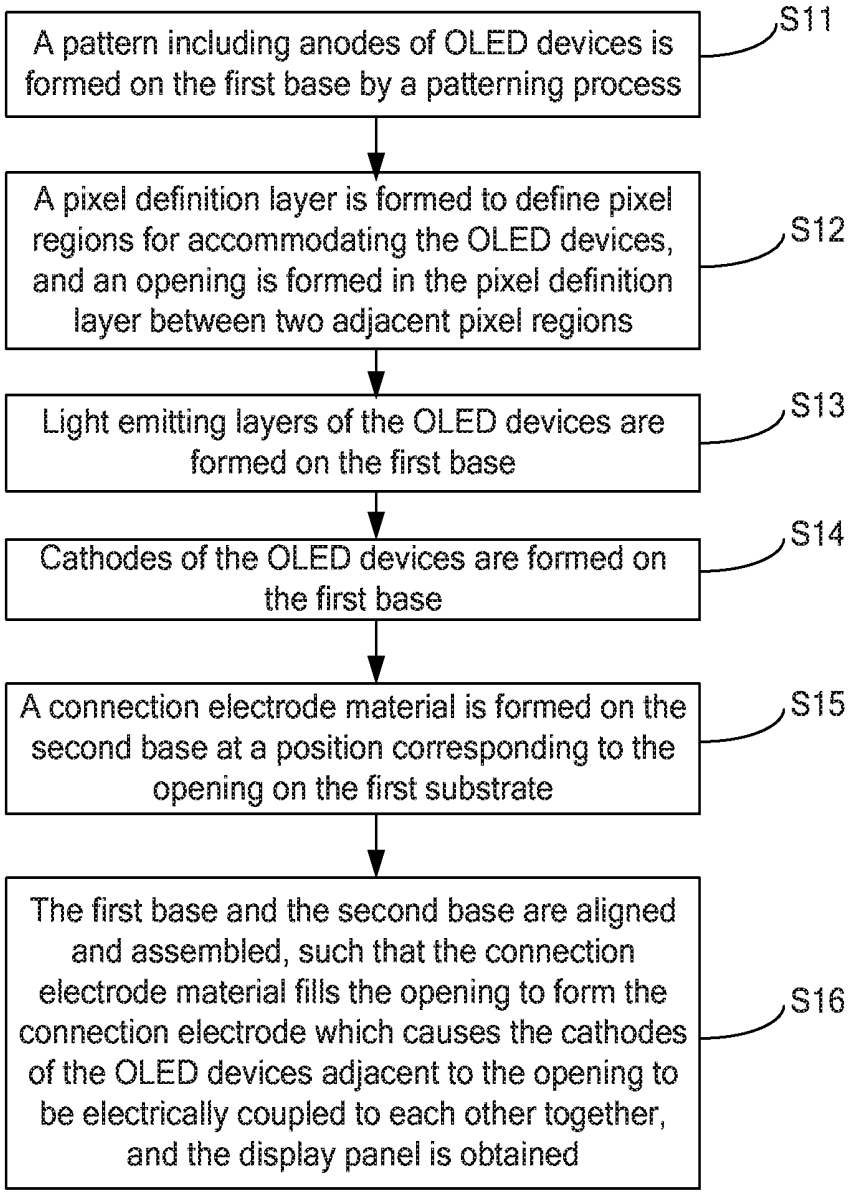
A pattern including anodes of OLED devices is formed on the first base by a patterning process
S11
A pixel definition layer is formed to define pixel regions for accommodating the OLED devices, and an opening is formed in the pixel definition layer between two adjacent pixel regions
S12
Light emitting layers of the OLED devices are formed on the first base
S13
Cathodes of the OLED devices are formed on the first base
S14
A connection electrode material is formed on the second base at a position corresponding to the opening on the first substrate
S15
The first base and the second base are aligned and assembled, such that the connection electrode material fills the opening to form the connection electrode which causes the cathodes of the OLED devices adjacent to the opening to be electrically coupled to each other together, and the display panel is obtained
S16

Fig.10

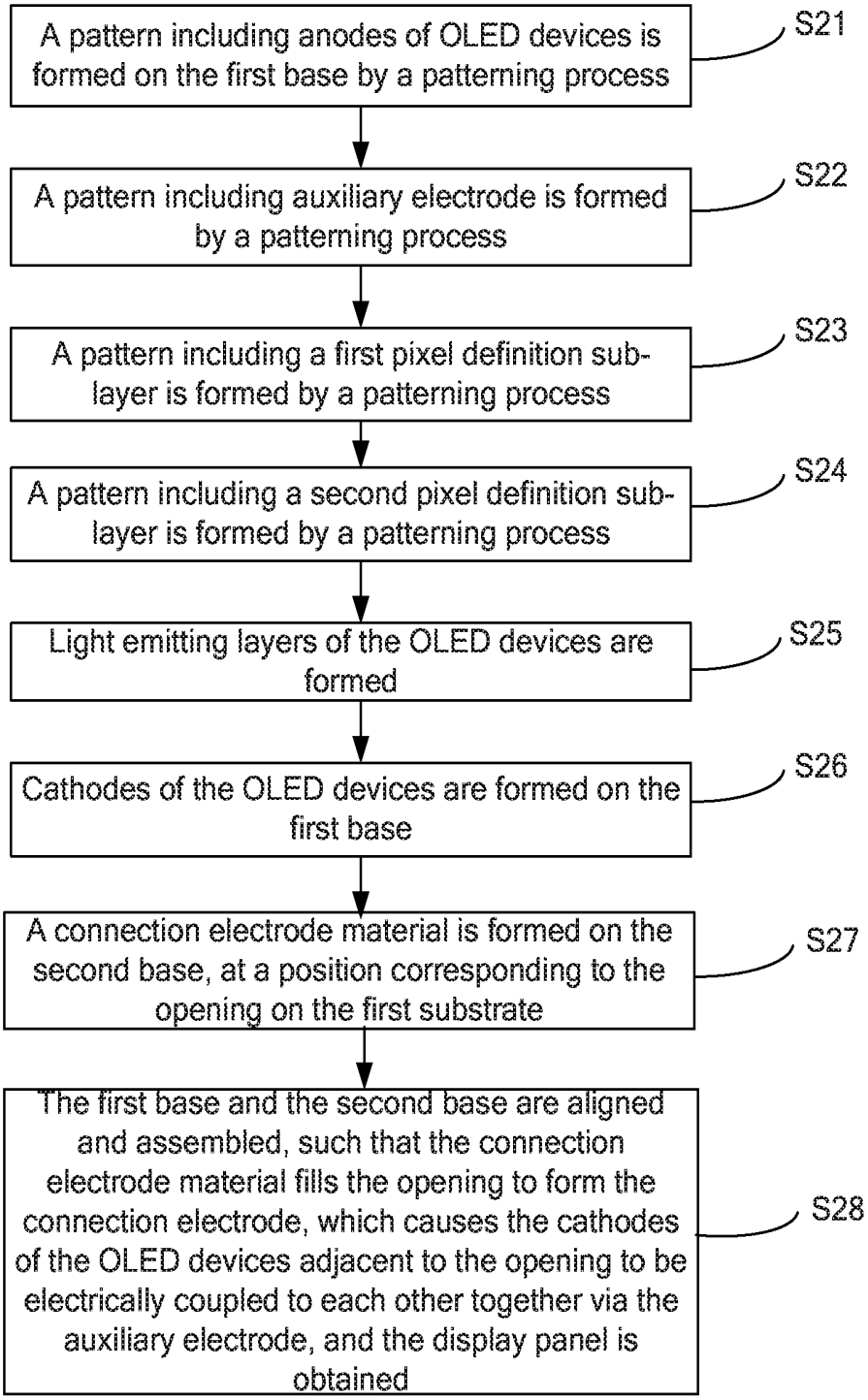
A pattern including anodes of OLED devices is formed on the first base by a patterning process
S21
A pattern including auxiliary electrode is formed by a patterning process
S22
A pattern including a first pixel definition sub-layer is formed by a patterning process
S23
A pattern including a second pixel definition sub-layer is formed by a patterning process
S24
Light emitting layers of the OLED devices are formed
S25
Cathodes of the OLED devices are formed on the first base
S26
A connection electrode material is formed on the second base, at a position corresponding to the opening on the first substrate
S27
The first base and the second base are aligned and assembled, such that the connection electrode material fills the opening to form the connection electrode, which causes the cathodes of the OLED devices adjacent to the opening to be electrically coupled to each other together via the auxiliary electrode, and the display panel is obtained
S28

Fig.11

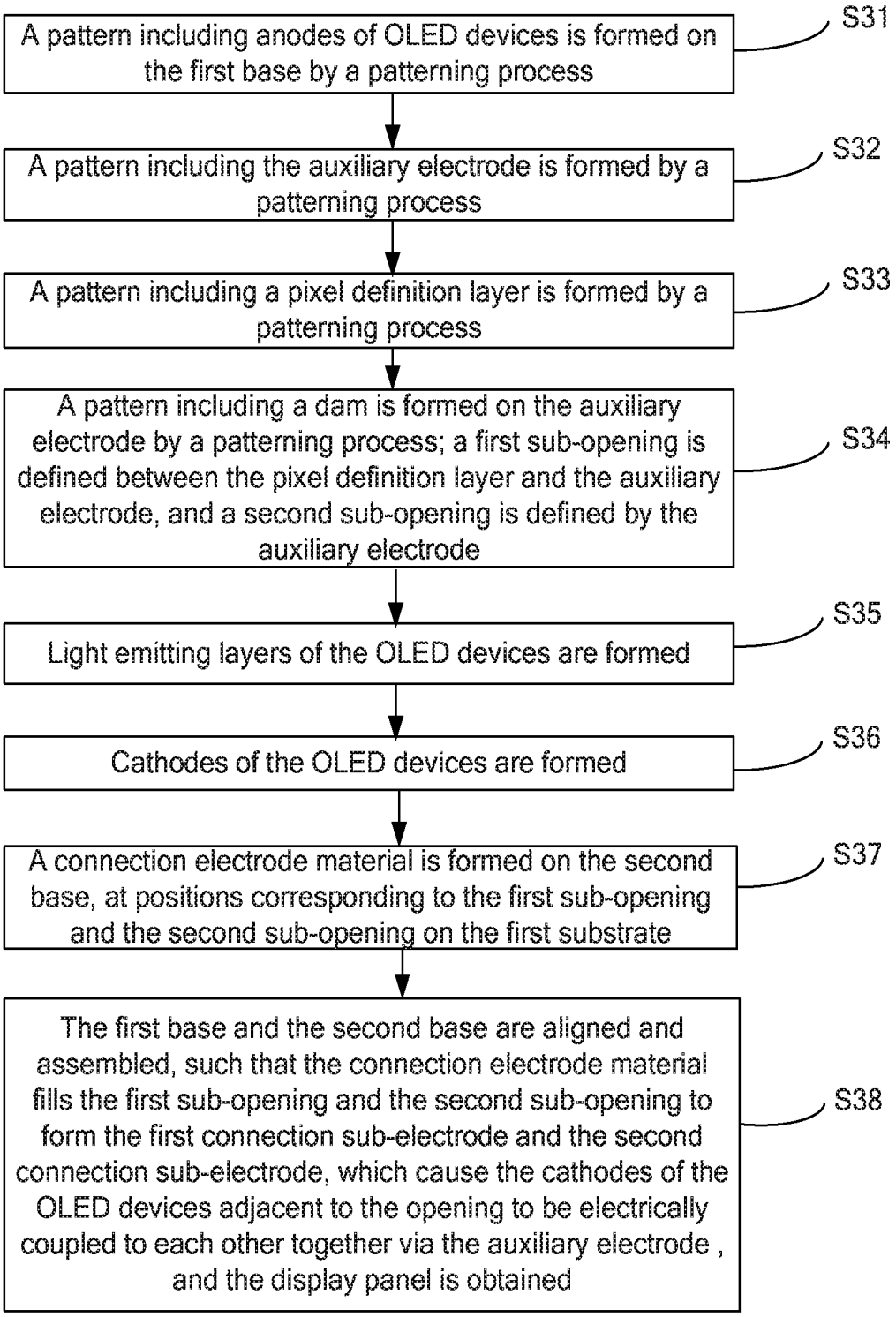
A pattern including anodes of OLED devices is formed on the first base by a patterning process
S31
A pattern including the auxiliary electrode is formed by a patterning process
S32
A pattern including a pixel definition layer is formed by a patterning process
S33
A pattern including a dam is formed on the auxiliary electrode by a patterning process; a first sub-opening is defined between the pixel definition layer and the auxiliary electrode, and a second sub-opening is defined by the auxiliary electrode
S34
Light emitting layers of the OLED devices are formed
S35
Cathodes of the OLED devices are formed
S36
A connection electrode material is formed on the second base, at positions corresponding to the first sub-opening and the second sub-opening on the first substrate
S37
The first base and the second base are aligned and assembled, such that the connection electrode material fills the first sub-opening and the second sub-opening to form the first connection sub-electrode and the second connection sub-electrode, which cause the cathodes of the OLED devices adjacent to the opening to be electrically coupled to each other together via the auxiliary electrode , and the display panel is obtained
S38

Fig.12

DISPLAY PANEL AND MANUFACTURING METHOD THEREOF

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the priority of Chinese Patent Application No. 201811026987.9, filed on Sep. 4, 2018, the contents of which are incorporated herein in their entirety by reference.

TECHNICAL FIELD

[0002] The present disclosure relates to the field of display technology, and in particular, relates to a display panel and a method for manufacturing a display panel.

BACKGROUND ART

[0003] An organic light emitting display is a flat panel display in which an organic material is driven under an electric field to emit light by carrier injection and recombination. Compared to a currently predominant liquid crystal display (LCD) or a plasma display panel (PDP), an organic light emitting diode (OLED) device used in the organic light emitting display has characteristics such as low cost, all solid state, active light emission, high brightness, high contrast ratio, wide view angle, quick response speed, thin thickness, low voltage DC driving, low power consumption, wide range of operation temperature, soft screen display and so forth, and is an ideal light emitting device to be used in the flat panel display.

SUMMARY

[0004] The present disclosure provides a display panel and a manufacturing method of the display panel.

[0005] The display panel includes a first substrate and a second substrate provided opposite to each other; the first substrate includes a first base, and a pixel definition layer on the first base, and at least one organic light emitting diode, each of the at least one organic light emitting diode includes a first electrode, a light emitting layer, and a second electrode sequentially provided along a direction directed away from the first base, and the pixel definition layer defines a plurality of pixel regions spaced apart from each other, the at least one organic light emitting diode is provided in the pixel regions, respectively, and an opening is disposed between at least two adjacent pixel regions in the pixel definition layer, and the second substrate includes a second base and a connection electrode on a side of the second base proximal to the pixel definition layer, and the connection electrode is inside the opening, and is electrically coupled to the second electrode of one or more organic light emitting diodes adjacent to the opening.

[0006] In an embodiment, the connection electrode fills the opening and is in contact with the second base.

[0007] In an embodiment, the first substrate further includes at least one auxiliary electrode in the opening, and the at least one auxiliary electrode is electrically coupled to the connection electrode.

[0008] In an embodiment, an orthographic projection of the pixel definition layer on the first base covers an orthographic projection of the at least one auxiliary electrode on the first base.

[0009] In an embodiment, the at least one auxiliary electrode includes an annular auxiliary electrode, and the annular auxiliary electrode is arranged in the opening and in contact with the pixel definition layer.

[0010] In an embodiment, the pixel definition layer includes a first pixel definition sub-layer and a second pixel definition sub-layer provided sequentially along a direction directed away from the first base; and an orthographic projection of the second pixel definition sub-layer on the first base completely covers the orthographic projection of the at least one auxiliary electrode on the first base, and the orthographic projection of the second pixel definition sub-layer on the first base completely partially covers an orthographic projection of the first pixel definition sub-layer on the first base.

[0011] In an embodiment, a light emitting material of the light emitting layer and an electrode material of the second electrode are provided sequentially on the first base in the opening along the direction directed away from the first base, and each of a height of the light emitting material of the light emitting layer and a height of the electrode material of the second electrode is smaller than a height of the at least one auxiliary electrode.

[0012] In an embodiment, the at least one auxiliary electrode is spaced apart from the pixel definition layer, and a dam is provided on the at least one auxiliary electrode, and a cross section of the dam along a direction perpendicular to the first base is an inverted trapezoid.

[0013] In an embodiment, the at least one auxiliary electrode in the opening includes an annular auxiliary electrode in the opening and spaced apart from the pixel definition layer, and the dam provided on the annular auxiliary electrode is an annular dam; the connection electrode includes a first connection sub-electrode inside the annular auxiliary electrode and the annular dam, and a second connection sub-electrode located outside the annular auxiliary electrode and the annular dam; and second electrodes of organic light emitting diodes adjacent to the opening are electrically coupled to each other via the at least one auxiliary electrode, the first connection sub-electrode, and the second connection sub-electrode.

[0014] In an embodiment, a light emitting material of the light emitting layer and an electrode material of the second electrode are provided sequentially inside the annular auxiliary electrode in the opening along a direction directed away from the first base.

[0015] In an embodiment, the opening provided in the pixel definition layer between two adjacent pixel regions has a rectangular shape extending along a traveling direction of the pixel definition layer at which the opening is located, a length of the opening is about equal to a length of each of the two adjacent pixel regions, and a width of the opening is in a range of about 100-200 μm.

[0016] The manufacturing method of a display panel includes forming a first substrate, wherein the first base includes a pattern including a pixel definition layer on a first base, the pixel definition layer defines a plurality of pixel regions spaced apart from each other, at least one organic light emitting diode is respectively formed in the pixel regions, each of the at least one organic light emitting diode includes a first electrode, a light emitting layer, and a second electrode sequentially formed along a direction directed away from the first base, and an opening is disposed between at least two adjacent pixel regions in the pixel definition layer; forming a second substrate, wherein the second substrate includes a connection electrode material at a prede-

termined position on a second base; and aligning and assembling the first substrate and the second substrate, wherein the connection electrode material is arranged in the opening to be electrically coupled to a second electrode of one or more organic light emitting diodes adjacent to the opening.

[0017] In an embodiment, the forming a second substrate includes forming the connection electrode material on the second base at a position corresponding to the opening by a screen printing process; and after aligning and assembling the first substrate and the second substrate, the manufacturing method of the display panel further includes baking the connection electrode material in the opening dry by a baking process to form the connection electrode.

[0018] In an embodiment, the forming the first substrate includes forming at least one auxiliary electrode on the first base at a position corresponding to the opening, after aligning and assembling the first substrate and the second substrate, second electrodes of organic light emitting diodes adjacent to the opening are electrically coupled to each other via the at least one auxiliary electrode and the connection electrode.

[0019] In an embodiment, an orthographic projection of the pixel definition layer on the first base covers an orthographic projection of the at least one auxiliary electrode on the first base.

[0020] In an embodiment, the forming the first substrate includes forming, on the first base, a pattern including a first electrode of each of the at least one organic light emitting diode by a patterning process; forming, on the first base subjected to the above step, by a patterning process, a pattern including a pixel definition layer, wherein the pixel definition layer defines a plurality of pixel regions spaced apart each other for accommodating the at least one organic light emitting diode, and the pixel definition layer between at least two adjacent pixel regions includes one opening; and forming, on the first base subjected to the above step, a light emitting layer and a second electrode of each of the at least one organic light emitting diode, wherein the second electrode of the organic light emitting diode is disconnected at the opening.

[0021] In an embodiment, the forming the first substrate includes forming, on the first base, a pattern including a first electrode of each of the at least one organic light emitting diode by a patterning process; forming, on the first base subjected to the above step, by a patterning process, a pattern including at least one auxiliary electrode in a region defined by at least two adjacent first electrodes; forming, on the first base subjected to the above step, by a patterning process, a pattern including a first pixel definition sub-layer, wherein the first pixel definition sub-layer is formed between the first electrode and the auxiliary electrode adjacent thereto, and surrounds the first electrode, and contacts the auxiliary electrode; forming, on the first base subjected to the above step, by a patterning process, a pattern including a second pixel definition sub-layer, wherein a surface of the second pixel definition sub-layer proximal to the first base completely covers a surface of the first pixel definition sub-layer distal to the first base and partially covers a surface of the auxiliary electrode distal to the first base, and an orthographic projection of the second pixel definition sub-layer on the first base completely covers an orthographic projection of the at least one auxiliary electrode on the first base; and forming, on the first base subjected to the above step, a light emitting layer and a second electrode of each of the at least one organic light emitting diode, wherein the light emitting layer and the second electrode each are disconnected at the opening.

[0022] In an embodiment, the forming the first substrate includes forming, on the first base, a pattern including a first electrode of each of the at least one organic light emitting diode by a patterning process; forming, on the first base subjected to the above step, by a patterning process, a pattern including at least one auxiliary electrode in a region defined by at least two adjacent first electrodes; forming, on the first base subjected to the above step, by a patterning process, a pattern including a pixel definition layer, wherein the pixel definition layer is formed between the first electrode and the auxiliary electrode adjacent thereto, and the pixel definition layer is not in contact with the auxiliary electrode; forming, on the at least one auxiliary electrode, by a patterning process, a pattern including a dam, wherein a surface of the dam proximal to the first base completely covers a surface of the auxiliary electrode distal to the first base, and a cross section of the dam along a direction perpendicular to the first base is an inverted trapezoid; and forming, on the first base subjected to the above step, a light emitting layer and a second electrode of each of the at least one organic light emitting diode, wherein the light emitting layer and the second electrode of the organic light emitting diode each are disconnected at a position of an edge of a surface of the dam distal to the first base.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] FIG. **1** is a schematic diagram of a structure of a display panel according to an embodiment of the present disclosure;

[0024] FIG. **2** is a process flow diagram of a manufacturing method of a display panel according to an embodiment of the present disclosure;

[0025] FIG. **3** is a schematic plan view of a display panel according to an embodiment of the present disclosure;

[0026] FIG. **4** is a schematic diagram of a structure of a display panel according to an embodiment of the present disclosure;

[0027] FIG. **5** is a process flow diagram of a manufacturing method of a display panel according to an embodiment of the present disclosure;

[0028] FIG. **6** is a schematic plan view of a display panel according to an embodiment of the present disclosure;

[0029] FIG. **7** is a schematic diagram of a structure of a display panel according to an embodiment of the present disclosure;

[0030] FIG. **8** is a process flow diagram of a manufacturing method of a display panel according to an embodiment of the present disclosure;

[0031] FIG. **9** is a schematic plan view of a display panel according to an embodiment of the present disclosure;

[0032] FIG. **10** is a flow chart of a manufacturing method of a display panel according to an embodiment of the present disclosure;

[0033] FIG. **11** is a flow chart of a manufacturing method of a display panel according to an embodiment of the present disclosure; and

[0034] FIG. **12** is a flow chart of a manufacturing method of a display panel according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0035] In order to help those skilled in the art better understand technical solutions of the present disclosure, the present disclosure is described in further detail below in conjunction with the accompanying drawings and embodiments.

[0036] A top-emitting OLED can significantly improve an aperture ratio of the OLED, while improving pixel density (PPI), and is a hot spot in development of high resolution display technology. The top-emitting OLED in the related art commonly uses a transparent cathode such as Mg: Ag, IZO or the like, and there is a problem of high series resistance (Rs) value of the cathode. Thus, for a large-sized display screen, uniformity of characteristics such as screen display brightness cannot be guaranteed.

[0037] Display panels provided by the embodiments described below all include a first substrate and a second substrate provided opposite to each other, the first substrate includes a first base, a pixel definition layer on the first base, and at least one OLED; each of the at least one OLED includes a first electrode, a light emitting layer, and a second electrode sequentially disposed along a direction directed away from the first base; the pixel definition layer defines a plurality of pixel regions which are spaced apart from each other, the at least one OLED is disposed in the pixel regions, respectively, and a part of the pixel definition layer between at least two adjacent pixel regions includes an opening; the second substrate includes a second base, and a connection electrode which is located on a side of the second base proximal to the pixel definition layer at a position corresponding to the opening; the connection electrode is disposed inside the opening; the second electrode of the OLEDs adjacent to the opening are electrically connected to each other via the connection electrode.

[0038] In the present disclosure, the OLED may be a top-emitting OLED or a bottom-emitting OLED. Since a second electrode of the top-emitting OLED is required to be of a transparent structure, a material such as Mg: Ag, IZO, ITO, AZO or the like is usually selected, and the second electrode is relatively thin, resulting in a large resistance of the second electrode and thus causing a serious problem of IR Drop. Therefore, the top-emitting OLED is mainly described below as an example in the embodiments. It is further to be noted that, one of the first electrode and the second electrode of the OLED is an anode, and the other is a cathode; in the embodiments described below, description is given of an example in which the first electrode is an anode, and the second electrode is a cathode.

[0039] As shown in FIG. **1**, the present embodiment provides a display panel, including: a first substrate and a second substrate provided opposite to each other.

[0040] The first substrate includes a first base **10**, and a pixel definition layer **11** located on the base **10**, the pixel definition layer **11** defines a plurality of pixel regions which are spaced apart from each other and used to accommodate at least one OLED; each of the at least one OLED includes an anode **13**, a light emitting layer **14**, and a cathode **15** sequentially disposed along a direction directed away from the first base **10**; and the pixel definition layer **11** between at least two adjacent OLEDs includes one opening **12**, as shown in FIG. **3**.

[0041] It is to be noted herein that, the so-called "OLED disposed in the pixel region defined by the pixel definition layer **11**" in the present embodiment, means that the OLED corresponds to the region defined by the pixel definition layer **11**, and does not mean in a strict sense that a pattern size of the OLED is equal to that of the region defined by the pixel definition layer **11**.

[0042] The second substrate includes a second base **20**, and a connection electrode **21**, which is located on a side of the second base **20** proximal to the pixel definition layer at a position corresponding to the opening **12**; the connection electrode **21** is provided inside the opening **12**; cathodes **15** of adjacent OLEDs at positions corresponding to the opening **12** are electrically coupled to each other via the connection electrode **21**.

[0043] Since the second substrate of the display panel of the present embodiment includes the connection electrode **21** which is disposed at a position corresponding to the opening **12** on the first substrate, the connection electrode **21** may fill the opening **12**, and cathodes **15** of OLEDs adjacent to the opening **12** are electrically coupled to each other via the connection electrode **21**. In general, a depth of the opening **12** formed by a semiconductor process is far greater than a thickness of the cathode **15** of the OLED, thus, the resistance of the connection electrode **21** of a unit length is far less than the resistance of the cathode **15** of a unit length; as such, with cathodes **15** of adjacent OLEDs electrically coupled to each other via the connection electrode **21**, compared to a planar electrode in the display panel in the related art (cathodes **15** of OLEDs are of an integrated structure), the total resistance of the cathodes **15** of the OLEDs in the present embodiment which are electrically coupled to each other is significantly reduced, which can effectively eliminate the problem of IR Drop, and can improve display uniformity of the display panel.

[0044] The opening provided in the pixel definition layer between adjacent pixel regions may have a rectangular shape extending along a traveling direction of the pixel definition layer where the opening is located, its length may be equal to a length of its adjacent pixel region, and its width may be in a range of 100-200 μm.

[0045] FIG. **3** illustrates an embodiment in which an opening **12** is provided in the pixel definition layer between two adjacent pixel regions in a horizontal direction. However, the present disclosure is not limited thereto. For example, the opening may be provided in the pixel definition layer between two pixel adjacent regions in a longitudinal direction, or the opening may be provided at an intersection of one horizontal extending part and one longitudinal extending part of the pixel definition layer. In whichever case, it is only necessary to provide the connection electrode on the second substrate at a predetermined position corresponding to the position of the opening on the first substrate, so that after the first substrate and the second substrate are assembled, the connection electrode at the predetermined position on the second substrate will go deep into the opening to be electrically coupled to the second electrode of the OLED adjacent to the opening, or will cause second electrodes of multiple OLEDs adjacent to the opening to be electrically coupled together with each other.

[0046] In order to further reduce the total resistance of cathodes electrically coupled to each other together, a material of low resistivity is selected as the material of the connection electrode **21**.

[0047] It is to be noted herein that, in the present embodiment, the connection electrode **21** does not necessarily completely fill the opening **12**, as long as it can electrically

connect cathodes **15** of two adjacent OLEDs. The connection electrode **21** may completely fill the opening **12**, to further reduce the total resistance of cathodes **15** electrically coupled to each other together.

[0048] The above embodiments have been described taking an example where the connection electrode is provided on the second substrate, but the present disclosure is not limited thereto. It is also possible to provide the connection electrode on the first substrate and locate the connection electrode in the opening of the pixel definition layer.

[0049] It is to be noted herein that, in a case where the connection electrode is provided on the second substrate different from the first substrate on which the OLEDs are provided, a signal introduction line **100** which inputs signals to the cathodes **15** may be provided in a peripheral area of the second base **20**, and the signal introduction line **100** may be connected in series with the connection electrode **21**, which can relieve wiring stress on the first base **10**, as shown in FIG. **1**.

[0050] With respect to the above display panel, the present embodiment also provides a manufacturing method of the display panel, as shown in FIG. **2**, which includes steps S**11** to S**16**.

[0051] At step S**1**, a pattern including anodes **13** of OLEDs is formed on the first base **10** by a patterning process.

[0052] Herein, it should be understood that, before the anodes **13** of the OLEDs are formed, the first base **10** should be formed with structures such as a driving element for driving the OLED to emit light, for example, a thin film transistor, a storage capacitor, etc.

[0053] At step S**12**, on the first base **10** subjected to the above step, by a patterning process, a patterned pixel definition layer **11** is formed to define pixel regions for accommodating the OLEDs, and an opening **12** is formed in the pixel definition layer **11** to be located between two adjacent pixel regions; as shown in FIG. **2**, the pixel definition layer for defining pixel regions forms a plurality of accommodation parts, and the anodes **13** are exposed at the accommodation parts.

[0054] At step S**13**, light emitting layers **14** of the OLEDs are formed on the first base **10** subjected to the above step. In the embodiment shown in FIG. **2**, the light emitting layer **14** is not formed at the opening **12**, the light emitting layer **14** is formed only on the anode **13** in the pixel region defined by the pixel definition layer **11** and on a side surface of the pixel definition layer around the pixel region. However, the present disclosure is not limited thereto, the light emitting layer may also be formed on the first base **10** in the opening, but the light emitting layer above the opening is disconnected.

[0055] The light emitting layers **14** of the OLEDs may be formed by inkjet printing. Of course, the present disclosure is not limited thereto, and a process such as evaporation plating may also be employed to form the light emitting layer.

[0056] At step S**14**, cathodes **15** of the OLEDs are formed on the first base **10** subjected to the above step. The cathode **15** and the light emitting layer **14** of each OLED should be conformal, and be disconnected at or above the opening **12**.

[0057] In this step, the cathodes **15** of the OLEDs may be formed by deposition such as evaporation plating, sputtering or the like.

[0058] The cathode **15** of the OLED may be transparent, for example, may be a monolayer cathode **15** made of a material such as Mg: Ag, IZO, ITO, AZO, or the like, or may be a multilayer cathode **15** made of a thin layer of a transparent material such as Mg: Ag, Ag and a material such as IZO, ITO, AZO. When the cathode **15** is a monolayer transparent cathode **15**, its thickness is about 10-100 nm; when the cathode **15** is a multilayer transparent cathode **15**, the thin layer of the transparent material such as Mg: Ag, Ag as a first layer of the cathode **15** is located at a side of the light emitting layer, with a thickness of about 2-20 nm, while the material such as IZO, ITO, AZO covers the thin layer of the transparent material, with a thickness ranging from 10-100 nm.

[0059] At step S**15**, a connection electrode material **210** is formed on the second base **20** at a position corresponding to the opening **12** on the first substrate.

[0060] The connection electrode material **210** may be formed on the second base **20**, at the position corresponding to the opening **12** on the first substrate, by a screen printing method; the connection electrode material **210** may be silver paste.

[0061] At step S**16**, the first base **10** formed with the cathodes **15** of the OLEDs and the second base **20** formed with the connection electrode material **210** are aligned and assembled, such that the connection electrode material **210** fills the opening **12** to form the connection electrode **21** which causes the cathodes **15** of the OLEDs adjacent to the opening to be electrically coupled to each other together, and the display panel is obtained.

[0062] This step may specifically employ a vacuum alignment method to assemble the first base **10** formed with the cathodes **15** of the OLEDs with the second base **20** formed with the connection electrode material **210**, such that the connection electrode material **210** fills the opening **12**, after which a baking method is used to bake the connection electrode material **210** dry, to form the connection electrode **21**. The cathodes **15** of the OLEDs are thus electrically coupled to each other together, to obtain the display panel.

[0063] It is to be noted herein that, the step S**15** may be performed before the step S**11**. That is, the second substrate may be formed first.

[0064] FIG. **10** illustrates a flow chart of the above-described manufacturing method of the display panel.

[0065] An embodiment of the present disclosure provides a display panel, including: a first substrate and a second substrate provided opposite to each other.

[0066] The first substrate includes a first base **10** and a pixel definition layer **11** located on the first base **10**, and pixel regions are defined by the pixel definition layer **11** to accommodate OLEDs; each of the OLEDs includes an anode **13**, a light emitting layer **14**, and a cathode **15** sequentially disposed along a direction directed away from the first base **10**; the pixel definition layer between adjacent pixel regions includes one opening **12**; an auxiliary electrode **16** is provided on the first base **10** located in the opening **12**, as shown in FIG. **4**. The auxiliary electrode **16** in the opening **12** shown in FIG. **4** may be an annular auxiliary electrode, such as a circular or rectangular annular shape or the like.

[0067] The second substrate includes a second base **20**, and a connection electrode **21**, which is located on a side of the second base **20** proximal to the pixel definition layer, at a position corresponding to a position of the opening **12**; the

connection electrode **21** is provided inside the opening **12**, to electrically couple cathodes **15** of OLEDs adjacent to the opening **12** together via the auxiliary electrode **16** and the connection electrode **21**.

[0068] Since the auxiliary electrode **16** is provided in the opening **12** on the first substrate of the display panel of the present embodiment; the second substrate includes the connection electrode **21** which is disposed at a position corresponding to the opening **12** on the first substrate, the connection electrode **21** may fill the opening **12**. The cathodes **15** of the OLEDs adjacent to the opening **12** may be electrically coupled to each other together via the connection electrode **21** and the auxiliary electrode **16**. In general, a depth of the opening **12** is far greater than a thickness of the cathode **15** of the OLED, thus, the resistance of the connection electrode **21** of a unit length is far less than the resistance of the cathode **15** of a unit length; as such, with cathodes **15** of adjacent OLEDs electrically coupled to each other via the connection electrode **21**, compared to a planar electrode in the display panel in the related art (cathodes **15** of OLEDs are of an integrated structure), the total resistance of the cathodes **15** of the OLEDs in the present embodiment which are electrically coupled to each other is significantly reduced. Moreover, the auxiliary electrode **16** is formed in the opening **12**, the auxiliary electrode **16** may also assist in the electrical connection between the connection electrode **21** and the cathode **15** of the OLED, thus can effectively eliminate the problem of IR Drop.

[0069] In the present embodiment, an orthographic projection of the pixel definition layer **11** on the first base **10** covers an orthographic projection of the auxiliary electrode **16** on the first base **10**. That is, an included angle between a surface of the pixel definition layer **11** distal to the first base **10** and a side surface of the pixel definition layer **11** defining the opening **12** is an acute angle. As such, when forming cathodes **15** of the OLEDs on the pixel definition layer **11**, an entire layer of the cathode material may be formed, and this entire layer of the cathode material is disconnected at an edge of the pixel definition layer **11**. Thus, cathodes **15** of the respective OLEDs may be formed by one process. It is to be noted herein that, the cathode material on the surface of the pixel definition layer **11** distal to the first base **10** is connected to the cathode material at the position corresponding to the OLED, that is, the cathode of each OLED will extend to an upper surface of the pixel definition layer **11**.

[0070] Of course, the orthographic projection of the pixel definition layer **11** on the first base **10** may partially cover the orthographic projection of the auxiliary electrode **16** on the first base **10**, as long as the included angle between a surface of the pixel definition layer **11** distal to the first base **10** and a side surface of the pixel definition layer **11** defining the opening **12** is an acute angle. This can satisfy that, when forming cathodes **15** of the OLEDs on the pixel definition layer **11**, a cathode material layer is disconnected at an edge of the pixel definition layer **11**. As such, cathodes **15** of the respective OLEDs may be formed by one process. In this case, in the opening **12**, an organic light emitting material and a cathode material may be formed sequentially along a direction directed away from the first base **10**. Of course, the light emitting material and the cathode material may not be formed in the opening **12**.

[0071] The structure of the display panel of the present embodiment is described below in conjunction with structures of two types of pixel definition layers, and positional relationship between the pixel definition layer **11** and the auxiliary electrode **16**.

[0072] As a first implementation of the present embodiment, as shown in FIG. **4**, the pixel definition layer **11** on the first substrate is a two-layer structure. Specifically, the pixel definition layer **11** includes a first pixel definition sub-layer **111** and a second pixel definition sub-layer **112** provided sequentially along a direction directed away from the first base **10**; the first pixel definition sub-layer **111** contacts the auxiliary electrode **16**; an orthographic projection of the second pixel definition sub-layer **112** on the first base **10** completely covers an orthographic projection of the auxiliary electrode **16** on the first base **10**, and partially covers an orthographic projection of the first pixel definition sub-layer **111** on the first base **10**.

[0073] The reason for employing the pixel definition layer **11** of the two-layer structure is that, when cathodes **15** of the respective OLEDs are required to be formed in one process, the height of the pixel definition layer of a one-layer structure should be high enough to ensure that the cathode material layer is disconnected at the edge of the pixel definition layer, however, due to the process limitation, it is difficult to form the pixel definition layer of the one-layer structure having a sufficient height, thus in the present embodiment, the pixel definition layer **11** is formed to have two parts: the first pixel definition sub-layer **111** and the second pixel definition sub-layer **112** provided sequentially along a direction directed away from the first base **10**.

[0074] The manufacturing method of the display panel of this embodiment is described below in conjunction with FIG. **5**. As shown in FIG. **5**, the method includes steps S**21** to S**28**.

[0075] At step S**21**, a pattern including anodes **13** of OLEDs is formed on the first base **10** by a patterning process.

[0076] Herein, it should be understood that, before forming the anodes **13** of the OLEDs, the first base **10** should be formed with structures such as a driving element for driving the OLED to emit light, for example, a thin film transistor, a storage capacitor, etc.

[0077] At step S**22**, on the first base **10** subjected to the above step, a pattern including the auxiliary electrode **16** is formed by a patterning process. Referring to FIG. **6**, the auxiliary electrode **16** may be an annular auxiliary electrode **16** provided between two adjacent anodes. The embodiment shown in FIG. **6** illustrates a rectangular annular auxiliary electrode **16**. However, the present disclosure is not limited thereto, and a circular annular auxiliary electrode **16** may also be possible.

[0078] The auxiliary electrode **16** formed in this step has a trapezoid cross section along a direction perpendicular to the first base **10**. A material of the auxiliary electrode **16** may include any one of Mo, Mo/Al/Mo, Cu, or Ag, but the present disclosure is not limited thereto.

[0079] At step S**23**, on the first base **10** subjected to the above step, a pattern including a first pixel definition sub-layer **111** is formed by a patterning process. The first pixel definition sub-layer **111** is formed between the anode **13** and the auxiliary electrode **16** to surround the anode **13**, and the first pixel definition sub-layer **111** is in contact with the auxiliary electrode **16**.

[0080] The first pixel definition sub-layer **111** formed in this step has a thickness in a range of 0.2-1.5 μm. The

formed first pixel definition sub-layer **111** has a trapezoid cross section along a direction perpendicular to the first base **10**.

[0081] At step S**24**, on the first base **10** subjected to the above step, a pattern including a second pixel definition sub-layer **112** is formed by a patterning process. a surface of the second pixel definition sub-layer **112** proximal to the first base **10** completely covers a surface of the first pixel definition sub-layer **111** distal to the first base **10** and partially covers a surface of the auxiliary electrode **16** distal to the first base **10**; an orthographic projection of the second pixel definition sub-layer **112** on the first base **10** completely covers an orthographic projection of the auxiliary electrode **16** on the first base **10**.

[0082] It is to be noted herein that, the surface of the second pixel definition sub-layer **112** proximal to the first base **10** is arranged to completely cover the surface of the first pixel definition sub-layer **111** distal to the first base **10**, in order to prevent a step from being formed on a contact surface between the first pixel definition sub-layer **111** and the second pixel definition sub-layer **112**, which may avoid subsequent disconnection between the cathode material on the surface of the pixel definition layer **11** distal to the first base **10** and the cathode material at a position corresponding to the OLED.

[0083] The second pixel definition sub-layer **112** formed in this step has a thickness in a range of 0.2-1.5 μm.

[0084] At step S**25**, light emitting layers **14** of the OLEDs are formed on the first base **10** subjected to the above step. At this time, a light emitting material may be also formed in the opening **12**.

[0085] The light emitting layers **14** of the OLEDs may be formed by employing an inkjet printing process. Of course, the process for forming the light emitting layer **14** is not limited thereto, a process such as evaporation plating may also be employed.

[0086] At step S**26**, cathodes **15** of the OLEDs are formed on the first base **10** subjected to the above step. The cathode **15** of each OLED is broken, cracked or disconnected at the position of the opening **12**. At this time, a cathode material may be also formed on the light emitting material in the opening **12**.

[0087] In this step, the cathodes **15** of the OLEDs may be formed by deposition such as evaporation plating, sputtering or the like.

[0088] The cathode **15** of the OLED may be transparent, for example, may be a monolayer cathode **15** made of a material such as Mg: Ag, IZO, ITO, AZO, or the like, or may be a multilayer cathode **15** made of a thin layer of a transparent material such as Mg: Ag, Ag and a material such as IZO, ITO, AZO. When the cathode **15** is a monolayer transparent cathode **15**, its thickness is about 10-100 nm; when the cathode **15** is a multilayer transparent cathode **15**, the thin layer of the transparent material such as Mg: Ag, Ag as a first layer of the cathode **15** is located at a side of the light emitting layer, with a thickness of about 2-20 nm, while the material such as IZO, ITO, AZO covers the thin layer of the transparent material, with a thickness ranging from 10-100 nm.

[0089] At step S**27**, a connection electrode material **210** is formed on the second base **20**, at a position corresponding to the opening **12** on the first substrate.

[0090] The connection electrode material **210** may be formed on the second base **20**, at the position corresponding to the opening **12** on the first substrate, by a screen printing method; the connection electrode material **210** may be silver paste.

[0091] At step S**28**, the first base **10** formed with the cathodes **15** of the OLEDs and the second base **20** formed with the connection electrode material **210** are aligned and assembled, such that the connection electrode material **210** fills the opening **12** to form the connection electrode **21**, which causes the cathodes **15** of the OLEDs adjacent to the opening to be electrically coupled to each other together via the auxiliary electrode **16**, and the display panel is obtained.

[0092] This step may specifically employ a vacuum alignment method to assemble the first base **10** formed with the cathodes **15** of the OLEDs with the second base **20** formed with the connection electrode material **210**, such that the connection electrode material **210** fills the opening **12**, after which a baking process is used to bake the connection electrode material **210** dry, to form the connection electrode **21**. The cathodes **15** of the OLEDs are thus electrically coupled to each other together, to obtain the display panel.

[0093] It is to be noted herein that, the step S**27** may be performed before the step S**21**. That is, the second substrate may be formed first.

[0094] FIG. **11** illustrates a flow chart of the above-described manufacturing method of the display panel.

[0095] FIG. **7** illustrates a display panel according to an embodiment of the present disclosure. As shown in FIG. **7**, a pixel definition layer **111** on the first base **10** of the first substrate is spaced apart from the auxiliary electrode **16**, a dam **112** is provided on the auxiliary electrode **16**, and a cross section of the dam **112** along a direction perpendicular to the first base is an inverted trapezoid. In a case where the auxiliary electrode **16** is an annular auxiliary electrode which is located in the opening and spaced apart from the pixel definition layer as described in the foregoing embodiment, the dam **112** provided thereon in this embodiment is also an annular dam.

[0096] Accordingly, the connection electrode **21** on the second base **20** includes a first connection sub-electrode **212** located inside the annular auxiliary electrode **16** and the annular dam **112**, and a second connection sub-electrode **211** located outside the annular auxiliary electrode **16** and the annular dam **112**; cathodes **15** of adjacent OLEDs at positions corresponding to the opening **12** (each opening **12** includes a first sub-opening **121** and a second sub-opening **122**, as shown in FIGS. **8** and **9**) are electrically coupled to each other via the auxiliary electrode **16**, the first connection sub-electrode **212**, and the second connection sub-electrode **211**.

[0097] In this embodiment, the dam **112** may also be considered as one layer constituting a pixel definition layer, and its combination with the pixel definition layer **111** may be considered as the pixel definition layer of a two-layer structure. As described in the foregoing embodiment, the reason for employing the pixel definition layer of the two-layer structure is that, when cathodes **15** of the respective OLEDs are required to be formed in one process, the height of the pixel definition layer of a one-layer structure should be high enough to ensure that the cathode material layer is disconnected at the edge of the pixel definition layer, however, due to the process limitation, it is difficult to form the pixel definition layer of the one-layer structure having a sufficient height, thus in the present embodiment, the pixel definition layer is manufactured to have two parts: the first

pixel definition layer **111** and the dam **112** provided sequentially along a direction directed away from the first base **10**, to realize the pixel definition layer of the two-layer structure.

[0098] The manufacturing method of the display panel of this embodiment is described below in conjunction with FIG. **8**. As shown in FIG. **8**, the method includes steps S**31** to S**38**.

[0099] At step S**31**, a pattern including anodes **13** of OLEDs is formed on the first base **10** by a patterning process.

[0100] Herein, it should be understood that, before the anodes **13** of the OLEDs are formed, the first base **10** should be formed with structures such as a driving element for driving the OLED to emit light, for example, a thin film transistor, a storage capacitor, etc.

[0101] At step S**32**, on the first base **10** subjected to the above step, a pattern including the auxiliary electrode **16** is formed by a patterning process. Similar to the foregoing embodiment, the auxiliary electrode **16** may be an annular auxiliary electrode provided between two adjacent cathodes.

[0102] The auxiliary electrode **16** formed in this step has a trapezoid cross section along a direction perpendicular to the first base **10**. A material of the auxiliary electrode **16** may include any one of Mo, Mo/Al/Mo, Cu, or Ag. However, the present disclosure is not limited thereto.

[0103] At step S**33**, on the first base **10** subjected to the above step, a pattern including a pixel definition layer **111** is formed by a patterning process. The pixel definition layer **111** is formed between the anode **13** and the auxiliary electrode **16**, and the pixel definition layer **111** is not in contact with the auxiliary electrode **16**, as shown in FIG. **9**.

[0104] The pixel definition layer **111** formed in this step has a thickness in a range of 0.2-1.5 μm. The pixel definition layer **111** has a trapezoid cross section along a direction perpendicular to the first base **10**.

[0105] At step S**34**, on the first base **10** subjected to the above step, a pattern including a dam **112** is formed on the auxiliary electrode **16** by a patterning process. A surface of the dam **112** proximal to the first base **10** completely covers a surface of the auxiliary electrode **16** distal to the first base **10**, and the dam **112** has an inverted trapezoid cross section along a direction perpendicular to the first base **10**; in this case, a first sub-opening **121** of the opening **12** is defined between the pixel definition layer **111** and the auxiliary electrode **16**, and a second sub-opening **122** of the opening **12** is defined by the auxiliary electrode **16**, as shown in FIGS. **7** to **9**, and each opening **12** includes the first sub-opening **121** and the second sub-opening **122**.

[0106] The dam **112** formed in this step has a thickness in a range of 0.2-1.5 μm.

[0107] At step S**35**, light emitting layers **14** of the OLEDs are formed on the first base **10** subjected to the above step, and a light emitting material is formed in both the first sub-opening **121** and the second sub-opening **122**.

[0108] The light emitting layers **14** of the OLEDs may be formed by employing an inkjet printing process. Of course, the process for forming the light emitting layer **14** is not limited thereto, and a process such as evaporation plating may also be employed.

[0109] At step S**36**, cathodes **15** of the OLEDs are formed on the first base **10** subjected to the above step. The cathode **15** of each OLED is disconnected at a position of an edge of the surface of the dam **112** distal to the first base **10**. A cathode material is formed on the light emitting material in both the first sub-opening **121** and the second sub-opening **122**.

[0110] In this step, the cathode material layer of the OLEDs may be formed by deposition such as evaporation plating, sputtering or the like. The cathode material layer is disconnected at the position of the edge of the surface of the dam **112** distal to the first base **10**, to form the cathode **15** of each OLED.

[0111] The cathode **15** of the OLED may be transparent, for example, may be a monolayer cathode **15** made of a material such as Mg: Ag, IZO, ITO, AZO, or the like, or may be a multilayer cathode **15** made of a thin layer of a transparent material such as Mg: Ag, Ag and a material such as IZO, ITO, AZO. When the cathode **15** is a monolayer transparent cathode **15**, its thickness is about 10-100 nm; when the cathode **15** is a multilayer transparent cathode **15**, the thin layer of the transparent material such as Mg: Ag, Ag as a first layer of the cathode **15** is located at a side of the light emitting layer, with a thickness of about 2-20 nm, while the material such as IZO, ITO, AZO covers the thin layer of the transparent material, with a thickness ranging from 10-100 nm.

[0112] At step S**37**, a connection electrode material **210** is formed on the second base **20**, at positions corresponding to the first sub-opening **121** and the second sub-opening **122** on the first substrate.

[0113] The connection electrode material **210** may be formed on the second base **20** at positions corresponding to the first sub-opening **121** and the second sub-opening **122** on the first substrate, by a screen printing method; the connection electrode material **210** may be silver paste.

[0114] At step S**38**, the first base **10** formed with the cathodes **15** of the OLEDs and the second base **20** formed with the connection electrode material **210** are aligned and assembled, such that the connection electrode material **210** fills the first sub-opening **121** and the second sub-opening **122** to form the first connection sub-electrode **211** and the second connection sub-electrode **212**, which cause the cathodes **15** of the OLEDs adjacent to the opening to be electrically coupled to each other together via the auxiliary electrode **16**, and the display panel is obtained.

[0115] This step may specifically employ a vacuum alignment method to assemble the first base **10** formed with the cathodes **15** of the OLEDs with the second base **20** formed with the connection electrode material **210**, such that the connection electrode material **210** fills the first sub-opening **121** and the second sub-opening **122**, after which a baking process is used to bake the connection electrode material **210** dry, to form the first connection sub-electrode **211** and the second connection sub-electrode **212**. The cathodes **15** of the OLEDs are thus electrically coupled to each other together, to obtain the display panel. It is to be noted herein that, the step S**37** may be performed before the step S**31**. That is, the second substrate may be formed first.

[0116] FIG. **12** illustrates a flow chart of the above-described manufacturing method of the display panel.

[0117] It should be understood that, the above embodiments are only exemplary embodiments for the purpose of explaining the principle of the present disclosure, and the present disclosure is not limited thereto. For one of ordinary skill in the art, various improvements and modifications may be made without departing from the spirit and essence of the

present disclosure. These improvements and modifications also fall within the protection scope of the present disclosure.

What is claimed is:

1. A display panel, comprising a first substrate and a second substrate provided opposite to each other; wherein

the first substrate comprises a first base, and a pixel definition layer on the first base, and at least one organic light emitting diode, each of the at least one organic light emitting diode comprises a first electrode, a light emitting layer, and a second electrode sequentially provided along a direction directed away from the first base, and the pixel definition layer defines a plurality of pixel regions spaced apart from each other, the at least one organic light emitting diode is provided in the pixel regions, respectively, and an opening is disposed between at least two adjacent pixel regions in the pixel definition layer; and

the second substrate comprises a second base and a connection electrode on a side of the second base proximal to the pixel definition layer, and the connection electrode is inside the opening, and is electrically coupled to the second electrode of one or more organic light emitting diodes adjacent to the opening.

2. The display panel according to claim **1**, wherein the connection electrode fills the opening and is in contact with the second base.

3. The display panel according to claim **1**, wherein the first substrate further comprises at least one auxiliary electrode in the opening, and the at least one auxiliary electrode is electrically coupled to the connection electrode.

4. The display panel according to claim **3**, wherein an orthographic projection of the pixel definition layer on the first base covers an orthographic projection of the at least one auxiliary electrode on the first base.

5. The display panel according to claim **4**, wherein the at least one auxiliary electrode comprises an annular auxiliary electrode, and the annular auxiliary electrode is arranged in the opening and in contact with the pixel definition layer.

6. The display panel according to claim **5**, wherein the pixel definition layer comprises a first pixel definition sub-layer and a second pixel definition sub-layer provided sequentially along a direction directed away from the first base; and

an orthographic projection of the second pixel definition sub-layer on the first base completely covers the orthographic projection of the at least one auxiliary electrode on the first base, and the orthographic projection of the second pixel definition sub-layer on the first base completely partially covers an orthographic projection of the first pixel definition sub-layer on the first base.

7. The display panel according to claim **6**, wherein a light emitting material of the light emitting layer and an electrode material of the second electrode are provided sequentially on the first base in the opening along the direction directed away from the first base, and each of a height of the light emitting material of the light emitting layer and a height of the electrode material of the second electrode is smaller than a height of the at least one auxiliary electrode.

8. The display panel according to claim **3**, wherein the at least one auxiliary electrode is spaced apart from the pixel definition layer, and a dam is provided on the at least one auxiliary electrode, and a cross section of the dam along a direction perpendicular to the first base is an inverted trapezoid.

9. The display panel according to claim **8**, wherein the at least one auxiliary electrode in the opening comprises an annular auxiliary electrode in the opening and spaced apart from the pixel definition layer, and the dam provided on the annular auxiliary electrode is an annular dam;

the connection electrode comprises a first connection sub-electrode inside the annular auxiliary electrode and the annular dam, and a second connection sub-electrode located outside the annular auxiliary electrode and the annular dam; and

second electrodes of organic light emitting diodes adjacent to the opening are electrically coupled to each other via the at least one auxiliary electrode, the first connection sub-electrode, and the second connection sub-electrode.

10. The display panel according to claim **9**, wherein a light emitting material of the light emitting layer and an electrode material of the second electrode are provided sequentially inside the annular auxiliary electrode in the opening along a direction directed away from the first base.

11. The display panel according to claim **1**, wherein the opening provided in the pixel definition layer between two adjacent pixel regions has a rectangular shape extending along a traveling direction of the pixel definition layer at which the opening is located, a length of the opening is about equal to a length of each of the two adjacent pixel regions, and a width of the opening is in a range of about 100-200 μm.

12. A manufacturing method of a display panel, comprising:

forming a first substrate, wherein the first base comprises a pattern comprising a pixel definition layer on a first base, the pixel definition layer defines a plurality of pixel regions spaced apart from each other, at least one organic light emitting diode is respectively formed in the pixel regions, each of the at least one organic light emitting diode comprises a first electrode, a light emitting layer, and a second electrode sequentially formed along a direction directed away from the first base, and an opening is disposed between at least two adjacent pixel regions in the pixel definition layer;

forming a second substrate, wherein the second substrate comprises a connection electrode material at a predetermined position on a second base;

aligning and assembling the first substrate and the second substrate, wherein the connection electrode material is arranged in the opening to be electrically coupled to a second electrode of one or more organic light emitting diodes adjacent to the opening.

13. The manufacturing method of the display panel according to claim **12**, wherein the forming a second substrate comprises:

forming the connection electrode material on the second base at a position corresponding to the opening by a screen printing process; and

after aligning and assembling the first substrate and the second substrate, the manufacturing method of the display panel further comprises: baking the connection electrode material in the opening dry by a baking process to form the connection electrode.

14. The manufacturing method of the display panel according to claim **12**, wherein the forming the first substrate comprises:

forming at least one auxiliary electrode on the first base at a position corresponding to the opening, after aligning and assembling the first substrate and the second substrate, second electrodes of organic light emitting diodes adjacent to the opening are electrically coupled to each other via the at least one auxiliary electrode and the connection electrode.

15. The manufacturing method of the display panel according to claim **14**, wherein an orthographic projection of the pixel definition layer on the first base covers an orthographic projection of the at least one auxiliary electrode on the first base.

16. The manufacturing method of the display panel according to claim **12**, wherein the forming the first substrate comprises:

forming, on the first base, a pattern comprising a first electrode of each of the at least one organic light emitting diode by a patterning process;

forming, on the first base subjected to the above step, by a patterning process, a pattern comprising a pixel definition layer, wherein the pixel definition layer defines a plurality of pixel regions spaced apart each other for accommodating the at least one organic light emitting diode, and the pixel definition layer between at least two adjacent pixel regions comprises one opening; and

forming, on the first base subjected to the above step, a light emitting layer and a second electrode of each of the at least one organic light emitting diode, wherein the second electrode of the organic light emitting diode is disconnected at the opening.

17. The manufacturing method of the display panel according to claim **12**, wherein the forming the first substrate comprises:

forming, on the first base, a pattern comprising a first electrode of each of the at least one organic light emitting diode by a patterning process;

forming, on the first base subjected to the above step, by a patterning process, a pattern comprising at least one auxiliary electrode in a region defined by at least two adjacent first electrodes;

forming, on the first base subjected to the above step, by a patterning process, a pattern comprising a first pixel definition sub-layer, wherein the first pixel definition sub-layer is formed between the first electrode and the auxiliary electrode adjacent thereto, and surrounds the first electrode, and contacts the auxiliary electrode;

forming, on the first base subjected to the above step, by a patterning process, a pattern comprising a second pixel definition sub-layer, wherein a surface of the second pixel definition sub-layer proximal to the first base completely covers a surface of the first pixel definition sub-layer distal to the first base and partially covers a surface of the auxiliary electrode distal to the first base, and an orthographic projection of the second pixel definition sub-layer on the first base completely covers an orthographic projection of the at least one auxiliary electrode on the first base; and

forming, on the first base subjected to the above step, a light emitting layer and a second electrode of each of the at least one organic light emitting diode, wherein the light emitting layer and the second electrode each are disconnected at the opening.

18. The manufacturing method of the display panel according to claim **12**, wherein the forming the first substrate comprises:

forming, on the first base, a pattern comprising a first electrode of each of the at least one organic light emitting diode by a patterning process;

forming, on the first base subjected to the above step, by a patterning process, a pattern comprising at least one auxiliary electrode in a region defined by at least two adjacent first electrodes;

forming, on the first base subjected to the above step, by a patterning process, a pattern comprising a pixel definition layer, wherein the pixel definition layer is formed between the first electrode and the auxiliary electrode adjacent thereto, and the pixel definition layer is not in contact with the auxiliary electrode;

forming, on the at least one auxiliary electrode, by a patterning process, a pattern comprising a dam, wherein a surface of the dam proximal to the first base completely covers a surface of the auxiliary electrode distal to the first base, and a cross section of the dam along a direction perpendicular to the first base is an inverted trapezoid; and

forming, on the first base subjected to the above step, a light emitting layer and a second electrode of each of the at least one organic light emitting diode, wherein the light emitting layer and the second electrode of the organic light emitting diode each are disconnected at a position of an edge of a surface of the dam distal to the first base.

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专利名称(译)	显示面板及其制造方法		
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摘要(译)

提供一种显示面板及其制造方法。 显示面板包括彼此相对的第一基板和第二基板，第一基板包括第一基底，在第一基底上的像素限定层和至少一个OLED。 每个OLED包括依次设置在第一基底上的第一电极，发光层和第二电极。 像素定义层限定间隔开的像素区域，在像素区域中提供至少一个OLED，并且至少两个相邻像素区域之间的像素定义层包括一个开口。 所述第二基板包括第二基底和位于所述第二基底的靠近所述像素限定层的一侧上的连接电极，所述连接电极布置在所述开口内，并且电连接至与所述开口相邻的OLED的第二电极。