UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BOE TECHNOLOGY GROUP CO., LTD.,
Petitioner,

v.

138 EAST LCD ADVANCEMENTS LIMITED,
Patent Owner.

Case No. IPR2024-00977
U.S. Patent No. 9,557,606

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

Cases

Statutes

Regulations

TABLE OF EXHIBITS

Number	Description
2001	Declaration of E. Fred Schubert, Ph.D.
2002	U.S. Patent No. 5,317,434

I. PRELIMINARY STATEMENT

Pursuant to 37 C.F.R. § 42.107, Patent Owner 138 East LCD Advancements Limited ("138 East" or "Patent Owner") submits its Preliminary Response to the Petition for *Inter Partes* Review of U.S. Patent No. 9,557,606 ("the '606 patent"). Paper 2 ("Petition" or "Pet."). Petitioner BOE Technology Group Co., Ltd., challenges the validity of claims 7-13 and 15-20 of the '606 patent.

The Petition does not establish a reasonable likelihood that the asserted references render any of claims 7-13 and 15-20 unpatentable. The asserted references, alone or in combination as presented in the Grounds, do not disclose all limitations of any challenged claim. In particular, the Petition identifies no reference or combination of references that discloses (1) a seal formed continuously without a liquid crystal injection hole, (2) a seal that includes at least one part that includes conductive particles providing electrical conductivity between the electrode substrates along a particular side of the display, and (3) on the opposite side of the display, wiring lines that connect to the active elements and extend onto the protruding region across the seal. The Board therefore should deny institution for failure to present a likelihood that the Petitioner will prevail on any Ground.

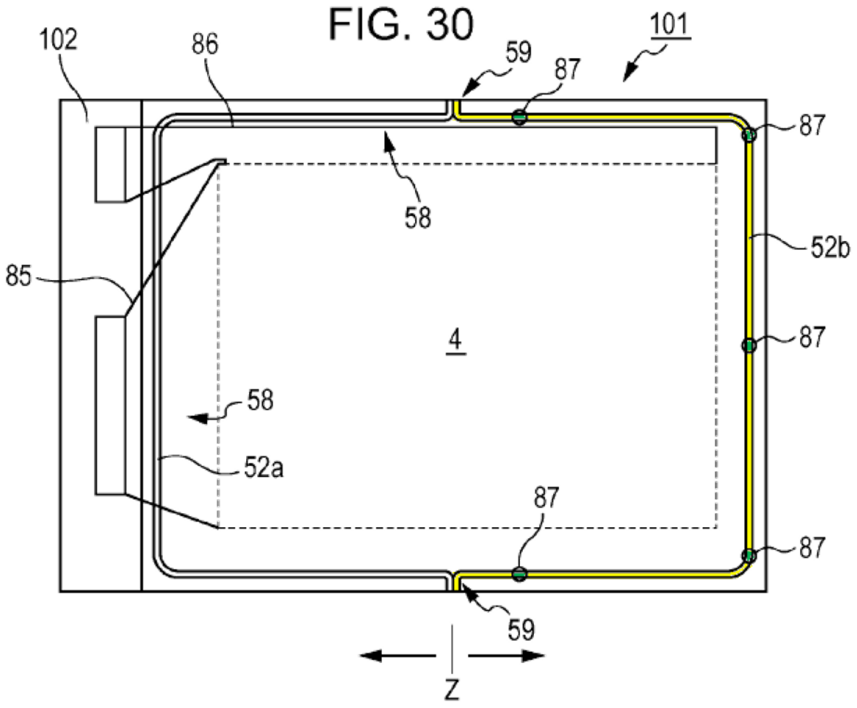
II. THE '606 PATENT

The '606 patent, titled "Liquid crystal display device having rectangular close-shape seal members," describes improved liquid crystal display layouts and seal arrangements. Liquid crystal displays include "a first substrate and a second substrate facing each other with a liquid crystal layer interposed therebetween, and a sealing member formed in a peripheral portion of at least one of the substrates." Ex. 1001 at 3:64-67. The seal surrounds and contains the liquid crystal.

The '606 patent describes various methods for forming the seal and adding the liquid crystal. The '606 patent describes the "dropping assembly method" "in which liquid crystal is dropped onto one substrate in which a frame-shaped sealant is provided with no liquid crystal injection hole, and the other substrate is then bonded to the one substrate." *Id.* at 1:44-50. The dropping assembly method provides advantages over, for example, the injection method, including a continuous seal formed with no injection hole. *Id.* at 1:23-2:10. Further, "unlike the related art liquid crystal injection method, the amount of liquid crystal used can be reduced, and the injection/sealing process can be omitted, such that tact time can be reduced." *Id.* at 2:7-10. The '606 patent also describes optimized seal dispensing techniques—e.g., in "one stroke of a brush"—when used in combination with the dropping assembly method. *See, e.g.*, *id.* at 10:8-25, 11:7-13.

Relevant to the claimed inventions, the '606 patent describes a closed-ring seal formed continuously around the display region (no injection hole), the seal including at least one part that includes conductive particles. *See, e.g.*, *id.* at claim 7. The '606 patent describes conductive particles, for example, metal-plated resin spheres. "The conductive particles have elasticity," and when the seal bonds the substrates, electrodes on the substrates "press the conductive particles" to create electrical connectivity. *Id.* at 16:19-30. The '606 patent also describes providing at least one part of the seal that does *not* include conductive particles, or at least one part that does not connect to conductive portions, to protect wiring lines crossing the seal. *Id.*

For example, in Figure 30, "[t]he conductive sealing member 52b [**yellow**] is formed on a right side . . . , and the insulating sealing member 52a is formed on a left side . . . . In such a configuration, when each of the sealing members 52a and 52b is drawn by a separate dispenser, tack time of the apparatus can be arranged, and the liquid crystal device 101 can be efficiently produced. Further, the TFT substrate 102 and the counter substrate are electrically connected by the conductive sealing member 52b formed on the dot conductive portions 87 [**green**]."



Id. at Fig. 30.[1]

Thus, the ’606 patent describes and claims an improved LCD layout that combines the benefits of a closed-ring, continuous seal, a seal that provides electrical conductivity between the two substrates (electrode substrates) along a particular side of the display, and an arrangement that protects wiring lines crossing the seal from those conductive points. Claim 7 recites this improved layout:

7. A display device, comprising:

[1] All annotations and coloring added unless otherwise noted.

a first substrate including a pixel region and a seal region which is defined around the pixel region on a first surface of the first substrate, the pixel region including a plurality of pixels and a plurality of active elements, and the seal region forming a rectangular ring shape, wherein the active elements are thin film transistors disposed on the first substrate; and

a second substrate including a common electrode on a second surface; and

a seal member bonding the first substrate and the second substrate so that the first surface faces the second surface and the common electrode is disposed opposite to the plurality of pixels,

wherein the first substrate includes a protruding region which protrudes over the second substrate in a plan-view of the first substrate,

the seal region includes a first side, a second side, a third side and a fourth side, the first side is positioned between the pixel region and the protruding region,

and opposed to the third side, and the second side is opposed to the fourth side,

the seal member is disposed between the first substrate and the second substrate, and positioned on the first side, the second side, the third side and the fourth side continuously, forms a closed-ring shape in which the pixel region is positioned without protruding from the second substrate in the plan-view of the first substrate, and is formed continuously around the entire pixel region without the use of a plug,

a first part of the seal member disposed on the third side which is opposed to the protruding region with respect to the pixel region includes a plurality of conductive particles,

a plurality of dot conductive points are disposed on the third side of the first substrate, all of the plurality of the dot conductive points are electrically connected to the common electrode, and

each of the plurality of the dot conductive points are spaced apart from each other,

wherein the first substrate includes a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points.

Id. at claim 7.

None of the asserted references or combinations disclose the claimed layouts that deliver the benefits of the ’606 inventions.

III. CLAIM CONSTRUCTION

No claim term requires express construction to determine that the Petition does not establish a reasonable likelihood of unpatentability of any claim and, thus, deny institution. For purposes of this Preliminary Response, Patent Owner contends that the claim terms should receive their ordinary and customary meaning in light of the specification and prosecution history, as understood by a person of ordinary skill in the art. 37 C.F.R. § 100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

IV. LEGAL STANDARD

The Board may not institute an *inter partes* review unless the Petition demonstrates a reasonable likelihood that the petition would prevail with respect to at least one of the claims challenged in the petition. 35 U.S.C. § 314(a).

V. LEVEL OF ORDINARY SKILL IN THE ART

For purposes of this Preliminary Response only, Patent Owner does not dispute the level of skill for a person of ordinary skill in the art ("POSITA"), set forth in the Petition. Pet. at 19. The level of skill in the art does not affect whether to deny institution, because the Petition and its expert do not address certain claim limitations and disclosures from the applied references. Patent Owner does not waive, however, any argument regarding the proper level of skill and reserves the right to later advance additional arguments.

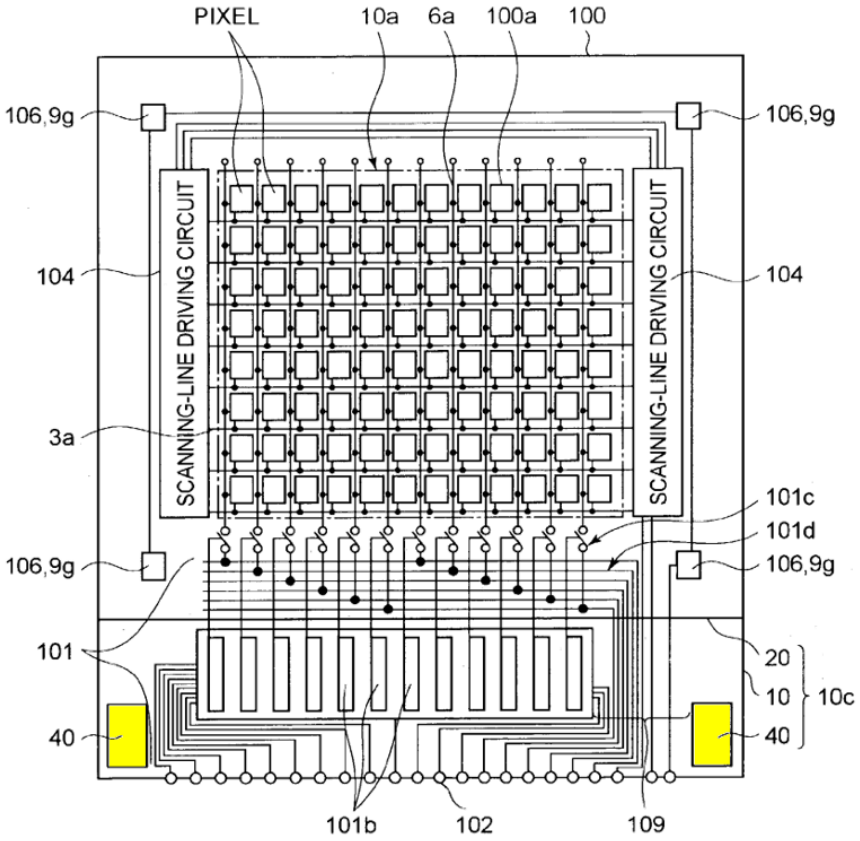
VI. THE PETITION DOES NOT ESTABLISH A REASONABLE LIKELIHOOD THAT THE ASSERTED REFERENCES RENDER UNPATENTABLE ANY CHALLENGED CLAIM.

A. The Petition does not establish a reasonable likelihood that Fujikawa anticipates or renders obvious claims 7-13, 15-20 (Grounds 1 and 2).

1. Fujikawa: Overview

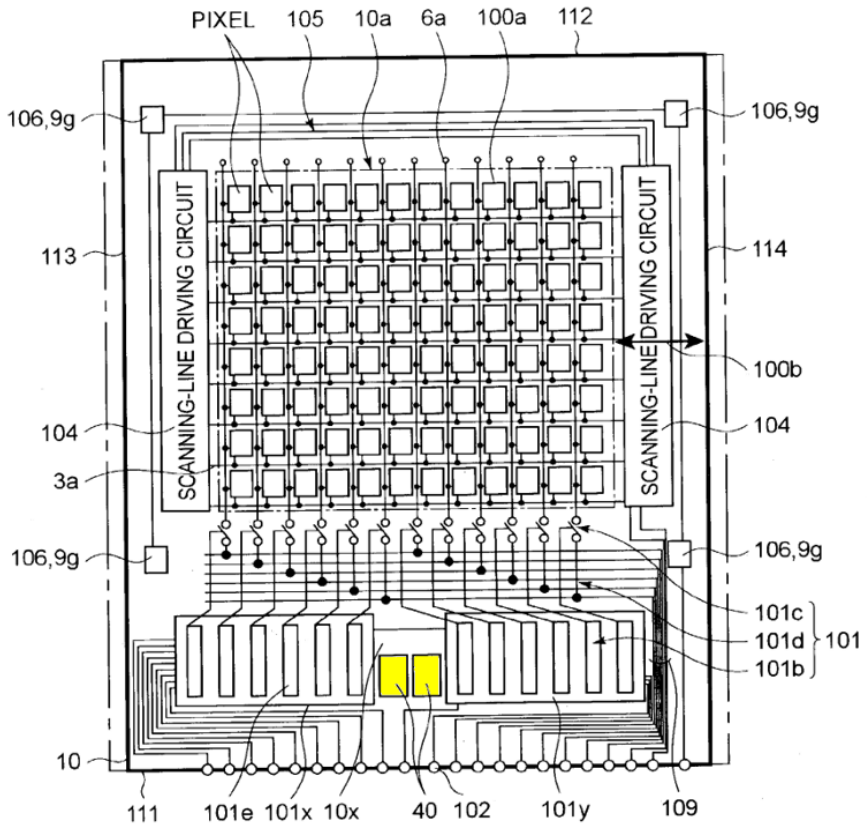
Fujikawa relates to LCD device layouts and, in particular, adjusting peripheral circuit layouts to create additional space and, thus, to narrow the non-display region (or the "frame region"). Ex. 1005 ¶¶[0010]-[0011] ("an object

of the present invention is to provide an electrooptic device and an electronic device in which a region that does not directly contribute to the display can be narrowed by improving the layout of peripheral circuits"). The non-display region accommodates peripheral circuits (e.g., data line driving circuit, scanning line driving circuits), wiring lines, conductive electrodes, and identification marks. *Id.* ¶[0010]. For quality control purposes, "[t]he identification marks 40 are required to be visible or mechanically readable after the TFT array substrate 10 and the counter substrate 20 are bonded together. Therefore, the identification marks 40 are formed in an extended portion 10c of the TFT array substrate 10 that protrudes from the edge of the counter substrate 20 so that the terminals 102 are exposed." *Id.* ¶[0009]. Fujikawa's Figure 19 illustrates "identification marks 40" (yellow) requiring space in the non-display region:

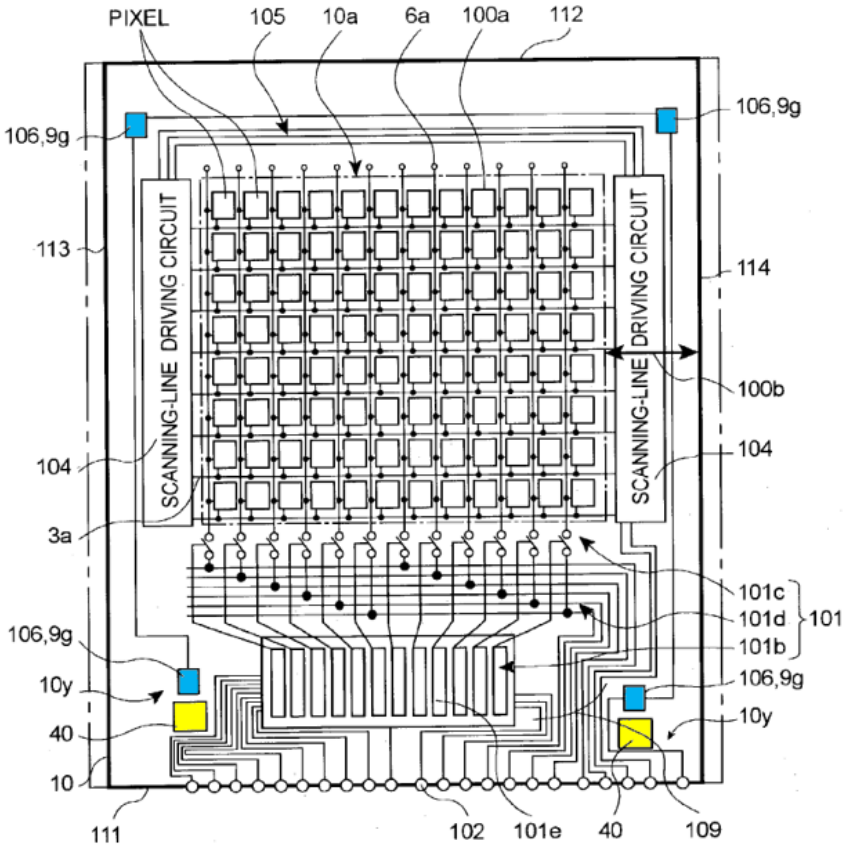


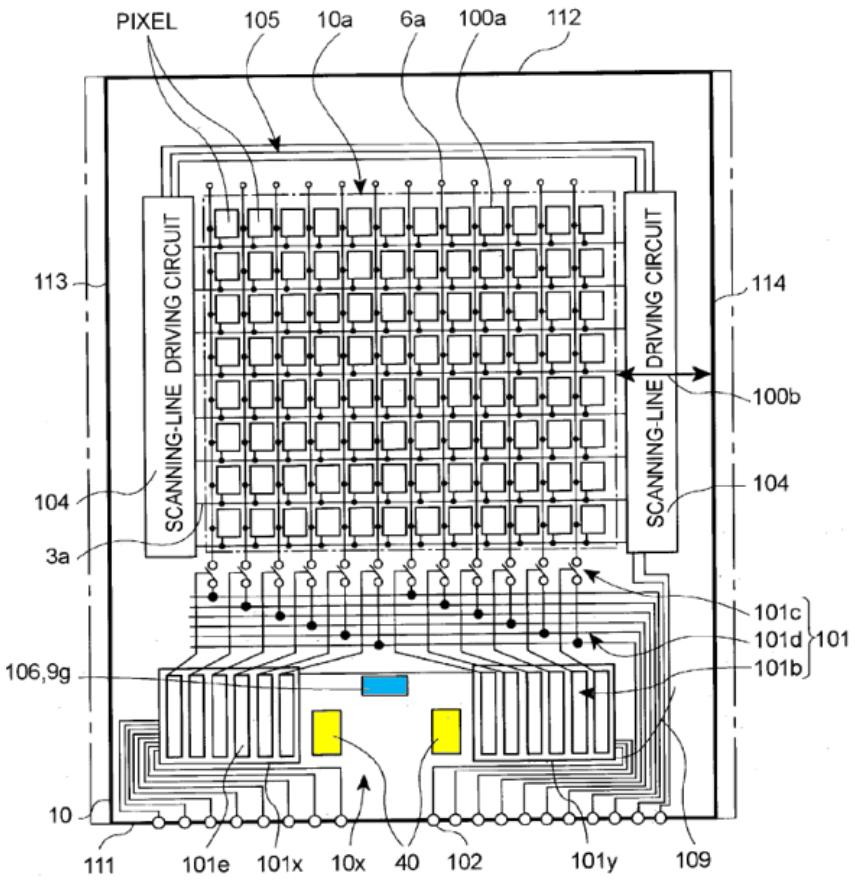
Id., Fig. 19, ¶¶[0009]-[0011].

Fujikawa describes adjusting peripheral circuit layouts—in particular, the data line driving circuit layout, on the south side of the device in Figure 19—to create "free regions" to accommodate the identification marks and conductive electrodes and, thus, narrow the non-display region. *Id.* ¶[0013]. For example, Fujikawa's Figure 2 illustrates placing "identification marks 40" near the center of the TFT substrate's protruding region, instead of at the edges, after adjusting the circuit layout to create "free space":



Id., Fig. 2, ¶¶[0013]-[0014], [0081]-[0083]. Fujikawa also illustrates creating free regions to accommodate conductive electrodes (**blue**):


PIXEL
105
10a
6a
100a
112
106,9g
106,9g
113
114
SCANNING-LINE DRIVING CIRCUIT
SCANNING-LINE DRIVING CIRCUIT
100b
104
104
3a
101c
101d
101b
101
106,9g
106,9g
10y
10y
40
10
111
102
101e
40
109



Id., Figs. 14-15. *See also* Ex. 2001 ¶¶42-43.

Fujikawa is not directed to problems related to sealing LCD display devices or creating electrical connections between its upper and lower substrate layers.

2. The Petition fails to show that Fujikawa discloses or renders obvious all limitations of any challenged claim.

a. Claim 7

i. The Petition does not show that Fujikawa discloses or renders obvious a "seal member . . .

formed continuously around the entire pixel region without the use of a plug" (claim 7[h]).

The Petition fails to show that Fujikawa discloses or renders obvious a seal member "formed continuously around the entire pixel region without the use of a plug." Ex. 2001 ¶46. The Petition cites Fujikawa's Figure 1A and argues that a "POSITA would have understood" that the figure discloses "without the use of a plug" because "sealing material 107 fills the entire rectangular ring-shaped area shaded by the downward-slanting lines that represent the 'seal region.'" Pet. at 40. The Petition argues that "[i]f a gap [were] contemplated, or a plug required, the plan view would expressly reflect as much." *Id.* at 41. That is, the Petition asks the Board to accept Fujikawa's *silence* as an express or necessarily implied disclosure. It offers no support for this assumption. Ex. 2001 ¶¶47-48.

Fujikawa does not describe how to form a seal or how to add liquid crystal. Fujikawa is silent on these points. *See generally* Ex. 1005; Ex. 2001 ¶¶49-50. Fujikawa provides only that "sealing material 107 . . . is formed on a TFT array substrate 10 of a liquid crystal device 100 (electrooptic device) along the edge of a counter substrate 20" and that "liquid crystal 50 is held in the space." Ex. 1005 ¶¶[0046], [0049]. The Petition does not explain why the figure would "expressly reflect" a plug if contemplated; indeed, Fujikawa's disclosure does not relate to forming a seal or adding liquid crystal. Instead, the Petition cites other references

to try to support its assumption. But those references cannot augment Fujikawa's disclosure.[2] Ex. 2001 ¶51.

Other references confirm that a POSITA cannot infer "without the use of a plug" from Fujikawa's Figure 1A. For example, an earlier Seiko Epson patent include figures similar to Fujikawa's Figure 1A:

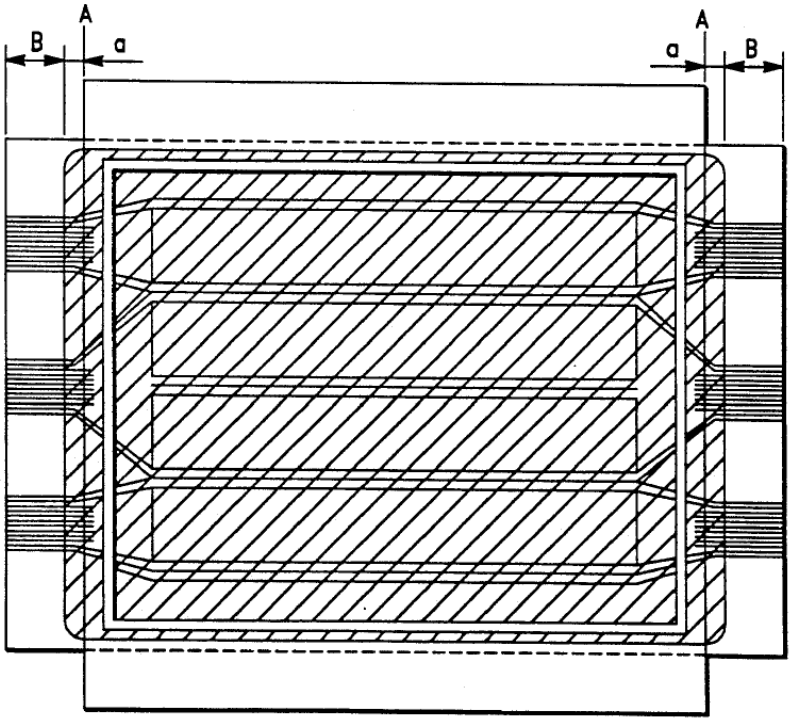


FIG.—7

Ex. 2002, Fig. 7 (application filed July 12, 1991) ("Ohara"). The Ohara patent does not disclose forming a seal member without the use of a plug. Ex. 2001 ¶52. In

[2] And those references post-date Fujikawa. *See* Exs. 1009, 1012.

fact, the patent predates the one-drop fill method that would facilitate forming a seal member without the use of a plug. *Id.* Petitioner's expert acknowledges that researchers developed the one-drop fill method about ten years later. Ex. 1004 ¶48. Based on the Ohara patent's date and the state of the art at that time, a POSITA would understand that the figure does not disclose forming a seal member without the use of a plug. Ex. 2001 ¶52.

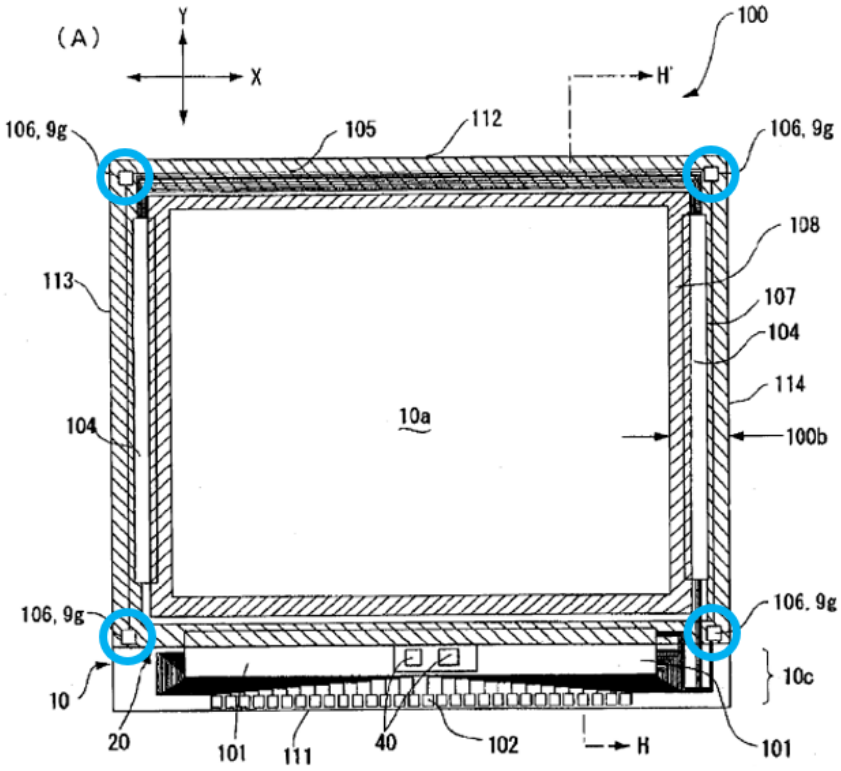
Thus, the Petition fails to show that Fujikawa discloses a seal member "formed continuously around the entire pixel region without the use of a plug." *Id.* ¶53.

ii. The Petition does not show that Fujikawa discloses or renders obvious "a first part of the seal member disposed on the third side which is opposed to the protruding region with respect to the pixel region includes a plurality of conductive particles" (claim 7[i]).

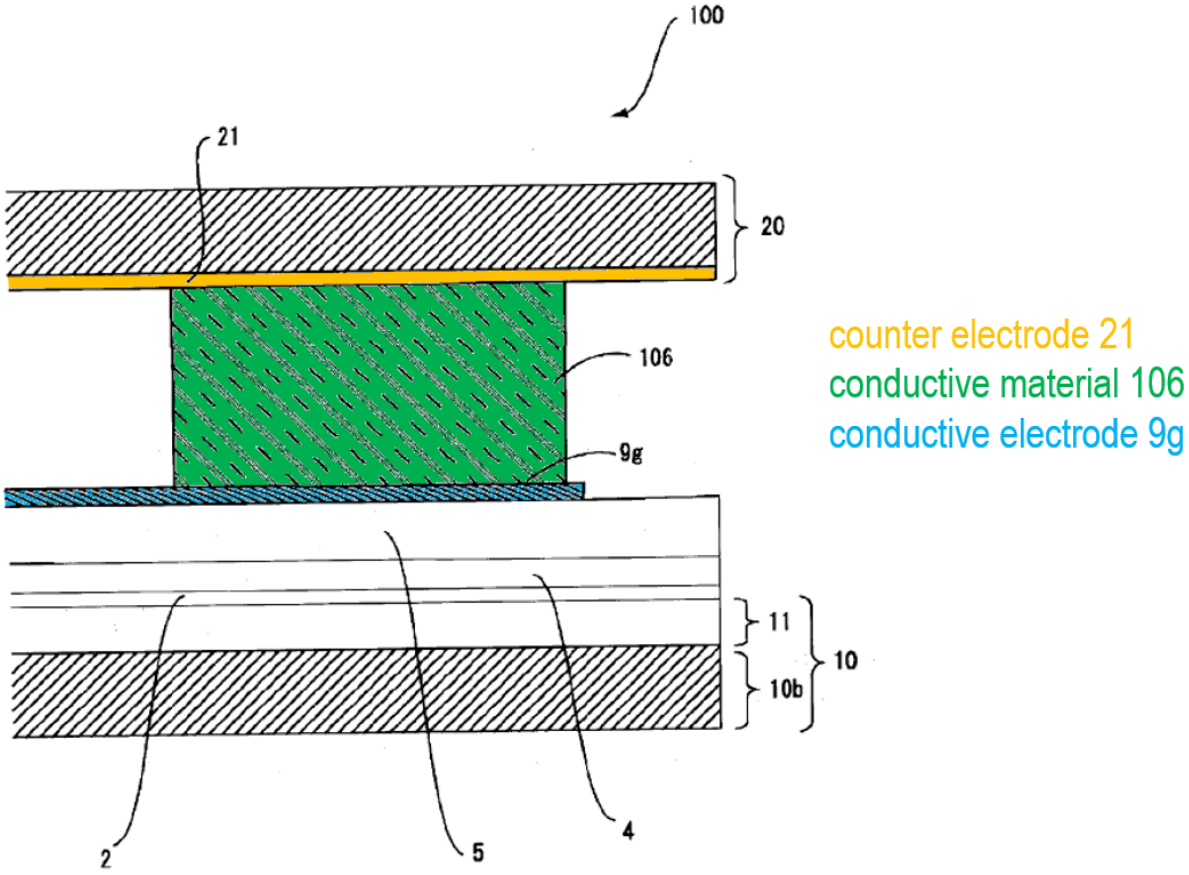
The Petition fails to show that Fujikawa discloses or renders obvious a seal member that includes conductive particles. Ex. 2001 ¶¶54-55. The Petition argues, without evidence and contrary to Fujikawa's disclosure, that Fujikawa's conductive material 106 is "within" sealing material 107. Pet. at 43 (citing Fujikawa [0047], which does not describe sealing material and provides that conductive electrodes and conductive material "are formed in areas corresponding to four corners of the counter substrate").

Fujikawa discloses sealing material 107 and, separate, conductive material 106—it does not disclose sealing material that includes conductive particles. Ex. 1005 ¶¶[0046]-[0047]. Fujikawa describes forming the "sealing material" and, separately, forming the conductive material "in areas corresponding to four corners of the counter substrate." *Id.* Fujikawa discloses that the sealing material may include "a photosetting or thermosetting resin" "mixed with a gap material, such as glass fibers or glass beads," and that the conductive material may include an epoxy resin adhesive and conductive particles. *Id.* ¶[0049]. Thus, the sealing material 107 and the conductive material 106 are separate materials, and the sealing material 107 does not include conductive particles. Fujikawa does not describe, and no figure shows, that the sealing material includes conductive particles. Ex. 2001 ¶56.

Contrary to the Petition's arguments, Fujikawa's Figure 1A shows that the sealing material does *not* "fill[] the entire rectangular ring-shaped area." Pet. at 40. Conductive material fills four gaps in the seal, over conductive electrodes 9g (no downward-slanting lines in those locations to indicate sealing material):



Ex. 1005, Fig. 1A. Indeed, the cross-section (Figure 9) confirms that those locations do not include sealing material 107:

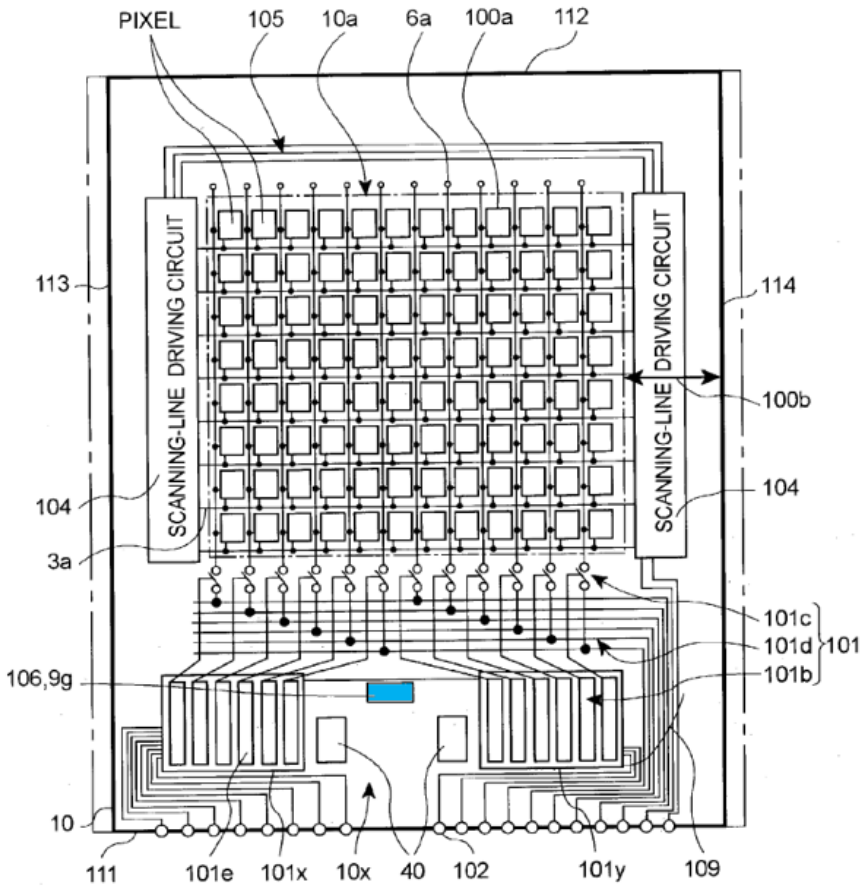


Id., Fig. 9. Petitioner's expert acknowledges that rather than provide a seal member that includes conductive particles, other methods (by implication, Fujikawa) "introduc[e] a conductive material at individual gaps in the seals." Ex. 1004 ¶115; Ex. 2001 ¶57. Fujikawa teaches introducing conductive material at individual gaps in the seal, and the Petition overlooks these express disclosures.

Moreover, Fujikawa does not disclose "a first part of the seal member *disposed on the third side* . . . includes a plurality of conductive particles." Fujikawa discloses forming conductive electrodes and conductive material "in areas corresponding to four corners of the counter substrate." Ex. 1005 ¶[0047].

Fujikawa does not disclose forming conductive electrodes and/or conductive material on a *side*. Ex. 2001 ¶58.

The Petition points out that Fujikawa suggests changing "[t]he number of the conductive electrodes 9g." *See* Pet. at 44. But the Petition does not show that Fujikawa discloses or renders obvious changing the number of conductive electrodes so that a part of a seal member on the third (north) side of the device includes conductive particles. Indeed, Fujikawa teaches forming additional conductive electrodes on the *first* (south) side, in "free regions" created in the driving circuit layout. *See, e.g.*, Ex. 1005 ¶¶[0013]-[0018], [0097], [0100], Figs. 14-15. And Fujikawa teaches only one particular modification to its number of conductive electrodes: *reducing* from four to one. *Id.* ¶[0097], Fig. 15 ("In this example, an electric conduction between the substrates is established by the single conductive electrode 9g."):



The Petition cites no reason to form additional conductive electrodes and conductive material on a particular side (the third side). The Petition cites only a more general motivation: creating additional conductive points between the first and second substrates. *See* Pet. at 44-45; Ex. 2001 ¶59. The Petition, however, does not address Fujikawa's express, contrary teachings of placing additional conductive electrodes on only the *first* side and also of *reducing*, not adding, those electrodes.

Thus, the Petition fails to show that Fujikawa discloses or renders obvious "a first part of the seal member disposed on the third side which is opposed to the

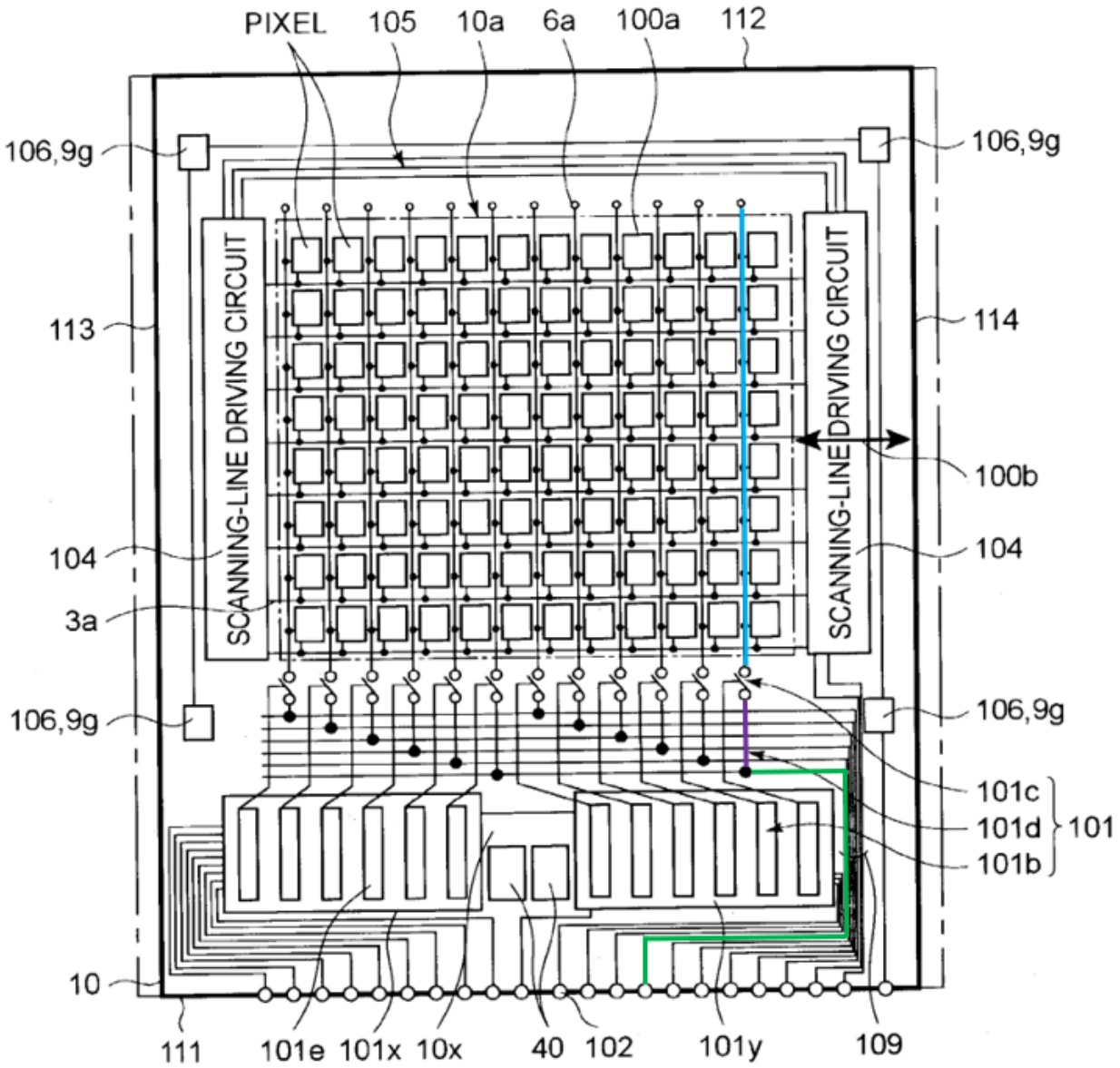
protruding region with respect to the pixel region includes a plurality of conductive particles." Ex. 2001 ¶60.

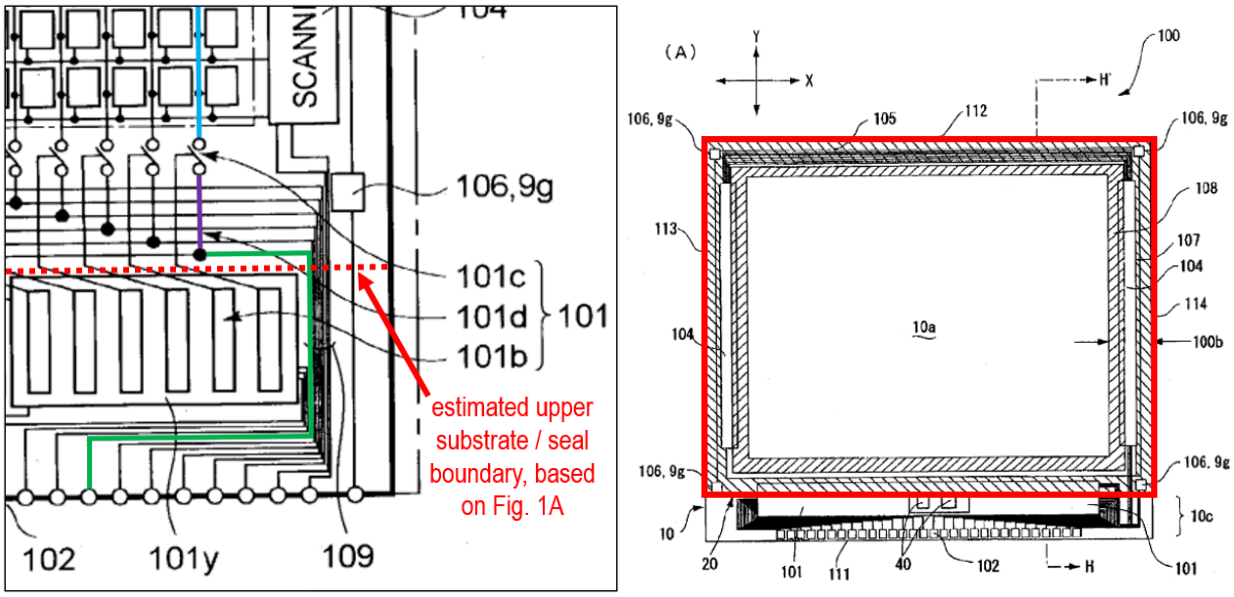
iii. The Petition does not show that Fujikawa discloses or renders obvious "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points" (claim 7[l]).

The Petition fails to show that Fujikawa discloses or renders obvious "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points." *Id.* ¶61. The Petition argues that *three* sets of wiring lines disclose the claimed plurality of wiring lines: data lines 6a, image signal lines 101d, and lines 109. According to the Petition, data lines 6a disclose "a plurality of wiring lines that connect to the plurality of active elements," and lines 109 disclose a "plurality of wiring lines [that] extend onto the protruding region across the seal member without connecting to the dot conductive points." Pet. at 48-50; *see also* Ex. 2001 ¶62.

Fujikawa does not disclose wiring lines that connect to active elements (e.g., TFTs) *and* extend onto the protruding region across the seal member. Fujikawa discloses that data lines 6a (**blue**) and scan lines 3a connect to the TFTs, and they

do not extend onto the protruding region. Ex. 1005 ¶[0058]. The Petition does not argue otherwise.





Ex. 1005, Figs. 1A, 2 (line 109 **green**, image signal line 101d **purple**, data line 6a **blue**, upper substrate/seal boundary **red**). *See also* Ex. 2001 ¶63.

The Petition cites no evidence that suggests that data lines 6a, image signal lines 101d, and lines 109 comprise one line—nothing in Fujikawa suggests that those lines are "line segments," as the Petition puts it. *See* Pet. at 49. To the contrary, lines 109 route signals to the data line driving circuit. Ex. 1005 ¶[0007]. The "lines" go through the data line driving circuitry: sample hold circuits 101c—which include "analog switches to be operated in response to signals output from the shift register circuits 101b," which in turn include "an inverter, two clocked inverters, and a level shifter"—stand between lines 109 and image signal lines 101d, on one side, and data lines 6a. Ex. 1005 ¶¶[0006], [0056]-[0057]. The

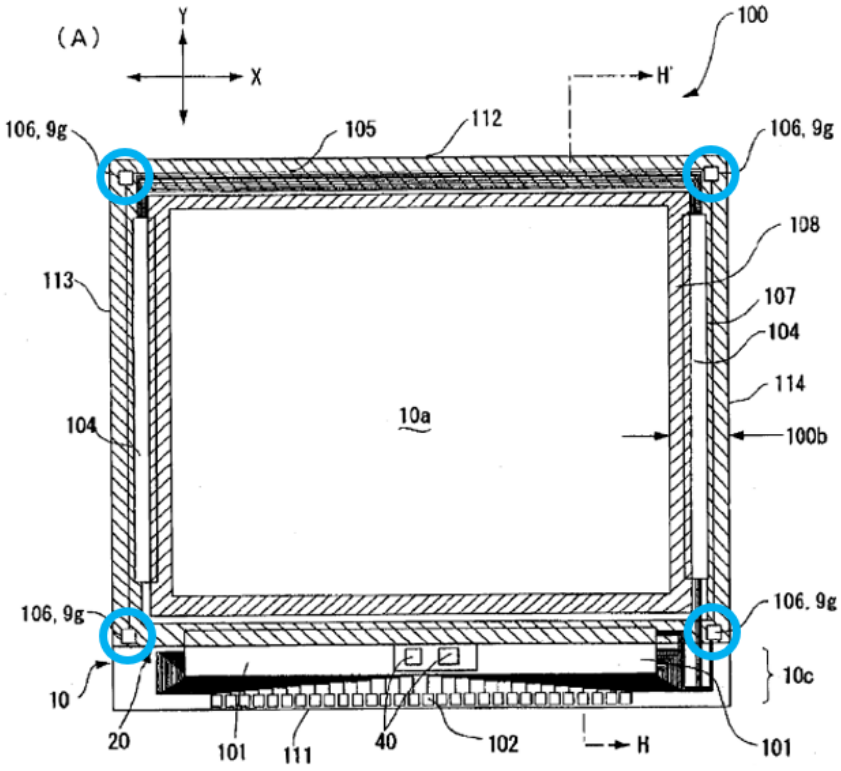
Petition's unsupported suggestion that two separate lines straddling circuitry are *one* line is contrary to Fujikawa's disclosure. Ex. 2001 ¶¶64-65.

Thus, the Petition fails to show that Fujikawa discloses "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points." *Id.* ¶66.

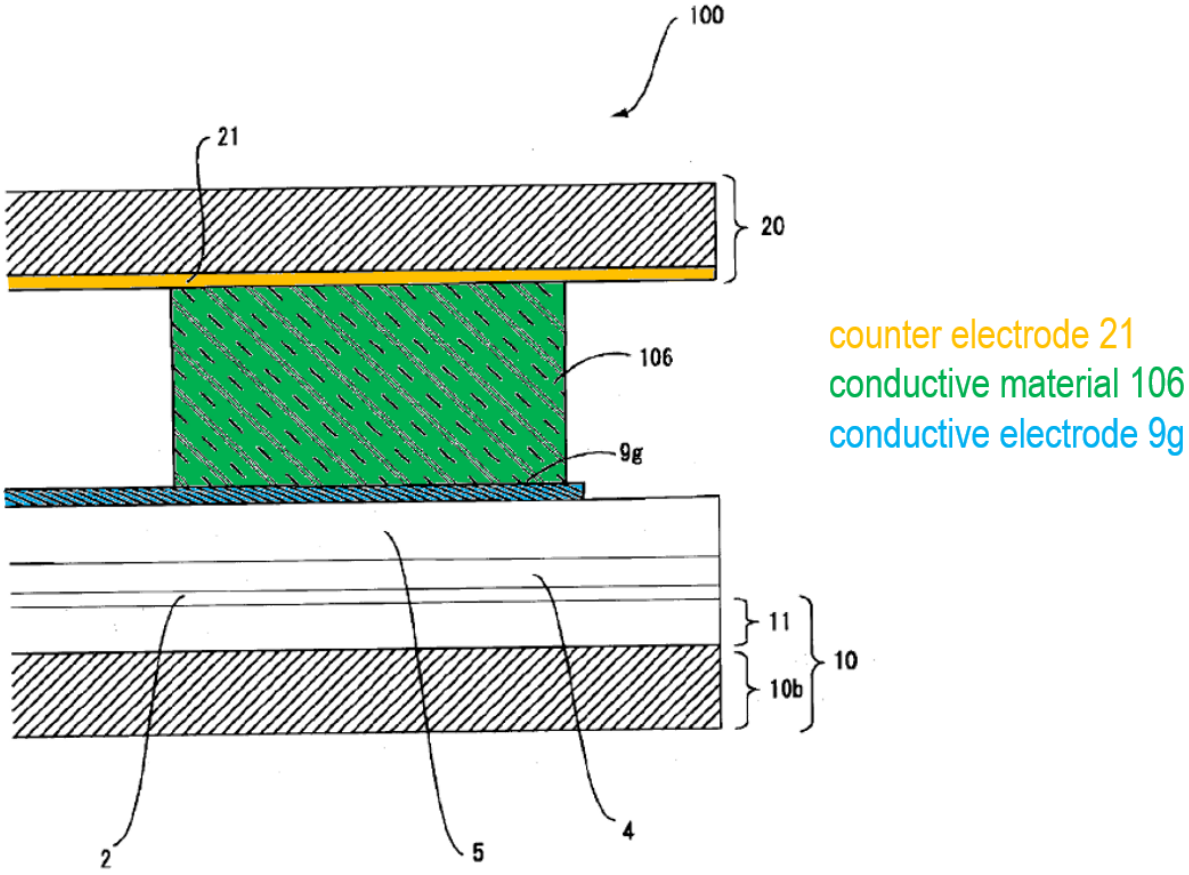
b. Claim 8

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 7 and, thus, fails to show that Fujikawa discloses or renders obvious claim 8. *Id.* ¶67.

Further, the Petition fails to show that Fujikawa discloses or renders obvious a seal member that extends "over the first conductive point on the second side." Fujikawa discloses sealing material 107 and, separate, conductive material 106, and teaches forming conductive material—not sealing material—over conductive electrodes 9g:



Ex. 1005, Fig. 1A (no downward-slanting lines over 9g).



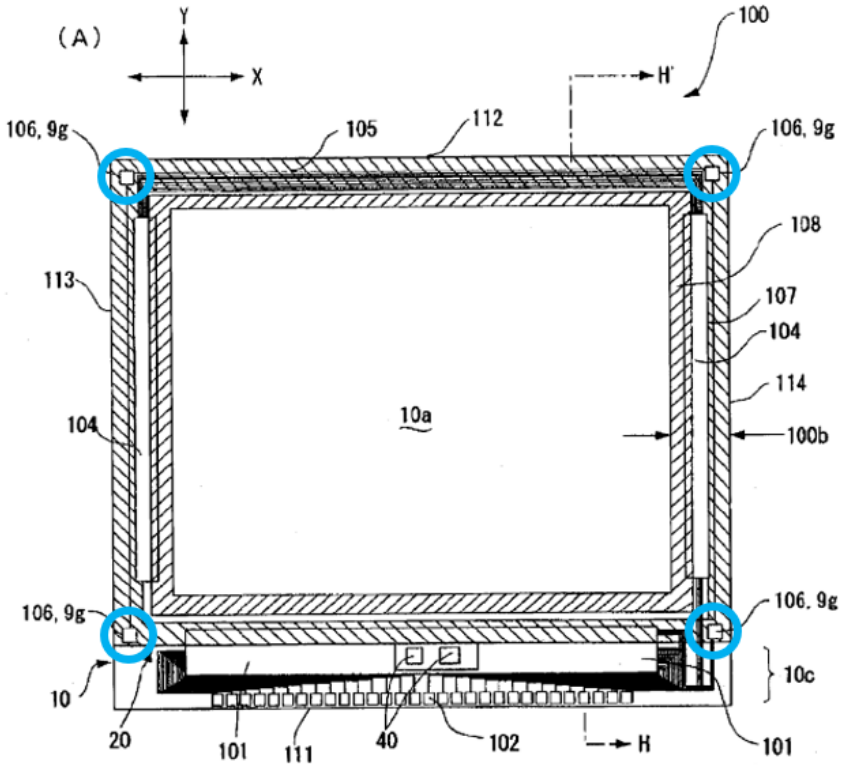
Id., Fig. 9; Ex. 2001 ¶68.

Moreover, the Petition does not show that Fujikawa discloses or renders obvious that "the second part of the seal member includes a plurality of conductive particles"— sealing material 107 is separate from conductive material 106, and the sealing material does not include conductive particles. Ex. 2001 ¶69; *see supra* §VI.A.2.a.ii.

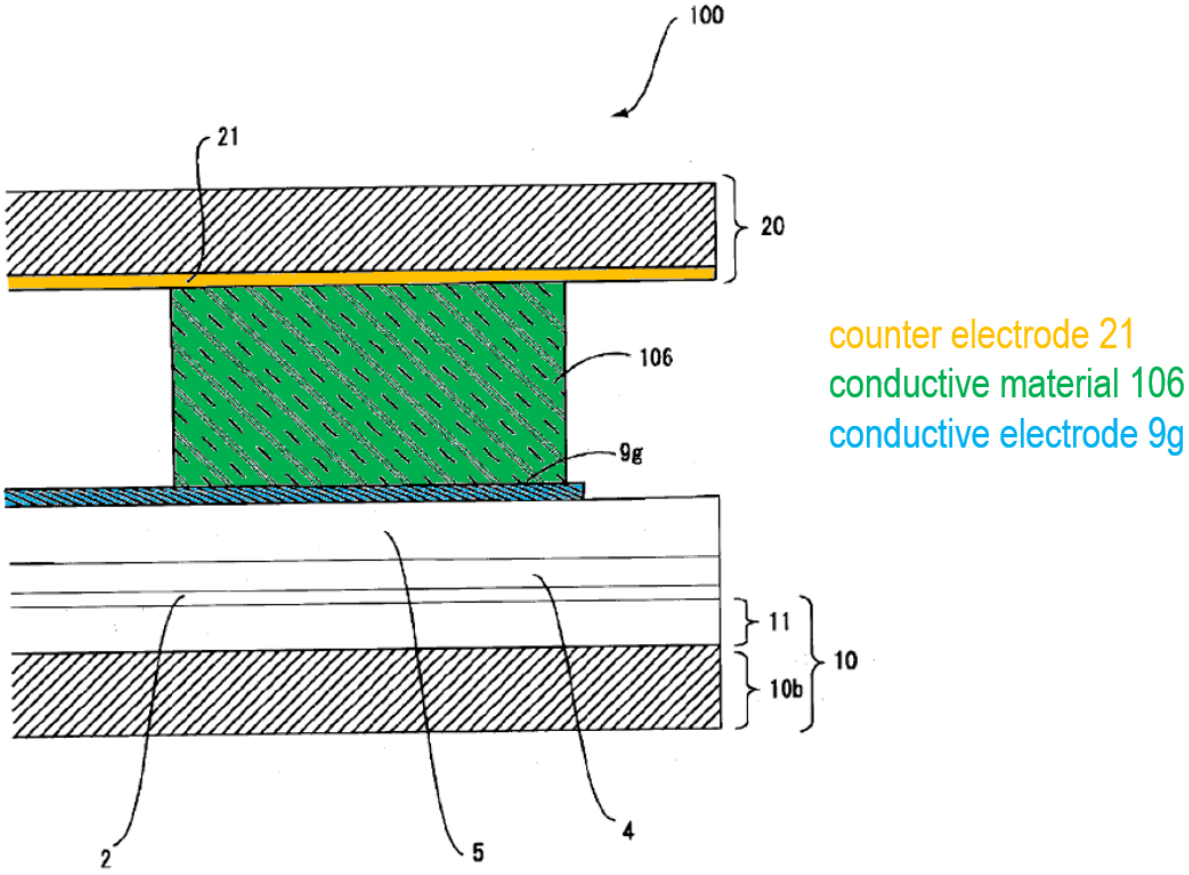
c. Claim 9

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 8 and, thus, fails to show that Fujikawa discloses or renders obvious claim 9. Ex. 2001 ¶70.

Further, the Petition fails to show that Fujikawa discloses or renders obvious a seal member that extends "over the second conductive point on the fourth side." Fujikawa discloses sealing material 107 and, separate, conductive material 106, and teaches forming conductive material—not sealing material—over electrodes 9g:



Ex. 1005, Fig. 1A (no downward-slanting lines over 9g).



Id., Fig. 9; Ex. 2001 ¶71.

Moreover, the Petition does not show that Fujikawa discloses or renders obvious that "the third part of the seal member includes a plurality of conductive particles"—sealing material 107 is separate from conductive material 106, and the sealing material does not include conductive particles. Ex. 2001 ¶72; *see supra* §VI.A.2.a.ii.

d. Claim 10

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 7 and, thus, fails to show that Fujikawa discloses or renders obvious claim 10. Ex. 2001 ¶73.

e. Claim 11

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 10 and, thus, fails to show that Fujikawa discloses or renders obvious claim 11. *Id.* ¶74.

f. Claim 12

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 7 and, thus, fails to show that Fujikawa discloses or renders obvious claim 12. *Id.* ¶75.

g. Claim 13

i. The Petition does not show that Fujikawa discloses or renders obvious "the seal member is formed continuously around the entire display region without the use of a plug" (claim 13[f]).

The Petition does not show that Fujikawa discloses or renders obvious "the seal member is formed continuously around the entire display region without the use of a plug"—Fujikawa discloses nothing about how to form the sealing material

or how to add liquid crystal. *See supra* §VI.A.2.a.i. Figure 1A's seal does not show that the seal member is formed "without the use of a plug." *Id.*; Ex. 2001 ¶76.

ii. The Petition does not show that Fujikawa discloses or renders obvious that "the second part of the seal member includes a plurality of conductive particles" (claim 13[i]).

The Petition does not show that Fujikawa discloses or renders obvious that "the second part of the seal member includes a plurality of conductive particles"—sealing material 107 is separate from conductive material 106, and the sealing material does not include conductive particles. *See supra* §VI.A.2.a.ii; Ex. 2001 ¶76.

iii. The Petition does not show that Fujikawa discloses or renders obvious "a plurality of wiring lines that connect to the plurality of active elements, . . . the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points" (claim 13[a], [l]).

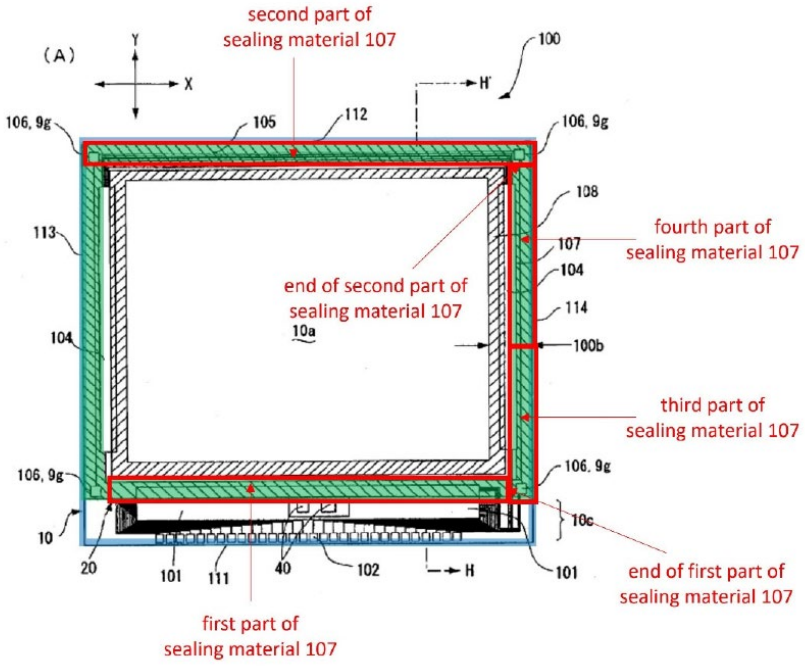
The Petition does not show that Fujikawa discloses or renders obvious "a plurality of wiring lines that connect to the plurality of active elements, . . . the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points"—the Petition's arguments rely on multiple wiring lines and do not show that wiring lines connect to the active

elements *and* extend onto the protruding region across the seal member. *See supra* §VI.A.2.a.iii; Ex. 2001 ¶76.

h. Claim 15

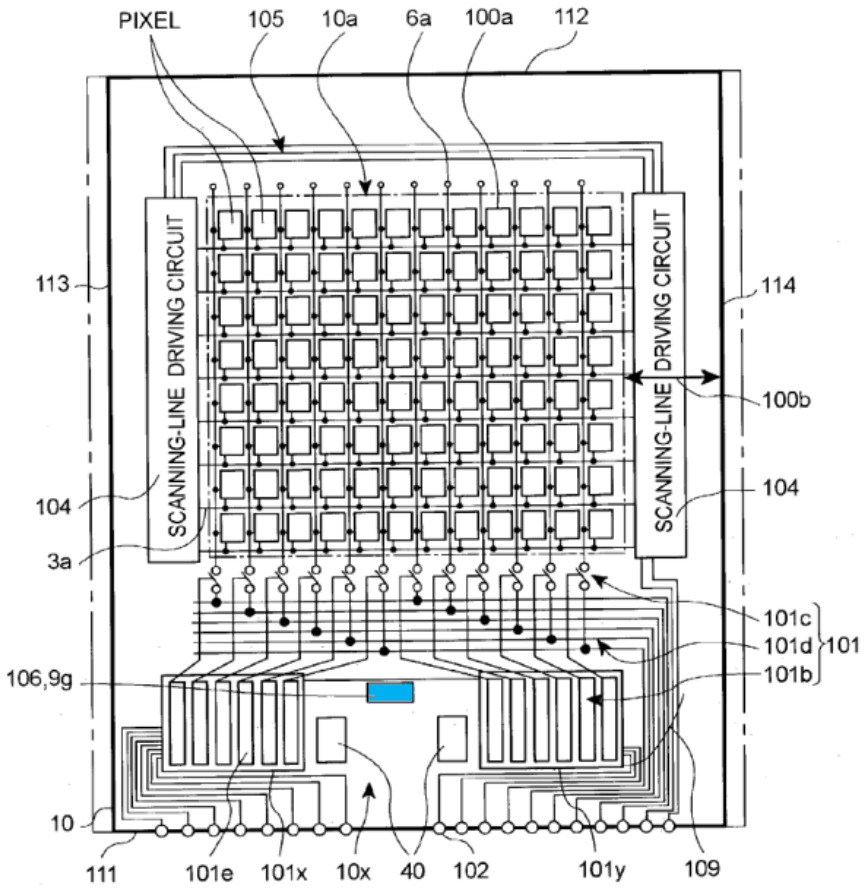
The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 13 and, thus, fails to show that Fujikawa discloses or renders obvious claim 15. Ex. 2001 ¶77.

Further, according to the Petition, "the fourth part of the seal member" includes no conductive material and, thus, cannot include "a first plurality of conductive particles":



Pet. at 75; Ex. 2001 ¶78.

The Petition argues that adding conductive electrodes 9g and conductive material 106 to the "fourth part" is obvious, based on Fujikawa's disclosure that "[t]he number of the conductive electrodes 9g, and the like may be appropriately changed." Ex. 1005 ¶[0047]. But Fujikawa does not disclose or render obvious changing the number of conductive electrodes so that the claimed "fourth" part of a seal member includes conductive particles. Indeed, the Petition ignores Fujikawa's teachings regarding forming additional conductive electrodes on the *first* (south) side, in "free regions" created in the driving circuit layout. *See, e.g.*, Ex. 1005 ¶¶[0013]-[0018], [0097], [0100], Figs. 14-15. And Fujikawa teaches only one particular modification to its number of conductive electrodes: *reducing* from four to one. *Id.* ¶[0097], Fig. 15 ("In this example, an electric conduction between the substrates is established by the single conductive electrode 9g."):



The Petition cites no reason to form additional conductive electrodes and conductive material on a particular side, or as part of a particular part of the seal member. The Petition cites only a more general motivation: creating additional conductive points between the first and second substrates. *See* Pet. at 44-45; Ex. 2001 ¶79. The Petition, however, does not address Fujikawa's express, contrary teachings of placing additional conductive electrodes on only the *first* side and also of *reducing*, not adding, those electrodes.

Regardless, the Petition cannot show that Fujikawa discloses or renders obvious that "the fourth part of the seal member . . . includes a first plurality of

conductive particles"—the sealing material is separate from the conductive material, and the sealing material will not include conductive particles, even if a POSITA were to add conductive electrodes and conductive material to the "fourth part." *See supra* §VI.A.2.a.ii; Ex. 2001 ¶80.

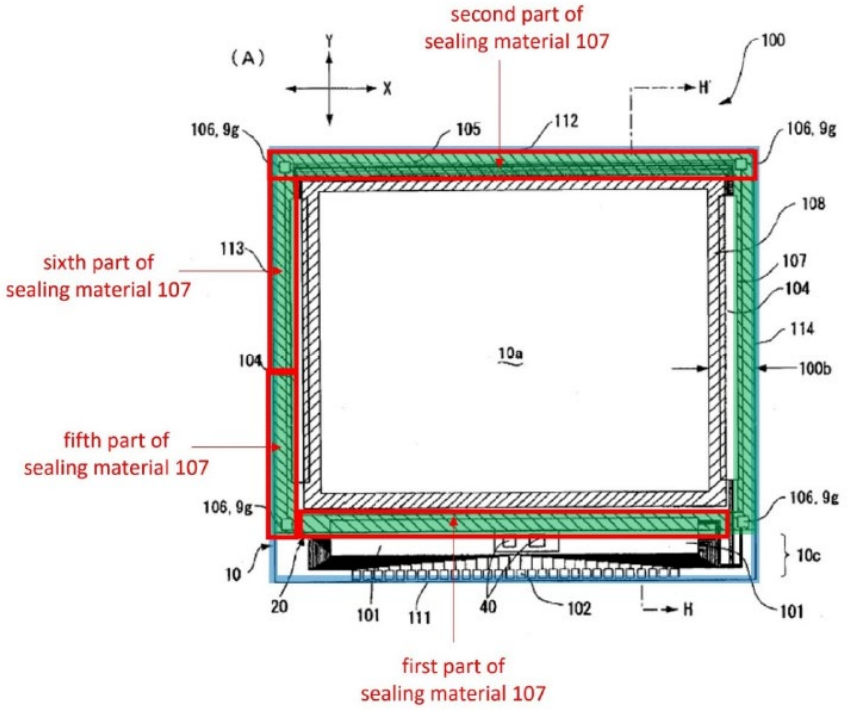
i. Claim 16

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 15 and, thus, fails to show that Fujikawa discloses or renders obvious claim 16. Ex. 2001 ¶81.

j. Claim 17

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 16 and, thus, fails to show that Fujikawa discloses or renders obvious claim 17. *Id.* ¶82.

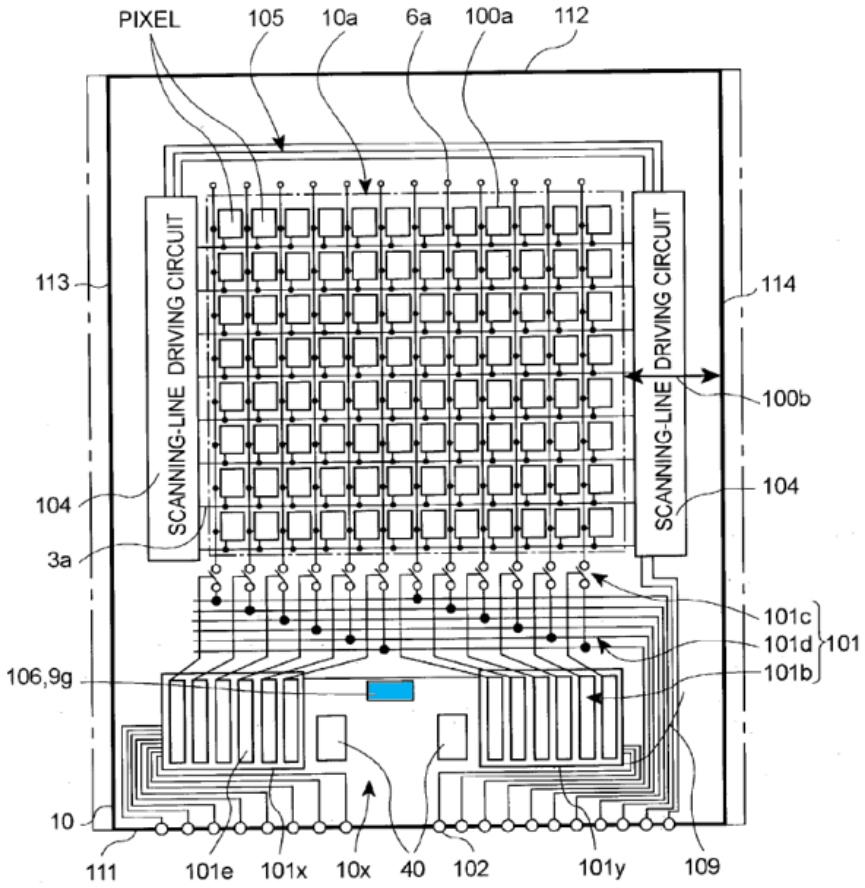
Further, according to the Petition, "the sixth part of the seal member" includes no conductive material and, thus, cannot include "a second plurality of conductive particles":



Pet. at 78; Ex. 2001 ¶83.

The Petition argues that adding conductive electrodes 9g and conductive material 106 to the "sixth part" is obvious, based on Fujikawa's disclosure that "[t]he number of the conductive electrodes 9g, and the like may be appropriately changed." Ex. 1005 ¶[0047]. But Fujikawa does not disclose or render obvious changing the number of conductive electrodes so that the claimed "sixth" part of a seal member includes conductive particles. Indeed, Fujikawa teaches forming additional conductive electrodes on the *first* (south) side, in "free regions" created in the driving circuit layout. *See, e.g.*, Ex. 1005 ¶¶[0013]-[0018], [0097], [0100], Figs. 14-15. And Fujikawa teaches only one particular modification to its number of conductive electrodes: *reducing* from four to one. *Id.* ¶[0097], Fig. 15 ("In this

example, an electric conduction between the substrates is established by the single conductive electrode 9g.”):



The Petition cites no reason to form additional conductive electrodes and conductive material on a particular side, or as part of a particular part of the seal member. The Petition cites only a more general motivation: creating additional conductive points between the first and second substrates. *See* Pet. at 44-45; Ex. 2001 ¶84. Again, the Petition does not address Fujikawa’s express, contrary teachings of placing additional conductive electrodes on only the *first* side and also of *reducing*, not adding, those electrodes.

Regardless, the Petition cannot show that Fujikawa discloses that "the sixth part of the seal member . . . includes a second plurality of conductive particles"—the sealing material is separate from the conductive material, and the sealing material will not include conductive particles, even if a POSITA were to add conductive electrodes and conductive material to the "sixth part." *See supra* §VI.A.2.a.ii; Ex. 2001 ¶85.

k. Claim 18

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 17 and, thus, fails to show that Fujikawa discloses or renders obvious claim 18. Ex. 2001 ¶86.

l. Claim 19

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 18 and, thus, fails to show that Fujikawa discloses or renders obvious claim 19. *Id.* ¶87.

m. Claim 20

The Petition fails to show that Fujikawa discloses or renders obvious the display device according to claim 13 and, thus, fails to show that Fujikawa discloses or renders obvious claim 20. *Id.* ¶88.

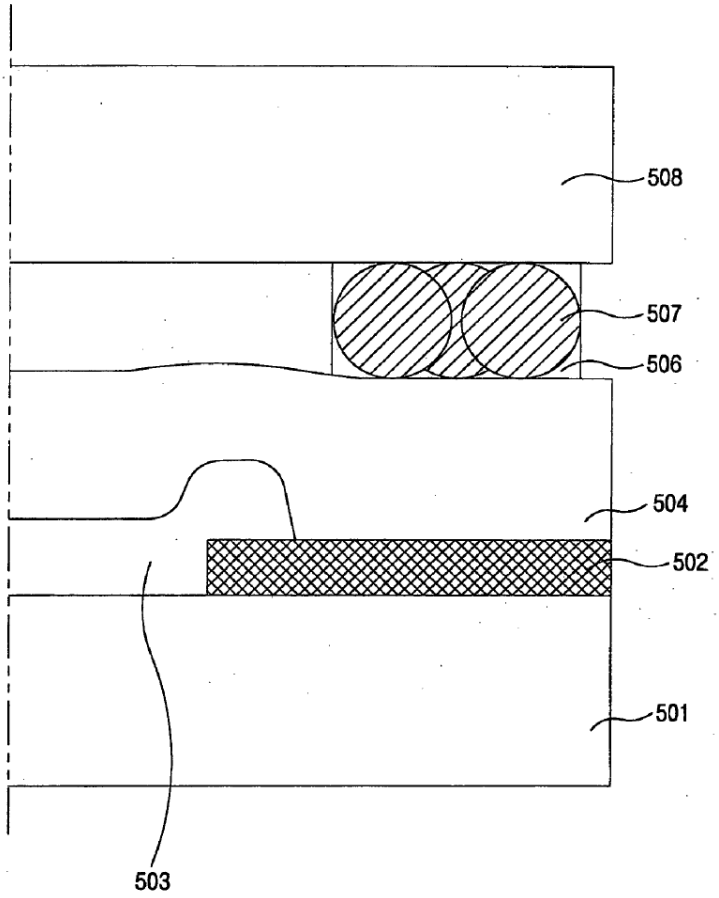
B. The Petition does not establish a reasonable likelihood that Fujikawa in view of Kang renders obvious claims 7-13 and 15-20 (Ground 3).

1. Kang: Overview

Kang "relates to a liquid crystal display panel, and more particularly, to a liquid crystal display panel capable of preventing air from flowing into an image display part of a liquid crystal display panel where a thin film transistor array substrate and a color filter substrate are attached to each other." Ex. 1006 ¶[0003]. Kang describes a liquid crystal display panel including a thin film transistor (TFT) array substrate (lower substrate), a color filter substrate (upper substrate), "a seal pattern formed along the outer edge" of the panel, spacers on the TFT array substrate to create the desired cell-gap, and a liquid crystal layer between the substrates. *Id.* ¶¶[0007]-[0008]. Kang discloses adding glass fibers or glass balls to the seal pattern, to maintain the cell-gap when applying pressure to the seal pattern to attach the substrates to one another. *Id.* ¶[0036].

Kang, like Fujikawa, is not directed to the seal and conductivity problems that the '606 patent describes and solves. Instead, Kang describes a problem in which pressing the seal pattern creates cracks—in particular, in an over-coat layer and a black-matrix layer. *Id.* ¶¶[0032]-[0036]. When the layers crack, air enters the panel, degrading liquid crystal performance and breaking the seal. *Id.* Kang describes forming a thicker "over-coat layer" on a liquid crystal display panel's

seal pattern, to prevent "the black matrix from being depressed as the support member added to the seal pattern is pressed by the outer pressure caused in or after attaching the liquid crystal display panel." *Id.*, Abstract. The over-coat layer prevents cracking between the over-coat layer and the black matrix, between the black matrix and the substrate, and in the seal pattern. *Id*. "That is, when the support member 507 added to the seal pattern 506 is pressed by the outer pressure caused in or after attaching the liquid crystal display panel, the over-coat layer 504 with a thickness of about about [sic] 1.2 μm to about 5 μm functions as a buffer layer absorbing the external pressure and thereby preventing depression of the black matrix 502." *Id.* ¶[0083].



Id., Fig. 5.

Relevant here, Kang discusses the liquid crystal injection method and the liquid crystal dropping method. *See, e.g.*, *id.* ¶¶[0062]-[0074]. *See also* Ex. 2001 ¶¶89-91.

2. The Petition does not show that Fujikawa in view of Kang renders obvious all limitations of any challenged claim.

For the same reasons that the Petition fails to show that Fujikawa discloses or renders obvious claims 7-13 and 15-20, the Petition fails to show that Fujikawa in view of Kang renders obvious those claims. *Id.* ¶92. The Petition argues only

that Kang renders obvious forming a seal member "without the use of a plug." But the Petition does not contend that Kang discloses or renders obvious "a first part of the seal member disposed on the third side which is opposed to the protruding region with respect to the pixel region includes a plurality of conductive particles" or "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points" (claim 7); or "the second part of the seal member includes a plurality of conductive particles" or "a plurality of wiring lines that connect to the plurality of active elements, . . . the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points (claim 13).

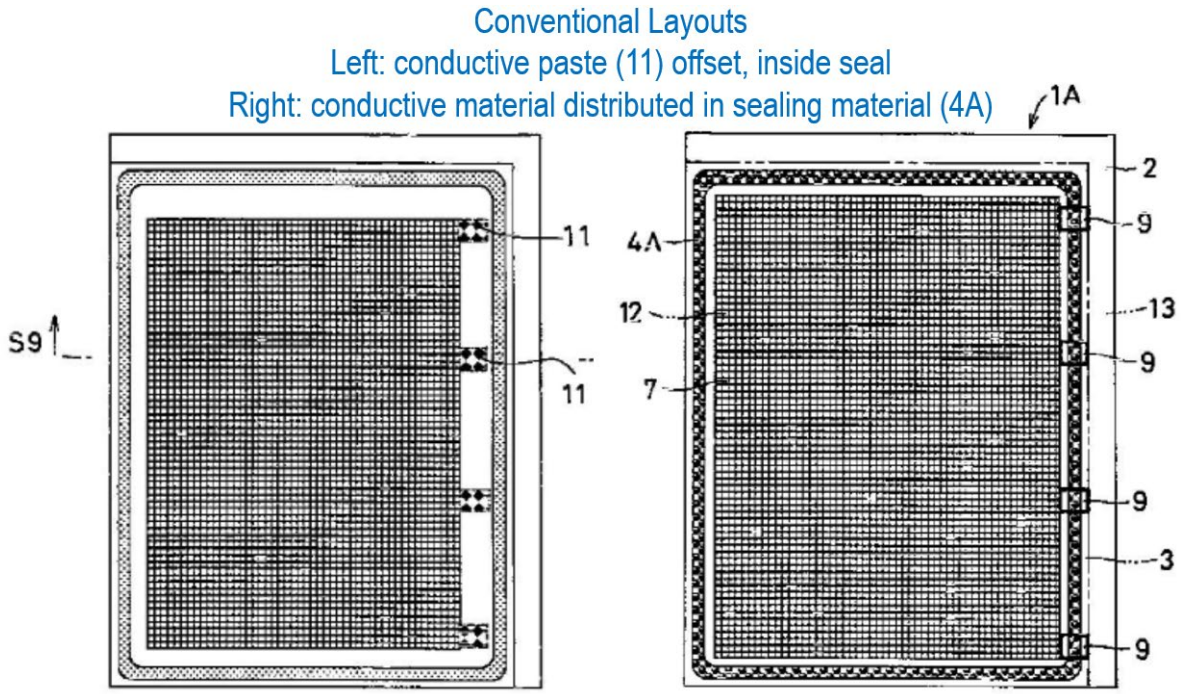
C. The Petition does not establish a reasonable likelihood that Fujikawa in view of Ikeguchi renders obvious claims 7-13 and 15-20 (Ground 4).

Fujikawa does not disclose or render obvious claims 7-13 and 15-20. And the Petition does not establish a reasonable likelihood that Fujikawa in view of Ikeguchi renders the challenged claims obvious, because it does not address Ikeguchi's express disclosures to the contrary.

1. Ikeguchi: Overview

Ikeguchi relates to display elements and, like Fujikawa, discloses display element layouts to narrow the non-display region. Ikeguchi discloses that

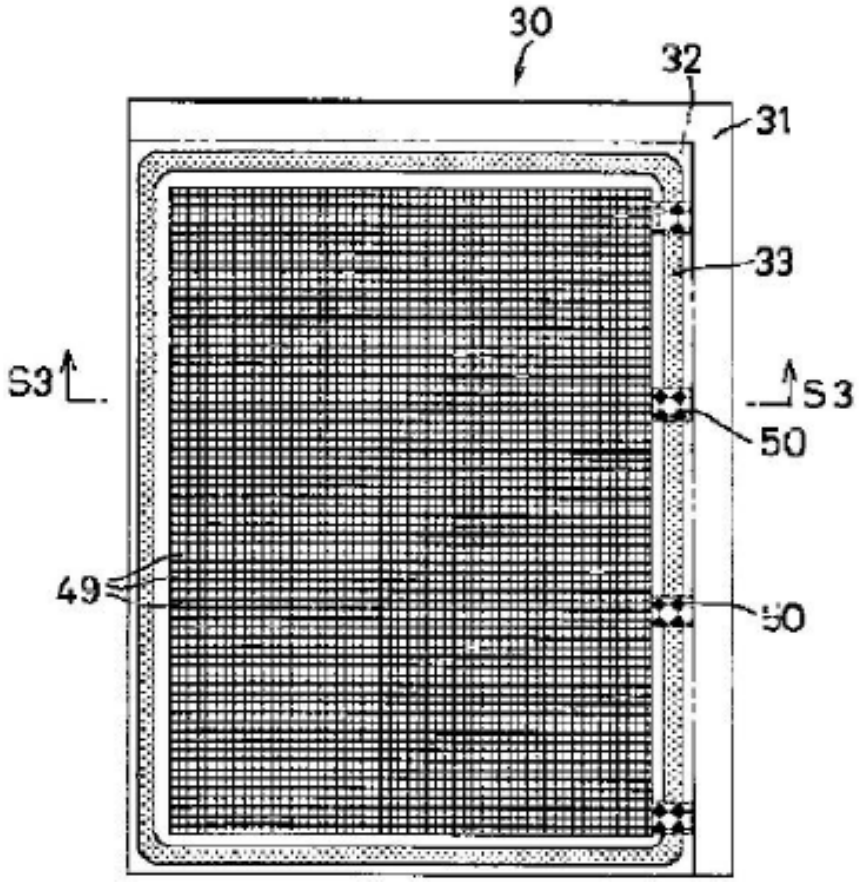
conventional display element layouts place conductive paste inside or outside of the display element seal region; the seal holds the liquid crystal material, and the conductive paste electrically connects the upper electrode substrate to the driver integrated circuits, which are connected to the display element on the lower electrode substrate. Ex. 1008 ¶[0006]. That layout creates a larger-than-desired non-display region. *Id.* Other conventional display element layouts save space, dispersing conductive material into the sealing material rather than next to the sealing material. But Ikeguchi explains that that layout creates connectivity problems: due to variations in cell-gap height (the space between the substrate layers), the conductive material does not always create a connection between the upper electrode substrate and the lower electrode substrate, and dispersing the conductive material into the sealing material requires additional insulating layers to protect crossing wiring. *Id.* ¶¶[0009]-[0012].



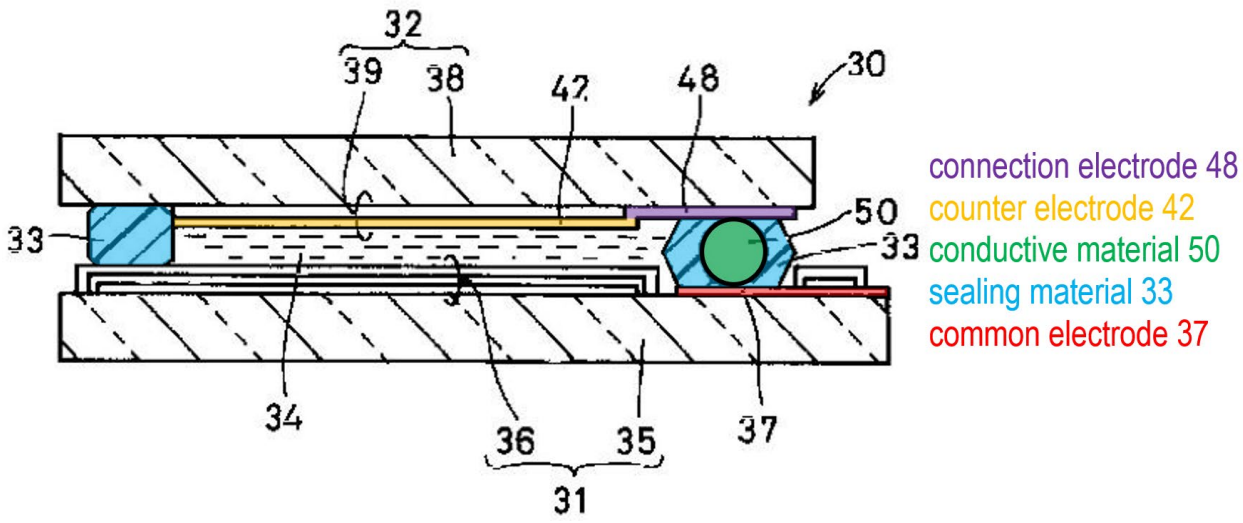
Id., Figs. 8, 10.

Ikeguchi discloses a solution: depositing a display element seal and then depositing conductive material on common electrodes, and then bonding upper and lower electrode substrates, so as to create discrete electrical connections between upper and lower electrode layers:

FIG. 2



Id., Fig. 2. "In this manner, the region in which the sealing material 33 is disposed and the region in which the common electrode 37, the connection electrode 48, and the conductive material 50 are disposed can be shared, a non-display region 53 can be made small, and the conductive material 50 can be reliably brought into contact with the common electrode 37 and the connection electrode 48 to achieve reliable conduction between the electrode substrates 31, 32." *Id.*, Abstract.



Id., Fig. 3. *See also* Ex. 2001 ¶¶94-95.

2. The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious all limitations of any challenged claim.

a. Claim 7

i. The Petition does not show that Fujikawa in view of Ikeguchi renders obvious a "seal member . . . formed continuously around the entire pixel region without the use of a plug" (claim 7[h]).

Fujikawa does not disclose a seal member "formed continuously around the entire pixel region without the use of a plug," see *supra* §VI.A.2.a.i, and the Petition does not argue that Ikeguchi discloses this limitation. Ex. 2001 ¶98.

ii. The Petition does not show that Fujikawa in view of Ikeguchi renders obvious "a first part of the seal member disposed on the third side which is opposed to the protruding region with

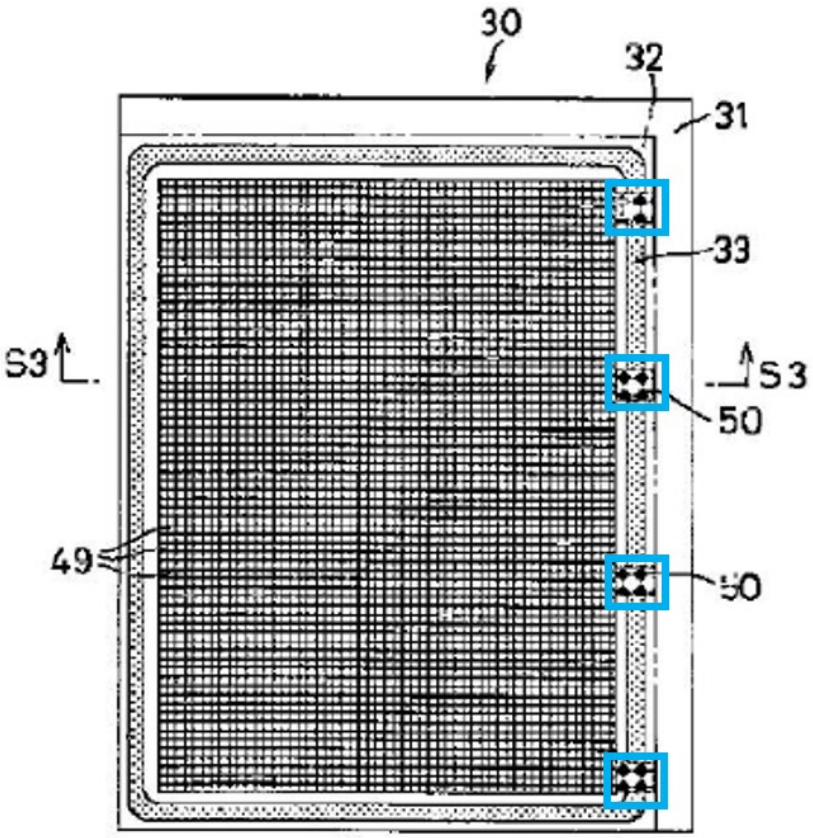
respect to the pixel region includes a plurality of conductive particles" (claim 7[i]).

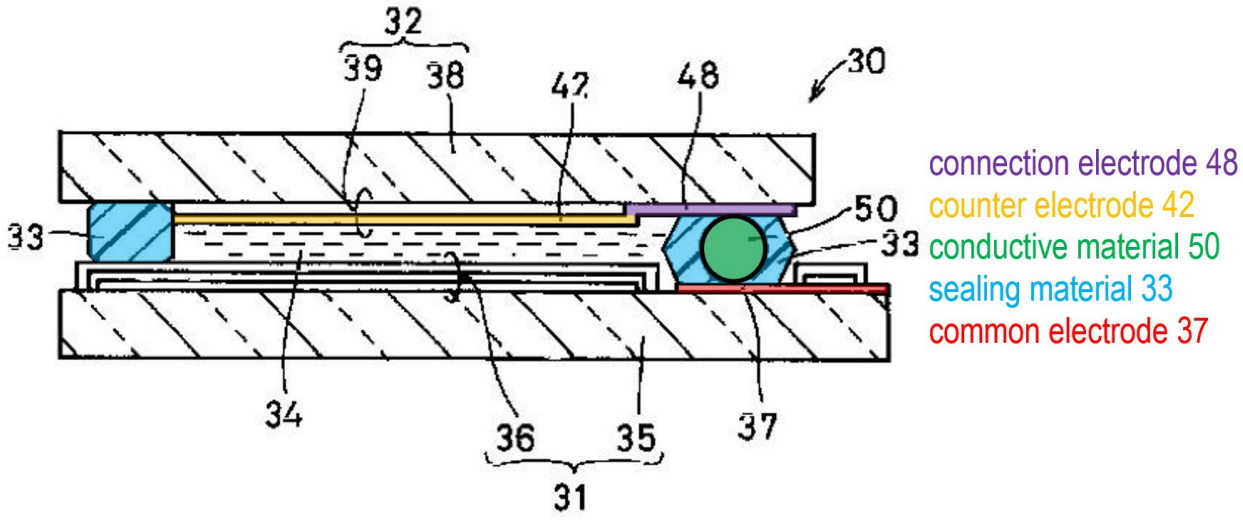
Fujikawa does not disclose or render obvious "a first part of the seal member disposed on the third side which is opposed to the protruding region with respect to the pixel region includes a plurality of conductive particles," see *supra* §VI.A.2.a.ii, and the Petition does not argue that Ikeguchi discloses this limitation. The Petition argues only that a POSITA would add more conductive particles "along [Fujikawa's] seal region" in view of Ikeguchi. *See* Pet. at 89-93. For Fujikawa in view of Ikeguchi to render obvious "a first part of the seal member disposed on the third side which is opposed to the protruding region with respect to the pixel region includes a plurality of conductive particles," Ikeguchi must disclose a part of a seal member disposed on the third side that includes conductive particles, and the Petition must offer a reason to modify Fujikawa to satisfy the limitation. The Petition shows neither. Ex. 2001 ¶¶99-101.

First, the Petition cites no evidence to suggest that Ikeguchi discloses a part of a seal member disposed on the third side that includes conductive particles. It does not. Like Fujikawa, Ikeguchi discloses forming a seal, including on the "third side" (opposite the protruding region), and, separately, depositing conductive material on discrete locations. Ex. 1008 ¶¶[0016], [0019], [0047]. Ikeguchi teaches away from a seal member including conductive particles. *Id.* ¶¶[0011]-[0012]

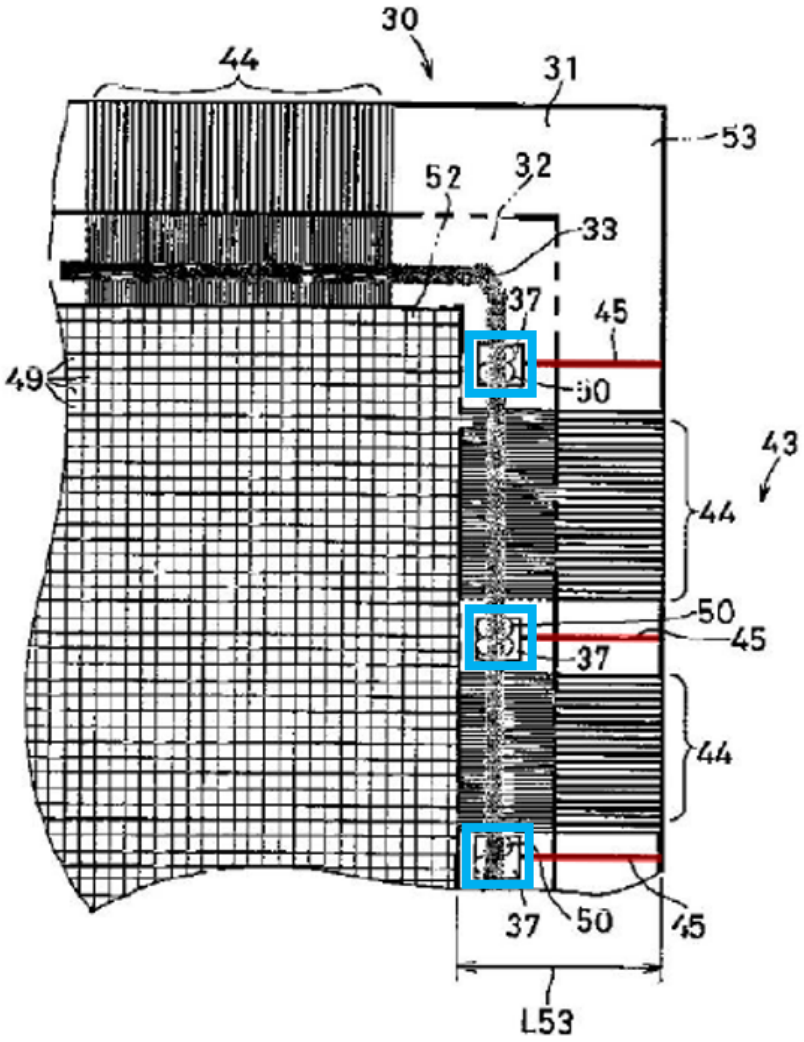
(describing problems when dispersing conductive particles in sealing material, i.e., when "uniformly mixed"); *see also* Ex. 2001 ¶102. The Petition does not address this express teaching in Ikeguchi that contradicts the Petition's assertions.

Moreover, Ikeguchi teaches depositing conductive material along only the protruding region:





Ex. 1008, Figs. 2, 3. Specifically, Ikeguchi discloses forming common electrodes over common line (or "other-substrate") terminals and depositing conductive material on those common electrodes. *Id.* ¶[0037] ("When forming the other-substrate terminals 45 on the first electrode substrate 31, a conductive portion for creating conduction between the transparent counter electrode substrate and the other-substrate terminals must be provided spanning between the electrode substrates 31, 32 in order to electrically connect the other-substrate terminals 45 and the transparent counter electrode of the second electrode substrate 31 [sic, 32]."). Ikeguchi teaches forming common line terminals along the protruding region, where driver integrated circuits connect to the display element. *Id.* ¶[0033]. So Ikeguchi's conductive electrodes and, thus, Ikeguchi's conductive material, are along the protruding region:



Id., Fig. 1 (red identifying common line terminals, blue identifying conductive electrodes and conductive material); *see also* Ex. 2001 ¶103. The Petition does not address these teachings. Ikeguchi does not disclose a part of a seal member disposed on the third side including conductive particles. It does not disclose forming conductive electrodes or conductive material on the third side. It discloses forming conductive electrodes on the first side, over driver integrated circuit

terminals, and depositing conductive material on only those locations after forming the seal.

Second, the Petition does not show how or why a POSITA would modify Fujikawa's sealing material 107 and conductive material 106 arrangement in view of Ikeguchi to satisfy this limitation. Ex. 2001 ¶104. The Petition suggests that a POSITA would "provide additional conductive particles," citing three reasons. Pet. at 92. But the Petition offers only conclusions and does not show that Ikeguchi's arrangement provides benefits over Fujikawa's.

First, the Petition argues that modifying Fujikawa to "provide additional conductive particles in [the] sealing material 107" would reduce the size of the non-display region. *Id.* But the Petition does not explain how. Indeed, Fujikawa already provides conductive electrodes 9g and conductive material 106 in gaps in the sealing material within the seal region. Ex. 1005, Fig. 1A. Fujikawa's arrangement reduces the size of the non-display region and does not waste space forming sealing material and conductive material in separate regions. Ex. 2001 ¶105. The Petition does not acknowledge these teachings in Fujikawa.

Second, the Petition argues that modifying Fujikawa to "provide additional conductive particles in [the] sealing material 107" would "achieve reliable conduction between the two substrates." Pet. at 92. Again, the Petition does not explain how. Fujikawa already achieves conduction between its substrates. Even if

a POSITA were to add conductive electrodes and conductive material to Fujikawa's arrangement in view of Ikeguchi's, Ikeguchi teaches forming additional conductive electrodes and conductive material along the *first* (protruding) side, not the *third* side. Ex. 2001 ¶106.

Third, the Petition mentions improved "display quality and stability." Pet. at 92. But again, the Petition does not explain how Ikeguchi's arrangement would motivate a POSITA to modify Fujikawa's to achieve something *more*. Ex. 2001 ¶107.

Neither reference discloses "a first part of the seal member disposed on the third side which is opposed to the protruding region with respect to the pixel region includes a plurality of conductive particles." And the Petition does not show that Ikeguchi would motivate a POSITA to modify Fujikawa to satisfy the limitation. Thus, the Petition fails to show that Fujikawa in view of Ikeguchi renders obvious this limitation. *Id.* ¶108.

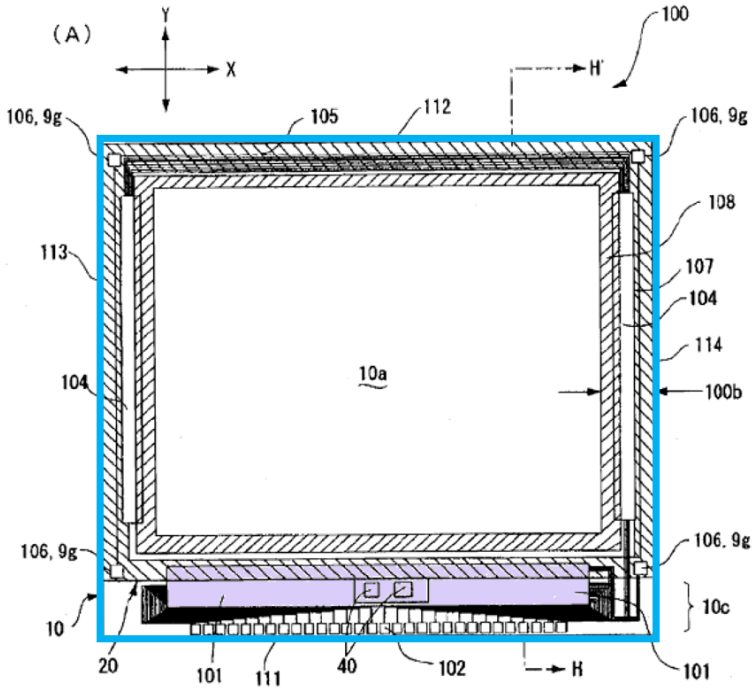
iii. The Petition does not show that Fujikawa in view of Ikeguchi renders obvious "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points" (claim 7[l]).

Fujikawa does not disclose "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the

protruding region across the seal member without connecting to the dot conductive points." *See supra* §VI.A.2.a.iii. And the Petition does not show that Ikeguchi discloses this limitation or that a POSITA would modify Fujikawa in view of Ikeguchi. Ex. 2001 ¶109.

Ikeguchi does not expressly disclose wiring lines that connect to the active elements and extend onto the protruding region. Ikeguchi discloses "connection lines": "[t]he one-substrate terminals 44 are electrically connected to the gate-line electrodes and the source-line electrodes via connection lines, and a different potential can be applied to each of the transparent pixel electrodes 49 by the driver IC." Ex. 1008 ¶[0034]. Ikeguchi discloses little else about those connection lines, including whether they extend onto the protruding region. Figure 1 shows that terminals 44 are on the protruding region. But it does not show whether wiring lines extend onto the protruding region. Ex. 2001 ¶110. The Petition has not carried its burden.

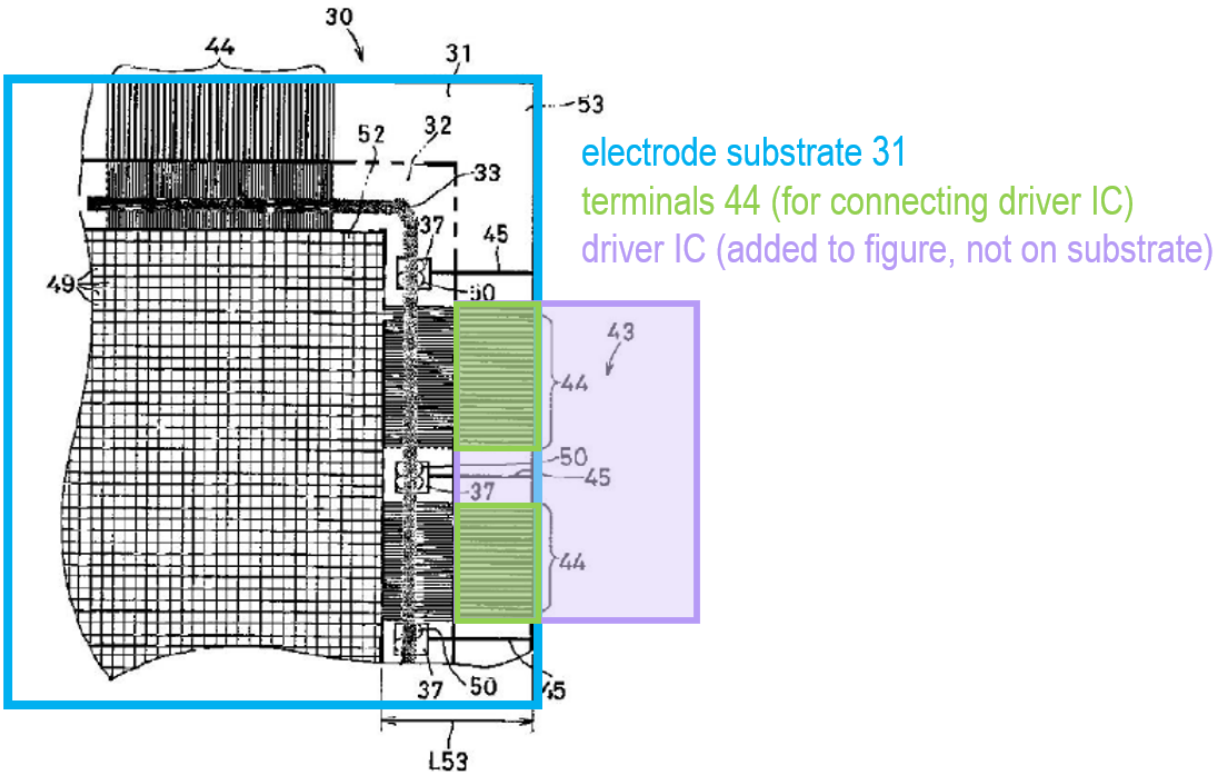
Further, the Petition does not explain how or why Ikeguchi's driver integrated circuit arrangement would motivate a POSITA to modify Fujikawa's wiring lines arrangement. Fujikawa discloses a display device including a data line driving circuit on a TFT substrate, in partial overlap with the sealing material and partially on the protruding region of the TFT substrate:



Ex. 1005, Fig. 1A; *see also* Ex. 2001 ¶111.

Ikeguchi describes a different layout, and the Petition does not address those disclosures or reconcile them with Fujikawa's layout. Ikeguchi describes a display element and separate driver integrated circuits—rather than circuits formed on the display element substrate. *See, e.g.*, Ex. 1008 ¶¶[0033]-[0035] (describing connecting terminals 44 on the display element for connecting driver integrated circuits and that "[i]n this manner, the display element 30 and the driver IC are electrically connected"); Ex. 2001 ¶112. Petitioner's expert does not address these disclosures or this key difference between Fujikawa's layout and Ikeguchi's, misstating that Ikeguchi's "driver integrated circuit can be either within the sealing region or outside the sealing region." Pet. at 100 (citing Ex. 1004 ¶226). That is not

correct. A POSITA would not mount a driver IC chip, which has its own substrate, on the display device substrate in overlap with or inside of the seal; Ikeguchi confirms the opposite. Ikeguchi does not disclose a driving circuit arranged on the TFT substrate. Instead, Ikeguchi discloses a driver IC chip. Ex. 2001 ¶112. In Ikeguchi and similar configurations, driver IC chips are located off the LCD panel and are connected at the terminals, for example, via contact pads. *Id.*



Ex. 1008, Fig. 1. Modifying Fujikawa in view of Ikeguchi would require significant changes to Fujikawa's existing wiring structure and peripheral circuit layout. Ex. 2001 ¶112. The Petition does not reconcile its conclusory arguments

with Fujikawa's and Ikeguchi's disclosures teaching incompatible driving circuit and wiring line layouts.

The Petition's suggestion that Ikeguchi would have motivated a POSITA to change Fujikawa's wiring lines layout is conclusory and unsupported and overlooks critical distinctions between the references. Thus, the Petition fails to show that Fujikawa in view of Ikeguchi discloses or renders obvious "a plurality of wiring lines that connect to the plurality of active elements, and the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points." Ex. 2001 ¶113.

b. Claim 8

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 7 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 8. *Id.* ¶114.

Further, the Petition fails to show that Fujikawa discloses or renders obvious additional limitation of claim 8. *See* §VI.A.2.b, *supra*. And the Petition does not show that Ikeguchi discloses or renders obvious a seal member that extends "over the first conductive point on the second side" or that "the second part of the seal member includes a plurality of conductive particles"—Ikeguchi discloses conductive material on only one side of the panel. Ex. 2001 ¶115.

c. Claim 9

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 8 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 9. *Id.* ¶116.

Further, the Petition fails to show that Fujikawa discloses or renders obvious additional limitation of claim 9. *See* §VI.A.2.c, *supra*. And the Petition does not show that Ikeguchi discloses or renders obvious a seal member that extends "over the second conductive point on the fourth side" or that "the third part of the seal member includes a plurality of conductive particles"—Ikeguchi discloses conductive material on only one side of the panel. Ex. 2001 ¶117.

d. Claim 10

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 7 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 10. *Id.* ¶118.

e. Claim 11

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 10 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 11. *Id.* ¶119.

f. Claim 12

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 7 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 12. *Id.* ¶120.

g. Claim 13

i. The Petition does not show that Fujikawa in view of Ikeguchi renders obvious "the seal member is formed continuously around the entire display region without the use of a plug" (claim 13[f]).

Fujikawa does not disclose a "seal member is formed continuously around the entire display region without the use of a plug," see *supra* §VI.A.2.g.i, and the Petition does not argue that Ikeguchi discloses this limitation. Ex. 2001 ¶121.

ii. The Petition does not show that Fujikawa in view of Ikeguchi renders obvious that "the second part of the seal member includes a plurality of conductive particles" (claim 13[i]).

The Petition does not show that Fujikawa discloses that "the second part of the seal member includes a plurality of conductive particles"—the sealing material is separate from the conductive material, and the sealing material does not include conductive particles. *See supra* §VI.A.2.g.ii. Further, the Petition does not show that Ikeguchi discloses or renders obvious this limitation. It does not disclose a part of a seal member disposed on the side opposite the protruding region that includes

conductive particles, or a reason to modify Fujikawa to satisfy the limitation. *See supra* §VI.C.2.a.ii; *see also* Ex. 2001 ¶121.

iii. The Petition does not show that Fujikawa in view of Ikeguchi renders obvious "a plurality of wiring lines that connect to the plurality of active elements, . . . the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points" (claim 13[a], [l]).

The Petition does not show that Fujikawa discloses "a plurality of wiring lines that connect to the plurality of active elements, . . . the plurality of wiring lines extend onto the protruding region across the seal member without connecting to the dot conductive points"—no wiring lines connect to the active elements *and* extend onto the protruding region across the seal member. *See supra* §VI.A.2.g.iii. Further, the Petition does not show that Ikeguchi discloses or renders obvious this limitation. *See supra* §VI.C.2.a.iii; *see also* Ex. 2001 ¶121.

h. Claim 15

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 13 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 15. Ex. 2001 ¶122.

i. Claim 16

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 15 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 16. *Id.* ¶123.

j. Claim 17

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 16 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 17. *Id.* ¶124.

k. Claim 18

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 17 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 18. *Id.* ¶125

l. Claim 19

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 18 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 19. *Id.* ¶126.

m. Claim 20

The Petition fails to show that Fujikawa in view of Ikeguchi renders obvious the display device according to claim 13 and, thus, fails to show that Fujikawa in view of Ikeguchi renders obvious claim 20. *Id.* ¶127.

D. The Petition does not establish a reasonable likelihood that Fujikawa in view of Kang and Ikeguchi renders obvious claims 7-13 and 15-20 (Ground 5).

The Petition offers no new arguments in support of Ground 5. Pet. at 104. Thus, for the same reasons that the Petition fails to show that Fujikawa in view of Kang, and Fujikawa in view of Ikeguchi, renders obvious claims 7-13 and 15-20, the Petition fails to show that Fujikawa in view of Kang and Ikeguchi renders obvious those claims. Ex. 2001 ¶128.

VII. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER 35 U.S.C. § 314 AND *FINTIV*.

The Board should exercise its discretion to deny the Petition under *Fintiv* and the Director's Interim Guidance.[3] The *Fintiv* factors weigh against institution:

- The United States District Court for the Eastern District of Texas has not stayed the parallel proceedings. And no evidence suggests that the district court would grant a stay were the Board to institute; three of six patents-in-suit are not subject to *inter partes* review proceedings. *See AGIS Software Development LLC v. Google LLC*, 2:19-CV-00361-JRG, 2021 WL 465424, at *2 (E.D. Tex. Feb. 9, 2021) ("It has

[3] K. Vidal, INTERIM PROCEDURE FOR DISCRETIONARY DENIALS IN AIA POSTGRANT PROCEEDINGS WITH PARALLEL DISTRICT COURT LITIGATION (June 21, 2022), https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

been this Court's consistent and long established practice to deny motions to stay pending IPR and EPR when the PTAB or PTO have instituted review on less than all asserted claims of all asserted patents because at least one or more originally asserted claims will be unaffected by the outcome of those parallel proceedings and left intact before this Court to be tried."). Investment in the district court proceedings is ongoing.

- Trial in the district court proceedings will take place on June 2, 2025, more than six months before the Board's Final Written Decision deadline. Ex. 1021. Median time from filing to trial in the district is 21.6 months as of June 2024, which would push trial only to August 2025, as the Petition notes.[4] The district court is, under the issued trial date and the estimated time-to-trial, expected to try this case before the Board's Final Written Decision deadline.
- Issues before the Board are substantially the same as those before the district court. Only claim 19, challenged here, is not asserted in the district court. Petitioner has not submitted a *Sotera* stipulation.

[4] https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile0630.2024.pdf.

- The Petition has not demonstrated a reasonable likelihood of success, much less a compelling likelihood of success. And the other factors weigh in favor of dismissal. *See CommScope Techs. LLC. v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4 (February 27, 2023) (Precedential) ("I intended for PTAB panels to only consider compelling merits if they first determined that *Fintiv* factors 1–5 favored a discretionary denial.").

VIII. CONCLUSION

The Petition does not establish a reasonable likelihood that any of the challenged claims are unpatentable. The Board should deny institution.

Date: September 20, 2024

Respectfully submitted,

s/ Cyrus A. Morton

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION

I certify that this Patent Owner's Preliminary Response complies with the word count limit and contains 8,900 words in 14-point Times New Roman font as calculated by the word count feature of Microsoft Office, in compliance with 37 C.F.R. § 42.24(a)(1)(i). This word count is inclusive of all text and footnotes but does not include the table of contents, table of authorities, certificate of service or word count, or appendix of exhibits or claim listing.

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CERTIFICATE OF SERVICE

I certify that on September 20, 2024, a copy of Patent Owner's Preliminary Response, including exhibits, was served in its entirety by electronic mail to Petitioner's counsel at the following addresses indicated in Petitioner's Mandatory Notices:

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