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Max Moskowitz  
Alfred R. Fabricant  
Marc A. Lieberstein  
OSTROLENK, FABER, GERB & SOFFEN, LLP  
1180 Avenue of the Americas  
New York, New York 10036-8403  
(212) 382-0700  
Attorneys for Plaintiff

**FILED**  
IN CLERK'S OFFICE  
U.S. DISTRICT COURT E.D.N.Y.

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF NEW YORK

★ FEB 17 2004 ★

WEINSTEIN, J.

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DRI MARK PRODUCTS INC., :  
 :  
 Plaintiff, :  
 :  
 v. :  
 :  
 WILPAK INDUSTRIES, INC. : Civil Action No. \_\_\_\_\_  
 :  
 Defendant. :  
-----X

POLLAK, M.J.

COMPLAINT FOR PATENT INFRINGEMENT AND DEMAND FOR JURY TRIAL

Plaintiff, Dri Mark Products Inc. (hereinafter "Plaintiff" or "Dri Mark") for its complaint against Defendant Wilpak Industries, Inc. ("Defendant"), alleges as follows:

NATURE OF THE ACTION

1. This is an action for infringement of United States Letters Patent and arises under the Patent Laws of the United States Title 35 of the United States Code. Plaintiff is the holder of exclusive rights under United States Letters Patent No. 6,561,713 (the "'713 Patent"). Upon information and belief, Defendant has infringed, induced infringement of and contributed to the infringement of the '713 Patent by making, using, selling and/or offering to sell writing instruments that are used in

accordance with the methods and specifications covered by the '713 Patent.

#### JURISDICTION AND VENUE

2. This Court has personal jurisdiction over Defendant by reason of its residence status in this District, its transaction of business in this District, and commission of tortious acts within this District.

3. Subject matter jurisdiction is conferred upon this Court pursuant to 28 U.S.C. §1331 and §1338(a). Venue is proper in this Court pursuant to 28 U.S.C. §1391 and §1400.

#### THE PARTIES

4. Plaintiff Dri Mark is a New York corporation having its principal place of business at 15 Harbor Park Drive, Port Washington, New York 11050.

5. Upon information and belief, Defendant Wilpak Industries, Inc. is a corporation having its principal place of business at 244 Dukes Street, Kearny, New Jersey 07032.

#### THE ACTION FOR PATENT INFRINGEMENT

6. On May 13, 2003, United States Letters Patent No. 6,561,713 B2 (hereinafter "the '713 Patent") entitled "Metallic Ink Composition for Wick Type Writing Instruments" was duly and legally issued to Dri Mark. A copy of the '713 Patent is attached hereto

as Exhibit A and made a part hereof. Plaintiff Dri Mark is the owner of exclusive rights under the '713 Patent here in suit.

7. Dri Mark has been making wick type writing instruments containing the patented ink composition since approximately October 1999, when an application for the parent of the '713 Patent had been filed. The Dri Mark products covered by the '713 Patent have proved to be commercially successful and valuable to Dri Mark.

8. Upon information and belief, Defendant purchases ink and makes and sells markers that are within the purview of the '713 Patent.

9. On information and belief, the products assembled by the Defendant are constructed according to the teachings of the patent claims in the '713 Patent, without authority from Dri Mark. The Defendant's actions constitute acts of infringement, contributory infringement and inducement of infringement of the '713 Patent in violation of 35 U.S.C. §271(a), (b) and (c).

10. On information and belief, the Defendant has not taken any steps to cease and desist from any further acts of infringement.

11. The Defendant's actions constitute willful and deliberate infringement of the '713 Patent and will continue to do so unless enjoined by this Court. The Defendant's acts of infringement have caused and continue to cause Dri Mark irreparable injury, for which it has no adequate remedy at law.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Dri Mark prays as follows:

- a. that United States Letters Patent No. 6,561,713 B2 be adjudged valid and enforceable;
- b. that Defendant be adjudged to have infringed United States Letters Patent No. 6,561,713 B2, including contributing to and actively inducing infringement of the '713 Patent;
- c. that the acts of infringement by the Defendant be adjudged to be willful and deliberate;
- d. that Defendant be ordered to account for and pay to Dri Mark the damages sustained by Dri Mark due to the Defendant's infringement of United States Letters Patent No. 6,561,713 B2, but in no event less than a reasonable royalty, pursuant to 35 U.S.C. §§284 and 289;
- e. that Defendant be ordered to pay pre-judgment and post-judgment interest on the damages awarded against them;
- f. that Defendant, its officers, agents, servants, employees and attorneys and any and all persons in active concert or participation with them be preliminarily and permanently enjoined and restrained from infringing United States Letters Patent No. 6,561,713 B2;
- g. that this case be adjudged an exceptional case, and that Dri Mark be awarded its costs and attorney's fees pursuant to 35 U.S.C. §285; and

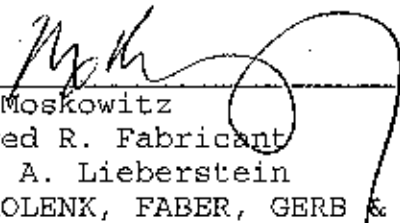
h. that the court grant such other and further relief as it deems just and proper under the circumstances.

DEMAND FOR TRIAL BY JURY

Dri Mark demands a trial by jury on all issues that are triable by a jury.

Dated: New York, New York  
February 6, 2004

Respectfully submitted,



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Max Moskowitz  
Alfred R. Fabricant  
Marc A. Lieberstein  
OSTROLENK, FABER, GERB & SOFFEN, LLP  
1180 Avenue of the Americas  
New York, New York 10036-8403  
Tel.: (212) 382-0700  
Attorneys for Plaintiff

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(12) **United States Patent**  
Sukhna et al.

(10) Patent No.: **US 6,561,713 B2**  
(45) Date of Patent: **\*May 13, 2003**

- (54) **METALLIC INK COMPOSITION FOR WICK TYPE WRITING INSTRUMENTS**
- (75) Inventors: **Chihman Sukhna, Queens, NY (US); Charles Reichmann, Queens, NY (US)**
- (73) Assignee: **Dri Mark Products, Inc., Port Washington, NY (US)**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(List continued on next page.)

This patent is subject to a terminal disclaimer.

**FOREIGN PATENT DOCUMENTS**

- (21) Appl. No.: **10/121,828**  
(22) Filed: **Apr. 14, 2002**

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EP	0987304	10/1997
EP	0903384	2/1998
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- (65) **Prior Publication Data**  
US 2002/0197096 A1 Dec. 26, 2002

**OTHER PUBLICATIONS**

**Related U.S. Application Data**

International Search Report for Application No. PCT/JP97/01984 dated Jun. 17, 1997.

- (63) Continuation of application No. 09/839,937, filed on Apr. 19, 2000, now Pat. No. 6,402,412, which is a continuation of application No. 09/416,359, filed on Oct. 12, 1999, now Pat. No. 6,224,284.

Primary Examiner—David J. Waleczak

(74) Attorney, Agent, or Firm—Ostrofsky, Faber, Gerb & Soffen, L.L.P.

- (51) Int. Cl.<sup>7</sup> ..... **B43K 5/00**  
(52) U.S. Cl. .... **401/198; 401/196**  
(58) Field of Search ..... **401/198, 199, 401/196**

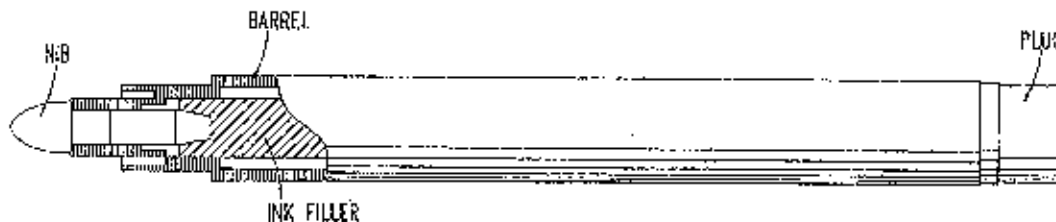
(57) **ABSTRACT**

An ink composition or system for writing instruments constructed with a polyester fiber reservoir and a porous oriented fiber nib. This ink system will write on both black and white surfaces. On black surfaces, it will reveal itself as being opaque and metallic almost iridescent in appearance. On white surfaces, a tint of color is observed with distinct flecks of silver. The ink system is composed of water as a carrier, a permanent water-based binder, a colored pigmented permanent water-based dispersion of sub-micron particle size, a unique aluminum dispersion of specific particle size in a special carrier, a humectant, a surfactant that lowers surface tension, an anti-settling additive, a preservative and a base acting as a pH adjuster.

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**12 Claims, 2 Drawing Sheets**

**STANDARD MARKER CONSTRUCTION**



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U.S. Patent

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STANDARD MARKER CONSTRUCTION

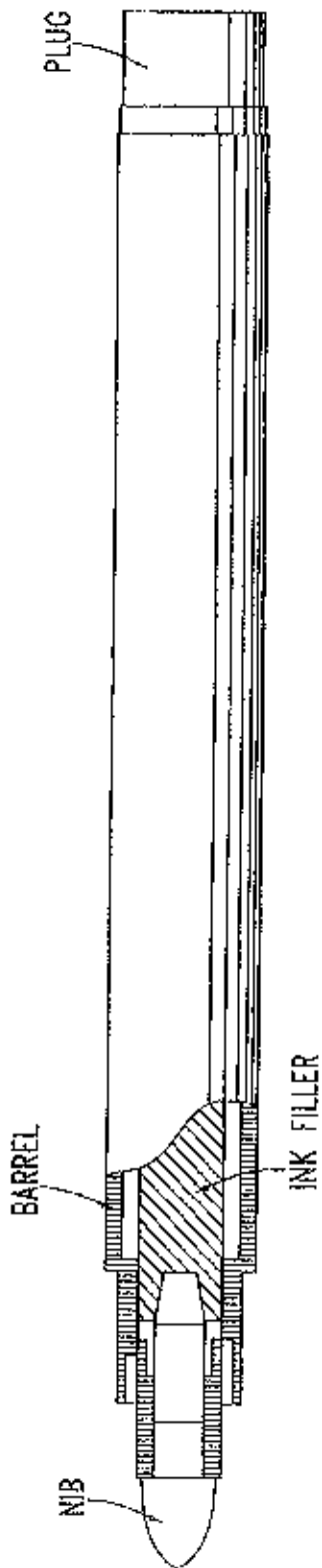


FIG. 2

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dyes wash away easily, they do not provide bonding to the aluminum pigments and are more of an outline as described in U.S. Pat. No. 4,604,139.

This invention utilizes a permanent and semi-permanent opaque metallic ink, which may display iridescent qualities depending on the surface written on—black or white.

Other features and advantages of the present invention will become apparent from the following description of the invention which refers to the accompanying drawings.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 diagrammatically illustrates a conventional valve action ink dispensing writing implement.

FIG. 2 illustrates a conventional, wick-style writing implement.

#### DETAILED DESCRIPTION OF THE INVENTION

The present invention illustrates the considerable ease and convenience of an ink system in a simple wick type writing instrument (FIG. 2), compared to the complexity of conventional valve-action markers (FIG. 1) that are currently used to deliver metallic inks.

This invention is accomplished by providing an aqueous one-phase ink composition having a viscosity of 5 cps to 10 cps at 25° Celsius with a pH of 7.5 to 8.5 suitable for use in a wick-style writing instrument with a porous oriented fiber nib.

This ink system contains an aluminum pigmented dispersion of no greater particle size than about 12 microns, a sub-micron pigmented colored aqueous dispersion to impart a tint and contribute to permanency, an anti-settling agent to keep aluminum particles from settling out, and a binder to bind the aluminum pigments together and to impart adhesion, water resistance, gloss, and permanency to different surfaces.

In addition to the foregoing important ingredients, this ink system may contain other additives including a preservative, a surfactant to reduce surface-tension, a pH adjuster in the form of an amine, and a rheology modifier such as a starch or clay.

As noted before, one of the important aspects of the present invention is the particle size of the aluminum pigments. If the particle size is too large, greater than 12 microns, they will not flow through the pathways of the filler and nib. This is one of the main reasons why metallic inks have been confined to be used only in valve markers (FIG. 1), which is essentially a free-flowing system, and the pumping action imparts pressure on the aluminum particles forcing them through the nib.

The present invention solves the problem by using a carefully monitored particle size aluminum dispersion, along with a customized filler of high density with many pathways, and a highly porous oriented fiber nib with many channels.

The aluminum flakes are dispersed initially in water and binder of starch with the pH adjusted anywhere between 7.0 and 8.0. This prevents the build up of hydrogen gas, which is a notorious and dangerous problem associated with aluminum pigments. The finished ink system is adjusted to a pH of 7.5 to 8.5; this is to ensure this problem does not occur.

The dispersion used in the present invention is of the type Supa Hydrolac AW from Eckart and Roto Vario from Eckart. The amount needed to impart a metallic look varies from about 10% to 25% by weight depending upon the desired intensity of the color.

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It is very interesting to note that on black surfaces, the pigmented color and the aluminum pigments bond together to impart a uniform metallic line. On white paper, the color is separated from the metallic flakes showing a line that is tinted in color and flecked with aluminum to impart a silver appearance.

The aluminum dispersions of the present invention are very stable at temperatures of 100° F. to 125° F. and do not dry up easily. This contributes to the long shelf life of the marker. The ink system is more stable because starch which binds the aluminum flakes in the dispersion has even more cohesion with the marker binder of the system thereby contributing to it staying in solution and keeping the aluminum flakes suspended which, of course, provides an anti-settling effect.

The binder in the present invention is an acrylic resin solution of about 40% to 50% solids. This binder forms a clear film at room temperature on drying. It is resistant to water and adheres well to most surfaces. The pH is between 7.5 and 8.5. The viscosity is 100 to 150 cps and the glass transition temperature (e.g. °C30). The binder must be able to form a film at room temperature. This is the only way the aluminum flakes will bond to writing surfaces on drying. Typical resins of this type include GA-1590 from B. F. Goodrich and Ioneryl 537 from S. C. Johnson.

Many other polymers will come to mind of those skilled in the art. The binder is used at about 10% to 25% by weight depending on the desired resistance properties.

The pigmented colored dispersion is of great importance since this dispersion imparts the desired color to the overall metallic ink system and makes it pleasing to the eye. The present invention utilizes a dispersion of about 35% to 45% solids, pH 8.0 to 9.0, and viscosity of 100 to 150 cps at 25° C. The pigments are ground in an acrylic binder or surfactant to a particle size less than 0.5 micron enhancing their bonding ability to the aluminum pigments. Common dispersions used in the invention include Herculose colors from Hecoltech and Acroverse colors from Penn Color. A percentage of 10% to 20% by weight is used depending on the desired color intensity.

The anti-settling agent additive is of particular importance because of the aluminum flakes readiness to settle out. The ionically charged sites on the additive bond themselves to the aluminum flakes suspending them in solutions for extended periods and keeping them tightly adhered to the surfaces of the colored pigments. This ensures that the ink traveling down the polyester filter into the nib and onto the writing surfaces is metallized. Without the anti-settling agent, the aluminum flakes would separate very quickly from the colored pigments. The resulting system will be one that writes very non-uniform by, with colored lines appearing with no metallic appearance. The anti-settling agent utilized in this invention is ionic in nature and derived from a polycarboxylic acid. Examples are phthalic acid, adipic acid and tri-metalleic acid. A percentage of 0.25% to 1.5% by weight is utilized, an example of this agent is BYK105 from Byk Chemie.

A humectant is utilized in this invention to keep the finished writing instrument from drying out on extended storage in warm and humid conditions. Polyglycols are particularly adept in these applications, although glycerin may be utilized. This invention uses Polyglycols of molecular weight of 400 to 725 at about 5% to 10% by weight. Examples are Carbowax 400 and Carbowax 700 distributed by Pride Chemicals.

With many water based ink systems the surface tension is very high. A surfactant helps reduce this property so that

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selected from a group or class of acrylic resin solutions that have a lg. °C -16 to 30, MFFT °C < 25°C., a viscosity of about 50 cps to 150 cps, and a solid content of about 40% to 50%.

Although the present invention has been described in relation to particular embodiments thereof, many other variations and modifications and other uses will become apparent to those skilled in the art. It is preferred, therefore, that the present invention be limited not by the specific disclosure herein, but only by the appended claims.

What is claimed is:

1. A writing instrument, comprising:
  - a fibrous reservoir with passageways defined therein and a porous nib with channels allowing passage of an ink therethrough;
  - an ink formulation in the fibrous reservoir, the ink formulation including a color pigmented dispersion and a metallic dispersion; and
  - the nib being in contact with the fibrous reservoir and being able to absorb the metallic dispersion solely by capillary action and the ink formulation being formulated to permit the metallic dispersion to pass through the fibrous reservoir passageways and the channels in the nib without clogging or blocking the passageways and the channels.
2. The writing instrument of claim 1, including:
  - an anti-settling agent to keep the metallic particles in suspension;
  - a humectant; and
  - said color pigmented dispersion having a sub-micron particle size.
3. The writing instrument of claim 2, wherein the metallic dispersion comprises an aluminum-pigmented water-based dispersion whose particle size is no greater than 12 microns made from bright leafing aluminum flakes.
4. The writing instrument of claim 3, wherein said aluminum flakes are dispersed in a medium of starch and water to prevent settling and a pH of 8.0 and 8.5 to prevent hydrogen gas build up and is stable at 100° F. to 125° F. so as to prevent drying out of the writing instrument.
5. The writing instrument of claim 2, wherein said ink formulation includes, as an anti-settling agent based on a

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lower molecular weight, unsaturated polycarboxylic acid with ionic activity that will bond with aluminum pigments and keep them in suspension for extended periods in a low viscosity ink system.

6. The writing instrument of claim 2, wherein said anti-settling agent increases color strength and prevents hard settling of the metallic dispersion.

7. The writing instrument of claim 2, wherein said ink formulation utilizes a humectant chosen from a group of polyglycol of molecular weight 400 to 1025.

8. The writing instrument of claim 2, wherein said ink formulation includes a pH adjuster in the form of a base capable of stabilizing said formulation to a pH of 8.0 to 8.5.

9. The writing instrument of claim 2, wherein said fibrous reservoir is made of polyester that is tightly bonded in a wrapped polypropylene skin and the reservoir is in contact with the nib which is a multi-channel highly porous oriented fiber nib said ink formulation having a viscosity of 5 cps to 10 cps at 25° C., a surface tension of less than 40 dynes/cm at 25° C., a pH about 7.0 to 8.5 capable of making permanent or semi-permanent metallic lines on black and white surfaces.

10. The writing instrument of claim 2, wherein said writing instrument is capable of making semi-permanent opaque metallic lines on human skin and nails that are washable with soap and water.

11. A writing instrument, comprising:

- a non valve-action barrel with an opening that is closed off by a fiber nib;
- a fibrous reservoir in physical contact with the nib;
- an ink formulation in the fibrous reservoir, the ink formulation containing a metallic pigmented dispersion of not greater particle size than about 12 microns, a pigmented dispersion to impart a tint, and a binder; the ink formulation flowing to the nib solely by capillary action.

12. The writing instrument of claim 11, further including a preservative, a surfactant to reduce surface-tension, and a pH adjuster.

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