

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HUNG YA CHAO

Appeal No. 1996-1942
Application No. 07/977,834

ON BRIEF

Before WARREN, WALTZ, and LIEBERMAN, 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 26, which are all the claims on appeal in this application. Claims 27 and 28 stand withdrawn from consideration as directed to a non-elected invention. 37 CFR § 1.142(b). See the Final Rejection mailed May 13, 1994. In addition an amendment under 37 CFR § 1.116 received on April 13, 1995, amending claim 15, was not entered by the examiner. See the letter mailed May 8,

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1995 denying entry.

THE INVENTION

The invention is directed to a microencapsulated adhesive composition, a method for preparing the composition and a product prepared from the method, comprising an acrylate or methacrylate monomer incorporated in a microcapsule. Other features of the claimed subject matter are set forth in the following illustrative claims.

THE CLAIMS

Claims 1, 15, and 21 are illustrative of appellant's invention and are reproduced below:

1. A method of producing a microencapsulated adhesive comprising:
providing a mixture containing as a major component an alkyl acrylate
or methacrylate monomer, or a mixture thereof, and a free radical initiator;
microencapsulating said mixture of monomer and initiator;
heating said microencapsulated monomer and initiator for a time and at a temperature sufficient to cause said monomer to polymerize inside said microcapsules.
15. A microencapsulated adhesive composition comprising:
an adhesive produced from a monomer or monomers including as a major component an alkyl acrylate or methacrylate, or a mixture thereof, encapsulated in microcapsules, wherein said microencapsulated adhesive is initially non-tacky but exhibits tacky properties upon application of external forces.

21. A microencapsulated adhesive composition produced by microencapsulating a mixture containing as a major component an alkyl acrylate or methacrylate monomer, or a mixture thereof, and a free radical initiator; followed by heating said microencapsulated monomer and initiator for a time and at a temperature sufficient to cause said monomer to polymerize inside said microcapsules, thereby forming an adhesive that is initially non-tacky but exhibits tacky properties upon application of external forces.

THE REFERENCES OF RECORD

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

Ruus	3,429,827	Feb. 25, 1969
Wolinski et al. (Wolinski)	4,080,238	Mar. 21, 1978
Sawai et al. (Sawai)	4,254,201	Mar. 03, 1981
Dahm et al. (Dahm)	4,517,141	May 14, 1985
Ozono	4,588,639	May 13, 1986

THE REJECTIONS

Claims 1 through 8, 14 and 21 through 24 stand rejected under 35 U.S.C.

§ 103(a) as being unpatentable over Sawai in view of Ozono.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Ozono and further in view of Wolinski.

Claims 1, 2, 4, 6 through 8, 10, 12, 14 and 21 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono and further in view of Wolinski.

Claims 15 through 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Sawai.

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawai.

Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Ruus.

Claims 3, 5, 11, 13 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono and further in view of Dahm.

OPINION

We have carefully considered all of the arguments advanced by the appellant and the examiner, and agree with the appellant that the rejections of claims 1 through 14 are not well founded. Accordingly, we reverse these rejections. We agree with the examiner that the rejection of claims 15-26 are well founded. Accordingly, we sustain these rejections.

As an initial matter, the appellant has argued that claims 1 through 14, claims 15 through 20, and claims 21 through 26 be considered separately. We agree. Accordingly, we separately consider each of independent claims 1, 15 and 21, each being representative of its respective grouping and being the only independent claims present before us. See 37 CFR § 1.192(c)(5)(1993).

Claim Construction

Our initial inquiry is directed to the scope of the claimed subject matter. During patent prosecution, claims are to be given their broadest reasonable interpretation consistent with the specification, and the claim language is to be read in view of the specification as it would be interpreted by one of ordinary skill in the art. In re Morris, 127 F.3d 1048, 1053-54, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); In re Okuzawa, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976).

Our construction of the subject matter defined by appellant's claims 15 and 21 is that they are drawn in product-by-process format. See generally, In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). The language present in each claim directed to "a microencapsulated adhesive composition," requires that the claimed composition be in the form of polymerized alkyl acrylate or methacrylate. Our position is supported by the specification which states, "[t]he present inventor has found that acrylate or methacrylate monomers can be microencapsulated by well-known microencapsulation techniques, and then these monomers can be polymerized inside the microcapsules to form adhesives." See specification, page 2, lines 5-8. Accordingly, as both independent claims 15 and 21 are directed to "a microencapsulated adhesive," we

conclude that each of the above claims necessarily requires that the microcapsules contain a polymer within the microcapsules. Furthermore as to claim 21, which states that a free radical initiator is present and the polymerization occurs by heating, it is likewise sufficient to meet the requirements of the claimed subject matter that an encapsulated polymer is present. Stated otherwise, the claimed subject matter is directed to the resulting polymer, and there is no reason to believe that the polymer would have different physical characteristics depending on where or when the polymerization occurred.

The only apparent distinction between the adhesive composition of the claimed subject matter is found in the functional limitation present in both claims 15 and 21, wherein the adhesive present is, "initially non-tacky but exhibits tacky properties upon application of external forces." It is well settled however, that when appellant's product and that of the prior art appears to be identical or substantially identical, the burden shifts to appellant to provide evidence that the prior art product does not necessarily or inherently possess the relied-upon characteristics of appellant's claimed product. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977). Furthermore, the discovery of a new property even when that property is unobvious from the prior art, cannot impart patentability to claims directed to a known composition. In re Spada, 911 F.2d 705, 708, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Moreover, Ruus specifically discloses that, "[t]he encapsulation technique can also be used in the preparation of pressure sensitive adhesives for application to placards, envelopes, etc.[,] where it is necessary that the surface remain non-adhesive until adherence is desired." See Ruus, column 1, lines 54-57. We find that Ruus' definition of encapsulated pressure sensitive adhesives meets the functional limitation of the claimed subject matter that the adhesive initially is non-tacky or non-adhesive as stated by Ruus until adherence is desired. Thereafter, the pressing of an envelope to obtain closure is reasonably an "external force" as required by the claimed subject matter. Having given our construction of the claimed subject matter, we apply the above as follows.

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability," whether on the grounds of anticipation or obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On the record before us, the examiner relies upon five distinct references and eight distinct rejections to establish a prima facie case of anticipation or obviousness.

The Rejections over Sawai

We find that Sawai discloses a pressure sensitive adhesive toner for use in electrostatic photography. See column 2, lines 25-27. The toner consists of a pressure sensitive adhesive substance, a pigment and/or a magnetic substance. See column 2,

lines 45-47. Aggregates when impressed with a fixing pressure are broken and deformed and become flowable upon impression of pressure thereon. See column 3, lines 4-13. The pressure permits the adhesive to flow into gaps between solid particles of pigment and/or magnetic substance which thereafter resolidifies upon release of the pressure. See column 3, lines 14-18 and 41-45. We find that the tacky substances include emulsion polymerized acrylate or methacrylate monomers selected from monomers which include 2-ethylhexyl esters of acrylic or methacrylic acid. See column 3, lines 57-61 and Examples 11, 12, 19 and 20. We further find that the composition of Sawai is thereafter encapsulated using encapsulating materials such as gum arabic, gelatin, urea-formaldehyde polycondensate, and polyamide. See column 5, lines 7-39. We conclude that the capsules of Sawai are the same as those of the claimed subject matter. See claim 20, and specification, page 5, lines 7-12.

Two essential distinctions however, are found between the instant claimed subject matter directed to the claimed method and the disclosure of Sawai. Each of the method claims present in the claimed subject matter requires the presence of an acrylate or methacrylate monomer or monomers, a free radical initiator and the application of heat. Sawai, in contrast discloses the encapsulation of copolymers. The monomer or co-monomers have previously been polymerized in all cases prior to encapsulation. See Sawai Examples 11, 12, 19 and 20. Therefore, the disclosure of Sawai lacks the

requisite monomer, free radical initiator and the heating step required by claim 1 directed to a method and accordingly fails to establish a **prima facie** case of obviousness with respect to any of the method claims before us. Accordingly, the Sawai reference alone lacks essential method steps required by the claimed subject matter.

As to the secondary references to Ozono alone or further in view of Wolinski, the deficiencies of Sawai are not remedied by either Ozono or Wolinski. Ozono discloses microcapsules prepared by dispersing a hydrophobic acrylate or methacrylate monomer or oligomer and partially polymerizing the composition by UV light. See Abstract and column 1, lines 26-35. The acrylate and methacrylate monomers include 2-ethylhexyl acrylate and methacrylate. See column 2, line 15. We find that the process disclosed by Ozono is an improvement over the prior art, wherein interfacial polymerization is utilized to form the walls of the microcapsule as in Sawai, in that the outer layer of the monomer polymerizes to form the microcapsule walls and the inner layer of monomer remains in the form of a monomer. See column 3, lines 18-29 and 43-48. A polymerization initiator such as an organic peroxide may be added to the acrylate or methacrylate monomer. See Ozono, column 3, lines 50-54. However, polymerization is initiated only through the application of ultraviolet light in the absence of heat. Although, the examiner has stated that "[h]eating would appear to be inherent or implicit in UV radiation step of Ozono," see Answer, page 7 and "[e]ven if it weren't, it would further

have been obvious to use extraneous heating to speed up the polymerization," id., there is no evidence of record to support the examiner's statement. In our view however, there is no motivation to have combined the Ozono reference with Sawai. The materials used in Sawai are already polymerized prior to microencapsulation. Hence the person having ordinary skill in the art would not have modified the process of Sawai by the utilization of either UV or an additional peroxide. Although, the examiner is suggesting that the monomer system of Ozono replace the polymer system of Sawai, to form an additional wall, we conclude however, that no suggestion or motivation is present to combine the references as stated to provide for two walls particularly as Ozono is directed to an improvement over the prior art which is directed to the walls disclosed by Sawai. See Ozono, column 1 lines 10-18. We conclude that the examiner's suggestion to combine the references would defeat the purpose of Ozono's invention.

As for Wolinski, we find the reference is directed to a cold setting adhesive wherein only the activator for the system is encapsulated. See column 1, line 67 to column 2, line 6. **Indeed, the examiner relies upon Wolinski for the sole purpose of providing the free radical initiator of claim 9, i.e., benzoyl peroxide. See Answer, page 9. Accordingly, the rejection of claim 9 dependent on claim 1 remains deficient for the reasons stated supra with respect to Sawai alone.**

As to the rejection of claim 15 on the grounds of anticipation and claim

21 on the grounds of obviousness, based upon our findings above and our construction of the claimed subject matter, we conclude that Sawai in and of itself meets each of the limitations of the claimed subject matter. We found supra that Sawai disclosed emulsion polymerized, acrylate monomers encapsulated in the same materials as that of the claimed subject matter and disclosed in the specification. We further determined that claims 15 and 21 were directed to compositions containing polymerized acrylate, or methacrylate monomers. Finally, we found that the functional limitation at the conclusion of both claims 15 and 21 had been expressly defined by Ruus as nothing more than an encapsulated "pressure sensitive adhesive." As for claim 19, directed to polyurea walls we rely upon and adopt the position of the examiner in the Answer at page 11.

Accordingly, we sustain the rejection of claims 15 through 24 over Sawai on the grounds of anticipation and obviousness respectively.

As to those rejections relying on the secondary reference to **Ozono**, we rely on Sawai alone. In the discussion of each of the above rejections over Sawai, the dispositive issue is whether appellant has had a fair opportunity to react to the thrust of the rejection. In re Kronig, 539 F.2d 1300, 1302-03, 190 USPQ 425, 426-27 (CCPA 1976). Limiting the discussion to the evidence contained in Sawai alone does

not constitute a new ground of rejection. See Kronig, 539 F.2d at 1303, 190 USPQ at 427; In re Bush, 296 F.2d 491, 496, 131 USPQ 263, 266-67 (CCPA 1961).

The Rejections over Ruus

Ruus disclose a process of encapsulation. See column 1, lines 10-11. The encapsulated product has an insoluble shell formed by interfacial polymerization. See column 2, lines 25-26 and 45-59. We previously found that Ruus specifically disclosed that, "[t]he encapsulation technique can also be used in the preparation of pressure sensitive adhesives for application to placards, envelopes, etc.[,] where it is necessary that the surface remain non-adhesive until adherence is desired." See Ruus, column 1, lines 54-57. Included among the materials to be encapsulated are activated monomers, i.e., monomers in the presence of a catalyst. See column 4, lines 28-30. The specific monomer exemplified is methyl methacrylate. See Examples 6 and 11. In each of said examples a microcapsule is formed from methyl methacrylate and azodiisobutyronitrile, a free radical initiator. A thin sample of microcapsules is subjected to UV radiation to convert it to a solid polymer. Id. Ruus further discloses that, "it may be desirable that the internal phase have a particular state during encapsulation, but is converted to a second state after completion of the encapsulation process, i.e., a liquid monomer converted to a polymer." See column 8, lines 60-65.

Applying the above findings to the independent process claim, we find that there

is no heating step disclosed in Ruus as required by the subject matter of claim 1 directed to a method of producing a microencapsulated adhesive. In addition, as we found supra, on the record before us, there is no evidence to support the examiner's position that the UV polymerization of the methyl methacrylate is the equivalent of heating as required by the claimed subject matter.

As for the rejection of Russ with Ozono, the combination of the references fails for the same reasons supra that Sawai could not be combined with Ozono. The essential teaching of Ozono is directed to the partial polymerization of monomers such that they form the wall of the capsule with the inner portion remaining unpolymerized. In this manner they act as a replacement for the walls of Sawai and Ruus both formed by interfacial polymerization. Accordingly, it is not seen why one of ordinary skill in the art would have used the monomer system of Ozono in the method of Ruus.

As for the combination of Ruus with Wolinski, directed to claim 9, the latter reference is relied upon in the manner stated supra. Accordingly, it does not remedy the deficiencies of the combination of Ruus in view of Ozono.

Applying our findings to independent claim 21 directed to a product by process, it is sufficient to establish a prima facie case of obviousness that Russ discloses a microencapsulated monomer and initiator having walls of a polyamide wherein the polymerization may occur within the microcapsules subsequent to their formation.

Furthermore, it is clear from the teachings of Ruus that the microencapsulated adhesives function as in the manner required by the claimed subject matter. They are non-tacky until the application of external force. Accordingly, we find that the teachings of Ruus are sufficient to establish a prima facie case of obviousness with respect to independent claim 21.

As to the rejection of claim 25, wherein the examiner relies upon a reference to Dahm for its teaching of polyurea containing walls, we adopt the position of the examiner as stated in the Answer on pages 9 and 10.

Finally, as to those rejections relying on the secondary reference to Ozono, we rely on Ruus alone. In the discussion of each of the above rejections over Ruus, the dispositive issue is whether appellant has had a fair opportunity to react to the thrust of the rejection. Kronig, 539 F.2d at 1302-03, 190 USPQ at 426-27. Limiting the discussion to the evidence contained in Ruus alone does not constitute a new ground of rejection. See Kronig, 539 F.2d at 1303, 190 USPQ at 427; Bush, supra.

Decision

The rejection of claims 1 through 8 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Ozono is reversed.

The rejection of claims 21 through 24 under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Ozono is affirmed.

The rejection of claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Ozono and further in view of Wolinski is reversed.

The rejection of claims 1, 2, 4, 6 through 8, 10, 12, and 14 under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono is reversed.

The rejection of claims 21 through 26 under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono is affirmed.

The rejection of claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono and further in view of Wolinski is reversed.

The rejection of claims 15 through 18 under 35 U.S.C. § 102(b) as being anticipated by Sawai is affirmed.

The rejection of claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Sawai is affirmed.

The rejection of claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Sawai in view of Ruus is affirmed.

The rejection of claims 3, 5, 11 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Ozono and further in view of Dahm is reversed.

The rejection of claim 25 under 35 U.S.C. § 103(a) as being unpatentable over Ruus in view of Dahm is affirmed.

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The decision of the examiner is affirmed-in-part.

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

AFFIRMED-IN-PART

CHARLES F. WARREN)	
Administrative Patent Judge)	
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