



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
12/811,403 07/01/2010 Norimasa Okuda NAKAP0101US 6825

43076 7590 11/17/2016
MARK D. SARALINO (GENERAL)
RENNER, OTTO, BOISSELLE & SKLAR, LLP
1621 EUCLID AVENUE, NINETEENTH FLOOR
CLEVELAND, OH 44115-2191

EXAMINER

VINEIS, FRANK J

ART UNIT PAPER NUMBER

1786

NOTIFICATION DATE DELIVERY MODE

11/17/2016

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocket@remerotto.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* NORIMASA OKUDA and TOMOHIRO SAWA

---

Appeal 2015-005468  
Application 12/811,403  
Technology Center 1700

---

Before MICHAEL P. COLAIANNI, JULIA HEANEY, and  
JEFFREY R. SNAY, *Administrative Patent Judges*.

SNAY, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

Appellants<sup>2</sup> appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 4, 5, and 8. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm. Because our affirmance relies upon facts and arguments that may differ from those forming the basis of the Examiner's decision, we designate the affirmance as a NEW GROUND OF REJECTION.

---

<sup>1</sup> We cite to the Substitute Specification ("Spec.") filed Jul. 1, 2010; Final Office Action ("Final Act.") mailed Jul. 22, 2014; Examiner's Answer ("Ans."); and Appellants' Appeal Brief ("App. Br.") and Reply Brief ("Reply Br.").

<sup>2</sup> Appellant identifies Sakura Color Products Corporation as the real party in interest. App. Br. 2.

## BACKGROUND

The subject matter on appeal relates to “a water-metachromatic fabric sheet,” Spec. ¶ 1, which darkens in color after contact with water, *id.* at ¶ 6. The disclosed water-metachromatic sheet includes a so-called “mixture layer” containing porous particulate aluminum silicate and a colorant. *Id.* at ¶ 7; claim 8. When an area of the sheet is wetted, such as with a wet calligraphy brush, the particulate aluminum silicate transitions to transparent such that the color of the wetted area darkens, e.g., from light blue to dark blue. *Id.* at ¶¶ 6, 12, 28.

Sole independent claim 8 is illustrative and reproduced from the Claims Appendix of the Appeal Brief as follows:

8. A water-metachromatic fabric sheet, comprising:
  - a mixture layer containing porous particulate aluminum silicate and a colorant; and
  - a fabric sheet; whereinsaid mixture layer is formed through a process including steps A and B below:
  - A. printing on a surface of said fabric sheet a second mixed ink, and
  - B. after step A, printing on a surface of said printed second mixed ink, a first mixed ink;said first mixed ink contains binder resin with said porous particulate aluminum silicate and said colorant dispersed therein, content of said porous particulate aluminum silicate being 80 to 99.99 wt% with respect to the total amount of porous particulate aluminum silicate and the colorant, and content of said colorant being 0.01 to 20 wt% with respect to the total amount of porous particulate aluminum silicate and the colorant; and
- said second mixed ink contains binder resin with said porous particulate aluminum silicate and said colorant dispersed therein, content of said porous particulate aluminum silicate

being 0.01 to 20 wt% with respect to the total amount of porous particulate aluminum silicate and the colorant, and content of said colorant being 80 to 99.99 wt% with respect to the total amount of porous particulate aluminum silicate and the colorant;

wherein the water-metachromatic fabric sheet provides a graduated range of the same color from lighter in a dried state to darker in a water-containing state.

### REJECTIONS

The Examiner maintained the following grounds of rejection on appeal:<sup>3</sup>

I. Claims 5 and 8 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kamegawa<sup>4</sup> as evidenced by Sipernat® 820 Data Sheet.<sup>5</sup>

II. Claim 4 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kamegawa, as evidenced by Sipernat® 820 Data Sheet, and Nakashima.<sup>6</sup>

### DISCUSSION

With regard to Rejection I, Appellants argue the rejected claims as a group. App. Br. 2–8; Reply Br. 1–11. Appellants do not separately argue

---

<sup>3</sup> Final Act. 2–5; Ans 2–5.

<sup>4</sup> JP 2005-008848, published Jan. 13, 2005 (“Kamegawa”), as translated.

<sup>5</sup> The Sipernat® document appears to be an archived copy of a product description previously posted within the [www.thecarycompany.com](http://www.thecarycompany.com) website. The full internet address for the archived document is not discernable from the document. Appellants do not contest the Examiner’s reliance on the Sipernat® document as prior art. *See* App. Br. 2–8; Reply Br. 1–11.

<sup>6</sup> US 6,953,345 B1, issued Oct. 11, 2005 (“Nakashima”).

Rejection II. *Id.* We select claim 8 as representative and decide the propriety of Rejections I and II based on the representative claim alone.

As is relevant to Appellants' arguments on appeal, the Examiner found that Kamegawa discloses a porous layer, comprising a low refractive index aluminum silicate pigment and an acrylic resin binder, printed over a colored fabric sheet. Final Act. ¶ 6 (citing Kamegawa ¶¶ 6, 25, 26). The Examiner further found that Kamegawa's porous layer appears white when dry and transparent or semi-transparent when wet. *Id.* (citing Kamegawa ¶ 9). The Examiner interpreted the phrase, "wherein said mixture layer is formed through a process including steps A and B" as a product-by-process recitation, and found Kamegawa's porous layer to be patentably indistinguishable from a mixture layer which would result from steps A and B. *Id.* at ¶¶ 8, 10.

Appellants do not dispute the Examiner's product-by-process interpretation of the claim, but argue that Kamegawa's porous layer differs from the recited "mixture layer" which would result from steps A and B. App. Br. 4–8. Particularly, Appellants argue that Kamegawa's porous layer, when wetted, merely transitions from white to transparent to reveal the coloration of the underlying fabric layer, and for that reason fails to provide "a graduated range of the same color in a dry state to darker in a wet state." App. Br. 7. Relatedly, Appellants contend that "there is no such thing as light white or dark white. Reply Br. 10 (internal quotations omitted).

However, Kamegawa discloses an embodiment in which the aluminum silicate layer includes a conventional dye or pigment, "in order to provide variety in color changes." Kamegawa ¶ 17. Because Kamegawa's pigmented porous layer includes both color pigment and aluminum silicate,

it would exhibit a range of the same color, transitioning from light to dark when wetted, as the aluminum silicate transitions from white to transparent.

We disagree with Appellants' contention, Reply Br. 6, that the phrase, "graduated range of the same color from lighter in a dried state to darker in a water-containing state," in claim 8 requires a "gradient in the amount of colorant" from the top of the mixture layer to the bottom. That recitation expressly refers to the relative color change from light (when dry) to dark (when wet) exhibited by the claimed fabric sheet. We do not read the noted recitation as requiring any particular concentration gradient of colorant material within the sheet. The Specification is consistent with our interpretation. *See* Spec. ¶ 6 ("An object of the present invention is to provide a water-metachromatic fabric sheet of which color changes with water, having a color range of gradation in similar colors, *for example, from a light blue region in the dried state to a dark blue region in the water-containing state.*") (emphasis added). Example 1 described in the Specification exemplifies that a single layer in which colorant is uniformly dispersed with particulate aluminum silicate "provides the water-metachromatic fabric sheet having color change range of gradation of similar colors . . . ." Spec. ¶ 25.

Appellants further argue that the mixture layer, when formed by recited steps A and B, necessarily results in "first and second mixed ink layers" with a distinguishable boundary therebetween, or a single mixed layer with "a color gradient from the top to the bottom." *Id.* 5–6. In support of this argument, Appellants rely on the Declaration of Misawa Toshiki ("Decl.") submitted during prosecution. *Id.* That Declaration portrays two scenarios: one in which a subsequent layer is deposited only after the

underlying layer has dried, and another in which the subsequent layer is deposited immediately after the underlying layer with only partial mixing of the layers. Decl. ¶¶ 6, 8.

However, as the Examiner points out, Ans. 7, the claims do not specify or limit the degree of mixing between the two sequentially deposited layers. The Specification describes the resulting mixture layer in a manner which would encompass uniform mixing. *See* Spec. ¶ 19 (“ . . . a mixture layer is formed, in which the first and second mixture layers *exist in a mixed state* not forming clearly distinguishable layers”) (emphasis added); ¶¶ 32–33 (describing that when the first mixed ink is applied immediately after applying the second mixed, “[t]he sheet comes to have *a mixture layer* formed on the fabric cloth, in which the first mixture layer and the second mixture layer *do not form clearly distinguishable layers but mixed with each other*”) (emphasis added). And, as noted, Example 1 of the Specification describes an embodiment of the invention having colorant dispersed throughout a single layer. Spec. ¶ 25.

On this record, we are persuaded that a preponderance of the evidence supports the Examiner’s determination that claim 8 is unpatentable over Kamegawa. Accordingly, we sustain Rejections I and II.

#### DECISION

The Examiner’s decision is affirmed. We have designated our affirmance as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

#### TIME PERIOD FOR RESPONSE

Regarding the affirmed rejection(s), 37 C.F.R. § 41.52(a)(1) provides

Appeal 2015-005468  
Application 12/811,403

“Appellant may file a single request for rehearing within two months from the date of the original decision of the Board.”

This decision contains new grounds of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

- (1) *Reopen prosecution*. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .
- (2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

Further guidance on responding to a new ground of rejection can be found in the Manual of Patent Examining Procedure § 1214.01.

AFFIRMED; 37 C.F.R. § 41.50(b)