

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS M. LANEY,
PETER T. AYLWARD and
ROBERT P. BOURDELAIS

Appeal 2007-2853
Application 10/255,922
Technology Center 1700

Decided: September 6, 2007

Before BRADLEY R. GARRIS, CHARLES F. WARREN, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal the final rejection of claims 1, 2, 4-15, 20, 21, and 39 under 35 U.S.C. § 134. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

INTRODUCTION

Appellants claim a nacreous polymer sheet that is used as base material for photographic reflective paper (claim 1; Specification 1:5-6).

Claim 1 is illustrative:

1. A nacreous polymer sheet comprising voided polyester polymer wherein said sheet has a matrix of polyester encompassing voids in said sheet and has voids of a length to height ratio of between 10:1 and 100:1, voids of a length of between 5 and 100 micrometer, a number of voids in the vertical direction of greater than 6, said sheet has a roughness average of less than 0.4 micrometers, and wherein said polymer sheet has a FLOP value of between 45 and 100.

The Examiner relies on the following prior art references as evidence of unpatentability:

Ashcraft	US 4,377,616	Mar. 22, 1983
Kent	US 5,811,493	Sep. 22, 1998

The rejection as presented by the Examiner is as follows:

Claims 1, 2, 4-15, 20, 21, and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kent in view of Ashcraft.

Appellants argue claim 1 only. Accordingly, claims 2, 4-15, 20, 21, and 39, which directly or ultimately depend from claim 1, stand or fall with claim 1.

OPINION

Appellants argue that Kent and Ashcraft are not properly combinable and the Examiner has provided no explanation as to how such proposed combination would result in the presently claimed invention (Br. 2-3). Specifically, Appellants argue that the surface roughness of Kent's voided film is higher than Appellants' claimed "roughness average of less than 0.4

micrometers” (Br. 3). Appellants further argue that since Ashcraft produces large voids and Kent discloses that large voids are undesirable, it would not have been obvious to combine Kent’s and Ashcraft’s disclosures (Br. 4). Appellants argue that the Examiner has provided no evidence that one of ordinary skill in the art would have been directed to optimize the surface roughness, void size, and aspect ratio of a voided layer to obtain a high FLOP value as taught in the present invention (Br. 4). Appellants argue that the Examiner’s proposed combination of Ashcraft’s various parameters for a voided sheet with Kent’s voided sheet is based on impermissible hindsight (Br. 5). Appellants argue that Kent’s disclosure to use a compatibilizer to form smaller areas of polyolefin phase polymer teaches away from larger voids and higher FLOP values (Br. 5). Appellants further argue that the Examiner has not provided any support for the contention that the cited references teach that “a greater length to height ratio enhances flop value,” or that such references would motivate the artisan to provide a voided film with the required FLOP value (Br. 6).

We have considered all of Appellants’ arguments and find them unconvincing for the reasons below.

Regarding Appellants’ arguments directed to the void size and void aspect ratio, we note that Appellants concede that Ashcraft’s Figure 1 discloses “at least some relatively high aspect ratio voids” (Br. 3). Accordingly, Appellants’ arguments are not directed to whether the claimed void sizes and aspect ratios are disclosed by Ashcraft; rather, Appellants’ arguments are directed to the motivation for combining Ashcraft’s void sizes with Kent’s pearlescent film.

In that regard, we are unpersuaded by Appellants' argument that Kent's use of compatibilizer to form smaller areas of the polyolefin discrete phase and Kent's disclosure that larger voids are undesirable teach away from combining Ashcraft's larger aspect ratios for the void sizes with Kent's film. As the Examiner states, Kent discloses that using the compatibilizer controls the size of the discrete polyolefin phase in the film, not the aspect ratio of the void (Answer 5). In fact, the aspect ratio is a dimensionless number comparing the length to the height of the void, such that a void having a small volume may still have a large aspect ratio (i.e., a large length as compared to the height). Therefore, we do not agree with Appellants that Kent teaches away from using an aspect ratio of 10:1 to 100:1.

We are unpersuaded by Appellants' arguments that the Examiner has provided no evidence that one skilled in the art would be directed to optimize the void size and aspect ratio of a voided layer to obtain a high FLOP value, or that a greater length to height ratio of the voids enhances FLOP values. Ashcraft discloses that optimum characteristics of opacity and satin-like appearance (i.e., pearlescence) are achieved by controlling the two average major void dimensions (i.e., length and height) (Ashcraft, col. 3, ll. 1-4). As the Examiner states, and Appellants do not dispute, FLOP is a measurement of pearlescence (i.e., the nacreous nature of the film) (Answer 6). Plainly, Ashcraft discloses that the lengths and heights of the voids control the opacity and the satin-like appearance (i.e., pearlescence or FLOP value) of the film.

From the above disclosure, Ashcraft recognizes the lengths and heights of the voids as art-recognized, result-effective variables for controlling the opacity and satin-like appearance (i.e., pearlescence or FLOP

value) of the film such that it would have been obvious for an artisan with ordinary skill to develop workable or even optimum ranges for such art-recognized, result-effective parameters. *See In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-937 (Fed. Cir. 1990); *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980); *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Appellants' arguments regarding the surface roughness of the claimed film are also unavailing. Ashcraft discloses using skin layers to cover the irregularities (i.e., surface roughness) present on the surface of the core layer (i.e., void-containing layer) (Ashcraft, col. 4, ll. 59-63). Ashcraft further discloses that the character and dimension of the skin layers are responsible for the lustrous quality of the satin appearance (i.e., pearlescence or FLOP value) of the structure (Ashcraft, col. 4, ll. 65-68). Thus, Ashcraft recognizes surface roughness is a result-effective variable for controlling the lustrous quality of the satin appearance (i.e., pearlescence or FLOP value) of the film. Accordingly, it would have been obvious for an artisan with ordinary skill to develop workable or even optimum ranges for Kent's surface roughness in view of Ashcraft's recognition that surface roughness is an art-recognized, result-effective parameter. *See Woodruff*, 919 F.2d at 1578, 16 USPQ2d at 1936-37; *Boesch*, 617 F.2d at 276, 205 USPQ at 219; *In re Aller*, 220 F.2d at 456, 105 USPQ at 235.

From the foregoing, we conclude that the Examiner's combination of Ashcraft's various parameters with Kent's pearlescent film is not based on impermissible hindsight. Rather, because Ashcraft discloses that the various claimed and argued parameters are result-effective variables, one of ordinary

skill would have been motivated to optimize the various parameters to achieve the desired degree of pearlescence (i.e., FLOP value). *Id.*

Furthermore, we add that “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740, 82 USPQ2d 1385, 1396 (2007).

In the present case, Ashcraft discloses that it is known in the art to control the void size (i.e., aspect ratio, length and number of voids) and the surface roughness of the product to achieve a product having satin-like (i.e., pearlescent or a high FLOP value) appearance (Ashcraft, col. 3, ll. 1-4; col. 4, ll. 57-68). Therefore, it would have been within the skill of one of ordinary skill in the art and thus obvious to apply Ashcraft’s technique of controlling the void size (i.e., aspect ratio, length, and number of voids) and the surface roughness to Kent’s pearlescent or glossy paper-like sheet to achieve the desired FLOP values (i.e., pearlescence). *See KSR*, 127 S. Ct. at 1740, 82 USPQ2d at 1396.

Appellants have chosen to claim their nacreous film in terms of a measure of the nacreous nature of the film (i.e., the FLOP value). Merely choosing to describe their invention in this manner does not render patentable the claimed nacreous film which, for the reasons given above, would have been obvious over Kent in view of Ashcraft. *See In re Skoner*, 517 F.2d 947, 950, 186 USPQ 80, 82 (CCPA 1975).

For the above reasons, we affirm the Examiner’s § 103(a) rejection of claims 1, 2, 4-15, 20, 21, and 39 over Kent in view of Ashcraft.

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DECISION

The Examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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