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Cheng et al.

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(54) **OLED PANEL WITH PARTITION PLATE**

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(51) **Int. Cl.**
G09G 3/28 (2013.01)
G09G 3/32 (2006.01)

(52) **U.S. Cl.**
CPC ***G09G 3/3208*** (2013.01)

(58) **Field of Classification Search**
None
See application file for complete search history.

(56) **References Cited**

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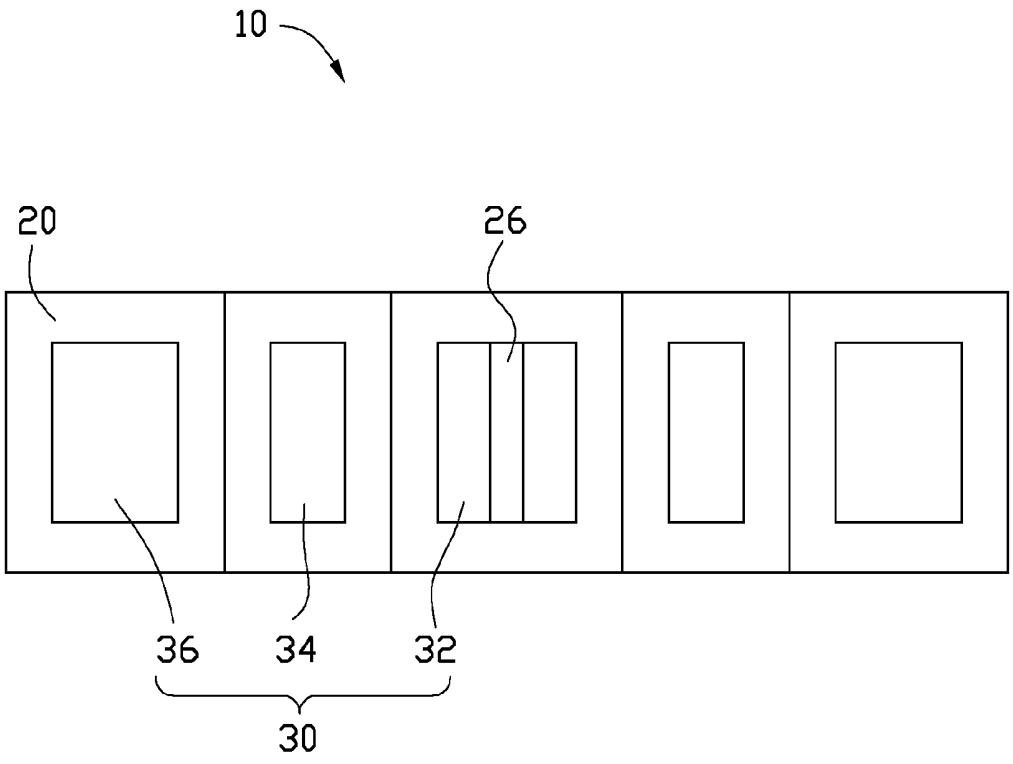
(57) **ABSTRACT**

An OLED panel includes a plurality of pixels. Each pixel includes a first sub-pixel, a second sub-pixel and a third sub-pixel spaced from each other by a plurality of baffle plates. The first sub-pixel of each pixel is located adjacent to that of a neighboring pixel. The first sub-pixel of each pixel is spaced from that of the neighboring pixel by a partition plate. The partition plate has a height less than a height of each baffle plate.

20 Claims, 11 Drawing Sheets



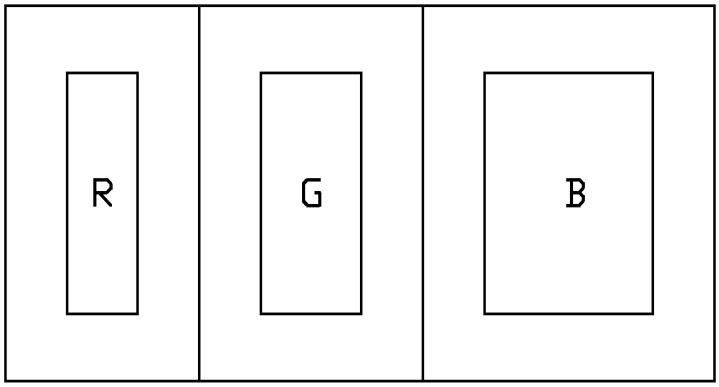


FIG. 1
(RELATED ART)

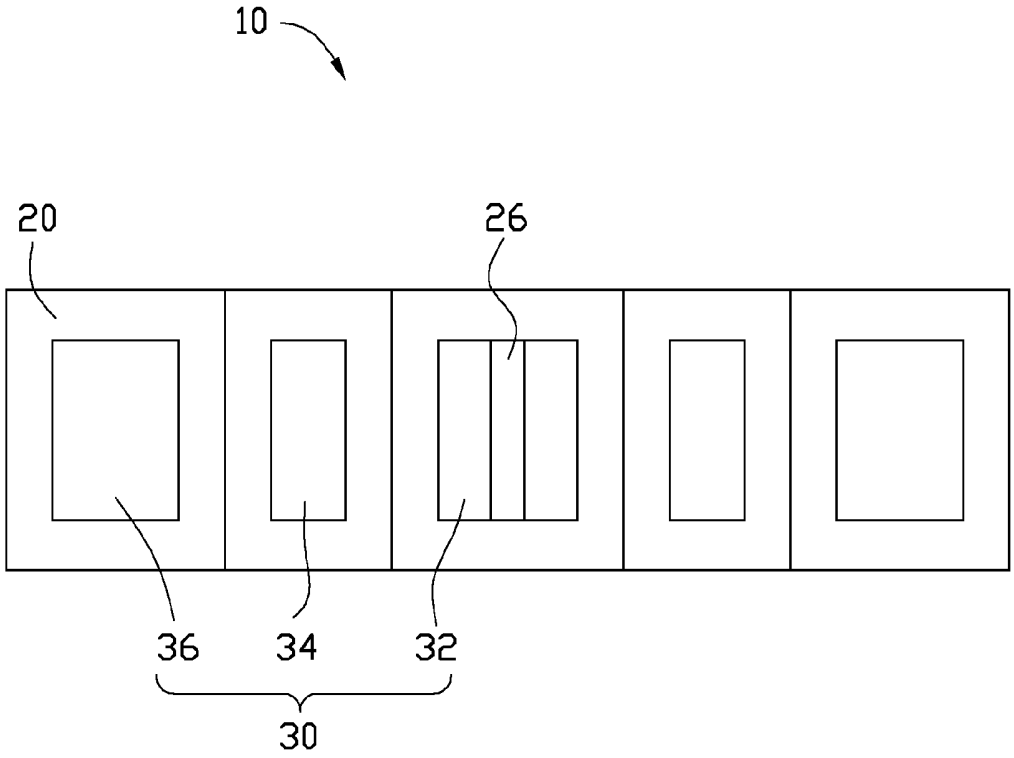


FIG. 2

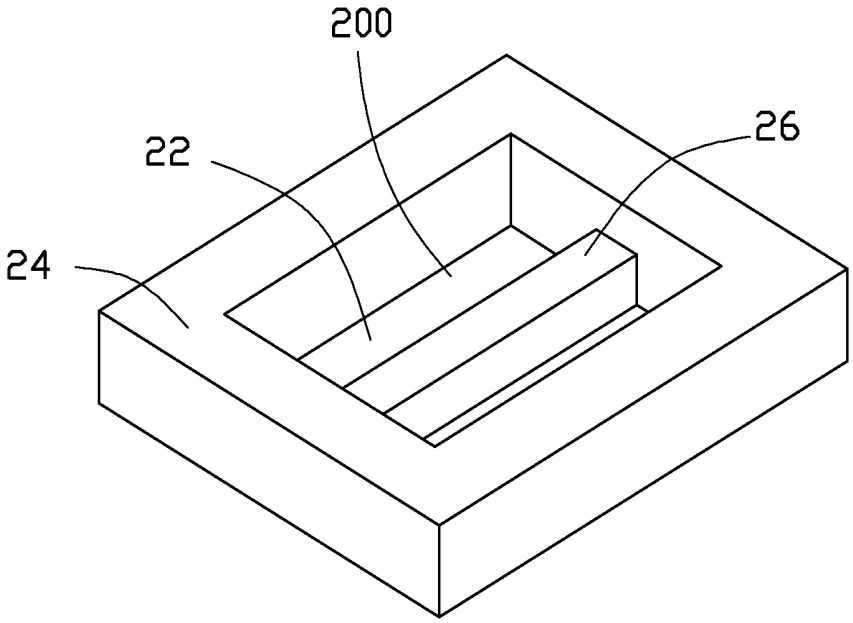


FIG. 3

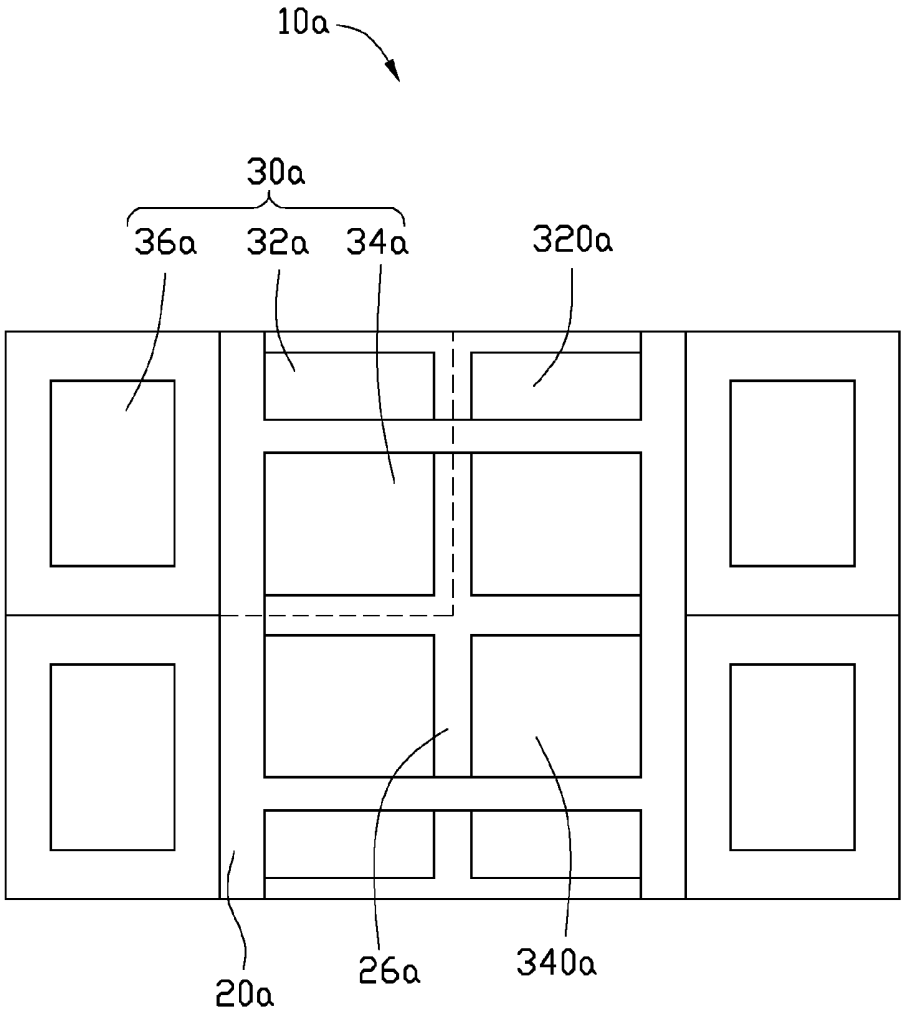


FIG. 4

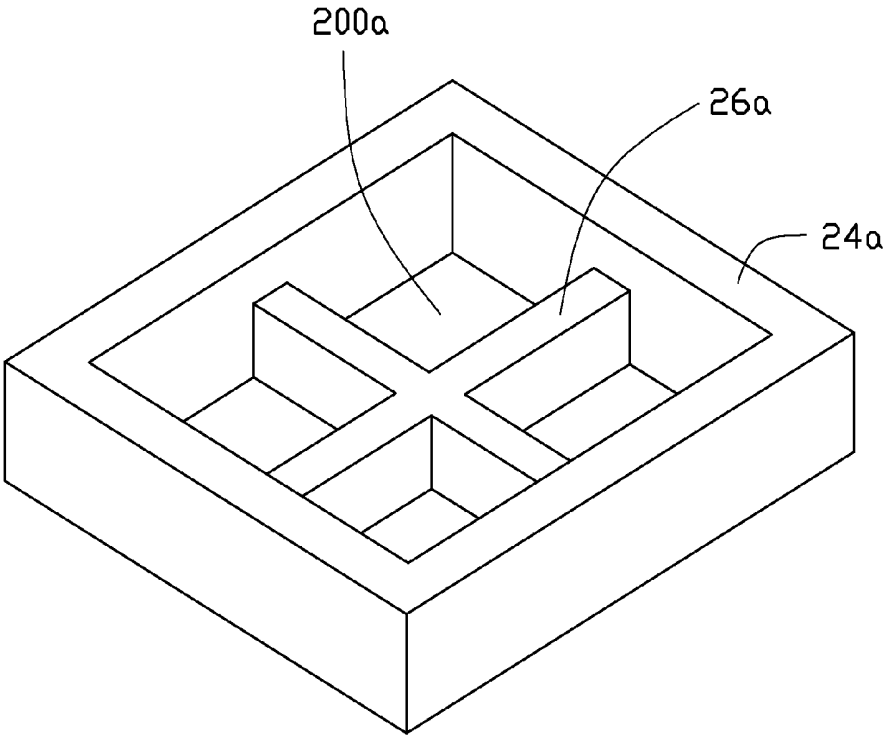


FIG. 5

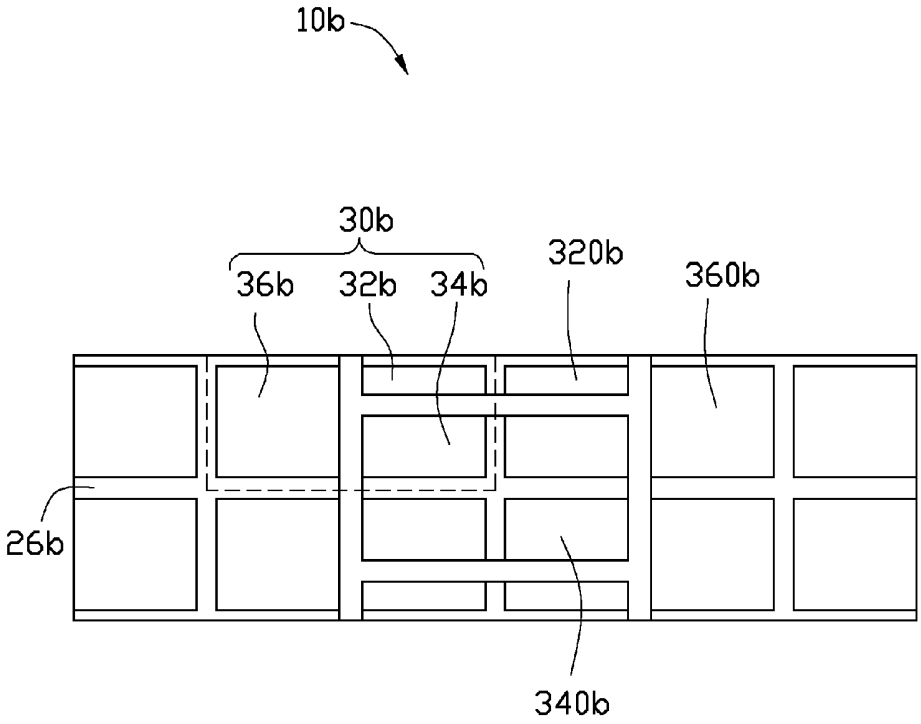


FIG. 6

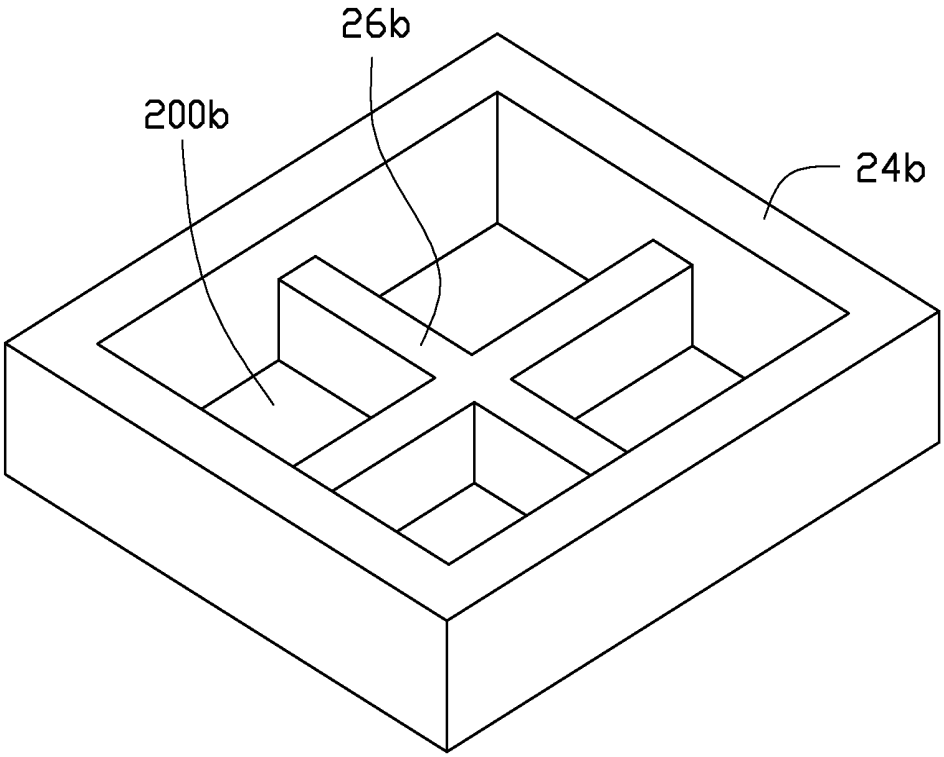


FIG. 7

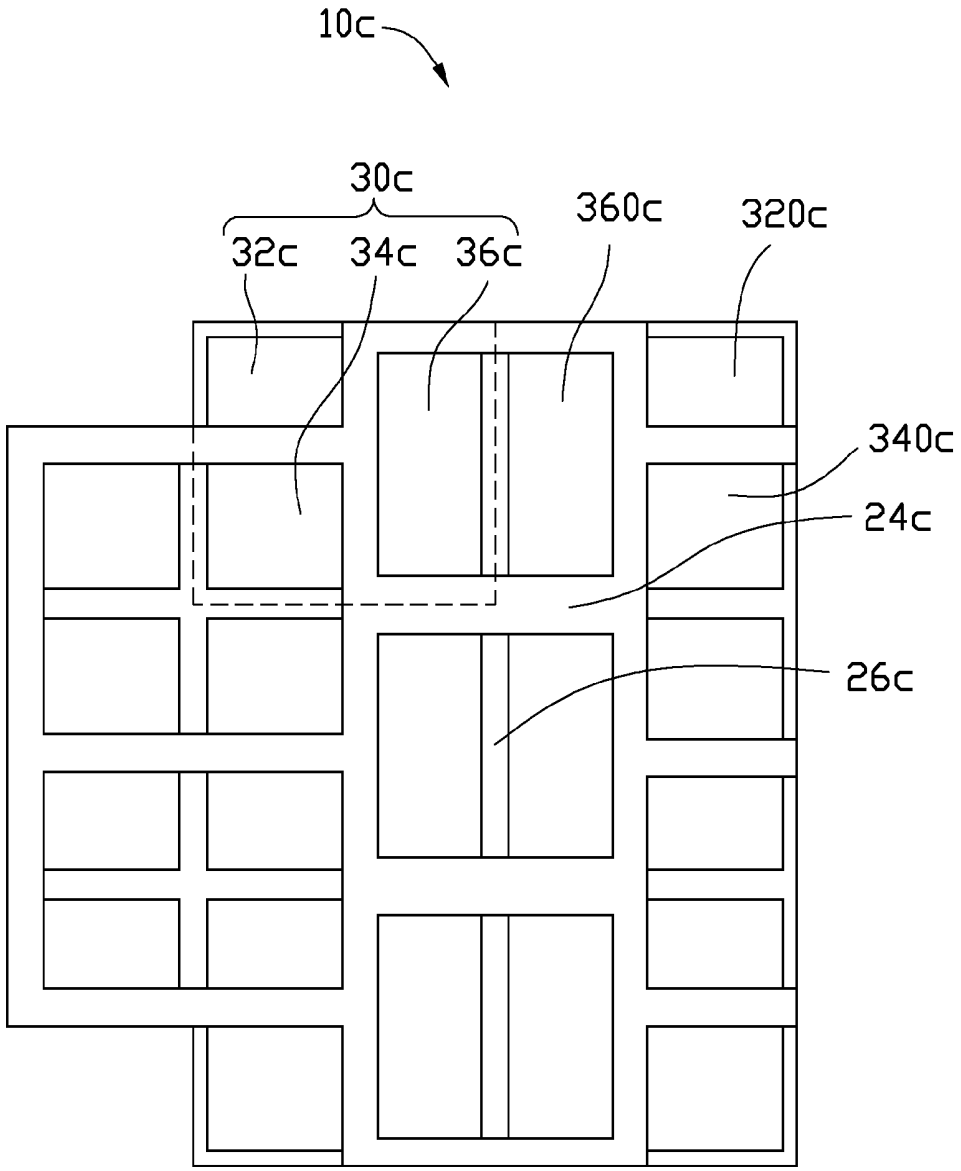


FIG. 8

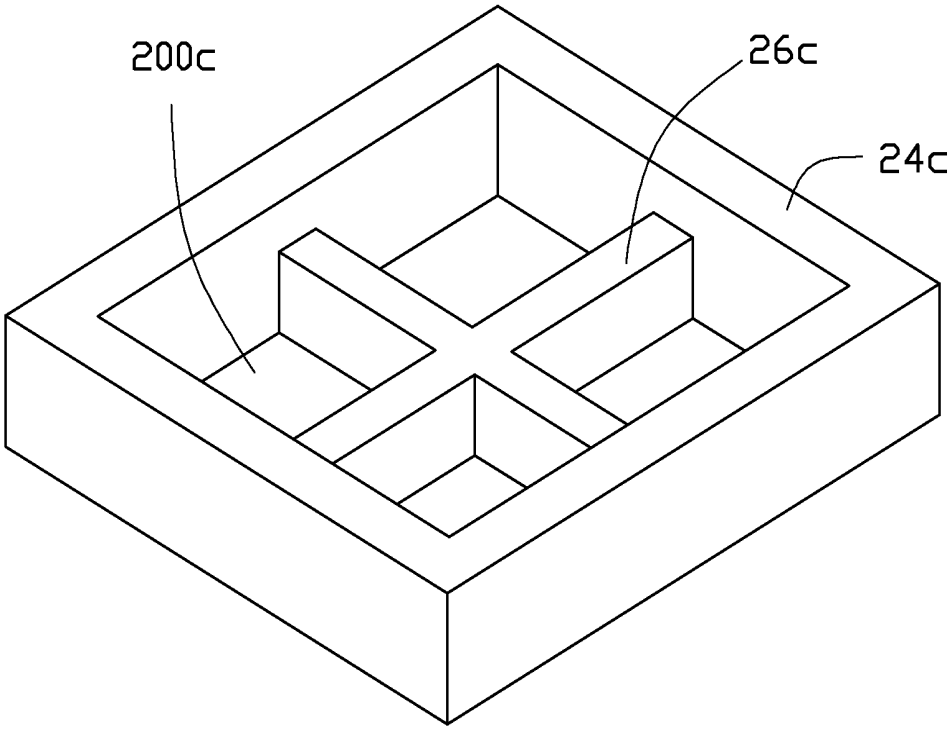


FIG. 9

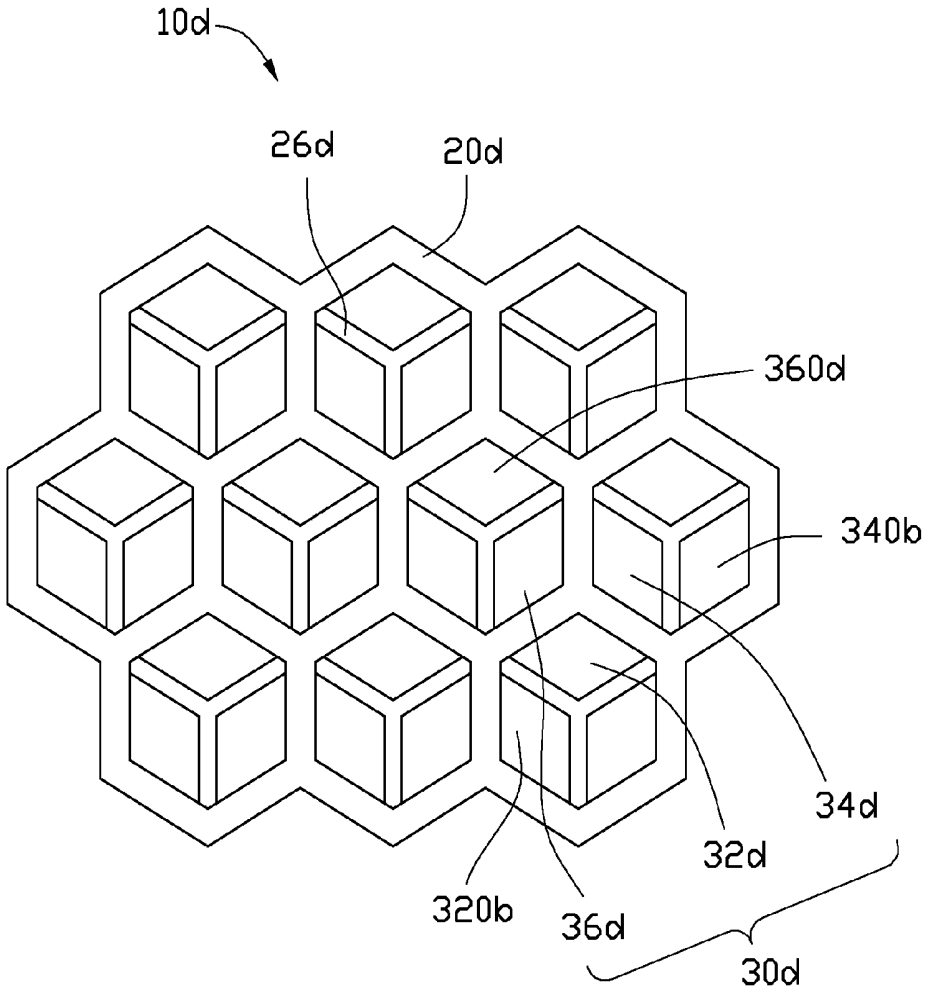


FIG. 10

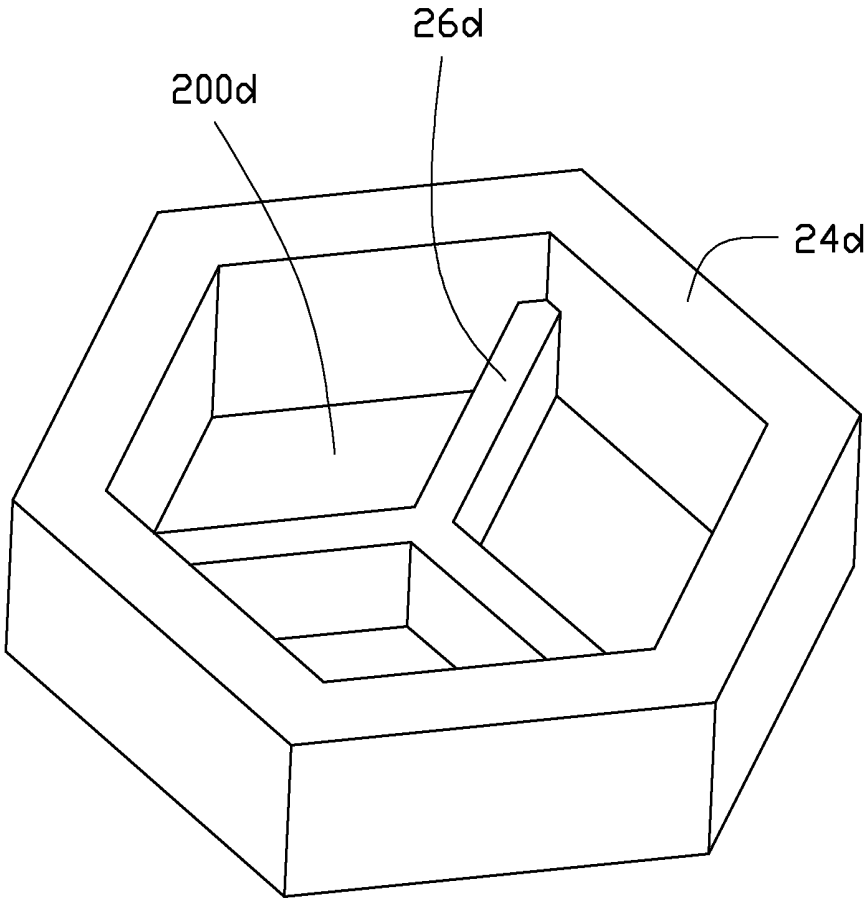


FIG. 11

OLED PANEL WITH PARTITION PLATE

BACKGROUND

1. Technical Field

The disclosure generally relates to an organic light emitting diode (OLED) panel, and particularly to an OLED panel having partition plates for obtaining a high resolution.

2. Description of Related Art

Organic light emitting diode (OLED) panels are widely used in display applications. Referring to FIG. **1**, a typical OLED panel includes a plurality of pixels each consisting of a red sub-pixel, a green sub-pixel and a blue sub-pixel. Each sub-pixel is formed by jetting ink in a chamber surrounded by baffle plates. The light emitting efficiency of the red sub-pixel is larger than that of the green sub-pixel, which is larger than that of the blue sub-pixel. In order to balance the light intensity of the three sub-pixels, the area of the blue sub-pixel is generally larger than that of the green sub-pixel, which is larger than that of the red sub-pixel. Thus, the three sub-pixels can have equal light intensity.

However, limited to technical condition, the typical OLED panel cannot obtain high pixels per inch. The smallest diameter of the conventional jetted drop of the ink is 12.4 μm. That is to say, if the width of the sub-pixel is less than the smallest diameter of the drop, the drop cannot be totally jetted in the chamber of the sub-pixel, thereby causing overflow or color blending. Thus, the typical OLED panel cannot have a high resolution.

What is needed, therefore, is an OLED panel with partition plates which can address the limitations described above.

BRIEF DESCRIPTION OF THE DRAWINGS

Many aspects of the present embodiments can be better understood with reference to the following drawings. The components in the drawings are not necessarily drawn to scale, the emphasis instead being placed upon clearly illustrating the principles of the present embodiments. Moreover, in the drawings, like reference numerals designate corresponding parts throughout the various views.

FIG. **1** schematically shows a pixel of an OLED panel in the related art.

FIG. **2** schematically shows an OLED panel in accordance with a first embodiment of the present disclosure.

FIG. **3** shows a part of the OLED panel of FIG. **2** from another aspect.

FIG. **4** schematically shows an OLED panel in accordance with a second embodiment of the present disclosure.

FIG. **5** shows a part of the OLED panel of FIG. **4** from another aspect.

FIG. **6** schematically shows an OLED panel in accordance with a third embodiment of the present disclosure.

FIG. **7** shows a part of the OLED panel of FIG. **6** from another aspect.

FIG. **8** schematically shows an OLED panel in accordance with a fourth embodiment of the present disclosure.

FIG. **9** shows a part of the OLED panel of FIG. **8** from another aspect.

FIG. **10** schematically shows an OLED panel in accordance with a fifth embodiment of the present disclosure.

FIG. **11** shows a part of the OLED panel of FIG. **10** from another aspect.

DETAILED DESCRIPTION

FIGS. **2-3** show an OLED panel **10** in accordance with a first embodiment of the present disclosure is shown. The

OLED panel **10** includes a substrate **20** and a plurality of pixels **30** formed on the substrate **20**. The substrate **20** includes a bottom plate **22** and a plurality of baffle plates **24** extending upwardly from the bottom plate **22**. In this embodiment, the baffle plates **24** are made of black materials. Each pixel **30** includes a first sub-pixel **32**, a second sub-pixel **34** and a third sub-pixel **36**. In this embodiment, the first sub-pixel **32** is a red sub-pixel, the second sub-pixel **34** is a green sub-pixel, and the third sub-pixel **36** is a blue sub-pixel. The second sub-pixel **34** has an area less than an area of the third sub-pixel **36**, and larger than an area of the first sub-pixel **32**. The first sub-pixel **32**, the second sub-pixel **34** and the third sub-pixel **36** have a rectangular shape, and each pixel **30** is also rectangular.

Each of the second and third sub-pixels **34**, **36** is received in a chamber **200** surrounded by four baffle plates **24**. The three sub-pixels **32**, **34**, **36** of each pixel **30** are spaced from each other by the baffle plates **24**. The first sub-pixel **32** of each pixel **30** is located adjacent to the first sub-pixel **32** of a neighboring pixel **30**. The first sub-pixel **32** of each pixel **30** is spaced by a partition plate **26** from the first sub-pixel **32** of the neighboring pixel **30**. Each first sub-pixel **34** is received in a chamber **200** surrounded by three baffle plates **24** and one partition plate **26**. The partition plate **26** has a height less than a height of the baffle plate **24**. The arrangement of the sub-pixels **32**, **34**, **36** of each pixel **30** is symmetrical with the arrangement of the neighboring pixel **30** about the partition plate **26**. In this embodiment, the first sub-pixel **32** has a width of about 8.2 μm, the second sub-pixel **34** has a width of about 15.8 μm, the third sub-pixel **36** has a width of about 23.4 μm, the baffle plate **24** has a width of about 9 μm, and the partition plate has a width of about 18 μm. The width of each first sub-pixel **32** is less than a smallest diameter (12.4 μm) of a conventional jetted drop of ink. However, upper portions of the chambers **200** of the two adjacent first sub-pixels **32** still communicate with each other through a space just above the partition plate **26**. Thus, when the drop of a red ink is jetted in one first sub-pixel **32**, it overflows out of the chamber **200** of the first sub-pixel **32** into the chamber **200** of the adjacent first sub-pixel **32** through the space just above the partition plate **26**. Finally, the red ink remaining in the chamber **200** of the one first sub-pixel **32** and overflowing to the chamber **200** of the adjacent first sub-pixel **32** has level lower than a top face of the partition plate **26**. In other words, the red ink in the chamber **200** of the one first sub-pixel **32** is spaced from the red ink in the chamber **200** of the adjacent first sub-pixel **32**. Therefore, the two first sub-pixels **32** are formed. The second sub-pixel **34** and the third sub-pixel **36** can be formed by directly jetting corresponding ink into the chambers **200** thereof since the width of the second sub-pixel **34** and the third sub-pixel **36** are both larger than the smallest diameter of the drop of the corresponding ink. The OLED panel **10** of this embodiment can obtain 250 PPI (pixels per inch).

FIGS. **4-5** show an OLED panel **10***a* different from the first embodiment shown in FIGS. **2-3**. Each pixel **30***a* includes a first sub-pixel **32***a*, a second sub-pixel **34***a* and a third sub-pixel **36***a* spaced from each other by baffle plates **24***a*. In this embodiment, the first sub-pixel **32***a* is a red sub-pixel, the second sub-pixel **34***a* is a green sub-pixel, and the third sub-pixel **36***a* is a blue sub-pixel. The second sub-pixel **34***a* has an area less than an area of the third sub-pixel **36***a*, and larger than an area of the first sub-pixel **32***a*. The first sub-pixel **32***a*, the second sub-pixel **34***a* and the third sub-pixel **36***a* have a rectangular shape, and each pixel **30***a* is also rectangular. The first sub-pixel **32***a* of each pixel **30***a* is located adjacent to the first sub-pixel **32***a* of a neighboring pixel **30***a* in the same row, and also adjacent to the first sub-pixel **32***a* of a neighboring

pixel **30***a* in the same column. The second sub-pixel **34***a* of each pixel **30***a* is located adjacent to the second sub-pixel **34***a* of a neighboring pixel **30***a* in the same row, and also adjacent to the second sub-pixel **34***a* of a neighboring pixel **30***a* in the same column That is to say, the arrangement of the three sub-pixels **32***a*, **34***a*, **36***a* of each pixel **30***a* is symmetrical with the arrangement of the neighboring pixel **30***a* in the same row as well as the neighboring pixel **30***a* in the same column.

A plurality of first sub-pixel units **320***a* and second sub-pixel units **340***a* are alternately arranged in the same column. Each first sub-pixel unit **320***a* includes four first sub-pixels **32***a* arranged in four corners thereof, and each second sub-pixel unit **340***a* includes four second sub-pixels **34***a* arranged in four corners thereof. The four first sub-pixels **32***a* of each first sub-pixel unit **320***a* are spaced from each other by crossed partition plates **26***a*. The four second sub-pixels **34***a* of each second pixel unit **340***a* are also spaced from each other by crossed partition plates **26***a*. Each partition plate **26***a* has a height less than a height of each baffle plate **24***a*. The third sub-pixels **36***a* of neighboring pixels **30***a* are spaced from each other by baffle plates **24***a*. In this embodiment, one ink drop can be distributed to four chambers **200***a* of the four adjacent first sub-pixels **32***a* of each first sub-pixel unit **320***a*, as well as four chambers **200***a* of the four adjacent second sub-pixels **34***a* of each second sub-pixel unit **340***a*. Thus, the width of the first sub-pixel **32***a* and the second sub-pixel **34***a* can be further decreased, and the resolution of the OLED panel **10***a* is accordingly increased. Preferably, the width of the first sub-pixel **32***a* is about 9.8 μm, the width of the second sub-pixel **34***a* is about 19 μm, the width of the third sub-pixel **36***a* is about 23.4 μm, a width of the baffle plate **24***a* is about 9 μm, and a width of the partition plate **26***a* is about 18 μm. The PPI of the OLED panel **10***a* of this embodiment can be 250.

FIGS. **6-7** show an OLED display **10***b* different from the first embodiment and the second embodiment shown in FIGS. **2-5**. Each pixel **30***b* also includes a first sub-pixel **32***b*, a second sub-pixel **34***b* and a third sub-pixel **36***b* spaced from each other by baffle plates **24***b*. In this embodiment, the first sub-pixel **32***b* is a red sub-pixel, the second sub-pixel **34***b* is a green sub-pixel, and the third sub-pixel **36***b* is a blue sub-pixel. The second sub-pixel **34***b* has an area less than an area of the third sub-pixel **36***b*, and larger than an area of the first sub-pixel **32***b*. The first sub-pixel **32***b*, the second sub-pixel **34***b* and the third sub-pixel **36***b* have a rectangular shape, and each pixel **30***b* is also rectangular. The first sub-pixel **32***b* of each pixel **30***b* is located adjacent to the first sub-pixel **32***b* of a neighboring pixel **30***b* in the same row, and also adjacent to the first sub-pixel **32***b* of a neighboring pixel **30***b* in the same column. The second sub-pixel **34***b* of each pixel **30***b* is located adjacent to the second sub-pixel **34***b* of a neighboring pixel **30***b* in the same row, and also adjacent to the second sub-pixel **34***b* of a neighboring pixel **30***b* in the same column The third sub-pixel **36***b* of each pixel **30***b* is located adjacent to the third sub-pixel **36***b* of a neighboring pixel **30***b* in the same row, and also adjacent to that of a neighboring pixel **30***b* in the same column. That is to say, the arrangement of the three sub-pixels **32***b*, **34***b*, **36***b* of each pixel **30***b* is symmetrical with the arrangement of the neighboring pixel **30***b* in the same row as well as the neighboring pixel **30***b* in the same column.

A plurality of first sub-pixel units **320***b* and second sub-pixel units **340***b* are alternately arranged in the same column, and a plurality of third sub-pixel units **360***b* are arranged in the same column Each first sub-pixel unit **320***b* includes four first sub-pixels **32***b* arranged in four corners thereof, each second sub-pixel unit **340***b* includes four second sub-pixels **34***b* arranged in four corners thereof, and each third sub-pixel unit **360***b* includes four third sub-pixels **36***b* arranged in four corners thereof. The four first sub-pixels **32***b* of each first sub-pixel unit **320***b* are spaced from each other by crossed partition plates **26***b*. The four second sub-pixels **34***b* of each second pixel unit **340***b* are also spaced from each other by crossed partition plates **26***b*. The four third sub-pixels **36***b* of each third sub-pixel unit **360***b* are also spaced from each other by crossed partition plates **26***b*. Each partition plate **26***b* has a height less than a height of each baffle plate **24***b*. In this embodiment, one ink drop can be distributed to not only four chambers **200***b* of the four adjacent first sub-pixels **32***b* of each first sub-pixel unit **320***b* and four chambers **200***b* of the four adjacent second sub-pixels **34***b* of each second sub-pixel unit **340***b*, but also four chambers **200***b* of the four adjacent third sub-pixels **36***b* of each third sub-pixel unit **360***b*. Thus, the width of the first sub-pixel **32***b*, the second sub-pixel **34***b* and the third sub-pixel **36***b* can be decreased, and the resolution of the OLED panel **10***b* is further increased. Preferably, the width of the first sub-pixel **32***b* is about 9.8 μm, the width of the second sub-pixel **34***b* is about 19 μm, the width of the third sub-pixel **36***b* is about 23.4 μm, a width of the baffle plate **24***b* is about 9 μm, and a width of the partition plate **26***b* is about 18 μm. The PPI of the OLED panel **10***b* of this embodiment can be 350.

FIGS. **8-9** show an OLED display **10***c* different from the first embodiment, the second embodiment and the third embodiment shown in FIGS. **2-7**. Each pixel **30***c* also includes a first sub-pixel **32***c*, a second sub-pixel **34***c* and a third sub-pixel **36***c* spaced from each other by baffle plates **24***c*. In this embodiment, the first sub-pixel **32***c* is a red sub-pixel, the second sub-pixel **34***c* is a green sub-pixel, and the third sub-pixel **36***c* is a blue sub-pixel. The second sub-pixel **34***c* has an area less than an area of the third sub-pixel **36***c*, and larger than an area of the first sub-pixel **32***c*. The first sub-pixel **32***c*, the second sub-pixel **34***c* and the third sub-pixel **36***c* have a rectangular shape, and each pixel **30***c* is also rectangular. The first sub-pixel **32***c* of each pixel **30***c* is located adjacent to the first sub-pixel **32***c* of a neighboring pixel **30***c* in the same row, and also adjacent to the first sub-pixel **32***c* of a neighboring pixel **30***c* in the same column. The second sub-pixel **34***c* of each pixel **30***c* is located adjacent to the second sub-pixel **34***c* of a neighboring pixel **30***c* in the same row, and also adjacent to the second sub-pixel **34***c* of a neighboring pixel **30***c* in the same column. The third sub-pixel **36***c* of each pixel **30***c* is located adjacent to the third sub-pixel **36***c* of a neighboring pixel **30***c* in the same row, and also adjacent to the sub-pixel **36***c* of a neighboring pixel **30***c* in the same column. That is to say, the arrangement of the three sub-pixels **32***c*, **34***c*, **36***c* of each pixel **30***c* is symmetrical with the arrangement of the neighboring pixel **30***c* in the same row as well as the neighboring pixel **30***c* in the same column.

A plurality of first sub-pixel units **320***c* and second sub-pixel units **340***c* are alternately arranged in the same column, and a plurality of third sub-pixel units **360***c* are arranged in the same column. Each first sub-pixel unit **320***c* includes four first sub-pixels **32***c* arranged in four corners thereof, each second sub-pixel unit **340***c* includes four second sub-pixels **34***c* arranged in four corners thereof, and each third sub-pixel unit **360***c* includes two third sub-pixels **36***c* arranged in two opposite ends thereof. The four first sub-pixels **32***c* of each first sub-pixel unit **320***c* are spaced from each other by crossed partition plates **26***c*. The four second sub-pixels **34***c* of each second pixel unit **340***c* are also spaced from each other by crossed partition plates **26***c*. The two third sub-pixels **36***c* of each third sub-pixel unit **360***c* are spaced from each other by a straight partition plate **26***c*. Two adjacent third sub-pixel

units **360***c* are spaced from each other by a baffle plate **24***c*. Each partition plate **36***c* has a height less than a height of each baffle plate **24***c*. In this embodiment, one ink drop can be distributed to not only four chambers **200***c* of the four adjacent first sub-pixels **32***c* of each first sub-pixel unit **320***c* and four chambers **200***c* of the four adjacent second sub-pixels **34***c* of each second sub-pixel unit **340***c*, but also two chambers **200***c* of the two adjacent third sub-pixels **36***c* of each third sub-pixel unit **360***c*. Thus, the width of the first sub-pixel **32***c*, the second sub-pixel **34***c* and the third sub-pixel **36***c* can be decreased, and the resolution of the OLED panel **10***c* is increased accordingly. Preferably, the width of the first sub-pixel **32***c* is about 6.13 μm, the width of the second sub-pixel **34***c* is about 11.87 μm, a width of the third sub-pixel **36***c* is about 13.5 μm, a width of the baffle plate **24***c* is about 15 μm. The partition plate **26***c* between the two adjacent third sub-pixel units **360***c* has a width of about 15.72 μm, the partition plate **26***c* between the first sub-pixel **32***c* and the third sub-pixel **34***c* of each pixel **30***c* has a width of about 20.8 μm, the partition plate **26***c* between the second sub-pixel **34***c* and the third sub-pixel **36***c* of each pixel **30***c* has a width of about 20.8 μm, and the partition plate **26***c* between the first sub-pixel **32***c* and the second sub-pixel **34***c* of each pixel **30***c* has a about width of 12 μm. The PPI of the OLED panel **10***c* of this embodiment can be 350.

FIGS. **10-11** show an OLED panel **10***d* according to a fourth embodiment. Each pixel **30***d* includes a first sub-pixel **32***d*, a second sub-pixel **34***d* and a third sub-pixel **36***d* spaced from each other by baffle plates **24***d*. In this embodiment, the first sub-pixel **32***d* is a red sub-pixel, the second sub-pixel **34***d* is a green sub-pixel, and the third sub-pixel **36***d* is a blue sub-pixel. Each pixel **30***d* has a hexagonal shape, and the first sub-pixel **32***d*, the second sub-pixel **34***d* and the third sub-pixel **36***d* of each pixel **30***d* are rhombic and have the same area. The baffle plates **24***d* spacing the first sub-pixel **32***d*, the second sub-pixel **34***d* and the third sub-pixel **36***d* of each pixel **30***d* cooperatively form a Y shape. Each pixel **30***d* is surrounded by six neighboring pixels **30***d*. The first sub-pixel **32***d* of each pixel **30***d* is located adjacent to two first sub-pixels **32***d* of two neighboring pixels **30***d*. The three neighboring first sub-pixels **32***d* cooperative form a first sub-pixel unit **320***d*. The first sub-pixel unit **320***d* is also hexagonal and surrounded by hexagonal baffle plates **24***d*. The three first sub-pixels **32***d* of the first sub-pixel unit **320***d* are spaced from each other by Y-shaped partition plates **26***d*. Every two neighboring partition plates **26***d* of the first sub-pixel unit **320***d* are angled about 120 degrees from each other. The second sub-pixel **34***d* of each pixel **30***d* is located adjacent to two second sub-pixels **34***d* of two neighboring pixels **30***d*. The three neighboring second sub-pixels **34***d* cooperative form a second sub-pixel unit **340***d*. The second sub-pixel unit **340***d* is also hexagonal and surrounded by hexagonal baffle plates **24***d*. The three second sub-pixels **34***d* of the second sub-pixel unit **340***d* are spaced from each other by Y-shaped partition plates **26***d*. Every two neighboring partition plates **26***d* of the second sub-pixel unit **340***d* are angled about 120 degrees from each other. The third sub-pixel **36***d* of each pixel **30***d* is located adjacent to two third sub-pixels **36***d* of two neighboring pixels **30***d*. The three neighboring third sub-pixels **36***d* cooperative form a third sub-pixel unit **360***d*. The third sub-pixel unit **360***d* is also hexagonal and surrounded by hexagonal baffle plates **24***d*. The three third sub-pixels **36***d* of the third sub-pixel unit **360***d* are spaced from each other by Y-shaped partition plates **26***d*. Every two neighboring partition plates **26***d* of the third sub-pixel unit **360***d* are angled about 120 degrees from each other. Each partition plate **26***d* has a height less than a height of each baffle plate **24***d*. In this embodiment, one ink drop can be distributed to three chambers **200***d* of the three neighboring first sub-pixels **32***d* of each first sub-pixel unit **320***d*, three chambers **200***d* of the three neighboring second sub-pixels **34***d* of each second sub-pixel unit **340***d*, and three chambers **200***d* of the three neighboring third sub-pixels **36***d* of each third sub-pixel unit **360***d*. Thus, the width of the first sub-pixel **32***d*, the second sub-pixel **34***d* and the third sub-pixel **36***d* can be decreased, and the resolution of the OLED panel **100***d* is increased. The PPI of the OLED panel **100***d* of this embodiment can be 350.

The first sub-pixel **32**, **32***a*, **32***b*, **32***c*, **32***d*, the second sub-pixel **34**, **34***a*, **34***b*, **34***c*, **34***d* and the third sub-pixel **36**, **36***a*, **36***b*, **36***c*, **36***d* of each pixel **30**, **30***a*, **30***b*, **30***c*, **30***d* is not limited to RGB arrangement, and can also be Pentile arrangement or stripe arrangement.

It is to be understood, however, that even though numerous characteristics and advantages of the present embodiments have been set forth in the foregoing description, together with details of the structures and functions of the embodiments, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

What is claimed is:

1. An organic light emitting diode (OLED) panel comprising:

a plurality of pixels each comprising a first sub-pixel, a second sub-pixel and a third sub-pixel spaced from each other by a plurality of baffle plates;

wherein the first sub-pixel of each pixel is located adjacent to the first sub-pixel of a neighboring pixel;

wherein the first sub-pixel of each pixel is spaced from the first sub-pixel of the neighboring pixel by a partition plate; and

wherein the partition plate has a height less than a height of each baffle plate.

2. The OLED panel of claim **1**, wherein an arrangement of the first sub-pixel, the second sub-pixel and the third sub-pixel of each pixel is symmetrical with an arrangement of the first sub-pixel, the second sub-pixel and the third sub-pixel of the neighboring pixel about the partition plate.

3. The OLED panel of claim **1**, wherein the second sub-pixel of each pixel is located adjacent to the second sub-pixel of the neighboring pixel.

4. The OLED panel of claim **3**, wherein the second sub-pixel of each pixel is spaced from the second sub-pixel of the neighboring pixel by a partition plate.

5. The OLED panel of claim **1**, wherein four first sub-pixels of four neighboring pixels cooperatively form a first sub-pixel unit, and four second sub-pixels of four neighboring pixels cooperatively form a second sub-pixel unit.

6. The OLED panel of claim **5**, wherein the four first sub-pixels of the first sub-pixel unit are spaced from each other by crossed partition plates, and the four second sub-pixels of the second sub-pixel unit are spaced from each other by crossed partition plates.

7. The OLED panel of claim **5**, wherein the first sub-pixel unit and the second sub-pixel unit are spaced from each other by one baffle plate.

8. The OLED panel of claim **5**, wherein the third sub-pixel of each pixel is surrounded by four connected baffle plates.

9. The OLED panel of claim **5**, wherein the third sub-pixel of each pixel is located adjacent to the third sub-pixel of another neighboring pixel.

10. The OLED panel of claim 9, wherein the third sub-pixel of each pixel is spaced from the third sub-pixel of the other neighboring pixel by a partition plate.

11. The OLED panel of claim 10, wherein two third sub-pixels of two neighboring pixels cooperatively form a third sub-pixel unit, the third sub-pixel unit being spaced from a neighboring third sub-pixel unit by one of the baffle plates.

12. The OLED panel of claim 5, wherein four third sub-pixels of four neighboring pixels cooperatively form a third sub-pixel unit.

13. The OLED panel of claim 12, wherein the four third sub-pixels of the third sub-pixel unit are spaced from each other by crossed partition plates.

14. The OLED panel of claim 1, wherein an arrangement of the first sub-pixel, the second sub-pixel and the third sub-pixel of each pixel is symmetrical with an arrangement of the first sub-pixel, the second sub-pixel and the third sub-pixel of a neighboring pixel in a same column.

15. The OLED panel of claim 1, wherein an arrangement of the first sub-pixel, the second sub-pixel and the third sub-pixel of each pixel is symmetrical with an arrangement of the first sub-pixel, the second sub-pixel and the third sub-pixel of a neighboring pixel in a same row.

16. The OLED panel of claim 1, wherein each pixel has a hexagonal shape, and each of the first sub-pixel, the second sub-pixel and the third sub-pixel has a rhombic shape.

17. The OLED panel of claim 16, wherein three first sub-pixels of three neighboring pixels cooperatively form a first sub-pixel unit, three second sub-pixels of three neighboring pixels cooperatively form a second sub-pixel unit, and three third sub-pixels of three neighboring pixels cooperatively form a third sub-pixel unit.

18. The OLED panel of claim 17, wherein the three first sub-pixels of the first sub-pixel unit are spaced from each other by three connected partition plates, the three second sub-pixels of the second sub-pixel unit are spaced from each other by three connected partition plates, the three third sub-pixels of the third sub-pixel unit are spaced from each other by three connected partition plates.

19. The OLED panel of claim 17, wherein the first sub-pixel unit is surrounded by hexagonal baffle plates, the second sub-pixel unit is surrounded by hexagonal baffle plates, and the third sub-pixel unit is surrounded by hexagonal baffle plates.

20. The OLED panel of claim 1, wherein the first sub-pixel, the second sub-pixel and the third sub-pixel of each pixel have one of RGB, Pentile and stripe arrangements.

* * * * *

专利名称(译)	OLED面板带隔板		
公开(公告)号	US9030384	公开(公告)日	2015-05-12
申请号	US13/948389	申请日	2013-07-23
[标]申请(专利权)人(译)	业鑫科技顾问股份有限公司		
申请(专利权)人(译)	叶欣科技咨询有限公司.		
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摘要(译)

OLED面板包括多个像素。每个像素包括通过多个挡板彼此间隔开的第一子像素，第二子像素和第三子像素。每个像素的第一子像素与相邻像素的第一子像素相邻。每个像素的第一子像素通过隔板与相邻像素的第一子像素间隔开。隔板的高度小于每个挡板的高度。