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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/445,360	05/31/2006	Thomas R. Pickering	20051246-US-NP

CONFIRMATION NO. 8035

POWER OF ATTORNEY NOTICE

74380
Xerox Corporation (CDFS)
445 Broad Hollow Rd.-Suite 420
Melville, NY 11747

OC000000047614001

Date Mailed: 05/13/2011

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/04/2011.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/ttkim/

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/445,360	05/31/2006	Thomas R. Pickering	20051246-US-NP

CONFIRMATION NO. 8035

POA ACCEPTANCE LETTER

97903
MDIP LLC
PO Box 2630
Montgomery Village, MD 20886

OC000000047614009

Date Mailed: 05/13/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 05/04/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

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PTO/SB/80 (11-08)
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 97903

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

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☑ The address associated with Customer Number: 97903

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

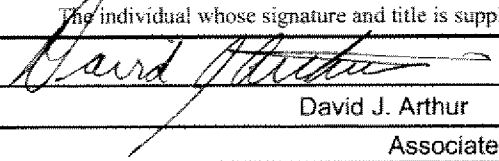
Assignee Name and Address:

Xerox Corporation
45 Glover Avenue
Norwalk, CT 06856

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	
Name	David J. Arthur	Telephone	585-423-9215
Title	Associate General Patent Counsel		

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Electronic Acknowledgement Receipt

EFS ID:	10018727
Application Number:	11445360
International Application Number:	
Confirmation Number:	8035
Title of Invention:	Toner composition having coated strontium titanate additive
First Named Inventor/Applicant Name:	Thomas R. Pickering
Customer Number:	74380
Filer:	Dean H. Nakamura.
Filer Authorized By:	
Attorney Docket Number:	20051246-US-NP
Receipt Date:	04-MAY-2011
Filing Date:	31-MAY-2006
Time Stamp:	14:14:53
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73(b).	360.pdf	30117 53bbfa8b91e2470540b5bdce6bc920527faec747	no	1

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2	Power of Attorney	Power.pdf	82967 fe95ab49d597998b8e5f7c6c3a828ac3eb2f5978	no	1

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New International Application Filed with the USPTO as a Receiving Office

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Xerox Corporation

Application No./Patent No.: 11/445,360 Filed/Issue Date: 31 May 2006

Titled: Toner Composition Having Coated Strontium Titanate Additive

Xerox Corporation , a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 017965, Frame 0393, or for which a copy therefore is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

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☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Dean Nakamura/ 4 May 2011

Signature Date

Dean Nakamura Agent

Printed or Typed Name Title

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/445,360	05/31/2006	Thomas R. Pickering	20051246-US-NP	8035

74380 7590 09/10/2010

Xerox Corporation (CDFS)
445 Broad Hollow Rd.-Suite 420
Melville, NY 11747

EXAMINER	
VAJDA, PETER L	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
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mvitale@cdfslaw.com
Office.Action@xerox.com

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XEROX CORPORATION (CDFS)
445 BROAD HOLLOW RD.-SUITE 420
MELVILLE, NY 11747

Appeal No: 2010-011618
Application: 11/445,360
Appellant: Thomas R. Pickering

Board of Patent Appeals and Interferences
Docketing Notice

Application 11/445,360 was received from the Technology Center at the Board on September 01, 2010 and has been assigned Appeal No: 2010-011618.

In all future communications regarding this appeal, please include both the application number and the appeal number.

The mailing address for the Board is:

BOARD OF PATENT APPEALS AND INTERFERENCES
UNITED STATES PATENT AND TRADEMARK OFFICE
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ALEXANDRIA, VIRGINIA 22313-1450

The facsimile number of the Board is 571-273-0052. Because of the heightened security in the Washington D.C. area, facsimile communications are recommended. Telephone inquiries can be made by calling 571-272-9797 and referencing the appeal number listed above.

By order of the Board of Patent Appeals and Interferences.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/445,360	05/31/2006	Thomas R. Pickering	20051246-US-NP	8035

74380 7590 08/27/2010

Xerox Corporation (CDFS)
445 Broad Hollow Rd.-Suite 420
Melville, NY 11747

EXAMINER	
VAJDA, PETER L	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
11445360	5/31/2006	PICKERING, THOMAS R.	20051246-US-NP

Xerox Corporation (CDFS)
445 Broad Hollow Rd.-Suite 420
Melville, NY 11747

EXAMINER	
PETER L. VAJDA	
ART UNIT	**PAPER**
1795	20100817

DATE MAILED:

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Commissioner for Patents

Reply brief of 06/25/2010 has been noted.

/Mark F. Huff/
Supervisory Patent Examiner, Art Unit 1795

Attorney Docket No.: 20051246-US-NP (1515-221)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):	Thomas R. Pickering	EXAMINER:	Vajda, Peter L.
SERIAL NO.:	11/445,360	GROUP:	Art Unit 1795
FILING OR 371(C) DATE:	May 31, 2006	DATED:	June 25, 2010
TITLE:	**TONER COMPOSITION HAVING COATED STRONTIUM TITANATE ADDITIVE**		

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Filed Via EFS-Web
Confirmation No.: 8035

REPLY BRIEF

Dear Sir/Madam:

This Reply Brief is in response to the Examiner's Answer dated April 28, 2010 in the above-identified patent application.

As set forth below, it is respectfully submitted that the references cited by the Examiner are not sufficient to establish a *prima facie* case of obviousness. See MPEP §2142.

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. §1.8(a)
I hereby certify that this correspondence is being transmitted on the date below with the United States Patent and Trademark Office, PO Box 1450, Alexandria, VA 22313-1450, via electronic submission.

Dated: June 25, 2010

Nicole Rispone

I. Claims 1, 3-4, 8, 16-18, and 22-25

In the Examiner's Answer, the Examiner asserts "Nishihara teaches the addition of silica particles, titania (titanium oxide) particles, and strontium titanate particles (Col. 9 ln. 48-57)." (Examiner's Answer, page 4.)

While Appellant believes the above-cited section of Nishihara is in error, the Examiner also points to Examples 3, 4, and 9[1] of Nishihara as disclosing the use of at least a second external additive. The Examiner then argues that Appellants citation of Example 9, for its disclosure of inferior results, is a "dubious allegation," asserting that Appellant "cherrypicked" the one inventive example using strontium titanate showing an inferior result to draw this conclusion." (Examiner's Answer, page 9.) However, both Example 9 and Example 26 demonstrate issues where these additives were used. In view of the conflicting results of the Examples, it is respectfully submitted that Nishihara cannot be construed as suggesting benefits to be obtained with a combination of strontium titanate and titanium oxide, as well silica, as presently asserted by the Examiner.

Moreover, as admitted by the Examiner, Nishihara does not teach particle sizes for the silica or titanium oxide particles or the use of sol gel silica.

Yamazaki fails to cure the deficiencies of Nishihara no matter how these references may be combined. While Yamazaki discloses rutile-anatase type titanium dioxide having a major axial diameter of 10 to 100 nm, nowhere does Yamazaki disclose or suggest a toner comprising a resin and having on a surface thereof, a first additive

[1] As Example 3 does not combine titanium oxide and strontium titanate with silica, it is not seen how this example relates to the present claims and therefore is not addressed further herein.

comprising polydimethylsiloxane-coated strontium titanate having a particle size of from about 60 to about 100 nm present in an amount of from about 0.5 to about 3 percent by weight of the toner, a second additive comprising titanium oxide having a particle size of from about 12 to about 40 nm present in an amount of from about 0.1 to about 5 percent by weight of the toner, and a third additive comprising sol gel silica and having a particle size of from about 50 to about 120 nanometers present in an amount of from about 0.1 to about 5 percent by weight of said toner, as recited in claim 1. Nor does Yamazaki disclose or suggest a toner comprising a resin and having on a surface thereof, a first additive comprising polydimethylsiloxane-coated strontium titanate having a particle size of from about 60 to about 100 nm present in an amount of from about 0.5 to about 3 percent by weight of the toner, a second additive comprising titanium oxide having a particle size of from 12 to 40 nm present in an amount of from about 0.1 to about 5 percent by weight of the toner, and a third additive comprising a sol gel silica and having a particle size of from about 120 to about 140 nanometers present in an amount of from about 0.1 to about 5 percent by weight of said toner, as recited in claim 25.

With respect to Combes, according to the Examiner, "Combes specifically teaches that sol gel silica exhibits improved properties over conventional types of silica" (Examiner's Answer, p. 11). However, Combes states that:

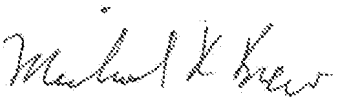
> Use of the **treated** sol-gel metal oxide provides significant benefits to the toner compositions. The **treated** sol-gel metal oxide allows for improved cleaning of residual toner from the photosensitive member. The **treated** sol-gel metal oxide also prevents filming of the photosensitive member. [Emphasis Added.]

The sol-gel silica of the present claims is not the "treated" sol-gel metal oxide of Combes. The Examiner argues that it would have been obvious to *replace* the fumed silica of Nishihara with the sol gel silica of Combes. (Examiner's Answer, p. 11.) Such a replacement would not result in the toner of independent claims 1 and 25.

II. Conclusion

In view of the foregoing, Appellants submit that independent claims 1 and 25 are not rendered obvious by any of the cited references, whether taken alone or in any combination. Claims 3, 4, 8, 16-18, and 22-24 depend, either directly or indirectly, from claim 1 and incorporate all of its limitations therein. Therefore, it is respectfully submitted that claims 1, 3, 4, 8, 16-18, and 22-24, are in condition for allowance.

Respectfully submitted,



Michael R. Brew
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Melville, New York 11747
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MRB/nr

Electronic Acknowledgement Receipt

EFS ID:	7891746
Application Number:	11445360
International Application Number:	
Confirmation Number:	8035
Title of Invention:	Toner composition having coated strontium titanate additive
First Named Inventor/Applicant Name:	Thomas R. Pickering
Customer Number:	74380
Filer:	Michael Brew/Nicole Rispone
Filer Authorized By:	Michael Brew
Attorney Docket Number:	20051246-US-NP
Receipt Date:	25-JUN-2010
Filing Date:	31-MAY-2006
Time Stamp:	14:16:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reply Brief Filed	00104341.PDF	529032 c877b94ebf110cc95c80c56ece148ea55e08f6a0	no	4

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National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/445,360	05/31/2006	Thomas R. Pickering	20051246-US-NP	8035

74380 7590 04/28/2010

Xerox Corporation (CDFS)
445 Broad Hollow Rd.-Suite 420
Melville, NY 11747

EXAMINER	
VAJDA, PETER L	

ART UNIT	PAPER NUMBER
1795	

NOTIFICATION DATE	DELIVERY MODE
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 11/445,360
Filing Date: May 31, 2006
Appellant(s): PICKERING, THOMAS R.

Michael R. Brew
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03/15/2010 appealing from the Office action mailed 12/30/2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1, 3, 4, 8, 16-18 and 22-25 are pending and stand finally rejected.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

6,194,116	Nishihara et al.	2-2001
2004/0137354	Yamazaki et al.	7-2004
2003/0134217	Combes et al.	7-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-4, 8, 16-18 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishihara *et al*. (US Patent 6194116) in view of Yamazaki *et al*. (US PGP 2004/0137354) and further in view of Combes *et al*. (US PGP 2003/0134217).

Nishihara *et al*. teach a toner comprising a resin and a colorant (Abstract). In the inventive examples external additives are further added to the toners. Nishihara teaches the addition of silica particles, titania (titanium oxide) particles, and strontium titanate particles (Col. 9 ln. 48-57). Furthermore, said strontium titanate particles are taught to be the commercial product SW-100 made by Titan Kogyo K.K. The applicant teaches on p. 7-8 [0028] of the present specification that SW-100 strontium titanate particles manufactured by Titan Kogyo are strontium titanate particles coated with polydimethylsiloxane and having a particles size of around 80 nm. The strontium titanate particles taught by Nishihara therefore inherently are coated with polydimethylsiloxane and have particles sizes of 80 nm. Table 1 of Nishihara discloses strontium titanate particles present in 2 parts by weight of the toner particles (examples 3 and 4). Both toners of examples 3 and 4 also comprise at least a second external additive. Example 3 additionally comprises silica in 1 part by weight of the toner particle and example 4 comprises both silica and titania each being respectively present in 1 part by weight of the toner particle (Table 1, Col. 11-12). The binder resin used for the inventive examples in the toners of Nishihara is a polyester resin (Col. 6 50 – Col. 7 ln. 30), however, other binder resins are taught as being suitable for the toners such as

styrene, acrylates, and mixtures thereof (Col. 4 ln. 17-39). Nishihara further teaches an image forming process for full color toners and therefore all different colored colorants disclosed in pending claim 17 of the present specification are clearly envisioned (Col. 3 ln. 44-58). Black, magenta, cyan, and yellow colorants are present in the embodiments (Col. 7 ln. 30- Col. 8 ln. 18). Said toner particles are further combined with carrier particles to form a two component developer (Col. 8 ln. 19-45). Nishihara, however, does not teach particle size ranges for the titanium oxide and silicon oxide particles, nor does Nishihara teach that the silica particles be sol gel silica particles.

Yamazaki *et al*. teach a toner having high mechanical strength and exhibiting a sufficient fixing property in a wide temperature range (Abstract). Yamazaki further teaches that the toner include fine particle external additives made of inorganic oxides (p. 15 [0245]). The preferred external additive is titanium oxide (p. 15-16 [0246]) and Yamaguchi teaches that titanium oxide should have a diameter in the range of from 10 to 100 nm in order to be harder to embed in and liberate from the toner particles; which results in toners that are stable against mechanical stress (p. 16 [0255]). Furthermore, Yamazaki teaches that when silica is used together with titanium oxide an especially excellent effect can be obtained. The combination of the two inorganic oxides is taught to result in a toner with improved fluidity, environmental characteristics (such as moisture resistance) and stable frictional chargeability. Additionally, the combination is taught to prevent the occurrence of toner fog (p. 17 [0261]). The silica is taught to have an average particle size of from 20 to 100 nm (p. 17 [0264])

Combes *et al*. teach a toner comprising a binder, a colorant and surface-treated sol-gel metal oxide particles (Abstract). Combes teaches that the use of sol-gel silica imparts additional advantages over conventional metal oxides such as improved transfer efficiency. Furthermore, Combes teaches that by surface treating said sol-gel silica, filming and cleaning problems can also be improved (p. 1 [0010-13]). The sol-gel silica is taught to show optimum attachment to toner surfaces when it possesses a particle size in the range of from 100 to 150 nm and the most preferred particle size range is taught to be from 50 to 200 nm (p. 4 [0045]).

Nishihara teaches toners comprising strontium titanate, titanium oxide, and silica particles as external additives but does not teach suitable size ranges of these particles. Yamazaki teaches that by employing titanium oxide with a diameter of from 10 to 100 nm in conjunction with silica particles having a diameter of from 30 to 100 nm, improved fluidity, environmental characteristics (such as moisture resistance), stable frictional chargeability and reduced fogging are all achieved. Furthermore, Yamazaki teaches that by supplying the titania particles in this size range other benefits of the titania are realized such as uniform charge distribution of the toner, stable charging properties and excellent fluidity and caking resistance (p. 16 [0255] and [0249]). Combes teaches that by employing sol-gel silica surface additives instead of conventional silica surface additives, toner transfer efficiency can be markedly improved as can toner filming and cleaning. Therefore, it would have been obvious to any person of ordinary skill in the art at the time of the invention to have produced the toner particles of Yamaguchi *et al*. to have supplied the titanium oxide particles in the range of 10 nm to 100 nm as taught by

Nishihara *et al*. and to have used sol-gel silica particles instead of conventional silica particles as taught by Combes *et al.* This would have produced toners with improved mechanical stability as well as uniform charging and excellent fluidity, caking resistance, transfer efficiency, filming, cleanability, and environmental stability.

(10) Response to Argument

1. Rejection of claims 1, 3-4, 8, 16-18 and 22-25 as being unpatentable over Nishihara et al. in view of Yamazaki et al. and further in view of Combes et al.

The appellant alleges that the examiner has not established a proper *prima facie* case of obviousness because the references fail to disclose the various elements, do not suggest the claimed combination and because the examiner has not presented a convincing line of reasoning. The appellant further alleges that the examiner has engaged in impermissible hindsight in rejecting the claims. These allegations will be addressed while responding to the appellant's specific arguments rebutting the applied rejection. For the sake of brevity, the appellant's rebuttal of the rejections of independent claim 1 (and the corresponding dependent claims) and independent claim 25 will be addressed in concurrence as they differ only in ranges of the particle size of the sol gel silica particles (both of which ranges are encompasses by the same prior art relied upon in the sole 35 USC 103(a) rejection).

Nishihara is relied upon in the obviousness rejection for teaching a toner particle with three separate surface additive particles affixed thereto. The surface particles are: a strontium titanate particle, a hydrophobic silica particle, and a titanium oxide particle.

The strontium titanate particle is taught to be the particle sold under the trade name SW-100, which is taught by the appellant to be coated with polydimethylsiloxane and have an average particle diameter of 80 nm. This is not disputed by the appellant. The appellant states that Nishihara teaches the use of titanium oxide or strontium titanate and further alleges that inferior results were obtained when strontium titanate was used. First, the appellant's allegation that Nishihara teaches the use of titanium oxide or strontium titanate appears to be a misinterpretation as inventive Examples 4 and 9 clearly show the use of both titanium oxide and strontium titanate (Table 1, Columns 11 and 12, see also Col. 3 ln. 59 – Col. 4 ln. 12). Furthermore, the appellant even cites Example 9 as evidence for the dubious allegation that the use of strontium titanate is noted by Nishihara for resulting in inferior results. Nishihara nowhere “notes” such a finding (except impliedly in Table 3) and the applicant has “cherrypicked” the one inventive example using strontium titanate showing an inferior result to draw this conclusion. Table 1 clearly shows that Examples 3, 4 and 9 all employ strontium titanate, however, only Example 9 shows a result that is less than excellent (see Table 3 for the results and see Column 14 lines 31-67 for descriptions of the symbols in Table 3). Both Examples 3 and 4 achieved the best possible results in all categories tested, including toner fog, despite using strontium titanate but are not mentioned nor apparently factored into the appellants determination that the use of strontium titanate results in inferior properties. Nishihara, however, does not teach particle sizes for the silica or titanium oxide particles or that sol gel silica be used as the silica particle.

Yamazaki, like Nishihara, teaches a toner particle comprising a binder resin with both silica and titanium oxide particles as surface additive. Furthermore, Yamazaki teaches specific benefits associated with the use of titanium oxide particles and silica particles within a defined particle size range. Specifically, Yamazaki teaches that when titanium oxide particles are provided with a diameter of from 10 to 100 nm they become harder to embed in and liberate from the toner particles, which results in toners that are stable against mechanical stress (p. 16 [0255]). Yamazaki further teaches that a synergistic effect is obtained by employing titanium oxide particles and silica particles in concert with one another (p. 17 [0261-263]). Yamazaki then clearly states that by setting the average particle size of the silica particles in the range of 30 to 100 nm, these synergistic effects become more conspicuous (p. 17 [0264]). Therefore, Yamazaki teaches clear benefits to setting the particle size of titanium oxide particles in the range of 20 to 100 nm and silica particles in the range of 30 to 100 nm, especially when said particles are to be used together. It should be noted that the superior properties of titanium oxide particles with particle sizes in the range of 20 to 100 nm listed above are independent of the synergistic benefits taught to be derived from the use of titanium oxide particles with silica particles. Instead, the titanium oxide particles within this size range are taught to be superior to titanium oxide particles outside of this size range. Said titanium oxide particles, do however, also exhibit the synergistic effects when supplied with silica, but also are taught to be superior outside of these effects. Since Nishihara is silent regarding suitable sizes for the silica and titanium oxide particles, one of ordinary skill in the art would have looked to other references for

guidance. Yamazaki clearly teaches that explicit benefits are obtained directly from employing said particles within specific particle size ranges.

The applicant also argues that Nishihara does not teach the use of rutile-anatase titanium oxide, however, Nishihara does not specify any crystal form of titanium oxide to use, whether anatase, rutile, or anatase-rutile forms. Therefore, there is no reason to exclude the use of anatase-rutile forms of titanium oxide in the invention of Nishihara. Yamazaki teaches that any of these types of titanium oxide may be used ([0246]) but teaches benefits that make rutile-anatase type titanium oxide more preferable. There is no reason implied or stated in the Nishihara patent, or supplied by the appellant, which would have prevented one of ordinary skill in the art from applying the particle size range of the titanium oxide particles taught by Yamazaki to the titanium oxide particles taught by Nishihara. Yamazaki merely teaches a preference for rutile-anatase type titanium oxide, but also teaches that all crystal forms of titanium oxide are suitable. Nishihara nowhere specifies a preference for a particular crystal form of titanium oxide nor does Nishihara teach away from any particular crystal form of titanium oxide and therefore it can reasonably be assumed that all crystal forms of titanium oxide are suitable for use in the toner of Nishihara.

As stated previously, neither Nishihara nor Yamazaki teach the use of sol gel silica as the external silica additive. Combes, however, also teaches a toner particle comprising a binder resin that further uses sol gel silica as an external additive. Furthermore, Combes teaches that the use of sol-gel silica imparts additional advantages over conventional metal oxides such as improved transfer efficiency.

Combes teaches that by surface treating said sol-gel silica, filming and cleaning problems can also be improved (p. 1 [0010-13]). The sol-gel silica is taught to show optimum attachment to toner surfaces when it possesses a particle size in the range of from 100 to 150 nm and the most preferred particle size range is taught to be from 50 to 200 nm (p. 4 [0045]). The appellant argues that Combes teaches away from the use of fumed (or hydrophobic) silica as it results in diminished transfer efficiency in comparison with sol gel silica, and presumably implies that this precludes the combination of the teaching of Combes with the teachings of Nishihara and Yamazaki. However, the combination presented by the examiner does not suggest that the fumed silicas of Nishihara and Yamazaki be used in conjunction with the sol gel silica of Combes. Instead, for precisely the reason given by the appellant (and taken from Combes), the examiner argues that it would have been obvious to *replace* the fumed silica of Nishihara with the sol gel silica of Combes. Combes specifically teaches that sol gel silica exhibits improved properties over the conventional types of silica taught by Nishihara and therefore one of ordinary skill in the art would have been motivated to use the sol gel silica of Combes in order to obtain the improvements associated therewith. This does not represent the use of impermissible hindsight since Combes specifically teaches that sol gel silica represents an improvement over the type of silica employed by Nishihara. Furthermore, that Combes teaches away from the use of hydrophobic fumed silica in preference of sol gel silica is precisely the motivation for combining the teaching of Combes with that of Nishihara (and Yamazaki). Combes expressly teaches that sol gel silica is better than conventional hydrophobic silica and therefore the skilled

artisan would have been motivated to substitute sol gel silica for the hydrophobic silica in the toner of Nishihara.

As stated in the opening statement of this section, the appellant alleges that the examiner has not established a proper *prima facie* case of obviousness because the references fail to disclose the various elements of the appellant's claims and do not suggest the claimed combination, because the examiner has not presented a convincing line of reasoning and because the examiner has used impermissible hindsight to arrive at the appellant's invention. However, as shown above, each element of the appellant's claims has been addressed in the rejection and is taught by the prior art made of record. Furthermore, it has been shown above that the prior art of record explicitly suggests the combinations made by the examiner. Nishihara teaches the use of the three types of additive particles disclosed by the applicant but does not teach suitable particle sizes, or that the silica be a sol gel silica. Yamazaki teaches specific benefits of utilizing titanium oxide particles with a specific particle size range. Combes specifically teaches that sol gel silica provides specific improvements over the type of silica taught by Nishihara and further teaches specific benefits of using said sol gel silica particles in a specific particle size range. Therefore, the prior art, not the examiner, suggests the combination of references since the teaching of each secondary reference relied upon in the rejection (Yamazaki and Combes) suggests improvements over the disclosure of the primary reference (Nishihara). Furthermore, the examiner believes that a convincing line of reasoning has been presented. Yamazaki teaches specific benefits that are obtained by utilizing a particle size range for the titanium oxide

particles and Combes teaches that the sol gel silica particles are specifically better than the fumed silica particles of Nishihara. Regarding the use of impermissible hindsight, that appellant quotes KSR Int'l v. Teleflex Inc., 127 S. Ct. 1727, 1741 (2007) saying there must be "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." (See page 10 of 16 of the appellant's Appeal Brief). For the reasons outlined above, the examiner believes that there are clear reasons that would have prompted a person of ordinary skill in the art to have combined the elements in the way the claimed invention does. The motivation supplied in the combinations is not the examiner's own, instead it is reproduced as recited in the prior art made of record. Since the motivation is taken directly from the prior art, an impermissible use of hindsight has not been employed in the obviousness rejection.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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