

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANCIS P. FEHLNER

Appeal No. 1996-2055
Application 08/132,554¹

ON BRIEF

Before CAROFF, OWENS and SPIEGEL, Administrative Patent
Judges.

CAROFF, Administrative Patent Judge.

DECISION ON APPEAL

This decision on appeal relates to the final rejection of
claims 1-14, all the claims pending in appellant's
application.

¹ Application for patent filed October 5, 1993. According
to appellant, the application is a continuation-in-part of
Application 07/853,587 filed March 18, 1992, now abandoned.

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The claims relate to a method of producing a glass panel for a liquid crystal display (LCD) device wherein a continuous, permanent and transparent film is deposited on a surface of a glass panel upon exposure of the panel to an atmosphere of an atomized or ionized inert refractory material, e.g. silica, and the deposited film functions both as a parting agent during a heat compaction treatment and as a barrier layer to prevent sodium ion migration during subsequent processing steps and during operation of the LCD (see appellant's specification: page 7, l. 23-30).

Claim 1 is illustrative and reads as follows:

1. A method of producing a glass panel for a LCD device wherein the glass is nominally free of alkali metal oxides, that is, has no intentionally added alkali metal compound in its batch, but contains up to about 0.1% by weight Na^+ as an impurity, and wherein the method comprises depositing on at least one surface of a clean glass panel a continuous, permanent, and transparent barrier layer film from an atmosphere of an atomized or ionized inert refractory material, or reactive precursor, the film being greater than 50nm, but not over 500nm, in thickness, and, after depositing the transparent film on the clean glass panel, stacking the filmed glass panel with a plurality of the clean, filmed glass panels to form a stack of adjacent panels, the total film thickness between each pair of adjacent panels in the stack being greater than 100nm and subjecting the stack to a heat treatment to compact the glass, the permanent barrier layer film on the clean glass panel functioning both as a barrier to sodium ion migration from the glass and as a parting agent during the compacting heat treatment.

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The following references are relied upon by the examiner as evidence of obviousness:

1. Admissions of prior art (hereinafter referred to by the acronym PAT) on page 1, line 11-page 2, line 13 of appellant's specification.
2. Dockerty et al.(Dockerty) 3,149,949 Sept. 22, 1964
3. Nordberg 3,208,839 Sept. 28, 1965
4. Mizuhashi et al.(Mizuhashi) 4,485,146 Nov. 27, 1984
5. Jenkins et al. (Jenkins) 4,828,880 May 9, 1989
6. Foster et al. (Foster) 5,073,181 Dec. 17, 1991

The rejections applied by the examiner are as follows:

I. Claims 1-8 and 11-14 stand rejected for obviousness under 35 U.S.C. § 103 over the combined disclosures of PAT, Foster, Mizuhashi and Nordberg.

II. Claim 9 stands rejected as obvious from the basic combination of references applied in (I) above, further in view of Dockerty and Jenkins.

III. Claim 10 stands rejected as obvious from the basic combination of references applied in (I) above, further in view of Jenkins.

Based on the record before us, we agree with appellant that the basic combination of references (PAT, Foster,

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Mizubishi, Nordberg) relied upon by the examiner is insufficient to establish a prima facie case of obviousness. The other references relied upon by the examiner (Dockerty, Jenkins) do not cure this fundamental deficiency. Accordingly, we shall not sustain any of the rejections at issue.

None of the basic references, taken singly or in combination, teach or suggest that a continuous, permanent and transparent barrier layer film (which is formed by exposure of a glass panel to an atmosphere of an atomized or ionized inert refractory material) can be used both as a parting agent during a heat compaction treatment and as a permanent barrier layer to prevent sodium ion migration during subsequent processing steps and during operation of the ultimate LCD product.

For instance, while Mizubishi discloses a silicon oxide layer which is deposited on a glass surface by techniques, e.g. sputtering, CVD, etc, similar to those used by appellant, and functions as a barrier layer to prevent diffusion of alkali metal ions, we find nothing in the prior art of record which suggests that this particular type of silicon oxide

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layer would also be capable of functioning as a parting agent during a heat compaction treatment.

Furthermore, while the coating taught by Foster serves as a parting agent, Foster teaches away from using the coating as a permanent barrier layer by suggesting its removal after use as a parting agent (see Foster at col. 4, l. 56-57 and claim 1).

Additionally, we find no factual basis to support the examiner's conclusion that the Foster coating would be expected to function as a barrier to sodium ion migration. The examiner has given no reason, nor are we aware of any, as to why the coating of Foster, which is particulate in nature, could be expected to function as such. This deficiency in the examiner's reasoning is not cured by resort to the Nordberg reference since the coating or film of Nordberg, like that of Foster, is used solely as a parting agent and is colloidal in nature, produced from a metallic oxide powder dispersed in water.

For the foregoing reasons, the decision of the examiner is reversed.

REVERSED

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MARC L. CAROFF))
Administrative Patent Judge)	
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TERRY J. OWENS))
Administrative Patent Judge)	APPEALS AND
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MLC:hh

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