

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YUN BOK LEE

Appeal 2008-0425
Application 10/032,062
Technology Center 2800

Decided: June 19, 2008

Before KENNETH W. HAIRSTON, JOSEPH F. RUGGIERO, and
ROBERT E. NAPPI, *Administrative Patent Judges*.

RUGGIERO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Final Rejection of
claims 1-5, 7, 8, 19, and 20. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

Appellant's invention relates to a liquid crystal display device arranged in a matrix type and which includes gate and data lines, and a pixel electrode provided at an intersection of the gate and data lines. A thin film transistor is provided for responding to a scanning signal of the gate line for switching the data signal of the data line into the pixel electrode. Further included is an alignment film formed on a portion of the gate line, the data line, and the pixel electrode to determine the primary alignment direction of a liquid crystal. (Specification 7-9).

Claim 1 is illustrative of the invention and reads as follows:

1. A liquid crystal display device having liquid crystal cells arranged in a matrix type, comprising:
 - a gate line for receiving a scanning signal;
 - a data line for receiving a data signal;
 - a pixel electrode provided at an intersection of the gate line and the data line to drive a liquid crystal cell;
 - a thin film transistor for responding to the scanning signal to switch the data signal into the pixel electrode;
 - a common line laterally adjacent to the pixel electrode along a direction of one of the gate and data lines; and
 - an alignment film formed on at least a portion of the gate line, the data line and the pixel electrode to determine a primary alignment direction of a liquid crystal,wherein the pixel electrode and the common electrode are disposed directly on an insulating layer that serves as the gate insulating layer of the thin film transistor, and wherein the alignment film directly contacts upper and side surfaces of the common line, upper and side surfaces of the pixel

electrode, and upper surfaces of the source and drain electrodes of the thin film transistor.

The Examiner relies on the following prior art references to show unpatentability:

Mizutome ¹	US 6,072,555	Jun. 6, 2000
Kim (Kim '970)	US 6,177,970 B1	Jan. 23, 2001
Shin	US 6,271,903 B1	Aug. 7, 2001 (filed Jan. 22, 1998)
Kim (Kim '727)	US 6,388,727 B1	May 14, 2002 (filed Nov. 9, 1999)

Claims 1-4, 7, and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shin in view of Kim '970.

Claims 5, 19, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Shin in view of Kim '970 and further in view of Kim '727.

Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the Briefs and Answer for the respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived [see 37 C.F.R. § 41.37(c)(1)(vii)].

¹ The Mizutome reference is not part of any stated ground of rejection but, rather, is cited as evidence in support of the Examiner's rejection of claims 1-4, 7, and 8 based on Shin and Kim '970.

ISSUES

(i) Under 35 U.S.C. § 103(a), with respect to appealed claims 1-4, 7, and 8, would one of ordinary skill in the art at the time of the invention have found it obvious to combine Shin and Kim '970 to render the claimed invention unpatentable?

(ii) Under 35 U.S.C. § 103(a), with respect to appealed claims 5, 19, and 20, would one of ordinary skill in the art at the time of the invention have found it obvious to modify the combination of Shin and Kim '970 by adding the teachings of Kim '727 to render the claimed invention unpatentable?

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Furthermore, “‘there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness’ . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 127

S. Ct. 1727, 1741 (2007)(quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

ANALYSIS

The rejection of claims 1-4, 7, and 8 based on Shin and Kim '970

With respect to the Examiner's 35 U.S.C. § 103(a) rejection of appealed independent claims 1 and 4 based on the combination of Shin and Kim '970, Appellant asserts that the Examiner has failed to set forth a prima facie case of obviousness since a proper basis for the proposed combination of references has not been established. After reviewing the arguments of record from Appellant and the Examiner, we are in general agreement with Appellant's position as stated in the Briefs.

The Examiner proposes (Ans. 3-5) to modify the liquid crystal display device structure of Shin by forming the alignment film so that it is in direct contact with the surfaces of the common line as disclosed by Kim '970. As argued by Appellant (App. Br. 6-7; Reply Br. 3), however, such a modification would necessitate the removal of the insulating layers (Figure 2, element 58; Figure 14, element 24) which separates the pixel and common electrodes which are formed in different planes. We agree with Appellant that such removal would interfere with the operation of Shin's device since Shin's insulating layers 58 or 24 are required for the proper function of the capacitive coupling structures 65 and 66 which operate to cancel the parasitic capacitance generated during driving of the liquid crystal cell. (Shin, col. 6, l. 63- col. 7, l. 6).

Although the Examiner, in attempting to address Appellant's arguments, has contended (Ans. 6) that the proposed modification of Shin

would not destroy the operation of Shin's device, no evidence or reasoned analysis has been presented to support the Examiner's position. While the Examiner is correct that the particulars of the parasitic capacitance cancelling structure are discussed in Shin only with respect to the Figure 2 embodiment, and not the prior art Figure 13 structure relied on by the Examiner, it is apparent that similar parasitic capacitance cancelling structure exists in both structures. As described and illustrated in Shin, both the Figure 2 and Figure 13 structures have pixel and common electrodes formed in different planes and separated by insulating layers 58 and 24, respectively. Further, the described capacitance generating sections 65 and 66 formed by extending the ends of the pixel electrode 54 on a portion of the insulator layer 58 over the common electrodes 53 in Shin's Figure 2 embodiment are remarkably similar to the pixel electrode extension ends illustrated in Shin's Figure 13 prior art structure.

We are further of the view that even assuming, *arguendo*, that a proper basis were established for the combination of Shin and Kim '970, there is no indication from the Examiner as to how and in what manner the teachings of Kim '970 would be applied to Shin to arrive at the claimed invention. In other words, any possible suggestion to apply an alignment film in direct contact with the surfaces of a common electrode such as disclosed in Kim '970 to the liquid crystal device structure of Shin would have to ignore the fact that the insulating layer which separates the pixel and common electrodes in Shin, which layer would have to be removed to implement the proposed modification, is required for proper operation of Shin's device.

We do note that it is proper for an Examiner to consider, not only the specific teachings of a reference, but inferences a skilled artisan might draw from them. It is equally important, however, that the teachings of prior art references be considered in their entirety. *See W.L.Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548 (Fed. Cir. 1983). In particular, in order for us to accept the Examiner's conclusions in the present factual situation, we would have to improperly selectively ignore significant portions of the disclosure of the Shin reference. In our view, given the disparity of problems addressed by the applied Shin and Kim '970 prior art references, and the differing solutions proposed by them, any attempt to combine them could only come from a hindsight reading of Appellant's own disclosure.

In view of the above discussion, we are of the opinion that the applied prior art references, even if combined, do not support the obviousness rejection. We, therefore, do not sustain the Examiner's 35 U.S.C. § 103(a) rejection of independent claims 1 and 4, nor of claims 2, 3, 7, and 8 dependent thereon.

The rejection of claims 5, 19, and 20 based on Shin, Kim '970, and Kim'727

We also do not sustain the Examiner's obviousness rejection of claims 5, 19, and 20. The Examiner has applied the teachings of Kim '727 to Shin and Kim '970 to address the electrode material features set forth in claims 5, 19, and 20. We find nothing, however, in the disclosure of Kim '727 which overcomes the innate deficiencies of Shin and Kim '970 discussed *supra*.

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CONCLUSION

In summary, we have not sustained the Examiner's 35 U.S.C. § 103(a) rejections of any of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-5, 7, 8, 19, and 20 is reversed.

REVERSED

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