

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PATRICIA C. SECREST,
ROBERT P. BLONSKI,
IVAN H. JOYCE,
JUAN CARLOS GALLART,
and JOHN J. WELCH

Appeal No. 2003-1593
Application No. 09/729,650

ON BRIEF

Before GARRIS, LIEBERMAN, and DELMENDO, Administrative Patent Judges.

LIEBERMAN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner refusing to allow claims 1 through 12, which are all the claims pending in this application.

THE INVENTION

The invention is directed to a method of decorating a ceramic article. A viscous oil

or waxy solid ink composition is heated to reduce the viscosity. Thereafter the ink is deposited upon the ceramic article in the form of micro-droplets. The ceramic article is thereafter fired in an oxidizing atmosphere in order to decompose the ink composition and form colored oxide. Additional limitations are described in the following illustrative claim.

THE CLAIM

Claim 1 is illustrative of appellants' invention and is reproduced below:

1. A method of decorating a ceramic article comprising:
providing an ink composition comprising a metallic soap, said ink composition being a viscous oil or waxy solid at about 25°C;
heating said ink composition to reduce its viscosity to less than about 40 centipoise;
depositing micro-droplets of said heated ink composition upon said ceramic article; and
firing said ceramic article in an oxidizing atmosphere to decompose said ink composition and form a coloring oxide.

THE REFERENCES OF RECORD

As evidence of obviousness, the examiner relies upon the following references:

Alkaitis et al. (Alkaitis)	4,162,986	Jul. 31, 1979
de Saint Romain	5,273,575	Dec. 28, 1993
Lima-Marques et al. (Lima-Marques)	5,800,600	Sep. 1, 1998

THE REJECTIONS

Claims 1 through 7 and 10 through 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over de Saint Roman in view of Lima-Marques.

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over de Saint Roman in view of Lima-Marques and further in view of Alkaitis.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over de Saint Roman in view of Lima-Marques and further in view of appellants' admission.

OPINION

We have carefully considered all of the arguments advanced by the appellants and the examiner, and agree with the appellants that the rejections of the claims under Section 103(a) are not well founded. Accordingly, we reverse each of the rejections.

The Rejection under Section 103(a)

It is the examiner's position that, "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the ink-jet printing method of Lima-Marques '600 as the particular ink-jet deposition method of de Saint Roman '575 at least with the expectation of similar results because Lima-Marques '600 teaches that its ink jet printing method can successfully transmit inks containing metal carboxylates." See Answer page 4. We disagree with the examiner's analysis.

At first impression each of de Saint Roman and Lima-Marques is directed to ink-jet compositions which are placed on a substrate and result in a colored composition. Upon careful analysis however, the methods of deposition of the ink-jet composition and development of the color are incompatible and accordingly uncombinable.

De Saint Roman is directed to a method for the marking and decoration of ceramic materials. See column 1, lines 7-13. The marking or decoration occurs at temperatures over 300°C. See column 2, lines 4-5. The ink consists of a solution of a metallic salt soluble in at least one solvent. See column 2, lines 7-8. The metallic salts include among a limited number of moieties metallic octoates and neo-decanoates. See column 3, line 11-16. The metallic salts used are those obtained from metals which form colored oxides or colored combinations with the materials of the substrate upon heating. See column 2, lines 58-61. After the ink-jet composition is deposited upon un-baked ceramic substrate, the ceramic is heated to temperatures of from 500°C to 1250°C to convert the metallic salts into metallic oxides resulting in the desired colorings. See column 4, line 65 to column 5, line 2.

In contrast, the ink-jet composition of Lima-Marques is directed to a solid or highly viscous liquid at room temperature. See column 3, lines 7-15. As opposed to de Saint Roman which requires initial temperatures of over 300°C followed by firing at much higher temperatures, Lima-Marques ejects the ink at a temperature range of between 110°C and 195°C preferably between 125°C and 155°C. See column 5, lines 56-65, column 3,

lines 66-67, claims 10, 11, 14, 15 and 19. A marking particle is present in the ink-jet composition and may be a pigment or an insoluble dyestuff among a limited number of components. See column 3, lines 56-57 and column 4, lines 56-67. When ejected as droplets, the inks are substantially solid colorant in the presence of a carrier. See column 3, line 7-10. The ink may also contain a charging agent in the form of a metal soap. See column 3, line 59, column 4, lines 17-22 and column 5, lines 22 to 43. On the record before us, however, there is no evidence to support a conclusion that the charging agent decomposes to form a metal oxide at the temperatures utilized by Lima-Marques. Indeed the only reasonable conclusion to be drawn from Lima-Marques is that the marking agents in and of themselves provide the requisite color obtained when the ink-jet composition is deposited upon a substrate. Furthermore, there is no concept in Lima-Marques of heating the substrate to a sufficiently high temperature to destroy the existing colorant and oxidize the charging agents to form colored metallic oxides.

We conclude that the only reason for combining the references of record is a result of the disclosure of the invention by the appellants. Based upon the above finding and analysis, we conclude that the examiner has not established a prima facie case of obviousness with respect to the aforesaid set of claims. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("[T]he best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine

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prior art references").

Neither the reference to Alkaitis nor appellants' admission is directed to subject matter which would remedy the deficiency of the combination of de Saint Roman or Lima-Marques.

DECISION

The rejection of claims 1 through 7 and 10 through 12 under 35 U.S.C. §103(a) as being unpatentable over de Saint Roman in view of Lima-Marques is reversed.

The rejection of claim 1 through 7 and 10 through 12 under 35 U.S.C. §103(a) as being unpatentable over de Saint Roman in view of Lima-Marques is reversed.

The rejection of claim 9 under 35 U.S.C. §103(a) as being unpatentable over de Saint Roman in view of Lima-Marques and further in view of appellants' admission is reversed.

The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS
Administrative Patent Judge

PAUL LIEBERMAN
Administrative Patent Judge

ROMULO H. DELMENDO
Administrative Patent Judge

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